for
Yakov Malkiel
We are proud to dedicate this volume to Professor Yakov Malkiel, who is retiring this year from full-time teaching.
TABLE OF CONTENTS

I. Biographical Essay

Justice, David
Yakov Malkiel  1

II. Romance Linguistics

Allen, Andrew S.
The Leader Verb as a Mechanism of Morphological Change  10

Dembowski, Peter F.
Lexicology and Stylistics. Vocabulary of Provençal Courtly Lyrics – Introductory Remarks  18

Dworkin, Steven N.
The Role of Multiple Causation in the Genesis of the Spanish Suffix -ido  28

Hamp, Eric P.
From Latin to Romanian Deviously  33

Malkiel, Yakov
In Search of Coefficients in Diachronic Morphological Analysis; /i/ as an Increasingly Dominant Vowel in Spanish Inflectional Morphemes  36

Pharies, David A.
Two Spanish Etymologies: ajilimójili and cháñcharras máñcharras  79

Silva-Corvalán, Carmen
Conditional for Subjunctive in Old Castile  87

Stefanini, Ruggero
Reflexive, Impersonal, and Passive in Italian and Florentine  97

Timm, Lenora A.
Ar Journalioù, Ar Radio, hag An Tele: French Lexical Influences on Breton  108

Tuttle, Edward F.
Snaturalité in Ruzante and the Venetian Prefix S-  117
Walsh, Thomas J.  
Near-Homonymy as a Determinant of Lexical Retention and Loss: The Case of Hispano–Romance despejar

Wanner, Dieter  
A History of Spanish Clitic Movement

III. General Historical Linguistics

Diffloth, Gérard  
Proto-Mon Registers: Two, Three, Four...?

Holland, Gary B.  
A Note on Raising in Indo-European

König, Ekkehard and Elizabeth Closs Traugott  
Divergence and Apparent Convergence in the Development of Yet and Still

Reed, David W.  
Stressed o in American English Borrowings From Spanish

Schwartz, Martin  
The Indo-European Vocabulary of Exchange, Hospitality, and Intimacy (The Origins of Greek kséchos, sún, phílos; Avestan xšnu-, xšanman-, etc.): Contributions to Etymological Methodology

Shaul, David L.  
Esselen Structural Prehistory

Solnit, David B.  
Linguistic Contact in Ancient South China: The Case of Hainan Chinese, Be, and Vietnamese

Talmy, Leonard  
Borrowing Semantic Space: Yiddish Verb Prefixes between Germanic and Slavic

Thurgood, Graham  
Subgrouping on the Basis of Shared Phonological Innovations: a Lolo-Burmese Case Study
IV. Syntax and Semantics

Azkarate, M., D. Farwell, J. Ortiz de Urbina and M. Saltarelli
Governed Anaphors in Basque 261

Channon, Robert
3→2 Advancement, Beneficiary Advancement, and With 271

Cooreman, Ann
Transitivity, Ergativity, and Topicality in Chamorro Narrative Discourse 283

DeCarrico, Jeanette S.
Semantics and Logical Form 302

Dryer, Matthew S.
Passive and Inversion in Kannada 311

Fleischman, Suzanne
The Past and the Future: Are They Coming or Going? 322

Gee, James Paul and Judy Anne Kegl
Semantic Perspicuity and the Locative Hypothesis 335

Hinton, Leanne
How to Cause in Mixtec 354

Iordanskaja, Lidija N. and Nadia Arbatchewsky-Jumarie
Lexicographic Applications of Lexical Functions: Two Sample Lexical Entries from an Explanatory-Combinatorial Dictionary 364

Jacobsen, Wesley M.
Vendler's Verb Classes and the Aspectual Character of Japanese Te-Iru 373

Jacobsen, William H. Jr.
Basque Copulative Compounds: A Problem in Irreversible Binomials 384

Klaiman, M.H.
Affectiveness and the Voice System of Japanese: Satisfaction Guaranteed or Your Money Back 398
König, Ekkehard and Elizabeth Closs Traugott
Divergence and Apparent Convergence in the Development of Yet and Still

Macaulay, Monica
Verbs of Motion and Arrival in Mixtec

Mel'čuk, Igor A.
Lexical Functions in Lexicographic Description

Nichols, Johanna
Ingush Transitivization and Detransitivization

Rude, Noel
Promotion and Topicality of Nez Perce Objects

Sweetser, Eve E.
Root and Epistemic Modals: Causality in Two Worlds

Talmy, Leonard
Borrowing Semantic Space: Yiddish Verb Prefixes between Germanic and Slavic

Timberlake, Alan
The Impersonal Passive in Lithuanian

Wanner, Dieter
A History of Spanish Clitic Movement

V. Phonology

Davis, Stuart
Rhyme, or Reason? A Look at Syllable-Internal Constituents

Mandel, Mark A.
Major Information from a "Minor Parameter": Point of Contact in Sign Language Phonology

VI. Psycholinguistics and Sociolinguistics

Bauer, Robert S.
Lexical Diffusion in Hong Kong Cantonese: "Five" Leads the Way
Carpenter, Kathie
Neologisms in 'Word Salad': How Schizophrenic
Speakers Make Themselves Misunderstood

Dürmüller, Urs
Folk Stereotypes and Sociolinguistics; Blason Populaire in the San Francisco Bay Area

Ehrich, Veronika U.
The Linguistics of Causal Accounts

Foster, Sue
Discourse Topic and Children's Emerging Ability to Handle It

Savasir, Iskender and Julie Gee
The Functional Equivalents of the Middle Voice in Child Language

The following authors did not present their papers at the Annual Meeting but are published in this volume:
LANGUAGE INDEX

Indo-European

PIE

Holland 158; Schwartz 188; Savasir and Gee 607.

Romance

Latin

Allen 10; Dworkin 28; Malkiel 36; Stefanini 97; Tuttle 117; Walsh 127.

Spanish

Dworkin 28; Malkiel 36; Pharies 79; Reed 180; Silva-Corvalán 87; Walsh 127; Wanner 135.

Portuguese

Malkiel 36; Walsh 127.

French

Carpenter 562; Iordanskaja et al 364; Malkiel 36; Reed 180; Timm 108.

Italian

Malkiel 36; Savasir and Gee 607; Stefanini 97; Tuttle 117.

Provençal

Dembowski 18; Malkiel 36.

Rumanian

Hamp 33; Malkiel 36.

Germanic

German

Ehrich 586; Talmy 231.

English

Carpenter 562; Channon 271; DeCarrico 302; Dürrmüller 572; Foster 597; König and Traugott 170; Mel'čuk 427; Reed 180; Savasir and Gee 607; Sweetser 484.

Yiddish

Talmy 231.

Breton

Timm 108.

Russian

Iordanskaja et al 364; Mel'čuk 427; Talmy 231.

Lithuanian

Timberlake 508.

Greek

Holland 158; Schwartz 188.
Sanskrit
Iranian
Avestan
Hittite
Basque
Turkish
Caucasian
Ingush
Dravidian
Kannada
Tamil
Austronesian
Chamorro
Chinese
Cantonese
Hainan
Lolo-Burmese, Loloish
Mon-Khmer
Mon, Monic
Vietnamese
Be
Japanese
Amerindian
Esselen

Holland 158; Schwartz 188.
Schwartz 188.
Holland 158; Schwartz 188.
Holland 158.
Azkarate et al 261; William Jacobsen 384.
Savasir and Gee 607.
Nichols 445.
Nichols 445.
Dryer 311.
Klaiman 398.
Cooreman 283.
Bauer 550.
Solnit 219.
Thurgood 251.
Diffloth 148.
Diffloth 148.
Solnit 219.
Solnit 219.
Wesley Jacobsen 373; Klaiman 398.
Shaul 205.
Yuman, S. Cochimi,
Uto-Aztecan,
Chumashan, Salinan,
Costanoan

Atsugewi

Nez Perce

Mixtec

American Sign Language

Shaul 205.

Talmy 231.

Rude 463.

Hinton 354; Macaulay 414.

Gee and Kegl 335; Mandel 533.
Sempre fort,
Mai feble
YAKOV MALKIEL
David Justice
U.C. Berkeley

As workmanlike biographic and bibliographic sketches of Yakov Malkiel are already available (1), I shall highlight only those facets of his activity that might particularly bear upon the concerns of those young scholars who participated in the recent conference in his honor. A definitive bibliography would in particular be premature; for though he has earned the right to rest on a lush bed of laurels, his impending change of status, unfortunately enjoined by university regulations concerned more with temps than with durée, promises to be in no substantive sense a retirement. Although, like many confronted with the inflexible arithmetic of years, he has lately taken to wondering whether the lost umbrella or the overdue library book--lapses youth commits and laughs off--may not betoken some falling-off of memory, those who know him are unable to detect the slightest decline in imagination, steel recall, or indefatigable enterprise.

Malkiel was born into an intellectual Jewish family of Kiev, 22 July 1914. The chaos of civil war forced the family to move to Berlin.

"I entered the German secondary school at sexta, at the age of nine and a half, and stayed for nine solid years," 1924-1933. (2) These courses, notably demanding in themselves, were supplemented at first by two hours a day of Russian instruction at the home of the illustrious Nabokov family, in case the winds of history should once again shift and a return to the homeland be made possible.

Recalling George Steiner's reveling in his own multilingual background, and feeling with some of my contemporaries that our own secondary education--consisting largely of skits and field trips, and book reports with a heavy emphasis on colored paper--lacked a certain intellectual sérieux, I asked YM to what extent he rejoiced in his intensive education and varied residence, given that he survived it, and received a surprisingly nuanced answer.

"I am for better or worse the victim of a polyglottic situation which I don't particularly cherish. ... It is not tragic, but there are moments ... when you are sharply reminded of the fact that you are a bit split." When, at the end of a 14-hour day of unremitting industry, he feels the need to relax, he settles into the Cyrillic script as into a warm bath.
As for the relentless education, it left him "less leisure and less freedom for social contacts ... than would today be recommended. ... I'm not sure that I would recommend it to others; I suppose that I--je me suis tiré d'affaire, one way or the other."

Malkiel's cousin Victor Žirmunskij, a founder of Russian formalism, spent much of his penniless stay in Berlin in the 1920's with the Malkiel household. It was he who overcame the objections of YN's parents and introduced him to modern literature. "My parents were very conservative. They felt I could read modern literature sometime past 20 or so, because it was so sinful." Their son proved headstrong. "For a while I was very strongly opposed to philology and linguistics; this was one of my many, what is it, rebellions? of my adolescence." He devoted himself to modern poetry, early publishing pieces on Valéry and Rilke.

The barbarism that showed its face in Germany in the 1930's, and the truckling to that barbarism by artists he had previously revered, "became quite repulsive to me." He turned away both from literature and from the modern period, from the "whole cultural radix" of the collaborators, seeking the apparent objectivity of linguistics. (His views of the role of subjectivity in our science have since become more subtly textured.)

This is a large, potentially penitential shift of perspective for a young student of letters to make. (His self-transformation on this score recalls that of Friedrich Diez, cf. RPh 26 (1972), p.5.) The linguistics to which he was exposed was based on the careful accumulation of data. "I did not see as yet very well how one can use imagination in linguistic analysis--free-flowing imagination... The ability to express one's personality through linguistic work at that time eluded me."

To one who is not merely following in his father's footsteps, nor indifferently choosing among the various money-getting schemes of the world, but who, like our subject, has the breadth to be aware of all choices, and the wit to succeed in many of them, selecting a specialty is a momentous, even chilling branch-point in one's earthly trajectory, for there the mutable human pupa decides as what species it shall become adult. The soul cries: "I have been nothing--I must be everything!" And reality answers: "You cannot. Butcher, baker, candlestick-maker: choose!"

The present generation of American university students, from those now entering college to those who have recently acquired advanced degrees, face this dilemma with especial poignancy, as they have been lifted on the wave of limitless possibilities, and dashed upon
the realities of withering cultural commitment and a baby-boom-crowded marketplace. They look with envy at those enjoying tenured success, and perhaps falsely imagine that it has been easy.

For a person of Malkiel's native gifts, the road will certainly have been smoother than for most (other things being equal), but even here the fatal choices were not free from a measure of the contingent.

"I was as a ... university student between the years 1933 and '38 not quite sure just what [would] emerge as my principal interest. ... My official subjects so to speak at that time were Romance literature, Romance linguistics, Slavic philology, and even Semitic philology with Hebrew and Arabic. ... As regards specialization in Spanish, it emerged rather slowly. My doctoral dissertation dealt with French, Old and Modern. I had no intention of ever really switching to Spanish--I don't think I have switched to Spanish irreversibly--however there were several factors favoring an emphasis on Spanish. One of them was that in Europe, as against the United States, Spanish is a little-known language. It is not taught at the secondary school level or anything of that sort. It's a university language, comparable perhaps in status to, say, Swedish or Polish in the United States... Suddenly there developed a great demand for it. The demand developed in the ... middle and late 1930's, on account of the prospects of immigration to Latin America. I was immediately offered, while I was a student, possibilities to engage in adult education... Both Spanish and, especially, Portuguese ... were my major assets when I was in my early twenties."

His arrival in the United States, in February 1940, "coincided with the collapse of France, an event which immediately lowered rather dramatically American interest in French culture--temporarily of course; so much so that people who were employed as tenured members of American colleges ... teaching French, simply to survive had to switch to other subjects, for instance Spanish or Latin...

"Equally important, it was a subject which had not been exhausted. ...Finally, this was the period when Spain was very much in the news, through the dramatic impact of the Spanish civil war, and...the enormous accomplishments of Menéndez Pidal and his school. ... A reason which was superadded later was when I married a very brilliant scholar from Argentina," María Rosa Lida.

Lacking from this list of motivations for choice of specialty is the sort of semi-mystical Sprache und Weisheit der Indier-style xenophilia that is not in-
frequently in play when a scholar makes the leap to another culture. And the early exposure that may tinge later sentiment was rather to French—in the cultivated Russian milieu in which YM grew up, "it was inconceivable that anyone above ten should not know French adequately." (Peoria please copy!)

*

We live in strange times. Most of the perquisites of empire are still in place, yet everywhere one hears expressions of astonishing pessimism. But surely nothing now matches that time when Malkiel was obliged to make his start in life, a time whose horror even the word genocide does not quite capture, as it was also the near-suicide of an entire civilization. He began his university studies in Berlin in that grim year 1933. To survive emotionally required a kind of stoicism which remains his philosophy to this day. Physical survival followed from the fact that "I was a foreigner, according to the technical classification ... so I was not so to speak under observation,"—on condition that he refrain from every student activity. The doctorate was granted in 1938.

Finally the international crisis forced him once more westward, this time to New York. This terrain was already crowded with refugees, some of whom enjoyed world reputations as thinkers, and available resources were stretched thin. From 1940 to '41, YM lived from hand to mouth, translating, ghostwriting, tutoring. Then Pearl Harbor yanked America out of its daze. Men of all walks of life signed up, and employment opportunities opened. Even so the Eastern universities were replete with foreigners, and YM was obliged to trek west again, this time to Laramie, Wyoming.

The Wyoming period was short—less than a year—but poignantly emblematic of the predicament of the intellectual treasure which European storms had washed up on our shore. This now thrice-displaced savant labored amid the sagebrush, assigned to teaching 'languages' as though, having taught one, you can teach them all. (He taught six in that short period.)

He had traveled from danger to danger and suddenly he was out of the line of fire entirely, at risk now only of being forgotten, unnoticed in a barely populated province of a young land whose brilliant potential the immigrant additions had not yet had time to catalyze into intellectual first rank. The dynamics of this state of affairs have been well described by V. Nabokov, a figure who repeatedly returns to one's mind when contemplating Y. Malkiel.

Finally an invitation came from the University of
California at Berkeley, where he entered the department of Spanish and Portuguese with the modest rank of lecturer. His Wyoming chairman had written him a glowing recommendation—"pour s'en débarrasser", as YM tells it.

He had now traveled as far west as one can go without crossing the ocean to Siberia—a locus he would probably have found by a more direct eastern route had he remained in Russia. And here amid the palms and short-shorts, the antipode of all his previous environments, he was to flourish in a manner that is given to few.

In 1946, with no prior editorial experience, he single-handedly founded the journal Romance Philology, at the ripe age of—just 32, in that cultural crossroads of Old World learning—California. This act of hubris perfectly matched the expansive mood of America at that juncture, and recalls the birth in 1877 of the only other journal in that field which now matches RPh in prestige and cosmopolitan coverage, the Zeitschrift für Romanische Philologie, founded by Gustav Grüber in the same modest fullness of years. "We had the great problem in the early volumes, that the editor was the youngest contributor," he recalls: today the situation is almost the reverse.

It was an auspicious time socio-politically. San Francisco had been chosen as the site of the post-war world conference, with a favorable effect on the cosmopolitanism of the whole area. But from an academic standpoint, the founding of the journal was almost quixotic, given the local level of interest in Romance linguistics. "Romance Philology was created at an all-time low, with the idea of drumming up interest." Many of the displaced Europeans were dubious, feeling that it was the wrong thing for the New World.

From the very beginning, YM performed a gamut of functions to make the journal work, even down to retyping manuscripts. His linguistic articles, book reviews, and obituaries frequently appear under his own editorship, to the extent that he could be accused of running a one-man show, reminiscent of the 1873 escapade of Ascoli, were not the product so splendid, and indeed so relatively free of narrowness or dogmatism (cf. Posner op. cit., 435). Of particular interest are the wide-ranging "Editorial Comments", which help lend a continuing personality to the journal, further guarding against the danger of its becoming a mere depository for atomistically separate contributions. Comparisons with The New Yorker come to mind. (See for instance Leo Spitzer’s stunning remembrance of Elise Richter in the very first volume of RPh, which shows the best features of a short story.)
In 1952, Malkiel attained the rank of full professor, and in 1966 he accepted an invitation to join the linguistics department, a move that reflected his ever-broadening areas of scholarly activity. In addition, he continues to donate his energies to the extremely select independent Romance Philology program.

An increasingly important sphere of his activity has been the history of our complex of disciplines, which he has explored in particular in a number of graduate seminars, such as "History of Linguistics", "History of Romance Linguistics", and "From Dialectology to Sociolinguistics". I recall with especial affection the second of these, offered in the evening as befits reflection and retrospection.

A political cartoon of the 1970's showed an exhausted Henry Kissinger stumbling into his hotel room, where a spruce and vibrant Henry Kissinger, his double, waited to take on the evening shift and continue with the business of astonishing the world. As one browses the monographs and the ten volumes of collected articles with which YM has provided the reading room of the Berkeley linguistics department, as one takes in their range, their never-failing polish, and considers the enormous, often irksome duties involved in putting out a first-rate journal, one wonders whether "Malkiel" might not be a pen-name covering a whole group of contributors. But as one grows familiar with the modus operandi of the man, it becomes apparent that, if anything, more flows from that one pen than is explicit in the literature. Anyone who has written for Romance Philology can attest—and some do so testily (Hall 1975, p.189)—to the unusually detailed editorial scrutiny given personally to any manuscript YM decides to publish, from which no hyphen or digraph is exempt. Seasoned Malkiel-watchers trace the trickle-down of his vigorous and spicy favorite terms—gropings boldly flanked by prongs, slanted towards tone-setting playfulness—some of which, in cold and sober fact, get rather more exercise than need be. (At its best, though, his is a splendid style, blending the inkhorn dexterity of Nabokov with the wry elegance of Quine.)

A scholarly assessment of Malkiel's contributions must be left to those more competent and widely read, but I may here mention some broad traits that strike the non-specialist.

Most notable, because frequently appearing in a sub-field with so grey a reputation as morphology, is an attitude which I should describe as "dialectical" were that not a buzz-word. Everywhere there is an emphasis on the clash and synthesis of non-homogeneous factors; on language as a system evolving upon the spur of its
own internal contradictions, and that in a direction of
greater precelence (this latter criterion being itself
multifarious: æsthetic, communicative, structural); and
on voluntarism, the ability of humanity to affect
the course of its own linguistic evolution, within the
larger limits imposed by history. One repeatedly comes
across phrases like "to cast into bold relief the
actual forces locked in constant struggle" (Malkiel
1968, p.112), "internecine homophony" (Malkiel 1979,
p.5), or "la tendencia del prefixo de- de perder terreno
ante el ataque de su rival des-, infinitamente más
agresivo" (Malkiel 1978, p.713). The world of words
takes on a personality; as chess experts may describe
some arcane variation in the algebra of their game as
"treacherous" or "witty", so this reconstruction, that
survival, some bland-looking phonological equation
becomes "exciting" or "shocking" beneath the philologic-
al lens. (3)

Second, one encounters an astounding erudition, which
may even daunt that majority among us whose labors more
resemble those of Sisyphus than Hercules. Baldinger
1968 speaks of a "manchmal erdrückende Mülle an Material
und Bibliographie", and Gsell (op. cit., p.14) wonders à
propos YM's "Tentative Typology of Historical Gram-
mars" "ob von ihm eine mehr ansporrende oder mehr ab-
schreckende Wirkung auf prospektive Nachfolger ...aus-
geht." For those who have had the good fortune actually
to work with Malkiel rather than simply to confront his
monumental finished œuvre, the influence is certainly
anspornend: he is well known for supplying his Romance
Philology students with do-able thesis topics that do
not require a lifetime, and for tossing out extremely
piquant general ideas that await empirical investigation
by young researchers.

Finally, although YM has scrupulously avoided the sort
of extended polemics that mar or enliven certain currents
in linguistics, he has a critical-analytical attitude
which, based upon unsurpassed bibliographic command,
sometimes verges upon the critical-censorious. This
frankness, usually fair, but inevitably sometimes idio-
syncratic, is most startling when it appears in a genre
normally noted for its euphemism, the necrological
essay, where Malkiel's tack is that dubbed by his col-
league Leo Spitzer (4) de mortuis nil nisi vere.
Whether this is in the best of taste, others may judge;
but it does mean that, instead of celebratory ephemera,
he contributes pieces that are of permanent value to the
historian, as well as being literary gems.

Malkiel's life is more than a CV of scholarly accom-
plishments, but presents a picture of doggedness, cour-
age in the face of adversity, patience combined with an ability to seize the proffered forelock, ability to charm, and the cool-headedness to refrain at times from charming. It is an instructive and bracing example to contemplate, while this decade's Varangians and Visigoths, now not jack-booted but business-suited, try to supervise the discommission of humanism.

Notes


(2) Quotations are taken from tapes, essentially unre-touched save for indicated ellipsis.

This lion, whom some approach with trepidation, proved curiously easy to interview. The tough and ticklish questions I had saved till last he touched on spontaneously. With age comes mellowness and a calmer wisdom: his long and checkered odyssey of a life now seems to stand before him in glistening synchronicity.

(3) Lest I be suspected of riding a hobby-horse, compare the similar summary by Gsell 1981, p.23: "Man hat M. als 'Neotraditionalist', seine Forschungshaltung als 'dialektisch' charakterisiert, was gewiss nicht unrichtig ist." Baldinger 1968 so qualifies not only YM's view of linguistic evolution, but YM's own evolution as a scholar: "Malkiel ist in der Geschichte der Sprachwissenschaft schwer einzuordnen, da er selbst ständig seinen eigenen Rahmen sprengt. ... Seine Widersprüchlichkeit korrigiert sich dauernd selbst und hebt sich damit auf."

References


Id. 1978. "Español antiguo <<Des(de)>>, <<Fa(s)ta>>, <<Fazia>> y <<Fascas>>. In Homenaje a Julio Caro Baroja (Madrid).

THE LEADER VERB AS A MECHANISM OF MORPHOLOGICAL CHANGE

Andrew S. Allen
University of Tennessee

A leader word serves as a model for morphological change in other words that adapt themselves to it. By studying an example of a leader word, we can develop criteria for identifying other leader elements in language change. To clarify the definition, let us look at some leader words. Examples of leader verbs include OSp. *digo* 'I say', *dizes* 'you say' (<Latin DICO, DICIB) as the model for *vago* 'I lie', *vazes* 'you lie' (<Latin JACEO, JACES) (Malkiel 1974: 309) and for *fago* 'I make', *fazes* 'you make' (<Latin FACIO, FACIS) (Malkiel 1968b: 41). The leader verb *digo* 'I say' shows the regular phonetic development from Latin, while the other verbs lack the regular reflexes but have been analogically changed to resemble the verb *digo*.

Leader words are found in the syntax of idioms as well as in the morphology of verbs. Thus, the expression *hot and cold*, introduced by *hot and...*, gave rise to such idioms as *hot and bothered*, *hot and heavy*, *hot and spicy*, etc. (Malkiel 1968a: 347). Within our own lifetimes, we have seen the proliferation of words prefixed by *mini-* on the model of *miniskirt*—for example, *minicourse*, *minibus*, and *minicomputer*. More recently, we have seen the formation of *workaholic*, modeled on the leader word *alcoholic*. And who among us has not tasted a *cheeseburger*, based on the earlier *hamburger*? Instead of looking at large numbers of leader words, however, we shall examine the single leader word that triggered the spread of *-ESC*—the Latin inchoative suffix meaning 'begin to' or 'become'.

The original Proto-Indo-European suffix *-*sk-* did not have inchoative meaning, for the earliest attested languages show a variety of meanings for the affix. According to Berrettoni (1971: 94-99), the Tocharian reflex is causative, the Sanskrit simply marks the present in contrast to the aorist and perfect stems, the Avestan reflex is inchoative, the Hittite is iterative, and the Ionic Greek is iterative-intensive. Moreover, Kuryłowicz (1964: 106-7) states that the corresponding Middle Iranian suffix is intensive-passive, and the Armenian is aorist. Such an overview demonstrates that there was no obvious inchoative meaning in the original *-*sk-* suffix, so that the semantic development of the inchoative *-ESC* must have been internal to Latin.

How did the *-ESC* suffix take on the inchoative meaning in Latin? It was through reanalysis of a root having a related meaning and a suffix consisting of
The verb CRE-SC-Ō 'I grow' has a meaning that can be paraphrased as 'I become larger' or 'I begin to be larger'. The suffix -SC- marked the present stem of CRE-SC-Ō to help distinguish it from the perfect CRE-VI 'I grew'. According to Kent (1946: 110), the inchoative meaning shifted from the root to the suffix in the following process:

\[
\text{CRE-} + -\text{SC-} + -\text{O} \rightarrow \text{CR-} + -\text{ESC-} + -\text{O} \quad [\text{INCHOATIVE}]
\]

The inchoative meaning has thus moved from the root to the suffix, which has also taken on the vowel to yield -ESC-. Although the preceding argument is rejected by Leumann (1963: 314), who claims that the leader verb for the inchoative suffix cannot be found, the data of this paper support the theory of Kent against the skepticism of Leumann.

Let us examine a chronological list of the earliest attested Latin inchoatives. These forms, which show different vowels before -SC-, were attested before 150 BC; they are found in the Latin etymological dictionary of Walde-Hofmann (1954–65), and the English glosses come from Andrews (1907):

204 BC NÄSCIT 'to be born'
198 BC AUGÉSCERE 'to begin to grow'
LIQUÉSCERE 'to become fluid, melt'
184 BC IN-NÄSCIT 'to be born in'
HÍSCERE 'to open, gape, yawn'
DE-FÉTISCI 'to become tired'
OE-STUPÉSCERE 'to become senseless'
PER-SENTÍSCERE 'to perceive clearly'
CON-TICÉSCERE 'to become still, cease speaking'
FÉRVESCERE 'to become boiling hot, begin to boil'
DE-LIQUÉSCERE 'to melt away'
FRUNISCI 'to enjoy'
A-GNÖSCERE 'to know a person or thing well'
PER-CÖ-GNÖSCERE 'to become thoroughly acquainted with'
PER-NÖSCERE 'to examine thoroughly'
DIS-PALESCELER 'to spread about, be noiseless about'
MACÉSCERE 'to grow lean'
MISÉRÉSCERE 'to feel pity'
LUCÉSCERE 'to shine'
TRÁSCER 'to be angry'

169 BC CRESCERE 'to grow'
CO-GNÖSCERE 'to become thoroughly acquainted with'
HORRÉSCERE 'to tremble, shudder'
NITÉSCERE 'to begin to shine'
RUSSESCERE 'to become red'
CON-MISERESCERE 'to commiserate'
PUBESCERE 'to reach the age of puberty'
RE-QUIESCERE 'to rest, let rest'
FRONDESCERE 'to become leafy'
RE-MORBESCERE 'to become sick again'
159 BC RE-VIVESCERE 'to come to life again'
SILESCERE 'to become still, silent'
INTEGRASCERE 'to make whole, renew (oneself)'
QUIESCERE 'to rest, keep quiet'
vesperascit 'it becomes evening'

It should be emphasized that the preceding list is only the tip of the iceberg, for a catalog of all the Latin -SC- verbs through the end of the classical period would include hundreds of additional items, enumerated in Blaylock (1975) and cited in Allen (1980). Thus, all of the above verbs are near the top of the complete chronological list of Latin inchoatives.

Although CRESERE is not the earliest attested verb in the preceding list, it must have been used before the date of first attestation, since few words are invented at the moment of writing. The date simply indicates the earliest identified written record. The important point is that CRESCERE fulfills one significant criterion for a leader verb—namely, it is present at the time of formation of the earliest similar verbs. Moreover, the leader verb is a frequent, early attested verb with the most common variety of the suffix, -ESC-. Although some verbs show different vowels before -SC-, most Latin inchoatives have the -ESC- suffix. Aside from compounds of NOSC O 'I learn', where -O- precedes -SC-, the Latin inchoative suffixes display vowels in the following proportions (Blaylock 1975: 436):

-ESC- 500  -ISC- 110  -ASC- 70

The most typical source of inchoatives is derivation from adjectives, stative verbs, and stative nouns, as exemplified by the following verbs:

RUF-ESC-ERE (<RUF-US 'reddish') 'to become reddish'
LUC-ESC-ERE (<LUC-ERE 'to shine', LUX, LUC-IS 'light') 'to begin to shine'
SENT-ISC-ERE (<SENT-IRE 'to feel, perceive') 'to begin to perceive'
TENER-ASC-ERE (<TENER 'tender') 'to grow tender, soft'

If we examine our list of inchoatives attested before 150 BC, we find that 22 out of 35 verbs, or 63%, have the suffix -ESC-. As well as showing agreement in its
suffix, CRESCÔ is a simplex verb like 20 of the 35 verbs. Since compounds are in the minority and have a variety of prefixes, a compound verb is less likely to have served as a leader verb.

However, more than one verb meets the criterion of being an early attested simplex verb with the suffix -ESC-. We might also cite AUGESCÔ 'I grow', first attested in 198 BC, and QUIESCÔ 'I rest', which dates from 159 BC, as possible leader verbs. Like CRESCÔ, these verbs do not have an inchoative auxiliary in their glosses, but their meanings may be paraphrased as 'I become quiet' and 'I become bigger', which indicate inchoativity. Furthermore, all three verbs have a general meaning that can take a greater variety of subjects than can, for example, such semantically narrow verbs as LIQUESCERE 'to become fluid, melt' and LUCESCERE 'to begin to shine'. But both QUIESCÔ and AUGESCÔ can be derived from related words by common processes. It is probable that QUIESCÔ 'I rest' was derived from the stative noun QUIES 'calm', quiet' and that AUGESCÔ came from the stative verb AUGEO 'I grow'. This leaves CRESCÔ as the most likely candidate for the original leader verb. Although CRESCÔ 'I grow' has the same root as the transitive verb CRE-ARE 'to make' and the agentive noun CRE-ATOR 'maker', such transitives and agentives are not typical sources for inchoatives. Thus, CRESCÔ is more likely to be the leader verb, while QUIESCÔ and AUGESCÔ are probably derived formations imitating the model verb CRESCÔ.

Whereas its suffix unites CRESCÔ with other verbs containing -ESC-, its peculiar links to related words in the lexicon distinguish it from the remaining inchoative verbs.

The morphology of CRESCÔ is a strong point of similarity with inchoatives. As mentioned earlier, the -SC-suffix marked the present, but not the perfect, stem. The present stem helped form the imperfective tenses, which express the aspect of a noncompleted action or state. Thus, the present, imperfect, and future are formed from the present stem with -SC-, while the perfect, past perfect, and future perfect lack -SC-:

Present: CRE-SC-Ô 'I grow'
Imperfect: CRE-SC-EBAM 'I was growing'
Future: CRE-SC-AM 'I will grow'
Perfect: CRE-V-I 'I grew'
Past perfect: CRE-V-ERAM 'I had grown'
Future perfect: CRE-V-ERO 'I will have grown'

The present stem with -SC- also forms the present subjunctive, the present infinitive, the imperative, the present participle, and the gerund. The root without
-SC- serves to form the perfect passive as well as the perfect active. In abbreviated form, this conjugational information shows up in the principal parts of the verb:

Present indicative: CRE-SC-O 'I grow'
Present infinitive: CRE-SC-ERE 'to grow'
Perfect indicative: CRE-VI 'I grew'
Perfect participle: CRE-TUM 'grown'

In the numerous conjugated forms, the distribution of -SC- in CRESCO is identical to the inflection of other inchoatives.

Because of such an exact morphological parallel, it is a mistake to be skeptical about our ability to identify CRESCO as the leader verb. However, Leumann (1963: 314) claims that the model verb from which inchoatives were produced can no longer be found. Deriving inchoatives through the perfect participle, he speculates that N-ASCOR 'I am born' and N-ATUS 'born' might have provided the model for IR-ASCOR 'I am angry' through the perfect participle IR-ATUS 'angered, angry', and that QUI-ESC-O 'I rest' and QUI-ETUS 'rested' might be the template for VI-ESC-O 'I shrink up, wither' by way of VI-ETUS 'bent together, shrunken', which is the perfect participle of VI-E0 'I bend together, I plait'. Certainly, NASCOR 'I am born' and QUIESC 'I rest' may have encouraged the derivation of other inchoative verbs, since the presence of several models would make it more likely that new inchoatives would be formed. There is thus a possibility of multiple causation through the influence of other words. Yet it is a mistake to believe that the original inchoative cannot be found or that one verb is as likely as another to have served as the original model. As has been shown, chronological lists from etymological dictionaries and explicit criteria for a leader verb make it possible to identify CR-ESC-O 'I grow' as the original stimulus for other inchoatives. The basic argument is that the criteria for a leader verb can be abstracted from later verbs coined by the productive derivational process. Furthermore, the method of examining a chronological list by means of criteria taken from the meanings and forms of derived words has general applicability to the history of any suffix. This method can be called extrapolation.

Of course, documentation does not make it absolutely certain that CRESCO was the leader verb, because the earliest historical records date from a late stage in the development of inchoatives when the suffix was already fully productive. This is proved by the variety of -SC- verbs in the list of the earliest inchoatives. For purposes of historical study, Tagliavini (1949: 150)
divides the -SC- verbs into three groups. The first group consists of those few verbs that have *-sk- reflexes in other Indo-European languages and are thus pre-Latin formations; an example is GN-ÖSC-Ö 'I perceive, I learn', which has the Attic Greek cognate gi-gnó-ské 'I learn'. The second group contains such prehistoric Latin formations as CR-ESC-Ö. Like Kent (1946: 110), Tagliavini believes that CRESCÜ underwent reanalysis of the root and ending from CR-ESC-Ö to CR-ESC-Ö, and the new suffix was then used to form many new verbs. Among the verbs of the second group, CRESCÜ is the verb that most clearly contains the concepts 'begin' and 'start', and consequently it indicates a change of state, does not signal a termination or perfective idea, and accepts both animate and inanimate subjects. Furthermore, CRESCÜ contrasts with another verb having the same root—namely, CRE-ARE 'to make'—and this made it easier to factor out the ending -ESC-. The third historical group was formed by attaching the inchoative suffix to stative verbs, adjectives, and stative nouns. Examples of the third group and words from which they are derived are:

CAL-ESC-Ö 'I become warm' < CAL-ÖÖ 'I am warm'
ALB-ESC-Ö 'I become white' < ALB-US 'white'
QUI-ESC-Ö 'I rest' < QUIES 'rest, quiet'

Historical texts date only from the period when all three groups of inchoatives were present in Latin, as we have seen from our chronological list. Consequently, it is methodologically necessary to use an analysis like Tagliavini's reconstruction of different stages in the pre-history of the suffix.

There is additional evidence that inchoatives were being produced before the earliest attested Latin, because some of the oldest compound inchoatives show vowel raising in the root. For example, DE-FET-ISC-ÖR 'I become tired', first attested in 184 BC, is derived from FAT-ISC-ÖR 'I grow weak', and the root vowel A has been raised to E. Similarly, CON-TIC-ESC-Ö 'I become still' is a compound of TAC-ÖÖ 'I am silent', and the root vowel A has been raised to I. Such prehistoric vowel raising in non-initial syllables is discussed by Palmer (1968: 219-20), who states that the regular development in open syllables was from A to I.

We can adapt a phonological theory to explain the extension of the suffix to form new verbs. Let us first review the facts. Once the morpheme -ESC- was separated from CRESCÜ, it began to spread. It did not immediately extend to all the roots that eventually formed inchoatives, but, as suggested by the chronological table, it
spread gradually from one lexical item to another. This gradual extension fits the theory of lexical diffusion devised by Wang (1969) and expanded by Chen (1972) to describe the spread of phonological change. The theory of lexical diffusion states that phonological change is phonologically abrupt but lexically gradual. For instance, palatalization of a velar will occur suddenly in an individual phoneme but will spread gradually to more and more words containing the phoneme; moreover, all words having the phoneme do not necessarily undergo the change, which may be blocked by a competing change. Similarly, addition of an inchoative suffix to an individual root occurs suddenly but spreads gradually to other roots, and it may be blocked by the rise of other preferred ways to express the inchoative meaning—such as, periphrastic constructions. For instance, French uses commencer à 'to begin to', and Spanish, empezar a 'to begin to', while the inchoative suffix is not productive in either language. There is an important relationship between the adaptation of the lexical diffusion theory and the claim that you can find a leader verb in morphological change from a chronological list of verbs. That is, since the changes occur incrementally, it is possible by tracing them back to identify, or at least to extrapolate, the original model for change.

In conclusion, it has been shown that CRESCÔ was not formed like other -ÈSC- verbs, but that it served as a model or leader verb, since it is the only verb that satisfies the following criteria:

1. In syntax, it agrees with inchoatives in its intransitivity and in the acceptability of a variety of animate and inanimate subjects.
2. Semantically, it is similar to inchoatives in its imperfective aspect, and it can be paraphrased with the helping verb become.
3. Its morphology is identical to the inchoatives in the form of the suffix and in its role in the conjugation.
4. Among words in the lexicon, it is a high frequency verb, and other words with the same root are available to facilitate factoring out the root to yield the suffix.

Starting from Malkiel's discussion of leader words, it is useful to develop such criteria, which can be used to find leader words in the history of other affixes after it has been shown that a leader verb serves as a trigger, or mechanism, of morphological change.
REFERENCES


Lexicology and Stylistics. Vocabulary of Provençal
Courtly Lyrics - Introductory Remarks.
Peter F. Dembowski. University of Chicago.
дорогому Якову Львовичу Малькелю

For several years now we have been discussing various phe-
nomena referred to by a polyvalent term, "intertextuality."¹ In
medieval literary criticism, the wide usage of the term probably
goes back at least to the publication of Julia Kristeva's once
celebrated work on Le Petit Jehan de Saintré.² The term "inter-
textuality" is both very wide, having subsumed all sorts of phe-
nomena referred to previously by such terms as "influence," "theme,"
"school," "fashion," etc., and quite narrow, since—and here lies
the perilous parallelism with post-1957 linguistics—it emphasizes
the "generative" "transformational" process of production, rather
than the end product. It stresses the aspects of literature about
which purely historical-philosophical research (which I would
like to compare to archeology) teaches us very little.

If we consider some fundamental aspects of medieval esthetics,
we must realize that "intertextuality" as a way of analyzing medi-
val love lyrics is an approach hardly conducive to significant ex-
planatory power. One of the fundamental traits of courtly love
lyrics is the existence of a limited, fixed, ever-reiterated spe-
cialized vocabulary. Since everything in this vocabulary is
"intertextual," nothing really is so. This vocabulary is a key-
stone of traditional, conventional poetry. And this tradition was
understood and accepted by poets and listeners (readers) alike.
This voluntary submission, this apparent acceptance of the rules of
convention—so felicitously presented by Paul Zumthor in his thor-
ough discussion of "Le Poète et le texte"³—is of course a hall-
mark of medieval art in general. It does represent a considerable
difficulty for the modern critic accustomed to consider the "orig-
inality," i.e., the bending or even breaking of the rules of the
imposed conventional code, as the sole measure of artistic accomplish-
ment.

The lyric vocabulary of the Middle Ages presents, to be sure,
other problems. It is important for the understanding of the sty-
listic-textual aspects of medieval lyrics to recall that this vocab-
ulary is not only controlled by an accepted convention, i.e., occur-
ing and recurring in similar contexts in a given language, but that
it is also "inter-lingual." The same terms traveled from Provence
to Northern France to Sicily, Northern Italy, Northern Spain, Ger-
many and England. While maintaining its basic poetic function, the
fin cor of the troubadours transformed, in time, into fin cuer, cuor
gentil, edelez herze, and gentil herte (although Gallego-Portuguese
not seem to use gentil coração, (meu) coração is very frequent); and
with each entry into these new environments it acquired certain new
secondary stylistic characteristics. Thus, a study of courtly vocab-
ulary should, in the long run, be comparative, since understanding
Francian usage does help us in appraising its Provençal analogue.
But this means that we must proceed with caution ("comparaison n'est
pas raison"), for there might be some important local differences.⁴
The exhaustive comparative study of the vocabulary in its specific stylistic situation still remains to be done. The basic courtly love poetry vocabulary is relatively small. Thus, Paul Zumthor, in his older study of the early Provencal and Francian lyrics, estimated that the meaningful, specifically lyric vocabulary of that genre could not be more than two or three hundred words. This very smallness constitutes yet another basic fact to be reckoned with. It must be pointed out that the general common vocabulary was quite restrained also. Zumthor calculated again that Bernart de Ventadorn, surely one of the most "classical" of the troubadours, used in the forty odd poems attributed to him a vocabulary of only some 2,400 different words.

But there lies precisely the heart of the matter: a limited number of specialized words, "controlled" by the laws of a well accepted convention and residing inside a doubtless artificially restrained, general vocabulary, was used over and over again in the genre which, for Provencal alone, was practiced by some 350 troubadours (known to us by name or nickname, plus many anonymous ones) and which survives to this day in 2,540 lyric compositions. Such lexical, numerical poverty had to result in a very high degree of polysemy of each term and, concomitantly, in a very high degree of synonymy existing among those terms.

There are two basic critical attitudes which can be taken toward such a lexical situation. A critic whose vantage point is the whole linguistic system (e.g. Old Provencal language) can simply describe the state of imprecision of semantic oppositions resulting from this repeated polyvalence and synonymy. Many literary critics, especially those of previous generations, have, wittingly or not, followed such a "linguistic" path. They usually complain about the "naive," "trite," "imprecise," therefore "meaningless," vocabulary. If they are interested in the general vocabulary of the linguistic system, they can choose to shun the specifically courtly love materials. Unlike real linguists, such critics, even otherwise good ones, can deplore the state of affairs. Moshé Lazar, faithful to his mission of debunking any idea of serious intellectual purpose behind courtly love ideology, truly regrets that "l'emploi d'une terminologie équivoque et prétendant à confusion, la traduction de concepts divers par des mots identiques, ne permettaient pas de se faire une idée claire de l'ensemble du phénomène courtois dans ses manifestations les plus variées." He goes on to remind us that "le vocabulaire poétique n'avait pas la même valeur à toutes les époques ... telle expression de la lyrique provençale à ses origines n'eut pas un sens identique à celui employé un siècle plus tard."

But fortunately such a "linguistic" approach aiming at the "cataloguing" of vocabulary, that is to say, at the definition of the cultural realities behind artistic expression, and despairing about the enormous difficulties encountered in the task, is not the only one possible. Following the path most clearly traced by such critics as Guittet, Dragonetti and Zumthor, one can also take a stylistic approach to the problem. Rather than looking at the specialized vocabulary through the prism of a linguistic and cultural system,
we can approach it more fruitfully through a closer reading of the genre, assuming that the "real" meaning resides precisely in that genre. Such a stylistic approach results not in despairing about the imprecise clichés of the genre, but rather in a realization that this limited conventional vocabulary is art-producing. Such artistic possibilities were noted by Dragonetti who speaks about "dynamic clichés" operating through the poetry upon the listener. This idea was most forcefully expressed by Pierre Bec. Far from considering the polyvalence and synonymy as exasperating shortcomings, the leading Provençalist deems that "les mots significatifs (termes-cléfs), qui reviennent constamment, jouissent d'une richesse sémantique particulière, d'une pluralité de valeurs, d'une puissance allusive..." Bec knows very well that these terms "font le désespoir du philologue" but they also "étendent très loin le message poétique et compensent par là la pauvreté numérique des unités lexicales." As I stated before, such polyvalence and synonymy were possible because the convention (the "maturity of tradition," as Bec puts it) within the confines in which lyric poetry operated was accepted freely and totally by the "conniving" poets and their "conniving" audiences.

It must also be stressed here that the numerical poverty of the vocabulary of courtly lyrics together with its polyvalence, synonymy, semantic richness and allusive power, are not the only examples of poetic ambiguity. In fact, the lexical ambiguity is an integral part of the veritable esthetic system based on polyvalence, ambiguity, i.e. allusive power. Students of Provençal (and again, of other courtly poetry) know very well that the troubadours constantly played upon the pronominal identity of el(h)ə 'she', li, liei(s), 'her', etc. referring to amor (feminine in Old Provençal) and to the lady, and such ambiguity must have been obviously conventional, that is to say artistically desired. Such convention can occasionally be raised to the level of an organizational principle of the whole poem. Thus, e.g. Peire Vidal in his Ab l'alen tir vas me l'aire/ que'ieu sen venir de Proensa ('With my breath I draw the air/ which I feel coming from Provence') builds all the poetic tension upon the ambiguity in the expression of nostalgia for Proensa and for the unnamed feminine object of the poet's devotion. Here is the text:

\begin{align*}
\text{I} & \quad \text{Ab l'alen tir vas me l'aire} \\
& \quad \text{qu'ieu sen venir de Proensa;}
& \quad \text{tot quant es de lai m'agens;}
& \quad \text{si que, quan n'aug ben retraire,}
& \quad \text{ieu m'o escout en rizen}
& \quad \text{e.n deman per un mot cen:}
& \quad \text{tan m'es bel quan n'aug ben dire.}
\end{align*}

\begin{align*}
\text{II} & \quad \text{Qu'om no sap tan dous repaire}
& \quad \text{cum de Rozer tro c'a Vensa,}
& \quad \text{si cum clau mars e Durensa,}
& \quad \text{ni on tant fins jois s'esclaire.}
& \quad \text{Per qu'entre la franca gen}
& \quad \text{ai laissant mon cor jauzen}
& \quad \text{ab lieis que fa.ls iratz rire.}
\end{align*}
The much disputed literal meaning of the poem 14 confirms a certain kind of poetic "fusion" of Proensa (v. 2) with liei(s) ('her' v. 14,16,17) en ('of her' v. 19), la mielher ('the best' v. 20), la genser ('the noblest' v. 21), ilh ('to her' v. 23), and even sieu bel cors plazen ('her beautiful and fair body' v. 27) since cors can sometimes, but probably not here, have a pronominal value. And thus if literally (and prosaically) the poem treats two subjects, poetically they can become one, because the convention encouraged the real polyvalence in such poetic uses of liei(s), as it encouraged many other kinds of ambiguity.

What has to be done in regard to the study of Provençal courtly lyric vocabulary is to execute a series of lexical analyses of the key terms. Such analyses must be fundamentally text-and-genre-centered, that is to say they must be basically stylistically-oriented. It would be premature to attempt to analyze thoroughly the whole corpus of the specifically courtly love lyric vocabulary. 15 Rather, we should attempt to carry out a series of in-depth investigations of the key words organized, whenever possible, in relation to their semantic fields. Here the Zumthorian concept of register can be applied with caution and with a complete understanding of what it entails. But, as I said, such investigations must be, above all, stylistic, that is to say, they must concentrate on the meaning and poetic function of the given term examined, first and foremost, in the genre of courtly lyrics. A recent good example in Old French of such subtle sounding is the work of G. Lavis, L'Expression de l'affectivité dans la poésie lyrique française du Moyen Age (XIIe-XIIIe siècles). Etude sémantique et stylistique du réseau lexical joie-douleur. 16 This excellent, exhaustive, sophisticated work, employing up-to-date theoretical insights and technological equipment, is in one sense, perhaps, not stylistic enough: the corpus examined by Lavis is not confined to courtly love lyrics, but includes also other lyrical genres of Old French.

As I have argued elsewhere, 17 such studies should examine first of all the difficult, i.e. polyvalent and omnipresent, terms which obviously belong to the very core of courtly vocabulary. Such words as afan 'suffering,' amor 'love,' consirar 'think anxiously,' cortezia, dan 'damage,' dezirier 'desire,' enveja
'desire,' gelos 'jealous' 'enemy of fin'amor,' ira 'rage' 'sadness,' joi, joven 'youth' 'youthfulness of spirit' 'capacity to love like a fin amic,' lauzengier 'flatterer' 'liar' 'enemy of fin'amor,' maltraire 'to suffer' 'suffering,' merce 'mercy,' pensar 'to think' 'to think anxiously,' pretz 'valor (of a lover),' solatz 'solace,' talan 'love desire,' vilania 'vilany' 'opposite to cortezia,' etc., to name just a few, must be examined, like archaeological artifacts, not in terms of some preconceived abstraction, but in their natural surrounding, that is to say, in their context. And the context must be understood as a three-level concept. On top of such a stylistically conceived concept, we have the contextual value of a given term in terms of the line (or the sentence); the second, the middle, in terms of a whole poem; the third, and this is particularly important for our purpose here, in terms of the genre of courtly love lyrics.

Grasping this "three-level" concept is a precondition for a proper understanding of and a correct approach to the lexical analysis of these difficult terms. Such analysis is obviously required in regard to many such evidently polyvalent, specialized and abstract terms as those mentioned above. Any student of Old Provençal lyric poetry knows full well that looking up, e.g., pretz in Emil Levy (S.-W., VI, pp. 525-527, P.D. p. 308) supplies only the general ("etymological") meanings of the term, and that such meanings are only initially of help in grasping the basic courtly usage of the basic courtly term. But what is even less clearly understood is that some very commonly used words can reveal themselves to be quite complex if we submit them to the three-level analysis. Such common omnipresent adjectives as e.g. avinen 'agreeable' 'fair,' bon 'good,' fin (fi(n)s) 'refined' 'noble,' franc 'noble,' gai 'gay' 'filled with the joi of fin'amor,' ric 'rich' 'powerful,' simple 'simple' 'loyal,' etc. acquire in the specific courtly environment a specifically courtly value. This value must be determined, as far as it is possible, on all three levels. The first level shows us the immediate semantic environment. Gai can very often be coupled with a near synonym, e.g. jauzen, and form a close semantic unit, a binomial construction: gai e jauzen. This favored stylistic device, much studied and much debated, is base on the fundamental poetic process operating throughout a conventional genre: the words, whether originally near synonyms or not, acquired gradually more and more common contextual meaning: the more immediate the context, the greater the semantic "homogenization."

Let us take two examples. In the poem of Peire Vidal quoted above "Ab l'alen tir vas me l'aire", the word bon coupled with cor 'heart' in an adverbial phrase de bon cor not only creates most of the philological difficulties, but—and this is more important—determines to a large extent the whole sense of the poem (ultimately including the touched upon question whether Provence, the lady, or both are subject of the poem). From the lexical point of view the difficulty lies in the inherent, extremely rich semantic possibility of such words as bon and cor. And while most careful readers do realize the polyvalence of cor, such "dynamic" poetic power of the humble bon can very easily be overlooked.
Another example is even more deceptive. The adjective simple does not, at first glance, present any special difficulties. Emil Levy (S.-W., VII, pp. 660-661) attests two basic values of it (repeated in P.D. p. 344). The purely negative ones ('untutored' 'harmless' 'silly' 'stupid,' etc.) are taken from didactic literature. The second, positive or quasi-positive value is demonstrated by two citations from Flamenca. In a properly lyrical manner, simple is coupled here in binomial constructions with piu 'pious' and pur 'pure.' Levy glossed those simple as 'tender' and 'modest' ('sanft ' 'bescheiden'). In the negative meaning we find simple to be a true descendant of simplex, the antonym of complex, or compositus, but the study of lyric vocabulary reveals the importance of the positive meaning which, without necessarily being a direct descendant of another antonym of simplex, i.e. duplex, acts as if it were so. Note that the overwhelmingly positive environment of this adjective in: Per so lor serai fis e cars,/ Humils e simples e leyaus,/ Dous, amoros fis e corauns ('For this reason I shall be toward them [=the ladies] noble and dear,/ Humble and simple and loyal,/ Sweet, loving, noble and sincere') indicates that simples must be placed somewhere in the semantic fields of sincerity and loyalty. A similar "register" of expression of humility, sincerity and trust is to be seen in the description of facial expression: Car'avetz d'anhel ab simpla gardadura 'You have the face of a lamb with simple expression.' But it is important to understand that such positive functions of simple (rare in Provençal, far more common in Old French), while very much conditioned by the first level of context, could also be determined by the second level. Thus, if a poem is directed against courtly ideals or, more precisely, when we are confronted by a sort of implicit praise of these ideals in a contredit, then simple can very well mean 'simple-minded.' The reason for this is clear: the very 'register' of expression of sincerity, loyalty, humility and trust has been temporarily abated, by the dominating sense of the anti-courtly poem, into the register of 'simple-mindedness.' We see such temporary return to non-courtly meaning in "Amors, be.m platz e.m sap bo" by Elias de Barjols: Amors, assi.us dic de no, qu'ieu no soi en vostras ma/ car ben es simples e planz/ qui.s met en vostra preizo ('Love, I say no to you/ because I am not in your hands/ indeed simple and plan is/ one who puts himself in your prison').

Such adjectives as simple (or its binomial companion plan 24), and many others, illustrate most fully the basic problem encountered in the analysis of most, if not all, of the specifically courtly love lyric vocabulary. An analysis carried out on the first and second level of context reveals a tendency, constant in essence and variable in intensity, to make the words depend semantically on each other. This semantic "homogenization" must be understood, accepted and studied if we wish to grasp the poetic function of a truly conventional term.

The third-level analysis in which the genre itself is considered as a semantic environment also discloses, of course, a tendency toward the similar process of "homogenization," but in addition it shows something else. The terms used over and over again, in similar
contextual levels, acquire, on the stylistic, i.e., on the level of genre, a greater and greater degree of abstraction. Fin'amor, pretz, valor, mezura, etc., etc., mean more with every poem of the genre, as long as the convention supporting this genre is respected, i.e., is dynamic. The role of a modern, stylistically-oriented critic is to understand this process and to apply it, in order to understand better the very poetic function of the old, traditional language. To paraphrase Mallarmé, the critic must find "le sens le plus simple aux mots complexes de la poésie."

It should be argued that only if we understand, as thoroughly as possible, our linguistico-archeological artifacts on the three contextual levels, can we make generalizations on the ultimately fundamental level, that is to say, on the level of language. The whole history of the last several decades of literary and stylistic criticism teaches us about the many perils of moving, consciously or not, to and fro between lexical-stylistic and lexicographical-linguistic levels. But it should also teach us about its rewards. I am sure that the understanding of the stylistic implications of the vocabulary of Provençal courtly lyrics will help us understand one of the very central cultural developments in Western European languages, that is to say, the development of the native, vernacular abstract vocabulary. This development led to, or at least coincided with, one of the most important and the most lasting phenomena of Medieval culture, the discovery, or rather rediscovery and vernacularization, of allegory. It is not surprising that Simplexe, that lateral descendant of our humble simple, has become one of the important allegorical figures of the Roman de la Rose.

Notes.
1. A longer version of this paper was read at the Conference on Stylistics and Interpretation of Literature held at the City University of New York in April 1977.
3. Essai de poétique médiévale, Paris, 1972, pp. 64-105, see especially the discussion of the concept of tradition (pp. 64-82). Zumthor continues the critical approaches which, far from taking the convention as "fetters" resulting in "unoriginality," consider the fidelity to the accepted canons of literary art as the main spring of medieval creativity. Recently, the Swiss scholar applied his (somewhat modified) approach to an even more "form centered" French poetry of the late Middle Ages in Le Masque et la lumière, la poétique des grands rhétoriqueurs, Paris, 1978. In the French-speaking world, the "precurors" of Zumthor were Robert Guillaume in his truly pioneering short essay "D'une poésie formelle en France au moyen âge," Revue de Sciences Humaines, Nouvelle Série, fasc. 54, 1949 pp. 61-68 (reprinted in Questions de Littérature, 1960, 9-32 and in a separate booklet, Paris 1972) and Roger Drapet's opus magnum: La Technique poétique des trouvères dans la chanson courtoise: Contributions à l'étude de la rhétorique médiévale Bruges, 1960. Pierre Bec in his excellent essay, "Quelques réflexions sur la poésie lyrique médiévale. Problèmes et essai de
caractérisation", Mélanges offerts à Rita Lejeune, Gembloux, II, 1969, pp. 1309-1329, building on the ideas of Guette, Dragonetti and Zumthor, speaks very convincingly about the art of "connivence c'est-à-dire, un art qui implique l'adhésion commune du poète... à un univers mental dont la langue poétique assure la communication" (p. 1321) and about this connivance as being implicit between the poet and the listener. (p. 1323).

4. Thus, for instance, mezura 'moderation' 'indulgence' 'manner', etc. is used in Provençal as a specific term of courtly love lyrics. The term is rare, if not absent, in Francian love lyrics (where it was very widely accepted in, e.g., epic poetry). See "Mesura dans la poésie lyrique de l'ancien provençal," to appear in Studia Occitanica in memoriam Paul Remy. The preliminary survey of the semantic value(s) of this term was made with the help of the data bank of Provençal courtly lyrics gathered and made available for scholars by Professor F.R.P. Akehurs of the University of Minnesota.

5. The need for such a study is evident, especially for Provençal, which is probably the oldest (if not the original) language of courtly lyrics. The historical dictionaries: P.-J.-M. Raynouard, Lexique roman..., Paris, 6 vols, 1844, and its supplement—continuation: Emil Levy, Provenzalisches Supplement—Wörterbuch..., Leipzig, 8 vols, 1894-1924, (S.-W.), were based chiefly on narrative and non-lyric materials. The courtly love lyric elements occupy only a modest place in those dictionaries. Petit dictionnaire provençal-français, Heidelberg, 1909, is a handy digest of S.-W., showing the same basic orientation (P.D.). More recently, Glynnis M. Cropp published an ambitious work of courtly Provençal vocabulary. It should be considered as an introduction to the subject. Le vocabulaire courtois des troubadours de l'époque classique, Genève, 1975, treats many general lyric terms, without enough emphasis on the purely poetic-stylistic functions of these terms.

6. Langue et technique poétiques à l'époque romane (XIIe-XIIIe siècles), Paris, 1963, p. 182. The study of G. M. Cropp (see above, note 5) examines, or mentions, some 390-420 (if one counts such derivatives as senhorar—senhoratge as separate items). Not all the terms examined here belong necessarily to the basic, significant courtly love vocabulary.

7. Compared with some 5,000 different words used by Wace, 6,000 by Chrétien de Troyes, and 12,000 by Benoît de Sainte-More in Le Roman de Troie. See "Recherches sur les topiques dans la poésie lyrique des XIIe et XIIIe siècles", Cahiers de Civilisation Médiévale, II, 1959 p. 410.

8. All students of Provençal (and of other courtly) poetry are of course aware of the fear expressed by the troubadours of violating lexical tabus. Thus, e.g. Bernart de Ventadorn in his "Chantars no pot gaire valer" while accusing bad women of being marchandas et venus confesses "Vertat en dic vilanamen" 'I speak truth in common terms' (Martín de Riquer, Los Trovadores. Historia Literaria y textos, Barcelona, I, 1975, p. 370). All citations, unless indicated otherwise, are taken from this three-volume edition. The editors of the introductory manual of Old Provençal commenting on this verse cite with reason the authority of Las Leys d'amors.
(poetic code edited in Toulouse in the first half of the XIVth century): en chanso no due hom pauzar daguna laja paraula, ni dagu vilanal mot ni mal pauzat 'in a censou one must not use any unseemly term or a common word, or one which has bad metre' (P.R. Hamlin, et al., Introduction à l'étude de l'ancien provençal. Textes d'étude, Genève, 1967 p. 103). Note the juxtaposition of vilanal mot with the mot mal pauzat. The conventional laws restricting the vocabulary of courtly love exist as an integral part of a larger conventional system.

9. The number 350 is suggested by M. de Riquer, Las Trovadores, I, p. 9. Following István Frank, Répertoire métrique de la poésie des troubadours, Paris, I, p. xvi, n. 1, he mentions 2,540 poems. Approximately half of the known Old Provençal poetic corpus is recorded in the University of Minnesota data bank mentioned in note 6.

10. Cf. note 5.

11. Amour courttois et "fin'amors" dans la littérature du XIIe siècle, Paris, 1964, p. 17. I cite Lazar because he is a contemporary critic. As for the older critics, they generally dismissed the whole problem by stressing the trite and formulaic character of the poetry. Typically severe is, e.g., Alfred Jeanroy: "Il y a dans le style des troubadours, même les meilleurs, beaucoup de formules toutes faites, de clichés, et l'on peut dire que cette res nullius en constitue proprement le fond", (La Poésie lyrique des troubadours, Paris, II, 1932, p. 116). Cliché was, of course, not res nullius, but res communis (or, if we wish, res publica), resulting, as Dragonetti describes so well, in "une entente préétablie entre le poète et son public" La Technique poétique (see note 3) p. 543.

12. La Technique poétique (see note 3), p. 542.


15. The lexicographically slanted study of G. M. Cropp (cited in note 5) certainly points out the difficulties inherent in such a large undertaking.


18. It was Yakov Malkiel who gave a most thorough linguistic analysis of binomial lexical constructions. See his "Studies in Irreversible Binomials," Lingua, VIII, 1959, pp. 113-160. For other literature on this subject see my "Les Binômes synonymiques en ancien français", Kwartalnik Neofilologiczny (Hommages à Halina Lewicka), XXIII, 1976, pp. 81-90. It is interesting to note that some scholar believe that it was the Provençal lyric which popularized this device throughout Western Europe.

19. The last three lines of the poem, complex in their deceptive simplicity: E tot quau fauc d'avinen/ ai del sieu bell cors plaçen, neis quau de bon cor consire./ mean literally: And all that I do agreeable/ I receive (=have) from her beautiful fair body,/ Even when I contemplate (her? it?) with good heart. For the difficulties of joining consire 'I contemplate sorrowfully' with de bon cor see
Avalle's various explanations (above note 14). It is possible that we shall never "solve" the problem of this poem, for such insolubility ultimately lies at the heart of lyric poetry, but we should, at least, see the problem and, above all, not attempt to offer any false solutions. In the Introduction P.R. Hamlin et al (see above, note 8) p. 159, offer what I consider "anti-poetic" explanation by simply glossing de bon cors with 'avec concentration'. In a recent American translation the whole problem, as one should expect, is hidden: A. Bonner, Songs of the Troubadours New York, 1972, p. 170 the last line reads: 'even to my heartfelt thoughts,' but 'heartfelt' is far better than 'avec concentration.'

20. Donatus provincialis speaks thus of figuras 'words:' Figura es simpla o composta: simpla si cum cons; composta, si cum vescons 'Word is either simple or compound: simple as in count, compound as in viscount' (K. Bartsch, Chrestomathie provençale, Berlin, 1892, p. 194, 11. 7-8).

21. Vv. 38-40 of 'Assat sai d'amor ben parler' of Raimbaut d' Aurenga (Trovadores I, p. 434). M. de Riquer avoids the whole problem by translating simples as sencillo, but the American editor, W. T. Pattison, The Life and Works of the Troubadour Raimbaut d' Orange, Minneapolis, 1952, p. 153, offers a slightly more precise, albeit not very poetical, translation, 'straightforward'. (The question of whether Raimbaut parodied the love poetry throughout his poem, or only at the beginning, should not enter into the discussion of the problem of the courtly meaning of simple.)


23. S. Stroński, Le Troubadour Elias de Barjols, Toulouse-Paris, 1906 p. 33, vv. 25-28. v. 27, containing simples is a variant. In the MS used by Stroński this whole verse is missing.

24. Note the positive, "proud" meaning of plan(a) in Jaufré Rudel's "Quan lo rius de la fontana:" tramet lo vers.../ en plana lengua romana 'he sent the poem/ in plan provengal language' (Trovadores I, p. 159 v. 30-31). (The variant in five out of fifteen MSS: tramet lo vers/ plan e en lengua romana.) A. Jeanroy, Les Chansons de Jaufré Rudel, Paris, 1915, p. 5, translated plana lengua as 'simple langue.' Plan was a frequent epithet capable of conveying a general, positive, value of 'pleasant' 'smooth' 'terse'. E.g.,: sonez levez e plas 'melody light and pla(n)s'(Monge de Montaudon, "Pus Peire d' Alhvern'a cantat," Trovadores, II, p. 1042) and: cors be faihz, delgatz e plan 'well-built, delicate and pla(n)s body' (Bernart de Ventadorn, "Lo tems vai e ven e vaire", Trovadores, I, p. 355).
THE ROLE OF MULTIPLE CAUSATION IN THE GENESIS
OF THE SPANISH SUFFIX -ido

Steven N. Dworkin
University of Michigan

The role of multiple causation in language change and that of etymology in the advance-
ment of historical grammar are two of the major themes running through the writings of Yakov
Malkiel. Diachronists have long realized that more than one force may lie behind a given lin-
guistic mutation. Until Malkiel's pioneering essay (1967), no specialist had attempted to study
systematically and at a high level of abstraction the mechanics of multiple causation. This concept
invites a dual interpretation. On one hand, multiple causation can refer to a number of discrete
factors whose combined action leads to the genesis and spread of a given linguistic shift. In such
a case, the analyst may attempt to identify and isolate primary from secondary causes and rank
the impact of the individual forces at work (cf. Malkiel 1977). Viewed from the other angle,
multiple causation often appears to be synonymous (or to overlap) with the notion of formal
convergence. Here a series of unconnected events may tend to yield an identical or at least com-
parable result. The latter approach to multiple causation may prove invaluable in tracing the
rise of a Romance derivational suffix for which there seems to exist no clear-cut single source
in the parent language.

Etymologists have long known that successful work in their specialty demands recourse
to the knowledge furnished by all branches of historical grammar -- phonology, morphology
(inflectional, derivational, and compositional), syntax, and semantics. Unfortunately, today's
practitioners of historical grammar, especially students of morphology and syntax, have tended
to ignore the findings made available by the probings of etymologists into the histories of indi-
vidual lexical items, word families, or semantic fields. This attitude has resulted in the well-docu-
mented estrangement (to the disadvantage of all parties) of etymology and historical grammar.
Two major essays by Malkiel (1980, forthcoming) attempt to restore the balance. The first illus-
trates the crucial role of etymology in identifying and determining the validity of "minor" sound
correspondences. Among the points made in the second paper -- whose avowed goal is the in-
jection of new life into etymology -- is the inclusion within this discipline's scope of the rise of
affixal as well as root morphemes.

In what follows I shall make use of multiple causation and the results of individual lexica-
]l biographies to account for the genesis of a Spanish derivational pattern. Space limitations
rule out a detailed discussion here of the history of each form cited, the airing of all relevant
side issues, and a review of the pertinent technical literature. A monograph of mine currently
in preparation will treat these matters at appropriate length. Although individual lexical items
had received close scrutiny, Malkiel was the first scholar to have drawn attention to the deri-
vational pattern at issue (1946) and to have proposed tentative diachronic analyses (1966).

Medieval and modern Hispano-Romance contain a series of adjectives with the terminal
segment -ido which synchronically do not function as the past participle of a corresponding
-er or -ir verb. Those few -ido adjectives which organically continue such participles represent
relics of verbs which had long ago fallen into disuse. Many of these adjectives are linked by a
common semantic thread, namely the absence or attenuation of a given physical or mental qua-
ity.

I have divided the pertinent material into three groups, depending on the nature of the
base. In Group I, -ido is a segmentable suffix attached to a clearly identifiable nominal base, to
which a prefix has -- in all likelihood, simultaneously -- been added:

adororido 'sad, afflicted' (dolor 'pain'), amodorrido 'sleepy, drowsy' (modorro 'drowsi-
ness'), Ast. asombriu (with iu as the local equivalent of -ido) 'growing in the shade' (sombra
'shade'), desabrido 'insipid, unpleasant' (sabor 'taste'), desanguido 'anemic' (OSp. sangue, mod. sangre 'blood'), descolorido 'pale, colorless' (color 'color'), OSp. desfamn, desfambrido 'hungry, famished' (OSp. famne ~ fambre, mod. hambre 'hunger'), desmedridio 'downhearted' (miedo 'fear'), despavorido 'scared' (pavor 'fear'), Ast. enganiu 'hungry' (gana 'desire, want'), OSp. entenbebrido 'darkened' (OSp. tiniebras, mod. -blas 'darkness').

All these formations carry a negative connotation, reinforced in many instances by the prefixes a-, des-, and en-.

In Group II, -ido is affixed to adjectival bases again as part of a parasyntthetic derivation-
al pattern:

amortido 'dead' (muerto 'dead'), denegrido 'blackened' (negro 'black'), de-, re-sequido 'very dry' (seco 'dry'), OSp. empobrvido 'poor, impoverished' (pobre 'poor'), endurido 'hardened, obdurate' (duro 'hard'), enflaquito 'weakened' (flaco 'weak, thin'), en-, regordido 'swollen, excessively fat' (gordo 'fat'), OSp. enloquecido 'mad' (loco 'mad, crazy'), enratalido 'rendered sparse' (ralo 'sparse' vs raro 'rare, uncommon'), ensangustido 'narrowed down' (angosto 'narrow'), renegrido 'very black' (negro), OSp. repetido 'id.' (OSp. prieto 'black'), revejido 'prematurely aged' (viejo 'old'), reverdido 'green' (verde 'green').

Except for reverdido, all these items have a decidedly negative flavor.

In those adjectives which comprise Group III, -ido can best be labeled a "suffixoid". An etymological analysis discloses at least three subclasses. Group IIIa -ido adjectives appear to continue Latin bases in -TU:

OSp. bell-, vell-ido 'handsome, beautiful', possibly traceable to MELLITU 'honey-like', OSp. sencido 'intact, virgin (of a field)'< SANCITU, ppcs. of SANCIRE 'to forbid entry', OSp. transido 'dead'<TRANSITU, ppcs. of TRANSIRE 'to cross over'.

Group IIIb adjectives originally functioned as participles of -er and -ir verbs:

aterido 'stiff with cold, shivering with cold' (OSp. *aterir; cf. aterecer) alongside entelerido 'shivering with fear or fever', desvaido 'lank, gaunt' (*desvalir; see Dworkin 1977), esperido 'exhausted, emaciated' (*espirir), florido 'flowered' (*florir; cf. florir. Fr. fleurir, It. fiorire), manido 'spoiled, gamey (of meat)' (OSp. maner, -ir 'to remain'), OSp. tollido (mod. toll-) 'paralyzed' (tollir 'to take away'; see Dworkin forthcoming).

A handful of Gallicisms adjusted to Spanish morphophonological conditions constitutes Group IIIc:

OSp. ardido ~ fardido (var. faldrido) 'astute, bold, daring' (OProv. ardit ~ OFr. hardi 'id.'), (des)manido 'sad' (OFr. marri 'id.'), (des)esmaito 'feeble' (OFr. esmai 'worry, trouble'), formido 'strong, robust' (OFr. formi 'id.', mod. fourmi), garrido 'handsome, beautiful' (OFr. garni 'adorned, ornate'), malbaylido 'poorly cared for' (OFr. mal-, maubailli 'id.').

It seems worth noting that all the Gallo-Romance forms are of Germanic origin. Once again, I would point out, a sizable proportion of the Spanish adjectives are negatively tinged.

Several adjectives from Group III represent long-standing etymological cruxes. The v- of OSp. vellido, OPtg. velido seems to rule out a genetic link with the family of BELLUS 'beautiful; handsome'. The derivation of bell-, vell-ido from MELLITU, first suggested by Malkiel (1946), was received with considerable skepticism in some quarters. Although the development is plausible on semantic grounds, its acceptance demands a cogent explanation (such as a lexical blend?) of the change observable in the initial labial. Dworkin 1979 presents evidence to support
The starting point for the adjectives in Group II lies in the past participles of OSp. de-adjectival verbs in -ir. While Malkiel 1941 and Nelson 1972 retain a fair measure of usefulness, the history of such verbs in Hispano-Romance largely remains to be written. The medieval record indicates that speakers favored parasyntactic de-adjectival verbs which opened with a prefix (typically a- or en-/em-) and closed with the "inchoative" suffix -ecer, e.g., aclarecer ‘to make clear; to dawn’ (claro ‘clear’), enriquecer ‘to make rich’ (rico ‘rich’). Variants in -ar were not unknown; witness atristar ‘to sadden’ (triste ‘sad’), ousted by entrurecer, engordar ‘to fatten’ (gordo ‘fat’), aclarar ‘to clarify’ (claro ‘clear’) alongside esclarecer. Although scholars agree that many -ecer verbs dislodged their -ir counterparts, the older language provides only scraps of evidence for the shorter verbs. Enbrivar ‘to anger’ (bravo ‘wild, untamed’) turns up in both MSS of the Alexandre (2172b). The Aragonese valued MS P of that poem contains inf. enflaquir ‘to weaken’ (flaco) at 537a, 690b, 2259c, and pret. enflaquió at 1125c. The gerund engordiendo found in both MSS at 2645 (though in different verses) presupposes engordir ‘to swell up’ (gordo); cf. engurdir in the Leonese subdialect of Cespedosa de Tormes. Substantival enloquimiento ‘madness’ reflects enloquir. The Old Spanish Bible preserved in Escorial MS 1-j-6 documents pret. esclarió < esclarir (claro). Several texts offer forms belonging to the paradigm of estable ‘to establish’ (estable). Also on record are scattered examples of ONav.-Arag. enrequir (rico), enfranquir ‘to free’ (franco) and ennerir ‘to blacken’ (presupposing *nero, as in Italian, rather than negro?).

Consequently, it seems reasonable to contend that the adjectives of Group II entered Hispano-Romance as the past participles of short-lived -ir verbs. Almost all instances of these adjectives attested before 1300 are found in texts traceable to the Eastern part of the Hispano-Romance linguistic domain (the poetry of Berceo, also Libro de Apolonio, Libro de Alexandre, Vida de Santa María Egipcica, Fueros de Aragón, Liber Regum). Could the formal models provided by neighboring Cat. amorit, desméri, empobrit, endurit, enflaquí, engordit, enrarit, en-, re-vellit, reverdit have played a role in the survival of their Hispanic counterparts after the local demise of the corresponding -ir verbs?

Group I presents the greatest difficulties as a morphological class. True, Latin contained a handful of demonstrative adjectives in -tus: witness AVITUS ‘ancestral’ (AVUS ‘grandfather’), FOLLITUS ‘provided with a leather bag’ (FOLLIS ‘leather bag, bellows’), MELLITUS ‘honey-like’ (MEL ‘honey’), ORBITUS ‘circle-shaped’ (ORBIS ‘circle’), PATRITUS ‘father-like’ (PATER ‘father’), PELLITUS ‘dressed in skins’ (PELLIS ‘skin’), PENITUS ‘equipped with a tail’ (PENIS ‘tail’), TURRITUS ‘equipped with towers’ (TURRIS ‘tower’). Yet not one of these adjectives underlies a Spanish formation in Group I. Few Romance dialects display demonstrative adjectives which formally correspond to these -ido formations. Noteworthy is the absence of cognates in Portuguese and Catalan. Adams (1913: 304) lists six such adjectives for Old Provençal: acerit ‘steel-like’ (acier), abit ‘perfect’ (aip ‘good quality’), maestrit ‘artificial’ (maestre ‘master’), fraidit ‘rascally’ (Gmc. fradit ‘rascal’?), poestadit ‘powerful’ (poestat ‘power’), volt ‘vaulted’ (volta ‘vault’). Wagner (1952:§91) reports four pertinent formations in the Logudorese dialect of Sardinia: lanidu ‘mouldy, musty’ (lana ‘wool; mould’), famidu ‘starved’ (fàmine ‘hunger’), reminiscent of OSp. desfamidido, ag- in-ganidu ‘desirous’ (gana ‘desire’ a Hispanicism; cf. Ast. enganidu), limido ‘mouldy, musty’ (limu ‘mould, must’). In all likelihood the adjectives in Group I arose within Hispano-Romance and do not hark back to Latin demonstrative adjectives in -TUS.
I wish to suggest here that the forms in Groups II and III provided the model of -ido adjectives bereft of a corresponding verb for the minting of Group I. Why did this group spring into existence? The only attempt to answer this question appears in Malkiel 1966: 333-336. Spanish (and the other Romance Languages) had inherited numerous denominal adjectives in -ATU and a smaller series of such adjectives in -UTU. The ranks of such formations had swelled in Late Latin and at the early stages of the Romance vernaculars. In Hispano-Romance the resulting -ado adjectives indicated resemblance or some kind of relationship, with no semantic overtones. On the other hand, -udo adjectives denoted 'excess, abundance,' especially in reference to overdeveloped parts of the body; contrast barbado 'bearded' with barbudo 'thickly-bearded'. Students of derivational morphology know that Spanish tends to organize suffixes in gamuts centered on a consonantal pillar, e.g., -ano, -ino, -uno; -esco, -esco, -isco. The Old Spanish verbal system had accustomed speakers to the triadic pattern of arrhizotonic participles in -ado, -ido, -udo, which could secondarily function as independent adjectives. Malkiel hypothesized that speakers attempted to round out the vocalic gamut of denominal adjectives by coining the -ido adjectives of Group I which, by denoting the lack or inadequacy of a given quality, contrasted semantically with their -ado and -udo counterparts.

Several closely-related issues invite further exploration. What is the relationship and affinity, if any, of -ido so used to other suffixes with stressed /i/ and to other adjectival suffixes? Why did only a handful of Spanish nouns spawn such negatively-flavored -ido adjectives? This paper has limited itself to demonstrating that a careful examination of each lexical item's history is needed to understand the genesis of these -ido adjectives. Etymological probes have shown that such formations go back to diverse sources: Latin bases in -TU, past participles of obsolete -er and -ir verbs, Gallo-Romance adjectives in -i, and local vernacular creations designed to fill a gap in the language's derivational pattern. Disparate linguistic events have come together to create this series of -ido adjectives. Multiple causation here overlaps with convergence.

REFERENCES


------. 1980. Older Luso-Spanish garrido (a) 'silly, foolish', (b) 'handsome, beautiful': One source or two sources?. Romance Philology 34.195-205 (with editorial postscript at 205f.).

------. Forthcoming. The fragmentation of the Latin verb TOLLERE in Hispano- (including Luso-) Romance. To appear in Romance Philology.


------.. 1946. The etymology of Hispanic vel(l)ido and melindre. Language 22.284-316.


From Latin to Romanian Deviously
Eric P. Hamp
University of Chicago

Most of what has happened between East Balkan Imperial Latin and the various dialects of Romanian is just what a crusty Neogrammamian would expect. Moreover, the intrusions from the early Carpathian belt, the autochthonous "Dacian", Iranian (Scythian), Albanian, Greek, minimal Thracian, Slavic, Magyar, and Turkish can all be shown to have followed orderly diffusional paths. Therefore any observed deviations are all the more noticeable in this well understood history. It is proposed that at least one set of such phenomena is to be explained as the result of multiple causation in sound change and segmented morph change—a convergence of causes that has in the past attracted the interest of the multifaceted polymath whom we honour, and to the refined elaboration of which he has contributed so much.

There are Romanian words with initial co- and others with po-, and dialect variants thereof, where the Latin or Slavic sources would lead us to expect po-/po-/-ca- or co-, respectively. Graur (1963), with his customary meticulousness, has studied a group of words beginning in co- in which a po- might be expected. He concluded that the Slavic prefix po- became co- by dissimilation when the following root of the complex form began with a labial. Thus one might derive coborfi < *poborfi < Bulg. poboryam 'a invinge in lupta, a dobori', OCS poboriti; and in this fashion a good half-dozen forms could be explained. The important point here is that the process would be one of dissimilation.

There exists however another half-dozen etyma studied by Mioara Avram (1972) in which an expected p- followed by o or å is replaced by a velar or dental, and in these cases the next following consonant is not a labial. Thus in place of *pocirni we find cocirni. M. Avram's suggestion, prudently guarded, was that here we are in the presence of assimilation.

Now Andrei Avram (1981) has shown that changes of this sort are not restricted to the two kinds of environment just rehearsed; although it should be borne in mind that this is still not to say that the factors alleged might not have applied separately but consistently in each of the contexts mentioned. His point is that exchange between p- and c- is found irrespective of the (dis)agreement in features with the next following consonant, and he has a satisfying number of examples to adduce. A telling and interesting illustration of his point is colomida < polomida < pălămidă; notice the following liquids. A further complexity of interest in this form is the rounding of å in the first instance in the presence of a labial; this development has already been dealt with in a systematic framework by Uriteșcu (1973: 451). A. Avram perceives that the exchange of p- and c- occurs before o and æ, and that these are all to be characterized by the feature [+grave], according to Jakobson's well known system dating back to 1938. This shared feature would, then, have favoured the fluctuation.
Admitting the correctness of any of these explanations, it seems clear nevertheless that at an early time in the history of Romanian a change was possible in a Latin sequence that did not depend upon the dominance or copying of a phonetic feature in such a direct way. By recognizing the essential rôle of areal criteria in the problem in question, Hamp (1980) in studying the problematic lexeme codru 'mountain, chunk of bread' has argued that it is to be derived, in every way regularly and by principled development, from Latin quadra. This leads to the claim that, as a regularity of spoken Latin, *quadr-*/codru-* < *quadra-, originally conditioned by accent and hence by extension through derivational suffixes. Such a process could have led to phonological doublets open to levelling and contamination. Just such a result, productively applied to other lexemes, has been argued by Hamp (1981) for potirnicihe 'partridge' and its many variants (esp. păturnice) < coturnix and for corindă, the Northwest Ardeal descendant of Latin calendae 'first day of a season'. Such results presuppose a development of alternants (427) qua-/co- > *pa-/co- > *pa-/po- > *ca-/co-; that is to say, co- → po- as if pa- < qua-, and co- → co- based on po-/co-.

Now let us summarize the processes which have been envisaged. The proposals of Graur, of M. Avram, and of A. Avram offer plausible and orderly avenues of phonetic facilitation for the observed outcomes from a variety of linguistic sources, but they fail individually and collectively to provide a sharply delineated Lautgesetz. The Hamp proposals identify an early native (Latin) development, independent of intrusions such as Slavic prefixes, which was rare or sparse in application but which laid a groundwork in the shape of rule-governed alternation. Yet this alternation seems intuitively to be insufficient to totally account for the later more massive and proportionately more pervasive post-Slavic shifts of po- > co- and co- > po-.

It is now proposed that in addition to the above phonetic and originally morpho(phon)emic sources for these changes, alternations, and variants a further reinforcing source for the observed results is to be found in the emerging morphology of Romanian. Graur and earlier workers have pointed to the continuing productivity of the prefix po-, of Slavic origin and bearing a rather abstract derivational semantics. But the Romanian lexicon, continuously drawing upon its Latin patrimony particularly for learnedisms, cultismos, an upper register of speech, and the like, has amassed an appreciable number of abstractly complex forms in co-: coincide, colaboră, commoră, comote, comuță, corelativ, corelați, corespunde, corupă. Of course not every one of these is of equal age, but the pattern is evident.

Romanians bilingual in Slavic and drawing learnedisms from Latin could have equated or conflated po- and co- as stem-forming prefixes; among non-bilinguals the morphological pseudo-equivalence could have exploited the emerging phonetically based morpho(phon)eemic situation.
REFERENCES


IN SEARCH OF COEFFICIENTS IN DIACHRONIC MORPHOLOGICAL ANALYSIS
/i/ as an increasingly dominant vowel
in Spanish inflectional morphemes
Yakov Malkiel
University of California, Berkeley

1. Preliminaries

Past events, the way historians have learned to piece them together, are characterized, first, by their uniqueness, despite the ever present possibility of their circular or spiral arrangement, in cycles as it were; and, second, by the analyst's inability to predict them with any degree of accuracy, beyond the disappointing haziness of probabilistic statements. What is attainable in diachronic analysis of human affairs, under optimal conditions, is then a cogent reconstruction of happenings by hindsight, ex post facto, or -- to use a term of fairly recent coinage -- through post-diction, via the identification of the cause, or of the bundle of interacting causes, that have produced a certain result, namely the change from an earlier stage S1 to a later stage S2.

While the causation of a given shift, not unlike the shift itself, may be unique, it does not follow from this state of affairs that it must necessarily be simple; there surely exists such a thing as uniqueness of a complex interplay of causes. It is, therefore, disappointing to learn that certain scholars engaged in explicative diachronic linguistics have insisted, in an almost dogmatic vein, on the pervasive superiority of internal, or structural, forces while others, of equal competence, sophistication, and, yes, stubbornness, have with comparable fervor stressed the unmatched validity of external forces. (By the latter term they usually have meant the chosen speech community's contacts with other ethnic groups favoring a variety of languages, related or unrelated, and the implications of such contacts for the change of speech habits under investigation.) After all, the most satisfactory solution of the given problem could well be the demonstration of joint action of deeply embedded structural trends, on the one hand, and, on the other, of the so-called sub-, ad-, and superstrata activated by a prolonged state of bi- or plurilingualism, including the sudden impact of one social dialect on another within the confines of one and the same language.

Let us briefly cast a critical look at the classic flaw of sound correspondences -- vertically, from parent language to daughter language, and horizontally, between hierarchical peers -- in whose establishment the pioneers of the past century, especially their second and third waves, took such pride. As every tyro knows, the peak of the Neogrammarians' confidence and self-sufficiency was reached when Karl Verner (whom no one would want to call a deft or inspired plumber) so fixed the leaky
Grimm's Law as to eliminate, by virtue of a single well-aimed qualification, a real master-stroke, the vast majority of the presumed exceptions. This was, one hundred and six years ago, one legitimate, very elegant way of coping with some such leaks. And even earlier, in 1862, Hermann Grassmann swung his magic wand to explain away another set of suspected irregularities by showing how speakers of Greek and Sanskrit, through parallel — presumably independent — appeals to the same dissimilatory mechanism, had parted company with the speakers of cognate languages, indifferent to the advantage, or lure, of such consonant dissimilation. But granted the merits of certain trail-blazers in having discovered qualifications of this sort, we are still saddled with the question as to what other remedial analyses remain available to us.

Several new ideas have been ventilated of late, including the possibility of mutually clashing tendencies which apparently are apt to block each other's way, with the result that changes so thwarted or stunted fall short of penetrating the entire depth of the lexicon, of reaping the full benefit of the opportunity extended to them, so to speak. Even this challenging proposal does not exhaust the range of strong possibilities. By allowing, in principle, for the off-chance that one impetus conducive to a sound change, or to some other modification, may be endowed with greater force than another; by agreeing to distinguish (if I may put it somewhat differently) between strong(er) and weak(er) shifts, one might find one plausible answer to the apparent paradox that, within the confines of a single language history, a given Change X seems to work on a sweeping scale, under virtually any set of circumstances, whereas one of its counterparts or rather companions, let us call it Change Y, materializes on a discernibly smaller and, one is tempted to argue at first blush, seemingly erratic scale. Conceivably the margin of sheer randomness of its materialization might be substantially reduced if only it could be demonstrated that, for the change aimed at to take place unhindered, the cooccurrence of two tendencies, T1 and T2, was required at the crucial juncture, over against the chances of success of Change X, strong enough to assert itself on its own. This way of thinking might lead us, with a measure of luck, to the discovery of occasional partnership or solidarity of forces and causes, to be placed at the opposite pole from instances of their reciprocal antagonism and subsequent blockage.

Where, in today's perspective, an intricate ensemble of forces, or causes, appears to have been at work, it is more than likely that past generations of intelligent and well-informed scholars came up with rival solutions which to them and to their contemporary readers and audiences seemed mutually exclusive. In the vast majority of instances a clear-cut decision has since been taken by their successors, frequently on the basis of freshly-tapped sources. But in a residue of less clear-cut
instances one can, I submit, under favorable conditions still succeed in exploding the myth of the incompatibility of such hypotheses by showing that, individually, either one of, let us say, two such rival solutions so far advocated has no doubt been partially correct, but that their combined championship by a resourceful mediator bids fair to lead us to an even more satisfactory answer. Expectations of such eventual reconciliability of apparently disparate explanations must not, I repeat, be carried to any extreme. Errors stemming from gross inaccuracy or wishful thinking deserve to be mercilessly exposed, extirpated, and buried without any pomp, to be remembered henceforth only in the narrow context of a circumstantial history of research.

Onto a separate axis of measurement one can project the following situation, which promises to take us closer to the announced topic of etiological coefficients. Let us assume a student of inflectional endings strung out in diachronic projections examines in searching detail a series of processes -- involving again and again the gradual prevalence of one pattern or paradigm over another. For the exploration of such a fairly typical state of affairs -- a collision of morphological rivals -- there exists a tested, well-established modus operandi: a technique which, despite numerous minor improvements and refinements newly introduced, as a whole goes back to the late 19th century. As the abovementioned imaginary student reaches the verb, he detects, by dint of sifting, a variety of seemingly disconnected problems, of which one is likely to bear on the infinitive, another on the gerund, yet another on the present or past participle, etc. Each of these sharply silhouetted problems is burdened with its own set of unknowns and can, the aforesaid student hopes, in the end be satisfactorily solved through appeal to such discrete forces as agency of regular sound change, impact of the given language's total sound pattern within the frame of "economy", avoidance of the threat of harmful homonymy (and conceivably of the menace of cacophony as well), deference to the innate craving for symmetry, supervenient pressure of a lingering learned tradition, infiltration from a neighboring "socially superior" dialect, marginal effects of sound symbolism, etc.; or to any of the numerous conceivable combinations of such agencies. Suppose the investigator next discovers that, no matter how pervasive the diversity of dynamic motivations, a single feature characteristic of one rival form in each encounter, perhaps a concomitant not infrequently overlooked at first glance, consistently emerges as victorious in the course of the resolution of such a chain of conflicts. This feature, not necessarily salient (I repeat), undergirds all the outcomes of the drawn-out competitions under scrutiny; it may well be an individual phoneme; or a class of phonemes; or a prosodic, suprasegmental characteristic: a pitch contour, the position or heaviness of stress; or something else, on the same order of generality. Such a state of affairs, which cannot long elude an experienced worker's
attention, to be sure may be due to mere coincidence, an explana-
tion most linguists justifiably frown upon, dismissing it as
evasive. Now, if the recurrence happens to be observable on a
wide scale, the chance of sheer coincidence diminishes sharply;
it dwindles even more dramatically if the newly-suspected factor
had a rival of its own, which from practically no identifiable
context emerges as having scored a success.

One is tempted to conclude from such a network of findings
that the previously-invoked, discrepant reasons for the series of
morphological changes -- let us call them a, b, c, d, e, etc. --
were not necessarily wrong within the frame of atomistic inquiry,
but that, in addition to them, there presumably operated qua
coefficient one, at first, less visible but doubtless potent
factor x, so that the full range of causation might be symbolized
by some such formula as ax + bx + cx + dx + ex, and so forth.
This formula, or some variation thereupon, would tend to do jus-
tice to both the recurrent ingredient and the alternating,
diversifying elements in the total picture of forces at work.
Given the broad slant of our inquiry, the coefficient thus
isolated could also be called the (or a) codeterminant of the
change under investigation. Technically less accurate, but per-
haps more soothing to the ears of those somewhat lax about math-
ematical metaphors might be some such label as 'common
denominator'.

2. The Problem in its Broad Outline

After these a shade theoretically tilted preliminaries let
me for a few minutes switch to an autobiographic perspective.
Several years after having engaged in a succession of narrow-
gauged inquiries into the reorganization, at the medieval level,
of certain inherited constituents of the Spanish conjugational
paradigm, I noticed, in regard to inflectional endings, that --
whatever else can be shown to have occurred -- the vowel i, to the
extent that it had been at all involved in rivalries, almost in-
variably had scored a victory over its competitors. The individ-
ual monographic studies which in the end yielded this conclusion
had borne on many varieties of the infinitive and the present
tense; of the imperfect tense; also, of the preterite;² and had,
in addition, involved some thinking about the past participles
and the gerunds. The closest rivals of the victorious vowel were
the monophthongs e and u, plus the rising diphthong ie. The
other rising diphthong so characteristic of Spanish at all times,
namely ue, and the meagerly represented falling diphthongs, such
as ai, au, ei, eu, oi, ui, do not enter at all into the tradi-
tional configurations of inflectional suffixes. The rising diph-
thong io /jo/ appears at a single spot of the present-day para-
digm, being the 3d sg. preterite ending of certain categories of
verbs; also, in the Middle Ages there coexisted for a while a --
regionally limited -- plural counterpart, namely -ioron; neither
form is relevant to the present inquiry. To revert to monophthongs, the parsimonious representation of /o/ among grammatical tools is a well-known idiosyncrasy of Romance traceable in the last analysis to the Latin verb system. To be sure, a long o was found in the parent language as the marker of the 1st sg. of the pres. ind.: flōreō 'I blossom', legrō 'I collect, read', capiō 'I capture, seize', and in the end, through vowel contraction, also laudō 'I praise' -- a peculiarity preserved by the majority of Romance languages, Spanish included (except that, where stressed, -o gave way to -oy). It is also true that, through change of ò into /o/ or /ɔ/ and through compression of the diphthong au into /ow/ and eventually into /o/, a few more verbal endings involving that latter vowel came into existence and that, at least on two occasions, the presence and ready availability of o made themselves felt in innovative experiments, including one successful and one abortive attempt. Nevertheless, the balance sheet for o has remained very unfavorable; one can, at best, dub it a marginally successful vowel in the Latin-Romance tradition, ill-starred from the start, one which barely stood its own (e.g., as the unstressed component of long suffixed endings: -amos, -aron, etc.), and practically never crossed the path of i. These subtractions would seem to leave only a unaccounted for, a formidable counterpart indeed; speaking in a facetious vein, one could label a and i the two superpowers in the chosen domain, mutually comparable indeed except that the prerogatives of a have remained virtually the same throughout, neither substantially increased nor radically diminished, whereas the ultimate rise of i to that pedestal of power, through a succession of dramatic skirmishes with e, ie, and u, is precisely the topic of tonight's talk.

If this suspicion, borne out by examination of details, hardens into certainty and is further supported by stray observations of morphological facts made outside the province of conjugations (e.g., in the domains of declension, grading, and derivational affixation), then one could defensibly claim that speakers of Spanish were, over a long period of time, aspiring to, and step by step approaching -- without, however, having reached their target completely -- a conjugational pattern revolving, with respect to endings, around a single major vocalic contrast, namely that of /a/ and /i/. The contrast thus aspired to -- involving, I repeat, a goal rather than any actual achievement -- was on a discernibly more ambitious scale than a number of minor morphophonemic alternations familiar to every neophyte, such as the one of stressed ie and unstressed e in a limited number of radicals, on the order of pierd-o 'I lose' vs. perd-emos 'we lose' (inf. perder).

The process which I herewith invite you to focus upon stretched, from prelude to last reverberations, over at least a millennium. The earliest stirrings are traceable to late Antiquity in its transition to the Middle Ages, in part on the basis
of overtly datable and localizable evidence, such as inscriptions, in part judging from indirect clues, such as those provided by reconstruction of loosely connected varieties of provincial colloquial Latin from incipient stages of Romance vernaculars, through comparative analysis. At the opposite end of the arch, the concluding phases of the processes here scrutinized fall, again, into a period of flux and transition, namely the one that extended from the fading Middle Ages to the advent of modern times, roughly from 1400 to 1600. At that juncture the developments here envisaged did not, of course, come to a complete standstill, but lost a good deal of their previous momentum, at least in Standard Spanish, where further potential advance was slowed down by the consolidation of a new powerful literary tradition. In spontaneous dialect speech the impetus was not nearly so strongly blunted, let alone blocked.

It follows from this temporal segmentation that the initial push given to a still inchoate, hazily delineated polarization of the vowels /a/ and /i/ as carriers of a grammatical message preceded by a sizable margin the crystallization of the Spanish language as a separate, neatly profiled entity. The conditions that presided over the entire reshuffling were rooted in Latin, as it evolved in the successive periods of the Republic, the principatus, and the late Empire. The first manifestations of a bolder development must have occurred at a time of weak regional differentiation of the parent language, judging from the traces they left in several Romance languages, in part contiguous, in part geographically distant from Proto-Spanish, as was Proto-Rumanian. But while elsewhere the development did not advance very briskly (and in a few instances, as a matter of fact, is plausibly assumed to have gone in reverse), it picked up momentum in Spanish and Portuguese. Also, a detail worthy of emphasis, it underwent a far more conspicuous acceleration in Castilian proper than in adjoining Galician-Portuguese and in the non-Castilian dialects of Spanish as well. To that extent it seems legitimate to center one's attention selectively about Spanish as the language in which a broader tendency faintly adumbrated elsewhere in the end became very sharply silhouetted: Was this accentuation an isolated evolutionary line, or can it be smoothly integrated with others into some higher unit?

3. Two Implications of the Favored Approach

Before becoming immersed in details, however vital, I have asked myself whether there are any hidden implications or overt presuppositions in the chosen approach of which I should keep myself, and the audience, constantly aware. It seems to me that two such preferences -- be they matters of taste or articles of faith -- deserve to be here at once identified.

First, there is no denying the admixture of ingredients of teleological thinking in the formulation of the problem on hand,
and I thus find myself in the by no means unenviable company of such scholars as Otto Jespersen and, more recently, Roman Jakobson, without necessarily sharing every feature of their respective credos. At least part of a given development can, in my experience, be regarded as goal-oriented or goal-determined, which is not tantamount to claiming that the target ever comes close to being actually reached, or to affirming that the speakers involved are conscious of the direction in which the chain of events is taking them; still less that they would know how to formulate any such awareness; and, least of all, that they could ever so slightly on purpose influence (e.g., reinforce, accelerate, or slacken, slow down), let alone deliberately alter, the course we shall soon start to extrapolate from a number of so far disconnected observations.

The second point that I feel should be made here is that the very wisdom of singling out the vogue of a separate vowel phoneme as being characteristic of a phase of a language growth may be shrugged off as being inherently problematic. Moreover, one is left wondering which scholars in the past -- and how many -- have experimented with such an approach; and with what results, in the opinion of posterity.

Interestingly, the founding father of comparative Romance linguistics, Friedrich Diez, in the 1836 edn. of the opening volume of his pioneering historical grammar, used such verbs as vorziehen 'to prefer' or begünstigen 'to favor' in characterizing the leanings of certain speech communities brought to bear on a common heritage. Specifically, in reference to the local vicissitudes of short stressed i he remarked (135): 'On the whole it can be said that the Italians, the Southern French, and the French favor e, and all the others i' ("Im ganzen läst sich sagen, dagegen die Italiener, Provenzale und Franzose e, die anderen i begünstigen"). Elsewhere in the same book he referred to the tilt of the French language toward diphthongization (127). Seventeen years later, in the Preface to the original edition of his comparative etymological dictionary, Diez credited the Romance languages familiar to him, viewed in diachronic perspective, with eight "Gefühlsäußerungen", of potentially greater relevancy, he elaborated, to the etymologist than to the phonologist. One of these ill-defined affective orchestrations, as he saw them, was the speakers' tendency to change some other vowel to a in the first unstressed syllable, as in It. danaro 'money' from Lat. denāriu 'Roman silver coin', or in It. maraviglia 'wonder' (shared by Spanish and Portuguese, let me add on my own), from Lat. mīrabilia 'things causing wonderment'. Diez went on to state that such a shift occurs frequently ("am liebsten"), but not mandatorily, when the next, usually stressed syllable contains an etymological a, and supplied several examples. Then he added a striking remark: "This happens most frequently in French, a language which otherwise leans toward weakening the a into an e", and cited balance, dauphin, farouche, marchand, sauvage,
apparently expecting his well-prepared readers to know that the respective bases were *bilancia (from bi-lanx, a substitute for libra 'scale'), delphínus, Low L. forasticu, *mercātante, and silvāticu (influenced by salvāre).

Presented in such emotionally overarched, rather than soberly undergirded, fashion, Diez's stray observations stood little chance of impressing his hard-boiled successors. As a matter of fact, the entire issue of singling out an isolated phoneme as being highly characteristic of a chosen language quickly receded into the background, so far as advanced research was concerned. To be sure, it remained henceforth legitimate to invoke whole series of phonemes as being peculiar to a given language; indeed, nothing hinders us from including nasal vowels among the highly characteristic features of French and Portuguese, or from listing glottalized consonants among the idiosyncrasies of the Mayan family (and even of the Spanish of Yucatecos), or to illustrate emphatic consonants with Semitic tongues, especially Arabic. But impressionistic remarks on any isolated vowel in a single position within the word, unsupported by statistic computations and unintegrated into some overview of a whole system of sounds, seem bizarre from today's vantage: Even the rise of Fr. /ü/ is best examined in conjunction with the parallel development of /ö/, mainly from /we/; and, as regards a, why not concentrate on the post-tonic syllable, a decision that would tend to place Spanish far ahead of Italian, to say nothing of French, in the development of primitives such as câmara vs. camera (as well as of words containing the 'augments' or 'excrescences' -ago, -alo, -ano, etc.).

Forewarned of such risks, we shall, I think, succeed in skirting the trap into which an inadvertent Diez fell by limiting our search, from the start, to grammatical morphemes, to the strict exclusion of root morphemes. We shall next argue that Spanish, after passing through a stage of tetradic and triadic arrangements of vowel gamuts nourishing such morphemes, at a certain point began to move in the direction of a dyadic arrangement, which could be capsulized in the formula "A vs. NON-A". There were, in the Middle Ages, certain candidates among the vowels which, in retrospect, give the impression of having vied for the position of that polar opposite of /a/. It might have been the monophthong e, the monophthong i (i.e., either one of the two front vowels available in the local arsenal), or the rising diphthong ie, akin to those front vowels. Had e at that juncture had an edge over i and ie, it could very well have tended to absorb its rivals and, thus reinforced, might have effectively counterbalanced the a; alternatively, the diphthong ie could have "sucked in" its competitors and thus qualified for the role of confronting /a/ in a system presided over by the goal of, basically, dyadic oppositions. Conceivably it was, at the outset, simply a matter of coincidence that i, in its sheer numerical representation, slightly outweighed e and ie.
Such a slight margin would hardly have given it the momentum to overrun its rivals were it not for the additional, more deeply embedded fact of the speech community's latent striving for a basic duality of verbal (and, more broadly speaking, grammatical) endings. It is tempting to assume that the tendential switch from a triadic to a dyadic array of nuclear vowels in conjugational suffixes paralleled the shift from a three-gender to a two-gender system in the ranks of adjectives and nouns (if not of pronouns), but we are not equipped to demonstrate any such connection, esthetically pleasing and seductive as the thought may be. Moreover, those willing to champion this additional link would also incur the obligation of making it unassailably clear that Spanish reacted far more strongly to such a stimulus than did its sister languages, a flash of thought by no means implausible, but, realistically speaking, not (or not yet) demonstrable in scientific discourse.

4. Infinitives and Conjugation Classes

We are now ready to plunge into some concrete illustrations of these propositions. For a variety of reasons it seems advantageous to start out with the broadest morphological problem: namely the assignment of individual verbs to conjugation classes. For the gross classification of Latin verbs it has been customary, from time immemorial, to be guided by the endings of the present infinitive, specifically by the vowels that precede the last syllable, namely -re (originally -se), in conjunction with the endings of the 1st sg. pres. ind. Thus, to review here briefly very elementary facts, Latin had infinitives in -āre (such as laudāre 'to praise'), in -ēre (such as habēre 'to have'), in -ēre (such as agēre 'to drive'), and in -tre (such as fināre 'to end'), a state of affairs which at first glance justifies the appeal to an over-all four-conjugation pattern. If one adds to the infinitive another so-called "principal part", namely the aforementioned opening form of the pres. ind. set, the resulting picture is bound to look more complicated: The partner of a verb shaped like laud-āre will be, foreseeably, laud-ī 'I praise'; hab-ēre will be accompanied by hab-eō 'I have'; and fin-īre by fin-iō 'I end'. But as one reaches the contingent of -ēre verbs, easy predictability, from the infinitives, of the respective present-tense forms comes to an abrupt end for the unsophisticated learner: He cannot possibly guess that from ag-ēre 'to drive' and bib-ēre 'to drink' one is supposed to arrive at ag-ī, bib-ī, while from fac-ēre 'to do, make' and fug-ēre 'to flee' one is expected to reach fac-iō and fug-iō, in this order. The Indo-Europeanist, who sees Latin in a radically different perspective, will support the layman in declaring that the -āre verbs are presided over by the thematic vowel ā, while the -ēre verbs are similarly controlled by the thematic vowel ē. But for reasons understandable only to a thoroughly trained comparatist he will assign a short ī as the
thematic vowel to the -ire verbs, and a combination of ė and ō to the -ēre verbs, witness such 3d pl. forms as agunt 'they drive', bibunt 'they drink'. Finally, there remains an exiguous residue of athematic verbs, with infinitives ending in -rre, -sse, or -lle, which it seems advisable to sweep into one small corner of the field, tagging them anomalous: ferre 'to carry', esse 'to be', esse 'to eat', velle 'to want, wish'. These infinitive forms (as against certain finite counterparts) did not survive into Romance and may thus be safely disregarded in what follows.

In the overwhelming majority of Romance languages and dialects, at their medieval and modern stages alike, the four ancestral varieties of the infinitive -- to some extent symptomatic of the conjunctival pattern involved -- have survived with astonishing fidelity. Thus, French boasts such diversity of infinitive classes as lou-er 'to praise', av-oir 'to have', fui-re 'to flee', and fin-ir 'to end'; Italian echoes this wealth with lod-are, av-ere, and bev-ere (at present mostly bere), fin-ere; and far-off Rumanian chimes in, except for having sloughed off the -re syllable (unless the verbal abstract, i.e., a noun, rather than the infinitive proper, entering into a verbal paradigm, is at issue): laudà 'to praise', aveà 'to have', face 'to do', muri 'to die', from parental deponential mor-î meanwhile transformed, under self-explanatory circumstances, into mor-ire.

Spanish and Portuguese, however, went their separate way, allowing -ēre and -ēre to coincide. Thus, habēre emerges in Old Spanish as aver; bibēre as bever; and facēre as fazer, mod. hacer. All infinitives, as a result, become oxytonic. (In Old Provençal parental -ēre and -ēre also coalesced, but in favor of the latter -- consequently, without the fringe benefit of prosodic equalization.)

This initial impression of a neat, quasi-geometric design starts to become blurred once we revert to the lst sg. pres. ind. forms which, we surely remember, at the starting-point significantly co-determined the assignment of any verb to a conjugation class. Let us wend our way back to the pairs hab-eō/hab-ēre, fūg-iō/fūg-ēre, fīn-iō/fīn-Tre: In colloquial Late Latin habeō was pronounced /avjo/, fugiō sounded /fujo/, and finiō /finjo/. That is, the once salient contrasts between the endings of three out of the four extant conjugational classes were at that stage abolished in this crucially important form, on which the entire pres. subj. and yet other parts of the verbal paradigm hinged; once /avjo/, /fujo/, and /finjo/, plus their respective satellites, stood side by side, it became easy for speakers to move a verb from one conjugation class to another (-ēre excluded), endowing it in the process with a new infinitive ending. Accordingly, fug-ere 'to flee' was almost everywhere (except in Gaul) transmuted into *fug-Tre, thus: Ptg. fugir, Ospr. fuir (mod. huir), It. fuggire, Rum. fugi. Cad-ēre 'to fall' sporadically remained unchanged, witness Cat. cáurer and a few Italian dialect forms; elsewhere one encounters caer, choir, cheoir, chazer,
cadere, cădeă (with modern Portuguese, uncharacteristically, going one step farther and switching from attested caer to cair).

At that fairly advanced stage, the development becomes truly relevant to our thesis, for two originally distinct, but intersecting and gradually merging reasons. First, within the mainstream of events, i.e., within the transmission of Latin by word of mouth, Spanish emerges from the abovementioned flux with a sharply-pronounced preference for -ir infinitives, regardless of Latin antecedents. Thus, where the parent language wavered between fervére and fervēre for 'to boil, seethe', Old Spanish opted for fervir, mod. hervir; over against Classical (impers.) p(a)enitēre 'to experience displeasure or regret' stand Old and Mod. Sp. (reflexive) (a)rrepentingir 'to regret, repent', with newly-acquired religious overtones. Lat. recutere 'to strike back, reverberate' and succutere 'to fling aloft, toss up' clash with OSP. recodir 'to recoil, rebound, recover one's senses', old sacodir beside secodir, mod. sacudir 'to shake'; analogically, the road leads from implēre 'to fill' to OSP. fenchir, mod. henchir 'to fill, stuff'. The examples could be easily multiplied. Sometimes the speech community stops at the midway point; thus, from cernēre 'to sift' the direct descendant was, and has remained, cerner, even though a minority of speakers have elected to advance to the cernir point along the evolutionary line. Interestingly, in some more clear-cut instances the medieval texts favor almost in unison -er, but later generations have switched to -ir, as holds for medieval enhader, mod. añadir 'to add', from in + [n]addere. For a while, complete homonymy between the products of trahere 'to draw, drag, haul' and trādere 'to hand over, deliver' was foiled, despite the comparably deep erosion of intervocalic h and d, precisely by appeal to this selectively operative mechanism: trahere gave rise to trāer 'to bring', while trādere engendered obs. trair 'to betray', witness to this day the derivative traidor 'traitor' (the verb itself was subsequently replaced by circumlocutory traicionar 'to commit treason'). In many instances where Spanish opted, or ended by opting, for the -ir class, Portuguese in this sector of the lexicon favored the -er class: hence ferver, arrepender, (pre)encher, and about ten additional pairs of cognates, similarly contrastable. In search of greater geographic precision one may contend that the farther one moves away from the Atlantic Coast, the better one's chances to encounter an -ir infinitive lacking a direct prototype. A single example should suffice: colligere 'to gather, assemble' has yielded colher in Portuguese, coger (/koʒer/, later /koʃer/) in Castilian and its offshoots, but culli in Old Navarro-Aragonese, at the foot of the Pyrenees; cf. Fr. cueillir. 11

The second prong of -ir is, I repeat, unrelated to the first in its moorings: It involves not specimens of folk speech characterized by oral transmission, but the learned, humanistic borrowing of samples of Latin lexical material by bookish,
sophisticated users. These avid readers and writers, somewhere between 1400 and 1700, discovered hundreds of Latin verbs, chiefly of the -ère conjugation, that had fallen into desuetude and decided to absorb them into literary Spanish -- visibly a case of planned lexical adoption -- with a grammatical dimension. These highly intelligent and purposeful users, in carrying out their scheme of adaptation, had the choice between the -er conjugation, transparently closer to Latin prototypical -ère, and the phonically more distant -ir counterpart, to say nothing of the far removed -ar. The obvious move would have been a leap from parental -ère to filial -er; but this elitist group unhesitatingly chose the gambit to -ir instead, so that to this day Spanish offers us a whole bouquet of -ir verbs: attribuir, competir, construir, distinguir, erigir, resistir, retribuir, sustituir for which Latin, with equal if not superior consistency, presented the infinitival series attribuire, competiere, construire, distinguire, erigere, resistere, retribuire, substituire. Significantly, pre-Renaissance French vacillated between -er and -ir, but -- except for a small residue -- in the end chose -er, the direct descendant of Lat. -äre, hence attribuer, distinguer, ériger, résister, rétribuer, substituer, in rhyme with louver < laudäre. Construire, by way of contrast, when transplanted onto the soil of France, was patterned after its semantic opposite détruire, which had survived in the mainstream of word-of-mouth transmission (cf. détruire); hence, construire rather than *construer. There was, significantly, no way, for the French, to squeeze attribuire, etc. into the mold of prendre, rendre, and the like, a small, strictly residual class incapable of the slightest expansion. What was impossible of attainment in French, however, could with relative ease be carried out in Italian, where the inherited -ère class continued to flourish; hence Tus. competere, distinguire, erigere, resistere. However, the sequence /uire/, presumably for phonotactic reasons, turned out to be undesirable, leading to the entrenchment of attribuire, retribuire, sustituire, by way of nearest alternative, as it were; and costruire, as in French, joined vernacular destruire, exploiting to the hilt an opportunity for effective "lexical polarization". So a possibility rejected by French, after a brief spell of hesitation, and admitted into Italian only for an exiguous subclass, i.e. grudgingly, prevailed effortlessly and on a sweeping scale in Spanish, an evolutionary peculiarity best understood on the assumption that there was a morphological tilt in the direction of /i/.12

You have heard me hint that these two vogues, notwithstanding their fundamental disparity, upon occasion supported each other. Here is an example of such interaction: Ancestral confundere 'to mingle, combine, confuse', fig. 'confound' cast off cofonder, -honder in Old Spanish, with a built-in tendency to move farther in the direction of cofondir, etc., and even of cofundir (witness sacodir > sacudir, above). Simultaneously, confundere, endowed
with a different semantic specialization, was picked by late-
medieval elitist speakers and absorbed as confundir, with
laborious restoration of the first nasal and parallel gravitation
toward nuclear u and inflectional -ir, though for entirely dif-
dferent reasons. I doubt that this is a severely isolated
example. 13

Spanish stood almost alone in allowing it to happen that the
push toward -ir in newly-adopted Latinisms proved demonstrably
stronger than the cohesion of word-families. Take the case of
rumpere 'to break', which survived organically into most vernac-
ulars: Fr. rompre, Sp. romper, It. rompere, etc. Conversely,
intrumpere 'to interrupt', at the outset a term of such ex-
clusive crafts as rhetoric and poetics, was absorbed at a late
date, with the wave of Renaissance terms. The preexistence of
romper did not hinder the Spanish from shoving the newcomer in
the direction of the -ir class, hence intrumpir. Elsewhere
the primitive preconditioned the form of the compound, lending
it such shapes as Fr. interrompre, Ptg. interromper, It.
interrompere. 14

5. The arrhizotonic past participles in -ado, -ido, -udo

After having familiarized ourselves with the active present
infinitives we are better prepared to address the vicissitudes
of the passive past participles, because the two systems, while
far from coinciding, show a good deal of overlapping. Perhaps
one should, breaking with an inveterate tradition, invoke here
a class of verbal adjectives marked by a -t- suffix predominantly,
but not exclusively passive in message: If laudatus indeed des-
ignated 'one who has been praised', cenatus, conversely, referred
to 'one who has dined'. In the daughter languages, such forms
quickly rose to much greater prominence through vigorous devel-
opment of compound tenses. True, this special use, endowed with
major potentialities, was not unknown to Antiquity, confined to
the outer rim of the verbal paradigm (e.g. to a portion of the
passive voice, or to the exceptional categories of deponential
and semideponential verbs: ausus sum 'I have dared'); but the
Romance vernaculars, from the start, showed its dramatic extension
to the newly-shaped compound tenses habeo (or teneo) amatus 'I have
loved', habebam (or tenebam) amatus 'I had loved', and the like.
While certain important syntactic dimensions of this innovation
are irrelevant in the context of tonight's talk, its morphological
consequences will before long surge to the surface. 15

Initially, the t participle was attached directly to the
verbal root, without any reference to the "infectum" (i.e.
present tense) or the "perfectum" stem; the root would frequently
end in a short vowel or a consonant. For instance, in the para-
digm of the verb serere 'to sow', the choice of the p. ptc. form
satus 'sown is independent of the selection of se-vi 'I sowed'
for the perfect tense; the favoring of datus 'given' (from dare
'to give') has nothing to do with the preference for reduplicative dedī 'I gave'; similarly, stātus 'stood' (from stārē 'to stand') remains uninfluenced by stētī (from *stēstī) 'I stood'. But before long a network of secondary associations began to spring into existence. In certain particularly productive verb classes, those marked by infinitives in -āre and -īre, there stood side by side (a) these infinitives, (b) the perfecta in -ā(v)ī and -ī(v)ī, and (c) the past participles in -ātu and -ītu, thus: laudāre, laudā(v)ī, laudātu; and, from the verb signifying 'to hear', correspondingly: audīre, audī(v)ī, audītu. To complete the tripartite gamut, the verbs in -ēre, to be sure, were numerous enough, but, asymmetrically, few of them happened to have perfecta in -ēvī and past participles in -ētu, so that they fell short of qualifying for the role of a center of attraction, while the representation of -ētu was quantitatively even more meager and qualitatively more blurred (one isolated example that comes to mind is nōtus 'notorious' alongside ignōtus 'unknown').

In contrast, -ūtus, originally confined to a verb or two, namely statuere 'to set up, set, station', and perhaps tribuere 'to distribute, bestow, assign', underwent a significant extension within the confines of Classical Antiquity and, thereafter, an explosive growth in colloquial Latin underlying the Romance vernaculars. On the authority of A. Ernout one is free to assume that, from solvere 'to set free, release' and volvere 'to turn', there cut loose, on the analogy of the statuere/statūtus model, the innovative forms solūtus and volūtus, which, in turn, exerted sufficient pressure on loquor/loquī 'to talk' and sequor/sequī 'to follow' for these verbs to have developed, as their shares in the slow reshuffling process, locūtus and secūtus. At this point one is tempted to pause and raise the question: Why this sudden and early (namely pre-Classical) fecundity of -ūtus, as against the aforecited sterility of -ētu and -ōtus? Such a question the Latinist can deftly parry by pointing out that there existed, in Latin conjugation, a great many closely-connected perfecta in -ūtī; as against only few and severely isolated ones in -ēvī and -ōvī, so that the concomitancy of appropriately similar perfectum forms emerges as the only tangible clinching factor in favor of -ūtus. And for any skeptics wondering about the cogency of this argument Latinists will have at their fingertips an excellent parallel: As was independently established, the suffix, originally alien to the participial domain and idiosyncratic only to a certain category of perfecta (those known as sigmatic), spread, within the bounds of that peculiar group of verbs, from its original niche to the corresponding past participles, as is taken for granted in such instances as mānsus, from manēre 'to stay, remain', after mānsī; sparsus, from spargēre 'to scatter', after sparsī; etc. At this turning point the curtain falls dramatically on the uninterrupted record of Antiquity; and, when it goes up again, the landscape of the Middle Ages will hold additional surprises for the observer.
When the curtain went up and the dust had settled, a remarkable past-participial landscape became visible: Almost everywhere the once so sparingly represented -uTu type had become the major winner, especially in the ranks of verbs descended from Latin prototypes recognizable by their -ēre and -ēre infinitives. Thus, from taceā 'to be silent', a descendant of parental tacēre, Rumanian has produced ţăcut, as against Classical tacētu; and from face 'to do, make', which echoing Lat. facēre, it has generated făcut, over against ancestral factu, preserved almost everywhere else. Italian overwhelms the learner with forms such as avuto, from avere 'to have'; dovuto, from dovere 'to owe, be obliged to', and battuto, from battere 'to strike', which stand in sharp contrast to Lat. habītu, dēbitu, and to a gap in the paradigm of batt(ū)ere; and French, a language in which -uTu in the end assumed the form -u /ǔ/, not only places at the disposal of its speakers, let us say, plu from plaire < placēre 'to please', tu from taire < tacēre 'to be or keep silent', and rendu from rendre < reddere 'to return, give back' (contaminated by prendre < praehendere 'to seize, grasp'), but will allow -uTo to make its appearance at intervals, under unusual sets of circumstances, even inside the domain of -ir verbs, as can be illustrated with tenu from tenir 'to hold' and venu from venir 'to come'.

Under these conditions, one is hardly surprised to watch Old Spanish and Old Portuguese follow suit. With negligible exceptions, all verbs with -er infinitives (as a rule, traceable to prototypical -ēre or -ēre) displayed past participles in -edo -- so far as we can judge, on all levels of discourse and in all literary genres, with every single regional dialect fully included, at least until ca. 1350. Thus, from aver 'to have' a speaker of medieval Spanish would develop avudo 'had', and from entender 'to understand' he would extract entendu, where the Latin tradition had left off with radically different habītu and intēnsu. Old Portuguese chimed in, also using avudo and entendu, identical in spelling if not in the finer points of actual pronunciation, although in certain instances different constraints of sound development produced morphologically inessential phonetic deviations; e.g., through a succession of nasalization and denasalization, successive generations of speakers arrived at tēudo > teúdo, beside less erratic OSp. tenudo, which parallels OFr. tenu.

What is the most cogent explanation for the fact that -uTu fared so remarkably well in Rumanian, Italian, French, Old Spanish, and Old Portuguese, plus some of their congeneres? To be sure, the initial impetus to its rise, within the confines of Latin, had been given, we recall, by the felicitous concomitancy of the thriving -uT perfect tense, with statuT lending support to statuTu and the like. At the Palaeo-Romance phase, the category of the so-called -uT perfecta scored here and there further successes, but also suffered a comparable number of setbacks, so
that, on balance, one scarcely observes any real increase, let alone break-through. Had the -utu past participle, then, meanwhile developed a momentum of its own, regardless of the inconclusive records of its erstwhile partner, the perfect tense, or had it encountered new allies? I venture to think that a new pattern of solidarity indeed had been allowed to sprout, involving this time an alliance with the past participles of two other, increasingly powerful conjugation classes -- those marked by -ar and -ir infinitives. In Rumanian tăcut and făcut gained strength through contrastive association with lucră 'worked' (from lucră) < Lat. lucrătu, lit., 'gained, profited', and with auzit 'heard' (from auzī) < audītu. And much the same is true, mutatis mutandis, of the cognate languages adduced, and of others from which it would be easy to supply matching examples. To limit myself to Old Spanish, loado 'praised', from laudātu, and oído 'heard', from auditu, pulled in their wake avudo and entendudo. A vague appeal to analogy no longer satisfies any analyst at present, I suppose. It seems more adequate to saddle, specifically, the rise of vocalic gamuts with the responsibility for this state of affairs.

In early Romance, tetradic and, especially, triadic, vocalic gamuts pervade the entire domain of suffixal derivation; cf. the mass-nouns and abstracts in -āmen, -īmen, -ūmen; -āgo, -īgo, -ūgo, and the like. Characteristically, the conspicuous vowels in such a triadic gamut arrangement were, for centuries, ā, ī, and ū, to the near-exclusion (a) of ē and ŏ; (b) of the short counterparts of all five; (c) of the diphthongs, whether rising or falling; or (d) of zero, on the model of Lat. agmen 'crowd, mass, train', segmen 'bit, shred', and the like. To put it differently: The past participles, straddling as they did the form classes of verbs and nouns/adjectives, for a while tended to participate in the consolidation of a sweeping morphological pattern geared to an a-i-u gamut.20

Even if the hearer should declare himself convinced by such analysis of the past participle, the concluding link in this chain of transmutations is apt, at first, to baffle him. For, by the middle of the 14th century, the -udo forms all of a sudden disappeared from Spanish with unforeseeable speed, yielding ground to -ido; one hundred years or so later, Portuguese followed suit -- the delay is rather precisely measurable and significant, allowing one to recognize at a glance the focus and the periphery of the new development.21 Catalan, incidentally, never joined this last phase of the movement and has kept -ut; e.g., (h)agut 'had', more reminiscent of OSp. avudo, It. avuto and typologically, of OFr. ėu than of mod. Sp. (h)abido.22 The situation that ensued involved considerable widening (actually doubling) of the scope of -ido, which from then on, uninterruptedly, has matched both -er and -ir infinitives, as every tyro has been encouraged to learn: comido 'eaten', from comer, and temido 'feared', from temer, rhyme with dormido 'slept', from dormir. (One finds a handful of
exceptions, e.g. abierto 'opened', from abrir, and dicho 'said', from decir, but not one of them exemplifies -udo, protected from the onslaught of -ido.) This partial conflation of conjugation classes II and III, as they are labeled in elementary language teaching, to be sure is not unparalleled: Not only do the gerunds in -iendo (comienzo, durmiendo) and the adjectivally or substantivally colored present participles in -iente (pudiente 'wealthy', akin to poder, beside durmiente 'sleeper') agree with this trend, but, far more important, two simple past tenses, namely the imperfect and the preterite, preceded the past participle by a wide margin along this path of commonality of inflectional endings. The fact that one of the past participle's chief functions has from time immemorial been to enter into the past composite (he temido 'I have feared') and into the pluperfect (había temido 'I had feared') in rivalry with the paradigms of those simple tenses (temía and temí) -- a state of affairs to which we shall yet revert -- may, indeed, have been one major reason for the shift from temudo to temido. Still, the late date as well as the striking speed and thoroughness of the change cause surprise: We have very eloquent testimony to this effect, as when an inspired poet composing a quatrain around 1320 allows, say, atrevuido 'emboldened' to rhyme with agudo 'sharp' or mudo 'dumb', while an uncouth copyist toiling a half-century later and insensitive to the effect of rhyme unhesitatingly mutilates the stanza by changing atrevuido to atrevido, in deference to the new colloquial standard familiar to him, while leaving agudo and mudo unaltered.23

One can, of course, by dint of searching for such obstacles, stumble across a verb from which the expected -udo participle would unavoidably have sounded very awkward and argue that the pervasive change in the direction of -ido may well have started at that point; W. Meyer-Lübke, at the turn of the century, was skillful at providing such explanations. Thus, from roer 'to gnaw', which echoes Lat. rödere, it was -- for phonotactic reasons -- clumsy to extract *rouido; consequently, speakers may well have favored roído by way of experimental alternative, and other verbs in -er could plausibly have followed suit and preferred -ido to -udo. In criticism, one is tempted to reply that it would have been far simpler for speakers to treat roer as a defective verb, divested of any past participle. A well-informed and otherwise judicious Romanist active on the present-day stage, Heinrich Lausberg, not so long ago launched a hypothesis unworthy of his fine scholarship: He argued that -ido beside -er had been all along in existence, subterraneously as it were, with -udo representing merely a sort of overlay in the Hispano-Romance literary register, little more than an episode due to the infiltration of a Gallo-Romance ending.24 But, first of all, be it said in rebuttal, we know practically nothing of Hispanic conjugation models -- Catalonia excluded -- that were borrowed from across the Pyrenees; and second, there is not a shred of evidence to the effect
that literary genres affected by Old French models succumbed to
the influence of foreign -udo, while autochthonous folk litera-
ture steadfastly clung to -ido. Because, also around 1350, cer-
tain other profound changes occurred in the morphology of the
verb -- they will yet briefly occupy our attention --, changes
which also involved the triumph of an i-marked ending over some
inveterate rival, it seems to me more realistic to argue that
about that time Spanish was switching from a, predominantly, tri-
adric to a dyadic vowel gamut: A vs. NON-A, with more and more
speakers tacitly agreeing to groom /i/ for the latter role.
Since Portuguese was more sluggish in adopting this pattern of sharp
vocalic polarization (recall its acceptance of encher, ferver,
interromper vs. Sp. henchir, hervir, interrumpir), it switched
from -udo to -ido late and, one gathers, under lateral pressure
from its more dynamic neighbor; also, it allowed for one residual
exception: conteúdo 'content' -- unlike its medieval Spanish
counterpart contenedo -- failed to undergo restructuring into
*con(t)eido (cf. têudo + tido) because it had meanwhile cut loose
from the verb.

Even more significantly, a quasi-homonymous set of straight
adjectival affixes, namely a-ado suggestive of similarity (as in
aindiado 'resembling an Indian'), -ido indicative of lack or
dearth (as in resedado 'thoroughly dry, deprived of sap'), and
-udo stirring visions of comic excess or exuberance (as in Sp.
orejudo, Ptg. orelhudo 'equipped with huge ears') preserved their
triadic array, not least because the choice of a, i, or u by the
speaker in this context unmistakably could convey a separate,
readily isolable message.25

6. The Imperfect Tense in -ía

Though fully corroborative of everything that has been ex-
pounded so far, the record of the imperfect tense in Latin, in
Romance as a whole, and particularly in the bundle of Hispanic
dialects here at issue stands apart insofar as it illustrates,
not just once but at two separate junctures widely distant in
time, the agency of forces of heightened concern to us.

From one's elementary Latin class everyone surely remembers
that the imperfect tense of that language had such sets of end-
ings (if one limits himself to the singular) as -ābam, -ābās,
-ābat; -ēbam, -ēbās, -ēbat; and -iēbam, -iēbās, -iēbat, in partial
harmony with the gamut of infinitive endings and, beyond that
constraint, with the subjacent pattern of thematic vowels. In
substandard Latin speech that accord was further sharpened through
complete jettisoning of the uncharacteristic, hence by then prob-
ably unwelcome, -iēbam set. Where the infinitive ending was -ière,
an alternative imperfectum in -Tham emerged (there are inelegant
texts testifying to this substitution), while all -ière verbs --
including those behaving like faciō/-ēre and fugiō/-ēre --
acquired an imperfect tense displaying plain -ebam in lieu of the jarring diphthongal form inculcated into college students, hence *fac-ébam, *fug-ébam, on the evidence of reconstruction based on comparison. Independently, -ébam continued to be favored, as before, by -ere verbs. Toward the close of the Latin period one can therefore reckon with three parallel sets, symmetrically structured: -ábam..., -ébam..., and -tbam..., all three apparently in good health, thus: laud-ábam 'I praised', hab-ébam 'I had beside *fac-ébam 'I did, made', and fin-tbam 'I finished'.

And yet even this seemingly insuperable system, despite its structural balance, was not destined to last long everywhere, because certain vital cross-connections were here and there critically impaired, to the detriment of the master design. Thus there developed a widespread tendency, among untutored speakers, to drop the pivotal b where its loss would entail few harmful side-effects. Consequently, because the elimination of -b- from -ábam threatened to cause a conflation of the newly-adjacent a's, and thus ultimately the collapse of the tense's syllabico-accentual system, speakers stopped short of letting the -b- disappear in this particular context. But in -ébam and -tbam the same consonantal pillar was not protected by any anticipation of, or recoil from, such a hazard, and thus the -b- was allowed to disappear from the imperfect-tense paradigms of whole blocks of -ere, -ere, and -iere verbs, judging from their reflexes in medieval vernaculars. The reason for this far-reaching loss is not entirely transparent; the long-accepted appeal to eliminative consonant dissimilation, which allegedly started with habébam and débèbam, is scarcely satisfactory; I for one am tempted to assume that the -b- of the imperfect tense was sacrificed in the wake of the across-the-board abandonment of the -bó future tense, given the syntactico-semantic solidarity between these tenses: With the loss of laud-ábó 'I shall praise' and dél-ébó 'I shall destroy' the vogue of the -b- as a constituent of inflectional endings must have declined very sharply.

This state of business (i.e., the immediate consequences of the loss of b, without further reverberation) is best observed in Old Italian, where -ere and -ere infinitives typically accompanied imperfect-tense forms in -ea, thus: doveva 'he owed', from dovere (Lat. débere), piangea 'she was weeping', from piangere (Lat. plangere 'to beat the breast, bewail'), while a verb such as finire would just as smoothly develop a counterpart in -ia. Tuscan dialects have to this day preserved traces of this usage and even of its sporadic extension to -ea < -ábar, whereas literary Italian, moving in the same groove of analogical plays but in opposite direction, has conversely restored the -v- in the ranks of -ere and -iere verbs, using the -are paradigm as its operational base; hence doveva, piangeva, finiva after, say, lava-va '(s)he washed'. In Old Provençal, however, which distinguishes among infinitives in -ar, -re, and -ir, both -re and -ir
infinitives demand an imperfect tense in -ía, to the strict exclusion of *-ea. 30 Hence the superb material for rhymes supplied by auzia 'I heard', from auzír (< audíre), moría 'I was dying', from morír, on the one hand; and, on the other, crezía 'I believed', from creíre, and vendiá 'I was selling', from vendré. That is to say, the /í/ has been measurably favored over the /e/; the movement may plausibly have started with verbs represented by doublets, e.g. espándre ~ espandir 'to pour out', resplandré ~ resplandir 'to shine, sparkle', seguír ~ seguir 'to follow'. Basically, the very same situation is observable in Portuguese, both medieval and modern, except that here the stimulus provided by doublets can no longer be caught by the observer's lens: vender 'to sell' and seguir 'to follow' have at all times shared an imperfect in -ía. 31 One hits upon no reason for the prevalence of /í/ over /e/ more cogent than the local predilection among speakers of Luso- and Hispano-Romance for the high front vowel in grammatical morphemes, since, within the far-flung Latin tradition, -ea was by no means doomed: It even has encroached on -ava in certain Central Italian dialects, and it has scored a major success in French where all verbs, without exception (though not yet uniformly at the medieval stage), parade identical imperfect tense endings: j'allais..., j'étais..., je venais..., je finissais, until 1800 or so spelled -ois rather than -ais and, in the last analysis, traceable of all conceivable sources, to -ébam (via OFr. -eie > -oie). 32

But this is not all. One's first impulse is to declare the development in Spanish presumably parallel to the evolutionary curve of Old and Modern Portuguese and not radically different from the growth undergone by Provençal: In all three languages one observes, in this nook of the grammatical edifice, the speakers' marked preference of -ía over -ea. Hence ten-fía from ten-er 'to hold, have' echoing mor-fía from mor-ir 'to die'. It stands to reason that such unanimity of results should point to a conspicuously early innovative convergence; but, in sober fact, things are discernibly more complicated. As Federico Hanssen, ninety years ago, demonstrated in a brilliant memoir, with the help of rhymes culled from medieval poems, there occurred, at the height of the Old Spanish period, a cataclysmic interference with a deeply-entrenched tradition by an intrusive type of diphthongal verbal ending, known under the code name "DÉI, STEIT type", whose ultimate source and itinerary were reexamined in 1959 painstakingly enough to obviate any need for yet another circumstantial discussion. 34 Suffice it to state that, through a unique conspiracy of conditions (temporary vogue of the rising ie diphthong, lateral pressure exerted by certain forms containing that diphthong on the functionally germane preterite tense, etc.), the dominant variant of the imperfectum paradigm of, say, vender 'to sell' was for, at least, two long centuries (roughly 1200-1400): (yo) vendía, (tu) vendíes, (él) vendié; and, in the
plural, vend-iémos, -iédes, -ién. All of this notwithstanding, certain less characteristic scribal idiolects of the period continued to favor -fa over -ié. Only toward the conclusion of the Middle Ages did the pendulum begin to swing back, with vendíamos rather than vendíemos, to adduce one random example, emerging as the dominant form (and, in the literary standard, as the sole admissible member of the paradigm). Several forces must have been at work in this ultimate recoil, as baffling as had been the unheralded intrusion; one such factor surely was the prosodic symmetry vis-à-vis the āva set. Whatever the circumstances, the eventual prevalence of ē, this time over ié, as the nuclear vowel of a set of verbal endings can here be watched almost under laboratory conditions; it amounts to another link in the chain of arguments proffered.

7. The 'Weak' Preterite

The relevance of the vicissitudes of the preterite endings to the broader problem here under investigation can be sketched out with utmost brevity. In this context we are concerned with the so-called 'weak' preterite, conventionally so called in Romance quarters (in somewhat lame imitation of Jakob Grimm's imagery) because all six members of its paradigm carry their main stress on their endings rather than on their stems. This tense is still very much in use, on every level of discourse, to the south of the Pyrenees and overseas, whatever may have happened to its status in Parisian French of late. The "weak" variety alluded to goes back in a straight line to such Latin models as -āvit, -āvistā, -āvit,...; -ēvit, -ēvistā, -ēvit,...; -īvit, -īvistā, -Īvit,... It has been known to scholars for almost a century that in actual Roman folk speech (the sermo plebeius), the respective forms of laudāre 'to praise', délēre 'to destroy', and dormīre 'to sleep' sounded thus, after part of the endings had been tendentially sloughed off: laud-ā(v)ī, -ā(vi)stī, -āv(i)t, ...; dēl-ē(v)ī, -ē(vi)stī, -ēv(i)t,...; dorm-ī(v)ī, -Ī(vi)stī, -Īv(i)t,...

Spanish and Portuguese clash significantly in their respective modes of preserving these slices of inherited suffixal material. As is well known, Spanish -er and -ir verbs alike, to the extent that they are "regular", share one and the same set of endings for the -er and the -ir class preterites; to hardly anyone's surprise at this advanced stage of our inquiry, I suppose, it is the i-dominated set that has, once more, been generalized, so that, from corr-er 'to run', one extracts: corr-ī, -iste, -īō, ...; and from sal-ir 'to go out', in perfect rhyme with the forms just adduced: sal-ī, -iste, -īō,... In contrast, speakers of Portuguese have established three, rather than two, parallel sets, displaying, except in the 1st sg., the thematic vowels that can also be peeled off from the infinitives, thus: louv-êi (orig. -ai), -aste, -ou (orig. -au),..., from louv-ar 'to praise';
corr-i, -este, -eu,..., from corr-er (with /e/ rather than /ε/ throughout); and sa-í, -íste, -íu,..., from sa-ir. Should one assign the extra set of endings that Portuguese displays and Spanish lacks, to a more faithful preservation, along the Atlantic Coast, of the original state of affairs in the common parent language; or should one, alternatively, surmise that -este, -eu, etc. have been secondarily restored, "by way of analogy" (to use an antiquated terminology), on the model of -aste, -ou,... and -íste, -íu,...?

Most scholars are willing to bet on the second conjecture, on account both of the evidence of cognate languages (cf. Fr. je rendis, from rendre, on a par with je finis, from finir) end of conspicuous parallels within the edifice of Portuguese, as when that language offers a pattern of three gerundial endings: louv-ando, corr-endo, sa-ndo, as against only two in Spanish (lo-ando vs. corr- and sal-iendo); observe a similar contrast in the ranks of parsimoniously transmitted pres. part. endings (-ante, -ente, -inte vs. -ante and -iente) -- true, in both instances with a rising diphthong, for a change, prevailing over the expected monophthong. So there was, to revert to the former argument, a certain edge of i over e, for a number of Romance languages, in this wing of their grammatical edifices, including French, Spanish, plus -- conjecturally -- Proto-Portuguese. Spanish here behaved merely like a disciplined member of a group.

But this state of business does not exhaust the problem. Old Spanish, once more, upon closer inspection exhibits an astonishing interlude, whose traces have since been almost effaced in the standard, except for a single tell-tale vestige. Mention has already been made of an aggressive, intrusive rival type of simple past tense which, cutting loose from reduplicative dede 'I gave' and stëti 'I stood', for a while, through its encroachments, threatened to distort the smooth steady flow of events. Interference by this type produced the, for a while, highly popular rising diphthong -ie- /je/ in the core syllable of the conjugational suffixes, which, once that segment had been recognized as characteristic, lent itself to a rather neat transfer to most members of the "weak" i set of endings, thus: 2d sg. com-iaste, and pl. com-iemos, -iastes, -ieron, in keen and fairly prolonged rivalry with com-imos, -istes, -iron. The fashion may have lasted three hundred years, as can be demonstrated with datable texts, especially those geared to unequivocally tidy rhymes. In the end, the vogue receded; com-iaste, after ca. 1400, was jettisoned, for the benefit of com-iste, which, incidentally, had never completely gone out of use. It is arguable that the presence of monophthongs in the a set: -éí, -aste, -oí, -amos, etc., without acting as a straitjacket, may nevertheless have dampered the speakers' enthusiasm for the rising diphthong in the virtually parallel i set. Perhaps so; independently, and without any mutual exclusiveness, one is free to add one more strike to the
impressive desinenital record of the vowel \( i \), which has been haunting us for a while.

The one exception -- a minor one -- in the paradigm of this tense that remains to be accounted for is the prevalence of -ieron in the 3d plural instead of the anticipated return to -iron, with the late-medieval swing of the pendulum away from the dedi type. Here one is tempted to support those who have invoked a different, conflicting cross-connection as the most plausible cause for the retardation hinted at -- namely the powerful link that ties the 3d pl. to the 3d sg.: The rising diphthong /je/ of corri-eron 'they ran' was protected from the threat of replacement, as it were, by the similarly-shaped, if not exactly identical, /jo/ of corri-\( i \) 's he, it ran'.

8. Conclusion

In sum, four cases have been here cursorily presented -- all four bearing on members (not necessarily the finite ones) of the verbal paradigm -- in which the assumption of a latent tendency of Spanish toward the hegemony of the vowel /i/ in stressed inflectional suffixes either made, per se, the speakers' choice for the first time readily understandable or, if superadded to other factors which had been previously cited, transmuted a meager, barely adequate explanation into a richly orchestrated one. Actually, as many as five processes were examined, because in the long drawn-out history of the imperfect tense the assumed agency repeated itself, after an interval of possibly one millennium.

Had more time been available, several anticipated questions might have been answered and a number of foreseeable objections could have been parried. One such query is: What is the sum total of relevant processes so far observed, including such as transcend the realm of the verb? The tentative answer is: approximately a dozen, involving tell-tale shifts in the morphology of adjectives and pronouns as well as zigzags in the growth of miscellaneous derivational suffixes; these issues, skipped tonight, will some day have to be ventilated separately. Next: What is the total time stretch involved? One should think, I repeat, that the temporal arch extends from late Antiquity until shortly after the conclusion of the Middle Ages, with the interjacent so-called Dark Age obviously affording some of the finest opportunities for such subliminal, spontaneous shifts, and with a crescendo discernibly characterizing the last centuries. Finally: To what extent are these processes significantly peculiar to the record of Spanish, and of Spanish alone? The answer is that they are indeed observable, in an inchoate state, in several Romance languages; in Spanish and Portuguese jointly, more commonly so than in the congener of these two languages. Also, in Spanish proper they are more sharply silhouetted than in Portuguese, and sometimes occur at a distinctly earlier date, as was particularly true, to the point of measurability along the time axis, of the
replacement of past-participial -udo by -ido. The fact that for the inchoative interfix Hispanophones and some Southern Italians opted for ñesc- in preference to ñesc- (highly characteristic of French; je fin-is and Tuscan: fin-isco) may be related to the fact that the opening phase of the luxuriant growth of the inchoatives was the lexical influence exerted by cr-ñesc-ere, with the center of gravity ever after slowly moving toward ñesc-ere; the emergence of -eçer looms, then, as an archaic feature.40

The theoretical foundation for the assumption of the phoneme /i/'s role as a coefficient is the same that is invoked in establishing sound correspondences: It is probabilistic, resting on the idea that the recurrence of a certain relationship or distribution of bare forms, or of forms vs. meanings, is simply too pervasive to be plausibly attributed to, or explained away as due to, mere chance.

Does any distinctive "magic" quality attach to the vowel /i/ that might have groomed it for the role here proposed? Limiting oneself to the examples scrutinized, one is tempted to answer with an emphatic: No. We are here very far removed from the treacherous, if tempting, ground of phono- and morpho-symbolism.41 What mattered most, for the development adumbrated to have actually taken place, was the language-community's sharply-pronounced bent toward maximum economy of grammatical resources, a tilt which led speakers to veer toward a single dyadic contrast, /a/ versus /non-a/, without however having, in fact, allowed them to reach such a beckoning goal. It could have been sheer coincidence, an initially slight numerical or structural margin of /i/ over /e/, /je/, etc., that set things rolling in this, rather than in any alternative, direction, or else the fact that morphophonemic alternation of /a/ and /i/, at least in the precinct of inflection, happens to be virtually nonexistent in Spanish, whereas /a/ and /e/ do occasionally so alternate, in stressed and unstressed syllables alike.42 Whatever the details, the /i/ superbly qualified for the expanding role of a /non-a/ phoneme, and since the wind, we recall, was blowing in the direction of a tightening of grammatical resources,43 a long chain of generations of Spanish speakers hastened to avail themselves, by hook or by crook, of any such welcome opportunity. Our task has been to examine, under a lens, the hooks and the crooks.
FOOTNOTES

1 On competing and potentially conflicting sound changes -- a state of affairs conducive to the crystallization of a residue -- see Wang (1969: 9-25). Malkiel advocated the concept of a 'weak sound change' (1962: 263-75) and later pointed out its relevancy in etymological analysis (1975a:101-20, esp. 112-3).

2 (1942: 53-67). Further refinements and elaborations were introduced on later occasions, e.g. in reference to OPtg. erger (mod. erguer) 'to lift' vs. OSp. erzer (but mod. erguir); see 1969: 505-8. The label has subsequently been used by S.N. Dworkin.

3 The addition of -o to the 3d sg. of strong preterites (fiz-o 'he made', pud-o 'he could', pus-o 'he placed', tov-o 'he had', vin-o 'he came', etc.) became a hallmark of Old Spanish and has been retained since; it occurs very seldom in Portuguese (veio 'he came'). Scholars are agreed that it serves to produce or to reinforce the differentiation between the 1st and the 3d persons of the singular, against the background of similar polarization in hundreds of weak preterites. Portuguese produces the same effect through vowel alternation: fizi 'I made' vs. fez 'he made'. A peculiar segmentation of tovo, namely t-o-vovo, enabled medieval speakers to generate and-o-vovo 'he walked', from andar, and est-o-vovo 'he stood, stayed', from estar; temporarily also mand-o-vovo 'he bade', from mandar, and similar offshoots from crecer 'to grow', creer 'to believe', seer 'to sit', and (refl.) trever 'to dare'. These processes have been adequately studied in standard historical grammars; cf. Hanssen (1913: §§250, 255); Menéndez Pidal (1941: §120: 3); and Williams (1962: §203: 9).

4 Of my earlier attempts to grapple with the rise and eventual recession of the diphthong ie /je/ in Spanish perhaps the following three were the most pertinent to the present study: 1979: 123-38; 1980: 48-63; 1982b.

5 Jespersen's book (1909), severely criticized in many quarters (B. Bloch, J.H. Greenberg, and others), has been colored by the fact that the doctoral dissertation (of which it represents an outgrowth) was originally confined in its scope to the growth of English. The comments on goal-directedness in Jakobson's paperback owe much of their weight and originality to the attention the author, here even more than in his other writings, paid to other disciplines, including natural sciences (1973: 55-6).

6 The author's pattern of thinking and style of formulation did not undergo any major change on this score in later years.

8 Over the last ten years or so, the vicissitudes of -er/-ir doublets, the relations of -er and -ir verbs to their respective Latin prototypes, and the interplay between the stem vowel and the thematic vowel have all three been submitted to close scrutiny by scholars as far apart from each other's position as S.N. Dworkin (forthcoming), T. Montgomery (1976: 281-96), D.A. Nelson (1975: 143-86), R.J. Penny (1972: 343-59), and the late K. Togeby (1972: 256-64). A balance sheet of their separate, but inevitably convergent, efforts remains to be drawn.

9 In my presentation of the Latin opening scenes for all four of the developments here individually sketched out I have relied rather heavily on A. Ernout's masterly presentation of Latin inflection, in diachronic projection, without worrying about the possible obsolescence of some of its sections. On the anomalous verbs here hinted at see (1953: 175-86).

10 See O. Schultz-Gora's skillful presentation (1924: §128). The unstressed -er ending of certain verbs, such as impâisser 'to rage', nâisser 'to be born', vénser 'to conquer', is an environmentally-conditioned allomorph of the far more common -re, as in perdre 'to lose' and vendre 'to sell'; the clinching factor was the following consonant cluster, either /sk/, as in tràscì, nàscì; or /nk/, as in vincere. On this difficult point of diachronic phonology see further C. Appel's fine-meshed analysis (1918: §41d), where the outcomes of /ròk/: pàrser 'to spare', tòrser 'to twist', /nògh/: cènhìr 'to gird', frànher 'to break', and /lòv/: sòlver 'to solve', vòlver 'to turn' are also illustrated.

11 Only a few highlights of the extensive literature on these processes -- basically, available as word biographies -- can be listed here. On OSp. deçìr 'to go down' (later dislodged by bàjar), Ptg. descer (its spelling and pronunciation influenced descendere) the opinions of etymologists have been divided; with the passage of time R. Menéndez Pidal switched from banking on décìdere 'to fall down' to sponsoring discédere 'to move away' (1944-46: 617-8, 1229-30). Since there was widespread confusion already in Antiquity between certain offshoots of cadere 'to fall', caedere 'to fell', and scindere 'to cleave, split' (see Ernout & Meillet [1959-60: 81b], with clues to other loci), it is not surprising that -scendere as an allomorph of scandere 'to climb, mount' should eventually also have been dragged into this imbroglio. On OSp. troçìr 'to pass', a synonym of passar traceable to trădúcere on the assumption that the latter's compositional design
at a certain point ceased to be transparent, there exists a vignette (Malkiel, 1956: 385-95); some day a joint study of decir and trocir could be advantageously undertaken. Over the years I have further busied myself with the vicissitudes of cundir 'to spread' (1954-55: 247-64), from condire 'to season'; Sp. morir vs. Ptg. morrer 'to die' (1955: 84-128); and OSp. añade- der 'to add' > mod. añadir (1975b: 512-20).

12 This large-scale transfer of Latin -ère verbs into the -er < -äre class, confined to Middle and Modern French, and peculiar to the layer of Latinisms, must not be confused with the individually motivated transfer of a few -ère verbs into the -äre class at the Vulgar Latin level, a long-drawn-out shift which affected the Romance reflexes of combūrere 'to burn', meiere 'to urinate', minuere 'to diminish', tremere 'to tremble', as well as those of several members of the family of sternère 'to stretch out, lie down' (through recoil from its near-homonym sternuère 'to sneeze'?); a many-pronged process long ago described by Meyer-Lübke (1909: §169). In the wake of A. Risop's monograph, now over ninety years old, Meyer-Lübke (1913: §§281-2) cited as "Buchwörter" OFr. afigir, discuir, distribuir, exercir, contrasting them with a later crop of -er variants; all of which would make of agir, frémir, gémir, languir, régir, vomir (plus, let me add on my own, quérir) a sort of residue of the medieval preference. On the state of affairs in Italian see Rohlfs (c. 1952: §§614-5) who, however, shows greater strength in exemplifying -ère > Tusc. -ire (apparire 'to appear', sparire 'to disappear', etc.) and the present-day dialectal wavering between -ère and -ire in the South of the peninsula than in analyzing learnèd (including camouflaged learnèd) formations. As I believe to have demonstrated elsewhere (1982c), no significance attaches to Henry R. Lang's rash conjecture (which briefly influenced Menéndez Pidal and Hanssen) of the existence of "heteroclitic verbs" in Old Spanish.

13 On this point Catalán offers more than enough documentation (1968: 427-30).

14 One can make similar observations on correr 'to run' and verter 'to pour' and their respective compounds, except that Spanish tolerates, side by side, recorrer 'to go over' and recurrir 'to resort, have recourse to'. One can observe the anatomy of the process in the case of older Sp. querer 'to want, love' beside adquirir 'to acquire' (reminiscent of Fr. acquérir), conquérir 'to conquer', and requerir 'to request, summon, urge': The first was shifted to adquirir (with some help from Cl. Lat. acquirere), the second yielded to periphrastic conquistar, the third remained intact,
15 While the Romanist, in his workaday operations, need not heed the distinction between supine/past participle, on the one hand, and, on the other, the verbal action nouns in -tus and -sus, the Indo-Europeanist specializing in Latin tends to see things in a different perspective. For references to research conducted by K. Brugmann, E. Bernert, E. Schwyzter, and É. Benveniste see E.S. Georges (1968:370; 1970:2).

16 (1953:222f.). The constraint upon the crystallization of an -ūtu past participle within the paradigm of an -ĕre verb was the denominative character of that verb.

17 The classic treatise on the bonds ('reciprocal analogical actions') linking the perfectum to the past participle is the Uppsala dissertation by E. G. Wahlgren (1915, rev. 1920). It was reviewed favorably, but not in depth, by L. Foulet, A. Meillet, G. Millardet, L. Spitzer, and A. Wallensköld, among others. A reconsideration of certain facets of the problem seems to be overdue.

18 Classical Latin used tentus, ventus; since the respective infinitives were tenĕre but venĕre, it is plausible that the -ūtu form infiltrated first the paradigm of the former.

19 The existence of an obsolete -udo participle was well known to the older Hispanists and comparatists, and some of them knew how to pinpoint its starting point (diffusion from, e.g., atrevudo 'bold' < attribūtu, batudo 'beaten' < battūtu). What they failed to probe, let alone diagnose correctly, was the reason for its successful spread. Cf. the reasoning of, among others, A. Zauner (1908:§121).

20 The foundation for the study of vocalic gamuts was laid long ago, e.g. in the Coimbra lectures C. Michaëlis de Vasconcelos delivered shortly before World War I; part of them appeared posthumously. My own interest in the issue was aroused on the occasion of the 1970 dialect monograph (passim) and of the forthcoming article dating back to 1974 and slated to appear this year in a Copenhagen journal. The 1970 experiment should be judged in conjunction with various thorough reviews it, fortunately, triggered, including that by Karen H. Kvavik (1975:57-66).

21 Information on the anatomy of the replacement of -udo by -ido can be gleaned at best from scattered philological (exegetic) comments on rhymed medieval texts, such as the "Danza de la Muerte", the "Libro de buen amor", Santob's "Proverbios morales", the "Libro de José" (or "de Yúquf"), and the "Rimado de palacio". Unfortunately for today's linguist, not all those engaged, in the
late Middle Ages, in recasting or copying texts entrusted to their care were so dumb as to distort rhyme patterns, with the result that a text like the "Poema de Fernán González", in the only -- deplorably late -- form in which it happens to be available to us, to be sure uses throughout -ido past participles from -er verbs (e.g. avatydo 'beaten down', descreýdo 'unbelieving, infidel', movyo 'moved', vencido 'conquered'), but leaves one wondering what the no longer available model text, which may have displayed an entirely different metrical garb, actually offered. Judeo-Spanish texts collected in the Balkan peninsula consistently offer -ido: abatido, conocido, escondido, etc., especially in the ranks of inchoatives: adormecido, amudecido, see C.M. Crews' glossary (1935:273-319), s.vv.

What one gathers from the perusal of, say, J.D.M. Ford's Notes and Etymological Vocabulary attached to his Readings (1911:73-312) is that the strongest rivals of -ado and -ido past participles in Old Spanish were not, as one might have assumed, their "weak" counterparts in -udo, but the "strong", i.e., rhizotonic, participles directly inherited from Latin; e.g. bendicho 'blessed', malquisto 'disliked', maldrecho 'ill-treated', and the like. By the time these fell into desuetude, only substitutes in -ido, to the exclusion of any in -udo, were available, so that scribes would tend to replace nado 'born' (inferrable from rhyme and meter) by nacido (Ford, 1911:175), although nad- continued to figure outside the precinct of the verb, e.g. as the stem of nada 'nothing' and nadi(e) 'nobody'; similarly, repentido 'repented' directly dislodged older repiso.

One vestige of -udo remained intact, because there was no coexistent verb to betray it as having once functioned as a past participle, namely menudo 'small, diminutive', lit. 'diminished' < minūtu (alongside the adv. a menudo 'often'); note Ptg. amíúde 'id.' < ad + minúti(m).

The more learned character of certain compounds, in -ir, flanking thoroughly vernacular simple verbs, in -er, may likewise have reinforced the position of -ido. Thus, OSP. escorrido (mod. es-, tras-currido) 'passed, elapsed' (Berceo, "Santo Domingo", 367a) may have stimulated speakers to have recourse to corrido, from correr (as against escurrir).

The entire multidimensional problem here sketched out remains to be explored in depth. Menéndez Pidal's two-line descriptive comment, in his historical grammar (1941:§121.2), is disappointingly meager; as if by compensation, one finds some meaty morsels in his "Cid" grammar (1908:§97), on the rivalry between -udo and -ido in the paradigms of meter 'to place' and vencer 'to conquer', and on a few cases of hypercorrection engaged in as a result of protracted wavering, with -udo trespassing erratically on the territory of -ir verbs; then again in his Orígenes (1950:§72.3), with some conspicuously old attestations of -udo forms from out-of-the-way notarial sources.
On the marked delay of Portuguese in carrying out the substitution see Williams (1962:§159.2) and, additionally, the grammatical sketches ushering certain textual studies by his closest disciples Henry Hare Carter (1938:29) and Richard D. Abraham (1938:7, 35). Within the ranks of the -er class, the former identified (without, unfortunately, capitalizing on his discovery) five verbs offering -udo, while four preferred -ido; there was not a single instance of duplication, and the incidence was nine and ten, respectively. The latter's analysis involves an attempt at dating the chosen text (late 14th century), through comparison with J. Leite de Vasconcelos' earlier statements (1906:120-1) on relevant discrepancies between "A demanda do Santo Graal" (ed. K. von Reinhardstoettner) and his own critically established text of "O livro de Esopo".

To a certain extent the Catalan pattern of generating past participles: cant-at, -ada (from cantar 'to sing'), tem-ut, -uda (from temer 'to fear'), and sent-it, -ida (from sentir 'to feel') is reminiscent of the state of affairs in 13th-century Spanish. However, precisely in the ranks of the -er/-re verbs (which jointly constitute the "2d conjugation class"), the velar infix--adopted from the simple past, as in Old Provençal--blurs the initial impression of tidiness and symmetry: It so happens that begut (from beure 'to drink'), caigut (from caure 'to fall'), conegut (from inchoative con-ëix-er 'to know'), corregut (from córrer 'to run'), cregut (from creure 'to believe'), degut (from deure 'to owe'), jagut (from jeure 'to lie down'), etc. significantly outnumber the "regular" verbs, such as cabut (from cabre 'to be contained'). In addition, Catalan has inherited its share (larger than that of modern Spanish) of radical-stressed participles, such as aprè (from aprendre 'to learn'), dit (from dir 'to say'), dut (from dur 'to carry, take, wear'), and escrit (from escriure 'to write'), and there is no dearth of pertinent niceties for the learner to commit to memory, as when coure 'to cook' is flanked by cuit, while coure 'to smart' (cf. Sp. coita, cuiita 'worry, sorrow') demands cogut. See Joan Gili (1967:72-9); also, for a diachronically slanted analysis, F. de B. Moll (1952:§303), who provides the intermediate stages feyt and treyt for fet < factu 'done, made' and tret < tractu 'pulled, dragged' and shows how speakers have tended to favor dut at the expense of dut, without quite rejecting the latter.

Thus, F. Lecoy (1938:55) insinuates that the rhymes of the "Libro de buen amor" testify to the substitution of -ido for -udo and, more noteworthy, to replacements carried out in the reverse direction, without, it is true, supplying concrete examples. A. Gassner's discussion of -udo (1897:$459) is vitiated throughout by the fact that he fails to discriminate between the genuine past-participial ending (as in arduo, cernudo, defendudo,
etc., from arder, cerner, defender) and the homonymous suffix of —sometimes comical — exaggerations found in adjectives ordi-
narily derived from anatomical terms (OSp. barvudo, cabeçudo, 
cornudo, forçudo, orejudo, pescôzudo, sannudo, from barva, 
'beard', cabeça 'head', cuerno 'horn', etc.) For details see 
below.  

24 See (1963: § 912) and (1965: § 378).

25 The seminal study, apparently, was my own piece on OSp. 
bellido, OPtg. velido 'handsome, sweet, attractive', in which I 
recognized a trace of Lat. mellitrus 'sweet', lit. 'honeylike', a 
derivative strengthened by the availability of a reflex of 
mellitó 'honeylike substance', namely Sp. melindre (m.) 'honey 
fritter, ladyfngger', (pl.) 'finickiness, prudery' (1946:284-316); 
see also the addendum inspired by an epistolary comment made by 
H. Kahane (1947:429-30). In later studies I stumbled across 
(refl.) remilgar 'to be trim and finicky' < *re-mellicāre. My 
brief excursus on substantival -ido (1946:309-10) led to the in-
quiry, by J.R. Craddock and E.S. Georges, into the Hispanic 
'sound suffix' -ido, an investigation conducted under my dir-
ection (1963:87-107). Similarly, my parallel excursus on adjec-
tival -ido (1946:302-9) found an excellent exegete and continu-
ator in Steven N. Dworkin; see the impressive string of relevant 
elaborations from his pen (1977:220-5; 1978:605-17; 1979:130-7; 
follows unequivocally from my editorial post-script (1982a) to 
Eric P. Hamp's counterproposal (1982) in regard to OSp. sencido, 
I regard Dworkin's 1979 solution as preferable on balance.

With respect to the three adjectival schemata a-ado, -ido, 
and -udo, I can trace my own incipient curiosity to certain 
juvenilia, including (1941a:278-95) and (1941b:34-42). This cur-
iosity peaked at a much later date, however: (1973:177-89) and 
(1974:1-32), in response to my closer acquaintance with vocalic 

26 In summarizing these well-known facts, V. Väänänen 
(1981:§332) reminds his readers that from Tre 'to go' the impf. 
indic., at all levels of discourse, had from time immemorial been 
Ibam. (OSp. yya, mod. iba are conspicuous on account of the re-
tention, at the low price of a slight adjustment, of Lat. /b/, 
over against Ptg. ia.) Merovingian Lat. -ebat in narrative 
texts, in lieu of Class. -eβat, presages the peculiar course of 
events in Old French, as Väänänen might have pointed out.

27 This conjecture — a wild guess formulated for the first 
time approximately a century ago by R. Thurneysen (1883:30-2) — 
has become ineradicable from our textbooks. One of the latest 
endorsements was made by Väänänen last year (loc. cit.). More 
unexpected is the fact that a scholar of the finesse of Knud
Togeby should have repeated it in his searching review (1964a: 662-3) of R. Posner's dissertation.

28 An attempt to link the tendential loss of -b- in the impf. ind. to the impact on that tense by the newly-devised conditional was made by Togeby, on the understanding that the dissimilar loss of the -b- could have started with cantāre habē(b)am (1964a:663 and 1964b:3-8); wittily, the author argues that the preservation of ancestral b as /v/ in Italian coincides with the different configuration of the conditional in that language, where it is based on cantāre habuī. Unfortunately for Togeby's thesis, the record of Old and even of modern dialectal Italian bespeaks the loss and eventual restoration of the -v-. Despite numerous disagreements on specifics and priorities, Togeby and Posner (1961b:17-55) both saw a causal connection between the number of Latin conjugation classes preserved in the individual daughter languages, and the varying degrees of retention (with appropriate adjustments) of the ancestral -b-. Their controversy, incidentally, did not stop at this point; for the last salvo see Posner (1965:3-10).

This is, obviously, not the proper place for a critical review of recent or fairly recent studies on the substitution of a new, modally-colored future tense for the heterogeneous forms used in Classical Latin (laudābō vs. ag-am, -ēs, etc.); some of the more vocal participants in the closing rounds of the debate have been É. Benveniste, J.L. Butler, and P. Valesio). For a good midway report see Patricia Clancy (1975). One important side-issue has been the rise of periphrastic futures, modeled like vādō (ad) + INFINITIVE; see the Michigan dissertation (1978) by J.J. Champion and the very thorough appraisal of it by Suzanne Fleischman (1981: *144-*151). Further light may be thrown on this bundle of thorny issues by Fleischman's forthcoming book on a closely related subject. In any event, if the ideal of a connection here merely tossed off as a seductive possibility is someday validated, the original locus for the collapse of the two Latin -b- tenses will surely be placed inside the paradigm of the future, in terms of both language-specific conditions (lack of an across-the-board inflectional uniformity) and of language universals (instances of similar overlap of temporal and modal messages in anticipation of future events found in numerous languages, starting with English).

In addition to bracketing the future and the imperfect tenses scholars may some day decide to cross the line separating the inflectional sector of morphosyntax from suffixal derivation, and to declare the vicissitudes of the suffix -ābilis and its close congeners (-Ēbilis, -Ŷbilis, etc.) discernibly related to those of the aforementioned tenses; significantly, this cluster of suffixes serves to generate adjectives from verbs. In neat contrast to other derivational suffixes, which tended to jell in
fairly neat patterns of vocalic gamuts, no such proliferation occurred in the ranks of -bilis adjectives. Could it have been mere coincidence that -bilis fared well where the -bam imperfect in the end, prevailed, as is true of It. -evo (known for its productivity) alongside -evo/-eva? In Old French the heavy pre-dominance of the descendants of the -äre class may have co-conditioned the prevalence of -able over -ible, cf. the similarly caused prééminence of -ance over -ence, affecting another set of derivational suffixes closely linked to the verb. (The hegemony of -able and -ance has spilled over into English.) It remains problematic whether the long resistance to dislodgement of the -bam imperfect in certain Old French dialects (witness the traces of -eve, -oue) lends itself to smooth connection with the exceptional vitality of -able on Gaulish soil. In any event, joint consideration of (fut.) -abo, (imperf.) -abam, and (deriv.) -abilis -- not yet experimented with -- involves an unusually promising approach.

29 Some relevant data have been collected by G. Rohlfs (1949: §§550–4 and Addenda, p. 586); the conflation of -e(v)a and -i(v)a in Sicily, Calabria, and Southern Apulia occurred in response to a sound change and thus reflects no morphological trend. For the fullest information on the zigzagging line of the forms culled from older literature see B. Migliorini (1960:130, 140, 159, 226, 289, 291, 375–6, 470, 542, 630–1, 707); here one learns that the Old Sicilian school of lyrical poetry favored such forms as avia 'I had', putia 'I could'; that the Old Tuscan poets followed suit, etc.

30 See Schultz-Gora (1924: §§129, 131). The process may -- at least, in part -- have been phonological in nature; thus, Appel (1918:§32) regards the development -ea > -ia as peculiar to /e/ in hiatus, citing by way of illustrations via 'way', envia 'he sends', sia 'may be', and dia 'day' -- to the exclusion of any imperfect-tense forms, though. The missing link in our corpus of data is the chronology of the disappearance of /b/ (or subsequent /v/) from -bam.

31 See E.B. Williams (1962:§164), with many references to earlier hypotheses formulated by G. Gröber, A. Gassner, C.H. Grandgent, and others, not exclusively in reference to Portuguese. The one arresting interpretation adduced is W.M. Lindsay's parenthetically stated suspicion (1894:493) to the effect that the coexistence, in Latin, of future-tense forms with and without -b- in the third and the fourth conjugations could have triggered the coinage in Vulgar Latin of imperfects without b. Lindsay's fine scholarship greatly impressed Meyer-Lübke, with the result that the latter, gratifyingly enough, refused to succumb to Thurneysen's facile dissimilatory formula (1909:§171).
32 In Old French the situation was different, insofar as -ābam survived as -oue in most of the territory and as -eue in the East and Northeast, except that in the 1st and 2d pl. -i-iens and -i-iez, transplanted from the -pie paradigm, had already succeeded in ousting their counterparts originally found --- on circumstantial evidence --- in the -oue column. Meyer-Lübke draws a cogent picture of the further development (1913:§327). For clues to regional differentiation in Old French see Schwan & Behrens (1909:§341). F. Brunot's historical grammar, as revised by C. Bruneau, is at its strongest in bracketing details of Middle French with those of Early Modern French usage (1949:342-3).

33 (1893-4:655-94). For the immediate reactions to it see the first of the two papers cited in the following fn.

34 Contrast the fully-documented first of my two discussions (1959:435-81) with the skeletal presentation of the most salient features of the problem in the second (1964:402-5).

35 As the Latinist clearly sees the situation, the contractions started where the -v- /w/ was flanked by identical vowel phonemes, e.g. /i:/; cf. the case of audīvī. After the loss of the /v/ the first of the two --- by then neighboring --- /i:/s was shortened, thus: -Īī. From -I(v)Ī the process expanded gradually to -ė(v)Ī and -ā(v)Ī; see Ernout (1953:§§299-300).

36 I would lean toward bracketing the temporary vogue of the rising diphthong in -ieste and the other verbal flections with its erstwhile prevalence --- long since pared --- in numerals (siete 'seven' and diez 'ten' have survived, while siesto 'sixth' and diezmo 'tenth' have been abandoned except in their secondary function of nouns), in proper names (Dīdācu > Diago was transmuted into Diego), and elsewhere.

37 As I have tried to show, beginning with the mid 'seventies, in several papers bearing on diphthongization and secondary monophthongization in Old Spanish, the eventual prevalence of -iste over -ieste, etc., in the verbal paradigm may have concomitantly led to such processes as OSp. ariesta 'fishbone' > mod. arista (against the background of ancestral aresta > Fr. arête), and the like. This point was not yet clearly understood by me at the prelude to the debate (1968:23-64), nor was it firmly grasped by my critics.

38 Students of Romance verb inflection have observed that groups of speakers have, independently, resorted to all sorts of 'tricks' to prevent personal endings, especially within the paradigm of a single tense, from completely coinciding, as when Spanish distinguishes between erez (a form borrowed from the
Latin fut. *eris* 'thou art' and es < est 'he, she, it is' (Portuguese achieves the same degree of differentiation, at the steep price of another irregularity, by adopting *és* vs. *ê*); Italian, in its imperfect tense, contrasts 1st sg. -avo, etc. with 3d sg. -ava; Old French pits, in its imperfect, 1st sg. -oie against 3d sg. -oit (rather than expected *-oiet*); Old Spanish opposes *fiz(e)* 'I did' to *fizo* 'he did', with unetymological -o, while Portuguese uses another device to produce the same effect: *fiz* vs. *fêz*; etc. On the other hand, any excessive distance between members of the same paradigmic set is studiously avoided, judging from the eagerness of many Old Spanish writers and copyists to favor, in the preterite of the -ar class, 2d sg. -este over expected -aste in deference to the entrenchment of 1st sg. -é. The frequent appeal to -iô could thus be adduced as one force behind the retention of -ieron, quite apart from the evidence of an even stronger bond to -iô detectable in the var. -ieron.

39 In anticipation of detailed monographic probings let me cursorily identify some of the problems at issue: the eventual clear-cut prevalence, in Portuguese adjectival abstracts, of -ice over expected -ecce < -yťie, despite the protracted coexistence of both forms (OGal.-Ptg. velh-ecce ~ -ice 'old age'); the transmutation of the compound derivational suffix -ỳçiitu into OPtg. -ariço, OSp. -arizo, over against its smoother development into OFr. -erez, It. -ereccio; the ultimate acceptance, even at the conversational level, of the superlative-degree suffix -ísimo, initially adopted through learnèd channels (cf. coll. buenísimo 'very kind', feísimo 'extremely ugly'), as against the nearly-unanimous rejection -- except in pompous and mock-pompous discourse -- of its running-mate -érrimo; the switch to conmigo 'with me', contigo 'with thee', etc., a choice riding roughshod over foreseeable and, at the outset, actually recorded mego < mëcu(m), tego < tëcu(m), etc.

40 The role of crëscere has been rightly emphasized by Andrew S. Allen in various recent publications, including his 1980 Berkeley dissertation and a cluster of short notes either closely preceding it (1977:203-11) or following upon it (1981:79-88).

41 The variety of phonosymbolism I have in mind here was consecrated by two classics from the pen of O. Jespersen. The first experiments with an independent category of expressivity labeled 'morphosymbolism' were conducted just a few years ago.

42 E.g. habl-é 'I spoke' vs. habl-aste 'thou spokest' (which won out over late medieval -este); or habla '(s)he speaks' vs. hable 'he may speak'; etc.
Witness the obsolescence and tendential abandonment of various tenses, the simplification of adverbial suffixes, and the like.

REFERENCES


1980. Older Luso-Spanish garrido (a) 'silly, foolish', (b) 'handsome, beautiful': one source or two sources? Romance Philology 34:2.195-205.


———. 1946. The etymology of Hispanic vel(1)ido and melindre. Language 22.284-316.


———. 1955. Español morir, portugués morrer (con un examen de esmirriado, morriña, murria y modorra). bulletin hispanic 57.84-128.


———. 1962. Weak phonetic change, spontaneous sound-shift, lexical contamination. Lingua 11.263-75 (= Studia Gratulatoria Dedicated to Albert Willem de Groot).


1979. The abandonment of the root diphthong in the paradigm of certain Spanish verbs. *Incontri linguistici* 5.123-38 (= *Per gli ottanta anni di Vittore Pisanì*).


Penny, R.J. 1972. Verb-class as a determiner of stem vowel in


_____. 1965. Romance imperfect and conditional ending -- a further contribution. *Studia Neophilologica* 37.3-10.


Two Spanish Etymologies:

ajilimójili and cháncharas máncharras

David A. Pharies

University of Florida

In recent years, linguists have begun to study speech play (i.e. the modality of language in which the communicative function is subordinated to esthetic ends), and the modifications imposed on normal speech by the playful attitude. Some of the phenomena commonly cited as manifestations of speech play include riddles, verbal duels, proverbs, puns, play languages, and nonsense. In the midst of this activity, I have concentrated on investigating the effect of playfulness in yet another area, word-formation.

As I now understand it, the key difference between playful word-formation and the normal processes of derivation and composition is that, whereas the latter operate exclusively with morphemes, free or bound, the former involves submorphemic particles extracted from morphemes. I classify these particles into three broad categories according to the type of linguistic structures from which and by which they are derived. The first category comprises formatives that are simply truncated individual morphemes to be combined in lexical blends, as in Aragonese cucuchar 'listen clandestinely', from escuchar 'listen' and cucú, from the expression hacer cucú 'peek'. The second category is that of submorphemic particles, often called phonesthesmes, which are derived not from individual words, but from whole matrices of formally and semantically, but not etymologically, related words. This sort of association seems to have played a part in the formation of Honduran Sp. fifiríao 'poorly supplied banquet', whose etymon is Sp. pipiripao 'splendid feast' modified by a phonethematic /f/ derived from a series of words in Spanish having strong pejorative connotations, e.g. feo 'ugly', fu 'interjection of contempt', uf 'interjection of disgust', fofó 'spongy, flaccid', fulero 'useless', 'unsatisfactory', etc. The third and final category is that of the submorphemic particle derived from and added to a root morpheme according to certain rules or patterns. Some of these rules, such as simple reduplication (Fr. fifille (endearment) 'daughter' < fille 'daughter') and apphonic reduplication (Eng. drizzle-drazzle < drizzle), are well known. In my studies of playful word-formation in Spanish, a language that seems to be especially rich in this respect, I have uncovered five others. I propose to examine together the etymologies listed in the title of this paper because they provide a forum for the description of two of these patterns.
Ajilimójili (first attested 1726) is a variant of ajilimoje (1646) 'piquant sauce made with garlic', (fig. pl.) 'added items, extras'. As to the three basic etymological ingredients of which it is constituted, two are perfectly clear, viz. ajo 'garlic' and moje 'gravy or sauce from stew', which, we suppose, joined together to form a compound *ajimoje (cf. ajlaceite 'garlic oil sauce' < ajo + aceite 'oil'; ajicola 'glue made of kidskin boiled with garlic, for use in paints' < ajo + cola 'glue', and others). Not so easily explained is the interfix- and suffix-oid element (i)li, which gives the word its highly unusual phonetic form. In fact, as far as I know, Corominas (1980:1:96b) is alone in having attempted to account for it. He claims that it is a macaronic elaboration, parallel to that found in the expression de bóbilis bóbilis (1463) 'free', from vobis vobis 'to you, to you', words which accompanied the giving of money (Corominas 1980:1:602).

There are several problems with this formulation. Perhaps most damaging is the fact that there seems to be no plausible semantic connection between garlic sauce and any context that might invite the use of Latin. I find no indication, for example, that garlic sauce was customarily served by charitable organizations. On the formal side, I question the identification of (i)li with the Latin adjectival suffix -(i)lis because, in the first place, it lacks the crucial s, second, de bóbilis bóbilis is the only clear case of macaronic -ilis in Spanish, third, ajilimójili is not adjectival, and fourth, the sequence was originally inserted as an interfix rather than a suffix.

I ascribe the change from *ajimoje to ajilimoje to the first of the two playful formative rules, as formulated below (where L= liquid and N=nasal consonant, and subscripts indicate identity within a single word):


\[ \text{SD: } (C^2_1 \hat{\text{V}} (N) C V_j \text{ SC: } 1 2 3 4 5 \text{ L } V_j) \]

Examples, besides ajilimoje, include (1) trácala (Mex., P.R.) 'trick, deception' (cf. Andalusian tracalandear 'wander about' < trácala + andar 'walk') < traca 'series of firecracker explosions'; (2) Nav. linzili-lanza 'swing' < *linzi-lanza < lanzar 'hurl'; (3) Nav. zánzala 'swing' < zanza 'id.'; (4) trápala 'loud noise of voices and feet' < trapa 'id.'; (5) Nav. típili-tápala 'stumbling fall' < tipi-tapa 'light steps', 'continuous labor'. (See footnote 2.) Unlike the only other two-part example here, típili-tápala, ajilimoje did not undergo a double derivation, to produce *ajilimójele. Instead, the interfixoid element was simply duplicated after moje, resulting in the variant form ajilimójili (for the change je > jili, cf. veinte y dos > veintidós).
One of the curious twists to both the rules I will present in this paper is that they are equally viable in Basque. Among the products of Rule 1 in Basque (see footnote 3), for example, are pinpili-panpala 'tumble'; tikili-takala 'awkwardly'; zipirri-zaparra 'walk awkwardly'; aikolo-maikolo 'indecisive'; aiko-maiko 'id.' I plan to investigate at some time in the future the complex question of the nature of the connection between Spanish and Basque in this respect. Suffice it to say at this point that examples seem to be more numerous in Basque than in Spanish, and in Navarrese Spanish than in other dialects of that language.

Chäncharras máñcharras appears first in 1626 in the acceptance 'trick, ruse, lie'. Its modern usage, usually with the verb andar 'walk, go around', is 'pretexts for not doing something', e.g. 'No andemos en chäncharras máñcharras' 'Let's not beat around the bush'. In etymologizing the first part of the formula, chäncharras, we first must choose between two plausible starting points, cháchara 'chit-chat', and chança 'trick, lie'.

Cháchara (1551), a reflex of dialectal Ital. ciàcèra 'id.', is chosen as the ultimate etymon of chäncharras by both Corominas (1980:2:309b-310a) and Morawski (1927:205). Semantically, it is fairly suitable, since beating around the bush, like chit-chatting, involves excessive talk. Formally, the advantage of choosing cháchara is that it provides a source, if somewhat imperfect, for the unusual atomic element -arra. On the minus side, we notice, first, the presence in chäncharras of a nasal consonant not found in cháchara, a difficulty dealt with by both authors cited above, not implausibly, by positing outside analogical influence, either by chanza 'clever trick' (Corominas), or manchar 'to spot', the supposed etymon of the second constituent (Morawski). A second, and in my opinion, fatal blow to the chähara etymology is the Catalan form cited by Corominas, xanxes-marranxes (see footnote 4), which appeared in the 1429 Catalan translation of the Decameron. The first element here is xança 'dirty trick' (Griera 1935-47:14:308b), the Catalan equivalent of Spanish chança, both being traceable to Ital. ciancia 'dirty trick, lie', 'trinket'.

Considered as a possible etymon of chäncharras, chança (1611, now antiquated, not to be confused with Hisp. chanco, a 'pig') offers several advantages, such as the excellent virtue of having the same meaning as did chäncharras máñcharras originally, and incorporating the nasal consonant lacked by cháchara. It leaves, however, the problem of accounting for -arra. José Alemany (1925:675), who along with Monlau (1941:563a) opts for chança as the correct etymon, identifies this sequence (Monlau ignores the question) as 'el sufijo despectivo arra'. This hypothesis must be rejected, however, because, while there is some scant evidence for the existence of this suffix (pequeñarra 'small and emaciated person'; pequeño 'small', panarra 'simpleton'; pan 'bread', and perhaps
cegarra 'myopic' (< ciego 'blind'), the fact that it is tonic, while the corresponding sequence in cháncharras is atonic, effectively eliminates it from consideration.

I would suggest that the sequence in question is merely one more product of Rule 1, cited above. True, cháncharras máncharras is the only Spanish example in which /r/ rather than /l/ is inserted, but there is ample evidence that the two are considered equivalent in playful formations such as these. The pattern exemplified by titiritar 'tremble', paparrasolla 'bogeyman', and pipiliciego 'myopic', for example, which I have studied intensively (see footnote 6), employs all three Spanish liquids indiscriminately. Notice also that the suffixation rule in Basque contains forms with /r/: zipi-zapa 'helter-skelter' > zipirri-zaparra 'walk awkwardly'.

The second half of the cháncharras máncharras formula is identified by Morawski (Corominas does not hazard a guess) as an embellished form of Sp. manchar 'to spot, stain'. He explains the expression as a kind of semantic compound, in which cháncharras, being as he supposes a reflex of cháchara 'chit-chat', supplies the element of talking, while máncharras, from manchar, contributes the nuance of moral repugnance, a combination he regards as especially evident in the variant chacharramanchas 'schemes'. Two difficulties face the manchar hypothesis. First, the semantic formulation is plainly recherché, in that it involves an unlikely degree of figurativeness (besides, 'schemes' is already implied by 'trick, lie'), and second, it is contradicted by the oldest form of the expression, Cat. xanxes-marraxes.

Again, I would argue that the source of máncharras is not some root form independent of cháncharras, but cháncharras itself, in conjunction with a playful formational rule of the following form (where X=any number of segments, and B=bilabial consonant):

Rule 2. Reduplication with bilabial insertion or substitution.

SD: \((C_1^2) V X\) SC: 1 2 3 B 2 3 1 2 3

As a matter of fact, Alemany championed this interpretation in 1925, in an article entitled 'Acerca del origen de una M'. He noticed that the Spanish affective vocabulary has numerous examples of bipartite expressions whose constituents are identical but for the insertion (where the first member has a vocalic onset) or substitution (where the onset is consonantal) of /m/ in the second member. Moreover, he saw that, in many cases, this second element seems to be etymologically opaque: oxte ni moste (oste ni moste) 'not a word', where oxte < ox 'exclamation for chasing away birds' plus, possibly, te 'you (pronoun)'; sin chistar ni mistar 'without a word', where chistar 'whisper' < onomatopoeia; and chuz ni muz (chus ni mus, tus ni mus) 'without a word', where chus and chuz are probably variants of tus 'word for calling dogs'. Alemany
concluded that, in each case, the second, m-initial constituent was derived from the first.

Naturally, the problem is considerably more complex than the above list might suggest. In the first place, some pairs manifesting the pattern in question are demonstrably traceable to two different etyma, e.g. tiquismiquis 'affected manners', 'exaggerated courtesy', from the macaronic Latin expression tichi michi (<<tibi mihi>) 'for you, for me', supposedly used in monasterial debates. Secondly, in other pairs, neither member is identifiable, e.g. chirlos mirlos 'things of little importance', 'food of little nutritive value', which seems impossible to identify with chirlo 'long facial scar', or mirlo 'blackbird'. Thirdly, there are cases which could be called either way. In the expression ni habla ni pabla 'says not a word', is pabla, as Morawski (1927:129) thinks, 'une déformation de parler pour rimer avec hablar', or could it not simply be a repetition of hablar with the insertion of a bilabial onset? The fourth complication, already evident in pabla, is that the second element may begin with any bilabial consonant, rather than /m/ only. Other examples of this include ajas pajas 'insignificant thing', tarín barín 'approximately', 'barely', zurriburri 'rabble' (see footnote 7), and a pair of words that present a final complication, in that they seem to involve yet another playful variation, tras barras 'thud of something falling' (<<tras 'bang!'>) and a traque barraque 'at all times, continuously' (<<traque 'firecracker explosion'>>), both of which seem to exhibit some sort of unexplained connection with xanxes marranes.

Morawski, possibly referring to Alemany's hypothesis, remarks the possibility of considering Rule 2 as a constitutive principle, but rejects it (p. 118): 'Quant aux mots soi-disant engendrés par la rime, c'est là une explication qui ne devrait, à notre avis, être admise qu'a la dernière extrémité'. I fail to see the benefit to be gained by this position. By deciding, on purely doctrinal grounds, what shall be admitted as true, Morawski effectively eliminates the facts themselves from consideration. I favor a more objective approach, which I believe leads inevitably to the conclusion that the pattern

\[ (C^2_i) V_i X_j B V_i X_j \]

is an active force in the affective vocabulary of Spanish, and that its effects include (1) causing phonetic changes in pre-existent root forms in order to achieve rhyme (e.g. the change *troce > troche in trochemoche, var. a troche y moche, 'helter-skelter', from trozar 'to break into pieces' and mochar 'lop off'); (2) acting as a secondary influence favoring the combination or juxtaposition of rhyming words, one of which begins with a bilabial (again, trochemoche); and (3) providing for the complete derivation of the second element from the first, through Rule 2.
Alemany (1925:683) admits to being unable to explain the provenience of Rule 2, or why it should entail /m/ rather than another consonant. He does note, however, the significant fact that Rule 2 is fully productive in Turkish (see footnote 8) as well, with the same semantic effect. To this I will add the more significant fact that it is also productive in Basque: Azkue (1964:2:401-5) asserts that it has produced hundreds of burlesque (he illogically lables them 'onomatopoeic compounds') forms in that language, including andimandiak 'big shots'<andi 'great'; asimasiak 'rude-ments'<asi 'begin'; nahas-mahas 'helter-skelter'<nahas 'to mix'; erotean-perotean 'haphazardly'<ero 'crazy'; zurruburru 'hulla-baloo'<zurru 'harsh, raucous sound'. Again, I will not go into the details of the Spanish-Basque connection here, although I would note that the extreme productivity of the rule in Basque is highly suggestive. In any case, the nature of the connection will in all probability never be known with certainty, since burlesque reduplication with consonantal apophony, whether with /m/ as in these languages, or /w/ as in Eng. hypocoristics (Davy-wavy, Alice-walice, Ronnie-wonnie) constitutes something of a linguistic universal.

Notes

2. The unconventional spelling línzili-lanza is that employed by Iribarren (1952:304a). Both tipi-tapa and tipili-tápala are lexical items in Basque as well.
3. There are slight differences. Stress may be irrelevant in Basque. Also, V may be followed by a glide. I hasten to add that I am no expert in the Basque language, but I hope the etymologies given here are utterly obvious. My sources included Azkue 1905 and 1964, Múgica 1973 and 1977, and López Mendizábal, n.d.
4. I have neither this translation nor the Miscel·lània Fabra, in which Corominas (s.v. chanza 1980:2:325) says xanxes-marranxes is cited, at my disposal. Note that in the chanza article the word is misprinted as sanxes-marranxes. It is cited correctly under cháchara.
5. In the remaining 22 forms incorporating -arra cited by Alemany in his Tratado (1920:29), the sequence is nonsuffixal. Most are loan-words (cimitarra 'scimitar' < Arabic), pre-Romanic (pizarra < Iberian or Basque), or pre-Romance (cigarra 'cicada' < Mediterranean Latin variant of cicada).
6. See my article 'Expressive Word-Formation in Spanish: The Case of titiritar 'tremble', pipiritaña 'cane flute', etc.'
forthcoming in Romance Philology. Cháncharras máncharras has become involved with this same pattern, as is evidenced by some of the variants listed by Morawski (1927:120), e.g. chacharamanchas 'schemes' (which also may have been affected by cháchara), chichiríbichi 'knick-knack', chichiririmáncharras, chichirínabo, undefined.

7 Ajaspajas, originally 'straw left after garlic head removed', is from ajo and paja 'straw'; zurriburri is attributed to zumbar 'buzz' by Corominas (1954:4:874b), but is suspiciously like Basque zurruburru 'confusion, disagreement'; tarín barín, traceable to tarín 'small silver coin' and either Rule 2 or some other element, possibly Caló barí 'excellent'.

8 He cites Luigi Bonelli, Elementi di grammatica turca osmanli (Milano: Hoepli), 1899, who gives the example (paragraph 70) guitti mitti 'se ne andò', presumably from guitti.

References


Conditional for Subjunctive in Old Castile
Carmen Silva-Corvalán
University of Southern California

It is well-known that the linguistic system of natural languages is constantly changing at a more or less rapid pace. Some forms fall in disuse and disappear, new forms are created or existing ones extend or reduce their range of functions. One instance of this phenomenon is provided by the development of the tense and aspect system of Modern Spanish from Latin through Vulgar Latin and Romance. This paper concerns itself with a case of an innovation in this system, namely the use of the conditional form (C) for the past subjunctive forms (S) in Old Castile, as illustrated in example (1):¹

(1) CS: ¿Y para qué iban a hacer la represa?
T: Para que daría (C) luz al convento. Std. Spanish: diera (S)
CS: 'And what were they going to build the dam for?'
T: 'So that it gave light to the convent'

Grammars of Spanish (e.g. Alcina y Blecua 1980; Marcos M. 1980; Real Academia Española 1973) list four simple forms for the subjunctive mood: present ('cante', ex.2), two past imperfect forms ('cantara', 'cantase', ex. 3), and future ('cantare', ex. 4). Of these, the future (FS) is practically obsolete in all Spanish dialects and the -se form of the imperfect is quite infrequent. In Covarrubias, the -se form is used by some of the speakers,² but the FS is non-existent.

(2) Quiere que cante.
'He wants me to sing'
(3) Quería que {cantara} {cantase}
'He wanted me to sing'
(4) Si cantare le darían un premio.
'If he sings they'd give him a prize'

In this dialect of Spanish the conditional variably substitutes for the simple past subjunctive forms only. Example (5) illustrates the variation, and examples (6) and (7) show that the simple present subjunctive and the -ra form in the pluperfect are regularly used:

(5) CS: ¿Qué haría usted si ella tuviera un novio?
M: ¡Anda pues, dejarla! Que, que iría (C) con el novio, que se conocieran (S) hasta que llegaran (C) a casarse.
(Std. Spanish: fuera (S) - conocieran (S) - llegaran (S))
CS: 'What would you do if she had a boyfriend?
M: 'Well, let her! To, to go with her boyfriend, so that they would get to know each other, until they became married'

(6) Aunque tengan(S) ochenta años a lo mejor se ponen a bailarla.
'Even if they are eighty years old maybe they'll start dancing it'
(7) Lo que tenían que haber hecho, si es que, son fábricas, para que se hubiera empleado (PluS) la juventud, y no que tienen que salir fuera del pueblo.
'What they should have done, if anything, is build factories, so that the youth would have been employed, and then they don't have to leave their hometown'

The use of the conditional for the past subjunctive has been noted to occur in Old Castile by Espinoza (1930), and in Buenos Aires Spanish by Lavandera (1975). They have proposed different factors as the motivation for the change in these two distant communities.

Espinoza proposes that the innovation may be due to an analogy with the parallel use of the C and the S in -ra in the apodosis, or to an extension of the use of the C in indirect discourse to the polite-command function of the S in noun clauses. Lavandera, on the other hand, based on a study of conditional clauses only, proposes that the change arose because there are contexts which are ambiguous between a hypothetical situation contrary to fact and a hypothetical situation which is probable in the future. This ambiguity, created by the loss of the future subjunctive in -re, is resolved by the use of the C to refer unambiguously to probable situations.

In what follows, I discuss these two hypotheses in light of the data from Covarrubias and conclude that the simple causes proposed are either too powerful or insufficient to explain the data. Instead, I propose the agency of two concurrent causes, one internal and the other external. The internal motivation is provided by the opacity of the semantic difference between the imperfect subjunctive in -ra and the conditional form. The external factor is language contact with Basque, which in speech does not differentiate a formal past subjunctive (Eys 1883:29; N'Diaye 1970:208) and uses the conditional form of the verb in contexts where Spanish would require past subjunctive (N'Diaye 1970:205-206). I proceed to discuss Espinoza's analysis first.

Espinoza suggests that the innovation may be due to a mechanical parallelism with the alternation of S and C in the apodosis of conditional constructions, as shown in example (8):

(8) **Stage 1**
Si tuviera (S) dinero, \{comprar (S)\} un coche nuevo.
\{compraría (C)\}

'If I had money, I'd buy a new car'

**Stage 2**
Si t' (S) dinero, \{comprar (S)\} un coche nuevo.
\{compraría (C)\}

There are at least two problems with this proposal. First, if this mechanical copy of an alternation in the apodosis into the protasis had been the motivation for the change, we would expect the innovation to be much more advanced in this context than in others. However, this is not the case. Of the possible contexts of occurrence of the variable in conditional constructions, the C substitutes for the past subjunctive
in 67% of the cases, while the substitution is slightly higher, 72%, in all other possible contexts, namely sentential subjects, noun comple-
ments, adverbial and adjectival clauses. Furthermore, in these non-
conditional constructions no parallel use of C and S has been possible at any stage of the standard language, but the alternation shown in
Stage 2 in (9) is frequent in the Old Castile dialect:

(9) *Stage 1
La encerró en la torre para que no la \{pasara (S) \}
\{*pasaría (C) \} nada.
'He locked her up in the tower so that nothing happened to her'
Stage 2
La encerró en la torre para que no la \{pasara (S) \}
\{pasaría (C) \} nada.

Even more problematic, though, is the concept of parallelism itself as an explanation for the change. If parallelism with the C/S alternation had been the motivating force, then a similar development should have perhaps affected the present/future indicative alternation, as exemplified in (10), but Stage 2 is not attested in any Spanish dialect.

(10) Stage 1
Si gano dinero \{compro (pres.) \}
\{compraré (fut.) \} un coche.
'If I make money I'll buy a car'
*Stage 2
Si \{gano (pres.) \} dinero \{compro (pres.) \}
\{*ganaré (fut.) \} \{compraré (fut.) \} un coche.

Espinoza further suggests analogy of the use of the C in indirect discourse as a "more attractive" reason for the change. His claim is that the usage of C and S in the complement of request and report verbs (examples (11) and (12) respectively) is often confusing and allows for the extension of the C, as in example (13):

(11) Le dijo que él dormiría (C) en el suelo.  \textit{statement report}
'He told him that he would sleep on the floor'
(12) Le dijo que él durmiera (S) en el suelo.  \textit{request/mand report}
'He told him to sleep on the floor'
(13) Le dijo que él dormiría (C) en el suelo.  \textit{statement/mand/request report}
'He told him \{that he would sleep\} on the floor' \{to sleep\}

Supposedly the locus of the confusion is the hearer, who reinter-
prets a construction like (11) as an indirect report of a request when the context is sufficiently ambiguous to allow this reading. Sub-
sequently, the hearer-now-speaker would produce an example like (13), with a C form, both to report statements and requests or mands. This explanation does not account for the fact that it is the C and not the S form which is extended, even though in principle either one is a
likely candidate. In addition, it implies that examples like (11) would occur rather frequently in ambiguous contexts which create confusion between the report of a statement or a mandate, but no supporting evidence is offered by Espinoza nor by my data.

Therefore, it seems that Espinoza's explanation for the change, analogy, is not adequate. Indeed, as Anttila (1972) points out, analogy means regularity, rule-governedness, pattern, it is a linguist’s way of describing the action of the speaker. Analogy is not the cause of change but provides the patterns according to which change takes place. Furthermore, since "all changes share the analogical mechanism" (Anttila 1972:181) it is inadequate to propose analogy as the cause of any one particular change.

Lavandera's hypothesis, on the other hand, responds to the principle that gaps in the patterns of a language system tend to be leveled out. She proposes that in Modern Standard Spanish the loss of the future subjunctive form and consequent use of the imperfect subjunctive in the protasis of conditional constructions to refer both to a hypothetical situation contrary to fact and a hypothetical situation which is probable in the future has created ambiguity. Speakers of some Spanish dialects resolve this ambiguity by using the C in contexts where the future subjunctive would have occurred, i.e. to express probability in the future. Examples (14) and (15) illustrate the two hypothetical situations:

(14) Contrary to fact
Si fuera (S) más joven me iría a vivir al campo.
'If I were younger I'd go live in the country'
(15) Probable
Si fuera (S) a España te vería pronto.
'If I went to Spain I'd see you soon'

Example (14) expresses a situation which is contrary to fact and improbable: it contradicts what is in the real world and this state of affairs is not expected to change. Example (15), on the other hand, expresses a hypothetical situation which is probable in the future. In earlier stages of the language, the future rather than the imperfect subjunctive would have been used in (15). This is the context where the innovative use of the conditional supposedly started according to Lavandera's analysis.

The system including the innovation, then, offers three degrees of probability in the protasis of non-past conditional constructions as shown in (16)-(18), which are ordered in an increasing scale of probability. Example (17) corresponds to the older construction with a future subjunctive.

(16) Si fuera (S) a España te vería allá.
'If I went to Spain I'd see you there'  
(17) Si iría (C) a España te vería allá.
'If I'd go to Spain I'd see you there'
(18) Si voy (pres.) a España te vería allá.
'If I go to Spain I'd see you there'

least probable
more probable
most probable
Lavandera's hypothesis is attractive but, as she herself notes, the present subjunctive may also be used, though in other contexts, to refer to probability in the future, so the analysis does not explain why this form was not the one extended. Furthermore, at least in Old Castile, the system has not achieved the perfect balance predicted. Indeed, the imperfect subjunctive has almost disappeared in si-protasis and, when it rarely occurs in the data, it refers to a probable situation, as example (19) shows:

(19) No sé - si fue - que - si nos casáramos (S) los dos qué te parece, o así fue.6
'I don't know if - if it was - that - if we got married what do you think, or something like that' 6

A further problem with the proposal that C makes up for the loss of the future subjunctive is presented by the fact that the innovation is attested as early as the 16th century (Keniston 1937:412), at a time when the future subjunctive was still in use. Therefore, if the speakers had felt the need to disambiguate [+ contrary] from [- contrary] non-past situations, why didn't they simply retain the future subjunctive?

Finally, Lavandera's hypothesis does not seem to account for the widespread use of the C in other contexts, namely sentential subjects, noun complements, adverbial and adjectival clauses.7 Observe that in these clauses the imperfect subjunctive is in opposition to the present subjunctive which, as stated before, may refer to probable situations in the future (v. examples (20) and (21)) just as the imperfect subjunctive may (example 22), so the use of the C in example (23) seems unwarranted. Nevertheless, it is quite frequent in my data (72%).

(20) Le dará dinero para que viaje (pres. S) a España.
'He'll give her money to go to Spain'

(21) Le dio dinero para que viaje (pres. S) a España.
'He gave her money to go to Spain'

(22) Le dio dinero para que viajará (S) a España.
'He gave her money so that she went/would go to Spain'

(23) Le dio dinero para que viajaría (C) a España. Std. Spanish: viajaría (S)
'He gave her money so that she'd go to Spain'

On the other hand, the alternation of present and imperfect subjunctive in the complement of indirect reports of mands is not conditioned by degrees of probability but by the tense of the reporting verb, as shown in examples (24) and (25). However, the use of the C for the S is also attested in this context (26):

(24) Dice que entres (pres. S)
'He says for you to come in'

(25) Dijo que entraras (S)
'He said for you to come in'

(26) ... y le dijieron que entraría (C). [from Espinoza 1930]
'... and they told him to come in'
It seems clear, then, that analogy is too powerful a notion to propose as the cause of the change, and that semantic ambiguity supposedly created by the loss of the future subjunctive is insufficient to account for the various contexts where the C substitutes for the subjunctive and for the particular choice of the conditional form to resolve the ambiguity. Rather, the analysis of the data and the geographic distribution of the innovation (Province of Burgos and Basque country) lead me to propose the agency of complex causation: semantic ambiguity between C (-ría) and imperfect subjunctive (-ra), and a concurrent external cause, language contact with Basque. This proposal seems plausible for three reasons: 1. It is well-known that areal features may be the result of linguistic innovations originating in one dialect and then spreading to neighboring varieties (e.g. the spread of /j/ loss in Norfolk and Lincolnshire (Chambers and Trudgill 1980:182-183)) or the result of borrowing from neighboring languages (witness, for example, the existence of linguistic areas such as the Balkans (postposed definite article) and central Europe (uvular r)); 2. The use of C for S is impressionistically reported to be very frequent in the Spanish spoken by Basques. In addition, in spoken Basque the subjunctive is reported to be rare or non-existent (Eys 1883; N'Diaye 1970); and 3. Lavandera (n.d.) reports a strong correlation between C for S and Italian background in Buenos Aires. She specifically states that "it is speakers of Italian origin who constitute a large part of the -ría speakers sample, as well as producing the highest frequencies of -ría within this group" (p. 28). I find this a very suggestive correlation given the fact that in some Italian dialects the pluperfect indicative form in -ra has been retained with the meaning of a conditional (Wright 1932:19).

The internal motivation for the innovation is provided by the opacity of the semantic difference between C and S forms, created by the shift of the imperfect in -ra from a pluperfect indicative (realsis) to an imperfect subjunctive function (irrealsis). Given two forms, one indicative and one subjunctive, with almost identical meaning and distribution, the universal tendency is for the subjunctive form to fall into disuse, probably because of an overall lower frequency of occurrence in discourse.

The -ra form was originally the pluperfect indicative in Latin. The shift of this form from the indicative to the subjunctive in Spanish started between 1000-1300 A.D. (Wright 1932) and was practically completed by the 17th century. However, its use in the apodosis of conditions is attested already in early Classical Latin. In Old Spanish the -ra form had started to be used as an imperfect subjunctive in optative clauses (with querer 'want', poder 'can', and deber 'should'), and in the apodosis and protasis of conditions. The C -ría, on the other hand, alternated with -ra and -se in the apodosis, and in non-conditional subordinate clauses.

In Modern Spanish both -ría (C) and -ra (S) may express subjective expectations, predictions, and intentions (i.e., irrealis situations), and may alternate in various syntactic contexts in the standard usage:
In main clauses
(27) {Querría (C)} pedirte un favor. {Quisiera (S)}
    'I'd like to ask you a favor'
    polite request
(28) Acaso {deberías (C)} trabajar más. {debieras (S)}
    'Maybe you should work harder'
    polite suggestion
(29) Nadie {imaginaría (C)} lo que eres capaz de hacer. {imaginara (S)}
    'No one would imagine what you're capable of doing'
    prediction
In relative clauses
(30) La casa que me {compraría (C)} con ese dinero sería grandiosa. {comprara (S)}
    'The house that I'd buy with that money would be magnificent'
    intention
(31) Los problemas que {podrían (C)} surgir me asustan. {pudieran (S)}
    'The problems that might come up frighten me'
    probability
In noun complements
(32) No creí que {resultaría (C)} igual que el otro. {resultara (S)}
    'I didn't think that it'd come out like the other one'
    probability
(33) Dudo que tu situación {prosperaría (C)} en el futuro. {prosperara (S)}
    'I doubt that your situation would improve in the future'
    prediction
In apodosis of conditions
(34) Si sólo pudiera verlo le {daría (C)} tu mensaje. {diera (S)}
    'If only I could see him I'd give him your message'
    intention

The semantic difference between C and S in examples of the type illustrated in (27) to (34) is opaque. It seems to me that at this stage of the language the difference is largely one of style in the dialects where both forms are used. The -ra form is associated with a more formal and conservative style. It must be mentioned, though, that it has been suggested that the S makes a statement slightly more polite, or less probable than the conditional. In all its uses, then, the conditional is an irreals is form and signals the hypothetical status of a situation; this approximates it to the subjunctive. Given these overlapping functions, and the possible influence of neighboring dialects and/or language substratum, it is not surprising, in the light of historical preference for indicative forms, that the C started to take over the functions of the S. This explanation accounts for the geographic distribution of the innovation and for the fact that the C and the S (when it rarely occurs) are used variably both in plus or minus contrary to fact contexts (v. example (5) and (35)-(39) below), and in contexts where the factivity status of the situation is either ambiguous (40-41) or irrelevant (example 42):

[- contrary to fact]
(35) Me gustaría estar cuando habría (C) una riada. Std. Spanish: hubiera
    'I'd like to be here when there was a flood'
    (S)
(36) Si yo estaría (C) en E.E.U.U. tú me mostrarías las cosas nuevas que hay allá. Std. Spanish: estuvie-ra (S)

'If I were in the U.S. you'd show me the new things that there are over there'

(37) Pues yo tengo una carta que si la vieras (S)...

'Well I have a letter that if you saw it ...'

[+ contrary to fact]

(38) Si ahora despertaría (C) y se viese con su trajecito del Corazón de Jesús. Std. Spanish: despere-tara (S)

'If she woke up now and saw herself in her Sacred Heart of Jesus dress'

(39) Y no se podía hacer na- esfuerzos para, pues pa' que llegaría (C) [el dinero]. Std. Spanish: llegara (S)

'And you couldn't do any- efforts to, well to make money'

Factivity is ambiguous

(40) Y la encerró en la torre pa' que no la pasaría (C) nada. Std. Spanish: pasara(S)

'And he locked her up in the tower so that nothing happened to her'

(41) No le creería aunque me lo diría (C). Std. Spanish: dijera(S)

'I wouldn't believe you even if you said it'

Factivity is irrelevant

(42) a. Dice que vengas (pres. S) mañana.
   b. Dijo que {vinieras (S)} mañana.
      a. 'He says for you to come tomorrow'
      b. 'He said for you to come tomorrow'

In examples (38) and (39) the conditional is used to refer to hypothetical situations contrary to fact which cannot change in any future state of affairs. The woman in the Sacred Heart of Jesus dress is dead and could not of course wake up, and in (39) the speaker refers to a past period of her life in which it was impossible to make money. In example (40) the speaker refers to a historical event and in view of the ensuing facts (the imprisoned lady was supposedly assassinated), the probability status of the purpose clause is unclear. Likewise, in non-past clauses it may also be difficult to determine the likelihood of occurrence of a situation, as in (41), where the concessive clause seems to express a very improbable situation: my telling the speaker that human beings have well-formed babies.

Furthermore, in indirect reports of mands the use of the S is not dependent on degree of probability but on the tense of the reporting verb, as exemplified in (42 a. and b.), but the innovation is also frequent in this context.

Conclusion. To summarize, then, I have suggested in this paper that an adequate account of the motivation for the innovative use
of the conditional for the imperfect subjunctive forms in some Spanish dialects should posit the agency of complex causation: the opacity of the semantic difference between conditional and subjunctive forms, and language contact. Future investigation should test this hypothesis through a quantitative analysis of a larger body of data and through an in-depth sociolinguistic study of the areas where the innovation is attested. In particular, it is necessary to find out the frequency of use of C for S in the Spanish spoken by bilingual Basques, the earliest attested uses of this phenomenon, and the degree of contact between Basques and Castilians.

NOTES

1. The data for this study were collected in the summer of 1981 in Covarrubias (Province of Burgos, Spain). They consist of transcriptions of audio-recordings of conversations between the investigator and speakers of various ages. The analysis presented here is preliminary and based only on data from six speakers.

2. All of them were women, which lends support to the observation that women's language behavior tends to be more conservative.

3. I will not refer here to Espinoza's remarks on relative frequencies because his quantification of the data is not correct. He does not, for example, calculate percentages for each syntactic context where the variable occurrence of C is possible. Rather, he gives percentages only for the cases of application and across all contexts.

4. Espinoza does not explicitly refer to the extension of C to the protasis of conditional sentences as a case of analogy, but this is what is clearly implied.

5. Examples of the future subjunctive quoted by the Real Academia Española (1973) are from Cervantes and Garcilaso, i.e., 16th century.

6. The speaker is telling me about how her husband proposed to her. Lavandera (1975) does not deal with these constructions. She only states (p. 250) that the conditional is very infrequent in these syntactic contexts.

7. The form amare hæbebam, which later became amaría (C) came to be used in the apodosis of a condition in late Vulgar Latin (Wright 1932:10).

8. Noticing these similarities, the Spanish Academy included for a long time the -ría (C) form as one of the forms of the imperfect subjunctive (Gili Gaya 1979:171). In the Esbozo (Real Academia Española 1973), however, the conditional is included as one of the forms of the indicative mood.

REFERENCES


Reflexive, Impersonal, and Passive in Italian and Florentine
Ruggero Stefanini
University of California, Berkeley

Reflexive, Impersonal, and Passive are three verbal categories which have always been in close relationship to each other in the Italian linguistic area, from the Latin desinence -tur to the modern Italian pronoun si.

It is not an easy task to follow and distinguish these functions in the interplay of their diachronic development, especially because these changes had already occurred by the time a continuous written documentation began (after the start of the 13th century). Such an analysis is nonetheless a very interesting exercise, from a theoretical point of view as well, since it reveals a state of affairs which is not logical, not economical, and not even "healthy" (one might indeed label it pathologique, extending a well-known concept applied by J. Gilliéron and his school to homophony as a disease of the lexicon). The fact remains, however, that speakers have always seemed perfectly at ease with this situation.

The broad trajectory of this Romance morpheme (se/si) begins to develop in classical and post-classical Latin and clearly has its origin in the proper and literal Reflexive: Marcus se lavat, i.e. "Marcus washes (himself)" (Tekavčić, 781, 1120). The proper (or semantic) Reflexive was already inclined to extend itself to an improper (or morphological) Reflexive through a process of metaphorical and analogical generalization, which kept producing phrases that were more and more grammaticalized, i.e. no longer perceived in terms of their syntactic and semantic etymology (Marco si lava → il cielo si oscura ["the sky gets cloudy"] → il malato si lamenta ["the sick man complains"]). Such a process of spontaneous grammaticalization was also furthered in Latin by the constant presence of the Greek Middle, not only on the literary level but also in the speech of the numerous bilingual communities. The Greek Middle was in fact rendered into Latin either by the Passive or by the Reflexive (movetur/se movet ["it moves"], urbs vocatur/se vocat ["the city is called"]). One should immediately note, on the other hand, that a process of this kind permits the coexistence of successive phases or "generations," whose age and genealogy remain, on the surface, perfectly hidden. Thus, not only do misunderstandings or puns of the following type become possible ("Come ti chiami?" "Io non mi chiamo, mi chiamano gli altri"), but many reflexive forms preserve quite a wide range of applications, so that even when they appear specialized in a role that one would not hesitate to call purely grammatical (Reflexive deponent), they can be brought back to a previous level of meaning by nothing more than a particular syntactic context or a mere shift in style, which is enough to reactivate their transitiveness and restore to them a more analytical and etymological meaning (Reflexive proper). The cases that are truly irreversible, including
the Reflexives that were intransitive from the beginning (see above, note 2), are by contrast quite few. The majority of Reflexives are in fact verbs like almarsi ("to get up") vs. alzare ("to lift"—something or someone or even oneself), spaventarsi ("to get frightened") vs. spaventare ("to frighten"—someone or even oneself), etc., down to those instances in which a reflexive object is as fortuitous as any other (pro)noun (vendersi ["to sell oneself"], coprirsi ["to cover oneself"] etc.), and do not entail any semantic specialization.

Italian did not seize the opportunity, which for a time was available to it, of separating once and for all the Impersonal from the Reflexive by means of the active construction based on an indefinite subject pronoun: on/(u)om(o), Lat. homo (Fr. on; cf. Ger. man), or uno (cf. Eng. one). In the language of the 13th and 14th centuries we have numerous examples of this alternative, doubtless backed by French literary and linguistic influence; but the experiment was unsuccessful, and the reflexive morpheme (si) was eventually fully reaffirmed in its impersonal function as well. This was, after all, a primary capacity of Lat.-tur, and its proto-Romance substitute (si) could hardly refuse this legacy. In some old reflexive phrases—already recorded in Latin (esp. Late or Vulgar Latin)—as urbs se vocat for urbs vocatur, se rumpere (for rupi ["to be/get broken"]), or mela servare se possunt (instead of servari possunt "they can be preserved"), a (medio-)passive meaning seems to have developed (by analogy) through direct contact with the original (medio-) reflexive value (Marcus se lavat/lavatur; see above, note 3), but the "passivizing" si, so common and so vital in contemporary Italian, derives (by transformation and not merely by analogy) from the intermediate impersonal function, and hence goes back only indirectly to the initial reflexive meaning. In spite of its vitality, however, the passive of impersonal (and ultimately reflexive) origin could not be extended to the entire paradigm; it remains limited, in fact, to the third person, preferably non-animate, precisely in order not to interfere with the reflexive use and interpretation of this syntactic pattern (coexistence of successive phases and functions; see above), and it often needs, again in order to be safely distinguished from the Reflexive, to be supported and confirmed by word order or by sentence intonation. The passive meaning of the si-phrase can be subjected to all these restrictions of morphological, syntactic and semantic nature, because in Italian the Passive of reflexive origin is a secondary Passive, at least with respect to the legitimate passive conjugation, even if, in the third person, it is now used much more than the corresponding legitimate passive forms, especially in the compound tenses.

In our attempt to establish the elusive boundary between impersonal value and passive function, we shall keep in mind both standard Italian and Florentine dialect, whose constructions are particularly well developed and revealing in this domain. First of all we must note that in Florentine the use of the Impersonal appears to be expanded and also stylistically lowered;
in fact, it substitutes for the first person plural in every mood and tense, in the Active as well as the Reflexive and Passive. 11 Remnants of the first person plural exist in a few basic verbs, limited however to the present subjunctive in its hortative function (Engl. let's...). 12 Only sémo or sémo (It. siamo, "we are") continues to serve as the first person plural of the present indicative, in addition to those rare cases where it can be used as the hortative subjunctive (let's be + predicate). 13

When the Impersonal is limited to intransitive verbs (It. si corre, si mangia ["one runs," "one eats"]; Flor. a Roma e' si mangia bene ["in Rome one eats well"], [noi] e' si va ["we go"], etc.), everything is in order and no pressure for change is exerted. When, however, we want the impersonal form of a transitive verb governing a direct object, the situation is bound to change. First, the deletion of the subject underscores by necessity the relationship between transitive action and the object acted upon, thereby giving the impersonal construction a passive shade. In standard Italian, this shift in meaning is indicated and at the same time enhanced on the morpho-syntactic level by means of a change of considerable consequence, i.e. the verb tends to agree with the following object: si è evitato una tragedia (standard It. as spoken in Florence; "a tragedy was avoided") → si è evitata una tragedia (standard Italian); qui e' si legge troppi libri (Florentine) → qui si leggono troppi libri (standard Italian), etc. Yielding to this logical or ad sensum agreement, the verb belies both its impersonal and transitive roles and tries to derive the passive subject it now needs from its direct object. The picture widens if we go on to consider those phrases whose direct object is represented by a clitic personal pronoun. In standard Italian, ci si accusa ("people [they] accuse us") is a rhetorical and literary utterance, in which the Impersonal (si accusa) is preceded by a pronominal object (ci, "us") 14 cf. also mi/ti/vi si accusa ("people/they accuse me/you [all]"). In Florentine, however, this same expression (e' ci s'accusa) can only mean "we accuse ourselves" (Reflexive, first person plural), and is stylistically unmarked; 15 cf. also e' ti/vi s'accusa "we (are going to) accuse you (all)". Mutual translations from Italian to Florentine and vice versa would lead to Fl. e' ci/v' accusano (for It. ci/vi si accusa) and It. ci/vi accusiamo (for Fl. e' ci/vi s'accusa). With the third person, the clitic pronominal forms suddenly multiply, in order to provide the required distinctions of number, gender and case (direct vs. indirect object). So Italian has, again in its formal style, lo/la/li/le si mangia/vede ("one eats/sees it/them" [m. or f.]); here the pronoun object precedes, and there is no agreement of the verb with the plural object pronouns li and le. In Florentine, the corresponding phrases have taken firm root in the (personal) verbal paradigm: the Impersonal is used for first person plural. 16 The Florentine examples appear quite surprising in comparison with Italian: (noi) e' si mangia (noi)
("we eat it" [m. sing.] vs. It. lo si mangia), (noi) e' si mangian (noi) ("we eat them" [m. pl.] vs. It. li si mangia), (noi) la si mangia (noi) ("we eat it" [f. sing.] vs. It. la si mangia), (noi) le si mangian (noi) ("we eat them" [f. pl.] vs. It. le si mangia). 

The basic difference between the two sets (Italian vs. Florentine) lies in the fact that the clitic pronouns of the Italian phrases are still direct objects (i.e., complement pronouns), while in the Florentine sequence they are undoubtedly subject pronouns: e' "he/it," "they" (m. pl.); la "she" (also "her"); le "they" (f. pl.; also "them" [f. pl.]). In Florentine, as we have seen, a following plural object is not sufficient to change an impersonal verb from singular to plural, and in this Florentine differs from standard Italian (Flor. e' si mangia le pesche vs. It. si mangiano le pesche ["one eats the peaches"]). On the other hand, as soon as a plural object precedes—be it only a clitic pronoun—Florentine, in contrast with the immobility of Standard, transforms the preceding object into a subject and the active Impersonal into a personal (medio-)Passive (e' si mangiano vs. It. li si mangia), even if the Impersonal was itself a substitute for an active first person plural form. 

With (noi) e' ci/vi s'accusa (It. [noi] ci/vi accusiamo "we [are going to] accuse ourselves/you [all]"), nothing changes (cf. instead, [noi] e'/le s'accusano, It. [noi] li/le accusiamo "we [are going to] accuse them") precisely because ci and vi are not real plural forms (in spite of the conventional terminology, we is not a real plural of I, nor is ye a real plural of thou). Structurally, as well as diachronically, we have to postulate an intermediate stage between the archaic situation represented by the standard language and the modern Florentine data (see above). This intermediate pattern must have been the following: lo si mangia/la si mangia; e' si mangiano/le si mangiano. The shift from the transitive Impersonal to the personal Passive, in fact, took place in the plural only, i.e. where the impersonal verb was preceded by a plural object pronoun. Remember, however, that, in the singular, the Florentine feminine form la is the clitic object and the clitic subject as well. Thus, in the presence of le si mangiano/e' si mangiano, the object la was easily reinterpreted as a subject; lo, on the other hand, being exclusively a clitic object, was exposed to the combined pressure of the other three forms and had to yield to its corresponding subject form (e'/gli). The impersonal lo si vede and la si vede, in a less formal style, tend to lose the initial pronouns, turning into passive forms whose singular subject remains understood (Italian does not possess a set of proclitic subject-pronouns), i.e. easily suggested by the context. Li si vede/le si vede may show an initial move toward the passive reinterpretation by means of plural agreement of the verb (li si vedono/le si vedono)—which, from a grammatical point of view, is a rather odd compromise, since li and le remain irremediably "accusative"—but then the situation is rectified by the dropping of the object pronouns: si vedono (again, a personal passive form with subject understood). We may conclude our inquiry
with the following statement: in modern Florentine, active Impersonal and personal Passive behave as two morpho-syntactic byforms, whose distribution totally depends on the position taken by the (pro)noun in the direct case (subject or direct object): does it precede or follow the verb? The inescapable dichotomy is, therefore:

\[(\text{PRO})\text{NOUN} \quad + \quad \text{VERB} \quad \rightarrow \quad \text{Personal PASSIVE} \]

\[\text{VERB} \quad + \quad (\text{PRO})\text{NOUN} \quad \rightarrow \quad \text{Transitive IMPERSONAL}^{21,22}\]

Standard Italian, which is based on the literary Florentine of the 14th century, understandably shows a more wavering and eclectic behavior, determined in part by verb agreement and interpretations of a "logical" nature.

**APPENDIX**

As an aid to the reader, we shall provide two Florentine paradigms here with the corresponding Italian ones, according to this English model: "I (am) eat(ing)" and "I am eating them."

In the Florentine forms we have found it necessary to indicate the syntactic doubling of the consonants and the typical spirantization of the intervocalic $t$ in the segment -ète (second person plural; cf. Rohlfs, ḗ 195, 196, 200).

\[
\begin{array}{ll}
\text{(Io)} & \text{e}' \quad (\text{arch. } i') \quad \text{mangio} \\
\text{(Tē t)tu} & \text{mmangi} \\
\{\text{(Lu')} & \text{e}' \quad \text{mangia} \\
\text{(Lë')} & \text{1la} \quad \text{(Lei, ella)} \}
\quad \text{(Lui, egli)} \quad \text{mangiàmo} \\
\text{(Nō')} & \text{e}' \quad \text{si mangia} \\
\text{(Vō' v)vu} & \text{mmangiàhe} \\
\text{(Lōro) (e)'/1le} & \text{màngiano} \quad \text{(Loro, essi/e) mangiano} \\
\end{array}
\]

\[
\begin{array}{ll}
\text{(Io)} & \text{e}' \quad \text{gli/le mangio} \\
\text{(Te t)tu} & \text{gli/lle mangi} \\
\{\text{(Lu')} & \text{e}' \quad \text{gli/le mangia} \\
\text{(Le')} & \text{1la} \quad \text{(Lui, egli)} \quad \text{lī/le mangia} \}
\quad \text{(Lei, ella)} \quad \text{lī/le mangiamo} \\
\text{(No') (e)'/1le} & \text{si mangiano} \quad \text{(Noi)} \quad \text{lī/le mangiamo} \\
\text{(Vo' v)vu} & \text{gli/lle mangiahe} \quad \text{(Voi)} \quad \text{lī/le mangiate} \\
\text{(Loro) (e)'/1le} & \text{gli/le mangiano} \quad \text{(Loro, essi/e) lī/le mangiano}
\end{array}
\]

NOTES

1 The indirect Reflexive (Marcus sibi lavat pedes, It. Marco si lava i piedi ["Marco washes his feet"], productive down to Marco si è mangiato una bella bistecca ["Marco ate a good steak" (and really enjoyed it)]) does not have any particular significance for our inquiry, so we shall leave it out of consideration for the sake of clarity.

2 Proceeding in this direction, we realize that, from a certain point on, the reflexive form serves only to nullify the transitivity of the verb (ingrassare [tr.] "to fatten" vs. ingrassare/ingrassarsi [intr.] "to get fat," cuocere [tr.] "to cook" vs. cuocere/cuocersi [intr.] "to cook," etc.) and that ultimately it preserves some fossilized transitives, which no longer exist as simplex active verbs, at least in the same meaning accorgersi "to become aware," but never (or no longer) *accorgere ("to make aware"); riguardarsi "to take care" vs. riguardare, which only means "to look again" or "to pertain." These last reflexives—etymologically transitive, but by now "synthesized" and completely irreversible—inevitably come to merge with some Reflexives that were intransitive from the very beginning (andarsene "to go away," vs. andare "to go"); svenirsi and svenire "to faint"; morirsi archaic or regional for morire "to die"; arrampicarsi "to climb" [cf. its Florentine frequentative arrampuchiare], etc.). In these intransitives the reflexive voice represents an analogical and hypercharacterizing extension (again, in a "Middle" or anti-transitive sense) and goes back, at least as regards its diachronic model, not to an object construction (acc: se, te, me) but rather to a dative of relationship (sibi, tibi, mihi).

3 These alternatives allow for an immediate passage of the reflexive voice into a passive sense (Fr. il s'appelle/est appelé, It. si chiama/è chiamato, Sp. se llama/es llamado), even if, as we shall see further on, it will be through the impersonal function that the Romance Reflexive will return even more decisively to a passive value:
"What is your name?" (literally "How do you call yourself?") "I do not call myself; others call me" (a morphological Reflexive is jokingly turned back to its "etymological" meaning).

The surest way to identify them is to "re-write in the transitive." Contrary to the simple correspondence io mi spavento/ io lo spavento ("I am frightened/I frighten him"), etc., one has to resort here, as in the case of non-reflexive Intransitives, to causative constructions like fallo arrampicare ("make him/it climb", not *arrampicalo), tienlo riguardato ("have him take care"), fa' che se ne vada ("see that he goes"), etc. The ambiguous position of other Reflexives (already moving from reversibility to irreversibility) is revealed by the fact that they permit both possibilities: fallo alzare alle sette ("make him get up at seven"), but also alzalo, especially if the person referred to is a child whose will is of little account.

The auxiliary serves, however, to unite Reflexives of every variety and origin. In both Florentine and standard Italian, in fact, the reflexive auxiliary must be, as in French, exclusively essere ("to be"): mi son venduto ("I have sold myself"), mi son lavato ("I have gotten washed"), mi sono accorto ("I have found out"), mi sono lavato i piedi ("I washed my feet"), ci siamo detti che non valeva la pena ("we told ourselves that it wasn't worth it"), ci siamo detti tante cose ("we said so much to each other"), etc. On the contrary, Rumanian and Spanish use the one auxiliary they have at their disposal for active conjugation ("to have", Lat. habere), even for Reflexives. Moreover, Reflexives with the auxiliary avere ("to have") can be found in the dialects and in the sub-standard languages of various Italian regions (cf. Rohlfs, 731).

This construction is heard today in many Italian dialects (an extensive list of examples, ancient and modern, is provided
by Rohlfs, p. 516-517). Amongst neo-Latin languages only French and Rheto-Romance, both supported by German (man), have irreversibly grammaticalized it.

8 This led to a complication. When the Impersonal of the Reflexive had to be expressed, there was only one morpheme available (si), while two distinctive marks were needed. It was then necessary to grammaticalize a clitic place adverb, ci ("there"), which had been semantically emptied (ciò ch'um si toglie [Dante] "that of which one divests himself"; ciò che ci si toglie, in modern Italian). This expedient turned out to be both: 1) a linguistic luxury (Spanish and Rumanian have both simply renounced the Impersonal of the Reflexive, instead making use of generic and collective subjects ["we," "people," etc.]); 2) a rather arbitrary and asymmetrical device in which foreigners learning Italian are fatally trapped, all the more since the sequence ci si is also susceptible to other meanings and interpretations (see below, note 14).

9 Cf. Questo ragazzo si lodà troppo or Si lodà troppo, questo ragazzo... (Refl.: "This boy praises himself too much") vs. Si lodà troppo questo ragazzo (Impers.–Pass.: "This boy is praised too much"); Questo libro si legge molto (Pass.: "This book is read a great deal"). The latter example is less equivocal because, while a boy can praise himself, a book certainly cannot read itself. The restriction of the passive value to the third person (sg. and pl.) is balanced by the fact that, in terms of occurrence, the third person, especially in the passive voice, is overwhelmingly more frequent than the other two.

10 In the legends of the fresco of Nardo di Cione (Cappella Strozzi, Santa Maria Novella, Florence, mid 14th century), a pictorial reproduction of Dante's Inferno, the form of the passive conjugation Oi sono puniti... ("Here are punished...") is occasionally replaced by the Impersonal, already with a clear passive function: Oi si punesce la setta dei cattivi ("Here is punished the sect of evil-doers"); Oi si punesce coloro che dettero consiglio fraudolento ("Here are punished those who gave fraudulent counsel").

11 In the following examples, with the exception of the elision of si (s'), we will not try to render the phonetic features or the lexical preferences of Florentine, since our discussion can easily do without them. E' s'apre (It. apriamo) "we open," e' s'era andati (It. eravamo andati) "we had gone," e' s'è mangiato (It. abbiamo mangiato) "we have eaten," e' si fosse detto (It. avessimo detto) "we had said (subjunctive)," e' si sarebbe anche cantato (It. avremmo anche cantato) "we would have also sung," e' ci s'alza sempre alle sei (It. ci alziamo...) "we get up at six," e' ci s'era bell' (e) alzati (It. ci eravamo già alzati) "we had already gotten up," e' ci se n'accorgerebbe subito (It. ce ne accorgeremmo...) "we
would be immediately aware of it," e' ci se n'era bell' (e) accorti (It. ce ne eravamo già accorti) "we were already aware of it"; e' s'era stati bell' (e) avvisati (It. eravamo già stati avvisati) "we had already been notified," e' si fu subito interrogati (It. fummo subito interrogati) "we were immediately questioned," etc. The passive voice is not used much in the spoken language, and hence not in Florentine either; the last two examples given, for instance, though spontaneous, would probably be replaced in the performance of many speakers by e' ci avean bell' (e) avvisato ("they had already notified us") and e' ci'interrogònonno subito ("they immediately questioned us").

The initial e' (originally ei; before a vowel we would have gli instead) is the clitic subject pronoun, masculine (sing. and pl.) and neuter/impersonal; standard Italian does not possess this set of pronouns (Eng. it is raining, Flor. e' piove, but It. has simply piove). E' is often elided in the pronunciation of the verbal phrase but the phonosyntactic analysis of the segment proves that this pronoun always remains present: (e'). All the preceding examples could, moreover, begin with noi ("we"), whenever one feels the need to emphasize the pronominal subject, and in this Florentine and Italian coincide: (noi) e' s'era andati, It. (noi) eravamo andati "we had gone." It should not be forgotten at this point that these same examples could easily appear in Standard as well, but only as Impersonals; one need only make a slight phonetic change and suppress the clitic subject (in questa casa ci si alza alle sei "in this house one gets up at six"). As a result of this transfer, however, the stylistic level of these forms would be raised, and their frequency index would decrease. The active impersonal construct based on Lat. homo, too, can replace the first person plural; cf. colloquial French nous on va and Lombard noter um canta ("we sing"; Rohlfs §§ 516, 530).

We can list the following forms: damo ("let's give"), diciamo ("let's say"), famo ("let's do"), stamo ("let's stay"), and the very common a)gnamo ("let's go," from andiamo [It.], through *anjamo).

In Florentine, semo (first pers. pl. pres. ind. of "to be") survives also as an auxiliary; thus we have (noi) e' s'era andati vs. It. (noi) eravamo andati, "we had gone," but (noi) e' semo andati ("it" is maintained, by analogy, before this residual personal form) vs. It. (noi) siamo andati ("we have gone"). In the present subjunctive, except for the rare hortative use, we must use the impersonal form as in every other tense: (noi) e' si sia ("we be"). Siamo, formed in the vulgar Latin of Tuscany (as first pers. pl., pres. tense—subjunctive first and indicative later) on the analogical mode of habeamus (Rohlfs, §§ 540), asserted itself in the literary language (and therefore also in standard Italian) but in the dialects it has not succeeded in uprooting the Indicative semo/
siamo ("we are"). Siamo has undoubtedly played a major role in
the analogical levelling of the first person plural of the
present, both indicative and subjunctive, in all four conjuga-
tions (amiamo "we love," abbiamo "we have," crediamo "we believe,"
sentiamo "we feel, hear"). To this standardization, which
is characteristic of Italian today, we must oppose the more
differentiated and conservative data of the dialects, Tuscan
included (Rohlfs, p 530).

14 In the segment ci si, the first morpheme can have different
meanings: 1) ci si accusa (ci = "us"); 2) ci si scorgeva [qual-
cosa] (ci = "there"); "one saw there [something]"; 3) in quando
(ci) si ha la febbre ("when one has a fever"; cf. also non [ci]
vedo/sento più "I can't see/hear anymore"—the presence of ci
merely gives these utterances a more colloquial tone), ci is
a place adverb ("there"), whose semantic content is almost
completely lost (cf. also c'è, Eng. "there is"); 4) in ci si
diverte ("one has a good time") the empty morpheme of example
(3) is grammaticalized to obtain the Impersonal of the Reflexive
(see note 8). Similarly, the Florentine segment e'le si also
admits of diverse interpretations: le si mangian per Pasqua
(i.e. le uova benedette "the blessed eggs") ("they are eaten/
we eat them for Easter"); e' si mangian fra di sé ("they eat each
other"); le si son alzate ora ("they [f. pl.] have gotten up now");
e' si son mangiati du' belle bistecche ("they have eaten two good
steaks"); le si son versate il latte sul vestito ("they [f. pl.
spilled milk on their clothes").

15 e' mi s'accusa cannot function as the first person plural,
given the impossibility of having "we" as subject and "me"
as object in the same sentence. This phrase can exist only
as a hybrid utterance, i.e. It. mi si accusa ("I am accused,""one accuses me") as pronounced by a Florentine speaker.

16 This does not mean that impersonal forms of standard
Italian, independent from the first person plural, cannot be
rendered in Florentine as well. However, as we shall see, a
preceding object pronoun changes the It. Impersonal into a Fl.
personal Passive: It. lo si poteva vedere ogni sera ("he could be
seen every evening") = Flor. e' si poteva vedé' tutte le sere; It.
lo si mangia a Natale (i.e. il cappone "capon") ("it is eaten
at Christmas") = Flor. e' si mangia a Natale; etc.

17 The meaning of the Florentine expressions is, again,
"we (are going to) eat it/them," stylistically unmarked. The
absence vs. the presence of noi, as well as its position at the
beginning or at the end of the phrase, are all of course signifi-
cant features, as one can judge by looking at the syntactic context
provided in the following examples: "Of what use are walnut husks?"
Noi e' si mangiano ("we eat them"); "What shall we do with all this
bread?" E' si mangia ("we can eat it"); "Shall we throw these left-
overs away?" Noi e' si mangian noi ("No! we'll eat them").
The presence of noi (in either position: noi e'le si mangiano or e'le si mangian noi; see above, note 17) represents a dramatic challenge for any analysis and interpretation. The anacoluthon has definitively penetrated the morpho-syntactic structure, to the extent that a PASSIVE CLAUSE (e' si mangiano) is recycled as an ACTIVE VERBAL FORM and inserted as such in a new and more expanded clause, the logical object of which is furnished by the grammatical subject of the original clause (cf. the paradigms in the Appendix).


The three stages of development are presented schematically in the following table:

<table>
<thead>
<tr>
<th>Original:</th>
<th>lo/la si mangia;</th>
<th>li/le si mangia</th>
</tr>
</thead>
<tbody>
<tr>
<td>OBJ</td>
<td>OBJ</td>
<td></td>
</tr>
<tr>
<td>Intermediate:</td>
<td>lo/la si mangia;</td>
<td>e'/le si mangiano</td>
</tr>
<tr>
<td>OBJ</td>
<td>SUBJ</td>
<td></td>
</tr>
<tr>
<td>Final:</td>
<td>e'/la si mangia;</td>
<td>e'/le si mangiano</td>
</tr>
<tr>
<td>SUBJ</td>
<td>SUBJ</td>
<td></td>
</tr>
</tbody>
</table>

Intransitives which are followed by their own subjects also behave in the same manner. Florentine transforms them into, or at least equates them to, transitive impersonals, such as those occurring in certain Indo-European languages (cf. Latin piget, pudet, etc.):

Italian

<table>
<thead>
<tr>
<th>Florentine</th>
</tr>
</thead>
<tbody>
<tr>
<td>c'erano due fratelli ➞ e' c'era du' fratelli</td>
</tr>
<tr>
<td>vennero le mie figlie ➞ e' venne le mi' figliole</td>
</tr>
<tr>
<td>parlarono due avvocati ➞ e' parlò du' avvocati</td>
</tr>
<tr>
<td>entraronno due monache ➞ gli entrò du' monache</td>
</tr>
</tbody>
</table>

English: "there were two brothers," "my daughters came," "two lawyers spoke," "two nuns entered."

We have seen numerous examples of the syntagms PRONOUN + VERB and VERB + NOUN, constructions which occur more frequently than their counterparts (NOUN + VERB and VERB + PRONOUN) precisely because they are not emphatic. In emphatic use, however, we can have: (1) Questi paletti e' si rompan tutti ("These sticks are all breaking"), vs. A far così, e' si rompe tutto e' paletti ("If you do that, all the sticks will break"); (2) Ora e' si mangia quelle/le mia ("Now we are going to eat those/mine [f.pl.]"), vs. (Quelle) le si mangian senza sale ("These/they [f.pl.] should be eaten without salt"). Note that the clitic subject pronoun is compulsory even after an explicit subject represented by a noun or by a possessive or demonstrative pronoun. Recall also that a preceding clitic object is sufficient in itself to change the verb construction according to the pattern given in the text (li si mangia ➞ e' si mangiano).
1.0. Lexical borrowing as an outcome of language contact is a phenomenon so well documented that it needs little further introduction here (cf. Deroy 1956, Haugen 1950, Weinreich 1953). Most languages take in vocabulary from neighbors (and non-neighbors, for that matter) to a greater or lesser extent. Breton, the P-Celtic language spoken in Brittany (western France), is no exception. French has been the language exerting the most obvious lexical influence on Breton, at least since the 12th c. (the beginning of the era of Middle Breton), though from the 1st through the 5th c. A.D., Latin had "lent" 600-700 words to the Brythonic languages of the British Isles (Loth 1892), many of which the Bretons brought with them at the time of their emigration to Brittany between the 4th and 6th c. Since that time Breton has, unlike its sister Celtic languages, been in continuous contact with one or more representatives of the Romance family.

There is little tangible remaining of Old Breton (8th-11th c.); the Viking invasions in the 9th-10 c. forced the monks and other literati to flee, taking their documents with them. However, some glosses have survived, and a large number of proper names and toponyms in cartularies of the epoch (Loth 1907). It is not, then, until Middle Breton that texts in the language itself begin to appear, and these reveal a strong lexical influence from French. Piette is of the opinion that "Although Middle Breton retained a substantial number of native words that were subsequently lost by the Modern Breton dialects..., it has also borrowed several thousand French words, for many of which native synonyms were extant" (1973:203). The following passage—a fragment of a text written by Dom Michel Le Nobletz in 1641, just at the end of the period of Middle Breton—clearly demonstrates the nature of this borrowing:

A enep a lubricite
Da guenta, techet eus ar compagnonez hac ouspan ar re familiarite, peheni a zo occasion dar vicc man. Goudezé, [guitaat] pellaat diouz ar re a ro gual exemple dom hac on laqua en occasion eus ar pechet ze. An drede, guitaat an oisivete hac vacqui ato en un exercise honest. Ar pevare, ne vagua quet ar horf re delicat, egon caret an abstinence, principalamant eus ar guin re cre...An huevet, quemeret ur mortification benak principalamant a pa zui un tentation vras.

This is the Breton of an educated man who would have known French and Latin in addition to his native Breton; in his polyglottism he would have been quite unlike the monolingual Breton speakers to whom he preached. Thus, it is uncertain to what extent such French loans would have been employed on a daily basis by the Breton masses. Piette believes that even for clerics, such as Le Nobletz, many of these borrowings would have been "...Luxuslehnwörter or even temporary borrow-
ings with no real existence in the current language" (1973:205). This strikes me as plausible, and is supported by the observation that all but 3 or 4 of the French loans underlined in the quoted passage do not give the impression of being morphologically (or phonologically) adapted to Breton. Moreover, inasmuch as the clergy received their religious training in Latin and were literate in French, it is not hard to imagine how words from these "high" languages would have been transferred to their native vernacular, perhaps even with an eye to "upgrading" it.  

Whatever the intentions of Middle Breton clerics and other writers of the time who shared a visible penchant for French, they were not appreciated by Bretonophiles of the 19th c. Specifically, starting with J.F.M.A. Le Gonidec ("The Father of True Breton"), the era of Great Expurgations was launched. Through this man's reforms Breton was cleansed of contaminating French (and Latin) elements; and most writers succeeding Le Gonidec continued the crusade against the "bastardization" of Breton. Ironically, this purification campaign began to overlap chronologically with the Frenchification of a steadily increasing portion of the Breton population. Compulsory education, military conscription, migration outside of Brittany for work (often to Paris), the development of roads and railways were all late 19th-c. changes that dramatically accelerated the acquisition of French by Bretons (for details, see Timm 1973). Knowledge of French was, by the end of WW I, widespread, particularly among the younger generations. By the end of WW II, the great majority of Bretons would be bilingual. As a result, the French influence on Breton that is observable today reflects the fact that French has become an essential part of people's daily lives. Many bretons de naissance (those having Breton as their first language) feel, by adulthood, more comfortable in French. This is due in no small measure to the fact that Breton has never been allowed into the national educational system: schoolchildren are introduced to all of the usual academic fields via French; they learn to compute, to read, to discuss politics in French. Indeed, the whole world is viewed through the French lens; small wonder that the perspective offered should be reflected in Breton.

2.0. The following passage, extracted from a current popular political journal (the only one written entirely in Breton) illustrates aptly the use of French-derived lexemes in colloquial speech. Most of the loanwords appearing here are considered part of standard Breton--they are "received" in that they have been entered into one of the most influential dictionaries of the language (Hémon 1973). Such loans have been underlined in the text below; "non-received" loans are in caps.

O'ch ober un tamm c'hwennañ bar jardin--kær ar saladenn, an ognon hag ar chalotes, ha diwanañ 'ra ar PATO, med al louseier fall iwe...Ha gweled a ran an ameselen o vont trema 'r bourk, tud leizh an OTOIOU, ar vamm-gozh hag ar voer-eb ban tu adreñv...An dewezhiou araoq ar VOT eo bet an "AVOKADED KAMPAGN" oc'h ober un tamm kentel pe LESSON d'ar merc'hed kozh. "O ya, eme-hè, med Fanch pe Job pe Pier
From the point of view of a linguistic analysis of the borrowings observable in this passage, there are several things to be said: (1) most of the nouns and verbs show some measure of linguistic adaption to Breton—i.e., they do not appear to be so lightly moored to the syntax as do most of the Gallicisms in the Middle Breton text cited above; this is as true of the non-received loans as of the received ones. For example, we see the reshaping of Fr. salade as Br. saladenn, with the commonly occurring -enn noun formative of Breton, and shallot reshaped as chalotes, with -es, a feminine nominizer; the -(i)øu in otoïou is the most usual noun pluralizer; -ed in avokedad (< avocat) is another allomorph of the noun plural morpheme, usually indicating animateness. Verb infinitives in Breton may occur freely without special markers—thus, changer has come into Breton simply as chanch /sas/—or they may be marked with -in or -añ, as in votin < voter, and diskourajin < décourager. The latter verb is more properly a loanblend, since the Breton privative prefix dis- has replaced its French analogue dé-. This verb further displays its incorporation into the morphosyntax of the phrase in the initial consonant mutation following the leniting trigger element da 'to' (i.e., base d- > z-). (2) The last two sentences quoted illustrate syntactic calques: Med an dra-se 'gerzh ket reflects the Fr. Cette chose-là ne marche pas and Un dra bennag zo ban aer translates il y a quelque chose dans l’air. Such loan translations are, in my experience with Breton speakers, very common; here they suggest the bilingualism of the writer and, perhaps, his French dominance. (3) A semantic analysis of the borrowings shows a reliance on French terms for French concepts: e.g., the garden and much of its yield—lettuce (saladenn), shallots, onions—were all introduced into the peninsula by the French. (The potato, on the other hand, came in from Great Britain in the 18th c., and was adopted as pato or patatez [the latter being the received form] in the northern part of Brittany. Elsewhere it was adopted as avalou douar, a calque on Fr. pommes de terre—see Falc’hun 1963:287.) The borrowing lesson < leçon is used here along with the Breton word in "kentel pe lesson", perhaps to signal a shift to the French modus operandi prior to elections: i.e., "campaign advocates" are sent around to "instruct" the little old ladies (ar merc’hed kozh) how to vote. Le vote came in, of course, with the advent of French democracy; this is the noun used also in Breton (ar vot is the folk version, at any rate, votadenn being the received borrowing); the associated verb is votin.6 Avokedad kampagn < avocats de campagne is another notion linked to French electoral politics.7 Finally, for chanch < changer, it is difficult to think of a semantic justification for this borrowing, since Breton has kemman to express this notion. Yet chanch has probably been in the spoken language for a fairly long time; it remains an unreceived loan. By contrast, the phonetically similar noun
chains < chance is a received borrowing, and documented in the written 
language since 1464 (Hémon 1980, rann 6:345).

For the Breton speaker also fluent in French, the possibilities 
for dipping into the French lexicon are, in theory, limitless. Yet 
this opportunity is not exploited and is not likely to be just as 
long as bretons de naissance remain bicultural. That is, it seems 
to me that one prominent reason that bilingual bretonnent(e)s draw 
ond French lexemes in speaking Breton is to refer or allude to mat-
ters relating to French, and by extension, to European society and 
culture; the borrowings provide a way of talking about aspects of 
modern life without necessitating a shift to the French language. One 
might even see in such lexical adaptation a key to the survival of 
this language whose future is uncertain (cf. Timm 1980). In short, 
purists may end up throwing the baby out with the bath water if they 
persist in attempting to stamp out the French loans.

In my work on the Breton spoken in and around Carhaix, an inte-
rior town in Lower Brittany, I have recorded about 125 non-received 
French loanwords (and there are surely more). The borrowings fall 
into three major form classes, in the following proportions: (1) nouns, 
45.6%; (2) adjectives, 23.2%; (3) verbs, 19.2%; an additional 8.8% of 
the loans are adverbs, and 3.2% are miscellaneous (1 pronoun, 1 con-
junction, 1 negativizer, 1 exclamation). As has been reported in 
other language contact studies (e.g., Haugen 1950; Shipley 1962; 
Sjoestedt 1928; Spicer 1943), nouns are the most well represented 
class of loanwords. The semantic domains they cover are more or 
less those one expects to encounter in a contact situation in which an 
especially rural and fishing people have been introduced to the 
more variegated economy and material culture of the impinging and 
superordinate group (cf. Sjoestedt 1928 for a comparable inventory 
of English loanwords in rural Irish): machinery and appliances; non-
indigenous household items, food, and clothing; non-traditional jobs 
and commercial activities; politics (see 3.0. for the itemization). 
Verbs and adjectives are more difficult to categorize, except that a 
French verb radical is likely to be adopted in connection with actions 
relating to non-traditional technology or modernization: thus, 
/telefonə/ < téléphoner, /kon'dwiR/ < conduire, /endystriə'liə/ < 
industrialiser, /prətesti/ < protester, etc. Other French verbs 
seem to be drawn into the Breton lexicon due to their high saliency 
and/or idiomaticity in French--e.g., faut > /fot/, se occuper > 
/nom'kypə/, se contenter > /nom'gɔtətə/, se tromper > /nom'drompsə/. 
The latter explanation may also help account for many of the French- 
derived adjectives, along with the suggestion that such adjectives-- 
almost all of which have a native Breton equivalent--may capture a 
nuance of difference in meaning: e.g., /ɛntə'resən/ < inter-
sant is more polysemous than either native hoalus or dudius, which 
offer more the sense of 'engaging, diverting, charming'. 

3.0. In this last section I will present the non-standard loanwords 
that I have collected, but first a few words are in order about the 
phonological and morphological adaptations that take place in usher-
ing the French roots into Breton. There are sufficient similarities 
between the consonant and (monophthongal) vowel inventories, as well
as the phonotactics of the two languages, that great phonological adjustments are rarely called for. However, one salient feature of Breton not shared by French is the devoicing of pre-pause voiced obstruents; this pattern is seen in the French borrowings. Another pattern found in the dialect of which the Breton of Carhaix is a part is penultimate-syllable word stress; this is usually, though not always (cf. Group I below), heard in the French loans. Nasal vowels in the dialect are ordinarily stressed; perhaps as a result French loans ending in a nasal vowel are reshaped as /Vn/ when the stress falls on some other syllable. Finally, all the Breton dialects share with the other Celtic languages a system of initial consonant mutations—i.e., a morphophonemic process that marks, inter alia, gender and some categories of possession; French borrowings beginning with a mutable consonant are subject to the same operations as native words.

In the following classification, the loanwords are arranged by type of phonological adaptation (if any) involved and by morpheme class. For the former dimension, Roman numeral I = no phonological change (unadapted loans); II = advancement of stress to the penult (and no other change); III = ultima (French-type) stress placement, but with other phonological changes; IV = advancement of stress to the penult and other phonological adjustments; V = deletion of syllables from the French model.

The lexemes illustrated are base forms; the nouns may be inflected for plural (except for a few, like /va'kãsu/ 'vacances', incorporated as plurals for which I have no singular); and the verbs may be conjugated or used as participles (space does not permit a detailed exposition here). Since only the base forms are exemplified, the operation of the mutations is not apparent.

Adjectives: /ku'Rã/ 'courtant', /du/ 'doux', /dRól/ 'drôle'.
Verb: /fɔ/ (~ /fot/) 'faut'.
Adverb: /apɔ'pre/ 'à peu près'.
Conjunction: /kaR/ (~ /ka/) 'car'.

Exclamation: /mɛRsi/ 'Mécri!'


Adverbs: /malɛRɔ'zəmən/ 'malheureusement', /səlɛmən/ 'seulement'.

Pronoun: /zɛRezɛn/ 'certains'

V. Nouns: /blɛs/ 'blessure', /tɔbɔɾ/ 'tabouret'.

Adjectives: /abo'mɪnɛ/ 'abominable', /kap/ 'capable',

/sim/ 'simple', /tɛRp/ /ɛzɛRp/ 'terrible'.

Verbs: /'såʃ/ 'changer', /dɛpədɔr/ 'dépendre', /tRikɔt/ 'tricoter', /vi'ziʃ/ 'visiter'.

Adverb: /frɛs/ 'franchement'.

An examination of the distribution of the loans across the five groups shows a clear tendency toward phonological adaptation of the borrowings. In particular, Group IV, which comprises the loans most thoroughly reshaped as they are incorporated into Breton, is also far and away the largest. The distributions are summarized below:

<table>
<thead>
<tr>
<th></th>
<th>I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
<th>V</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>(%)</td>
<td>1.6%</td>
<td>12.0</td>
<td>13.0</td>
<td>49.0</td>
<td>9.3</td>
<td>100.0</td>
</tr>
<tr>
<td>(N)</td>
<td>(18)</td>
<td>(13)</td>
<td>(14)</td>
<td>(53)</td>
<td>(10)</td>
<td>(108)</td>
</tr>
</tbody>
</table>

In addition to the straight lexical borrowings from French, there are also a number of loanblends—i.e., items containing a Breton morph that replaces its French counterpart in the word. About a dozen of these have turned up in my data, among them: /bula'zɨɾis/ 'bakery' < boulangerie + Br. -ezh (-es/), a nominalizing suffix similar to Fr. -erie. In the next example, Breton furnishes the radical, French the derivational suffix: /ispisɛri/ < Br. ispiserzh (itself a received loan from French épicerie at an earlier stage of borrowing) plus Fr. -erie. A few additional examples: /agas'tɾɔl/ < Br. kastelodenn 'stew-pan' plus Fr. (casse)role (note the initial /k-/ mutated to /g-/ following the definite article /a/, marking the noun as feminine); /nomzib'rujeR/ 'to get out of a fix, set right' < Br. en em
(/nom/, the reflexive pronoun equivalent to Fr. se) plus débrouiller (with mutated initial /d/, i.e., /z/, following the pronoun); /nomze'sidə/ 'to make up one's mind' ≺ Br. en em (as above) plus décider. Finally, there are several mixed compound nouns of the following sort (both are insults): /Ras'zi/ 'race de chien' ≺ Fr. race 'breed' plus Br. /zi/ 'dog'; and /ba'spɛrt/ 'idiot, imbecile' ≺ Fr. bas 'low' plus Br. spered 'mind'.

4.0. The French influence on the Breton lexicon is a centuries old phenomenon. In spite of generations of efforts by the Breton literary elite to eliminate the French elements, native Breton speakers continue to incorporate French lexemes into their vernaculars. In fact, attempts at re-Celtifying the vocabulary (and the syntax, a matter I have not been able to pursue here) have been met by certain native Breton speakers of my acquaintance with protest and sometimes derision; not everyone is eager to have a putatively "authentic" Breton forced down their throats. Still, the fact that most of the native speakers were never schooled in their native language leaves room for doubt and insecurity about their speech. We detect in Brittany, then, a sociolinguistic condition akin to the "schizoglossia" proposed by Haugen (1972), but with some of its own particular characteristics: an aging population of bretons de naissance, largely illiterate in their first language, who are at once admired and admonished by a younger population of Breton speakers who have learned the standard dialect as a second language, are literate in the latter, and who, in many instances, are Breton language and culture stourmerien (militants). The older group unhesitatingly incorporates French borrowings in their speech, while many of the younger group view it as a point of principle to avoid this. Since the latter controls the written, hence, the prestigious variety of the language, the bretons de naissance have experienced a second-order, internal "patoisement" of their language (the first consisting of two centuries of efforts by the government to extirpate Breton and all other "patois" spoken in the country in order to promote French as the national language; cf. Morvannou 1980). This effect has been one of the factors underlying the native speakers' general apathy about the Breton movement and efforts to promote the language.
NOTES

1. Two extremes of this process are suggested by Albanian, on the one hand, with only 8% of indigenous lexical items and ultra-conservative Icelandic, on the other (Deroy 1956:304).

2. Translation: "Against Lubricity [title]. First, flee from the companionship, and the excessive familiarity which is an opportunity for this vice. After that, distance yourself from those who set a poor example and give us the opportunity for this sin. Third, avoid idleness and steer yourself toward an honest occupation. Fourth, do not nourish your body with too much refinement, but love abstinence, especially of wine that is too strong... Sixth, choose some mortification, especially when a great temptation arrives". Cited in Falc'hun 1957.

3. Though not all the Breton clergy were native Breton speakers. Le Nobletz happened to be.

4. It has been estimated that approximately 40% of the standard Breton lexicon is French based (Gourvil 1968:93).

5. Translation: "A little weeding in the garden—the lettuce, onions and shallots are nice, and the potatoes are germinating, but there are weeds too... And I see the neighbors crossing the bourg, the cars full of people, the grandmother and the aunt in the backseat... The days before the vote the campaign advocates were giving a little instruction to the old ladies. 'Oh, yes', she says, 'but Fanch or Job or Pierre (dead twenty or thirty years ago) were always red and the son is too... and I'm not going to change (afterwards a right-leaning neighbor will take her to vote), I'm not so stupid!'... Another way of discouraging people! But that doesn't work... There's something in the air". From Favereau 1981.

6. At an earlier stage of borrowing, when French was less widely and well known that it is today, French lexemes beginning with consonants that sounded, to Breton ears, as if they had already been mutated would be "restored" to their base form. This was especially true of French words in initial v-, interpreted as a mutated /b/ or /m/. Thus, vêage 'voyage' > Br. beaj; vois 'voix' > mouezh, verger 'verger' > berjez; and in recent times, wagons > Bagoniou (see Gourvil 1968:82). This interpretation of v- seems less prevalent now, perhaps due to the solid bilingualism of Breton speakers. I have documented a number of recent loans in which the French v- is maintained as the base initial consonant in Breton: voter > /'vot/ and vote /vot/; visiter >/vi'zit/ (alongside older, received, bizitin); vacances >/va'kasu/; vaisselles >/ve'si1u/; volant >/vo1T]/; vexer >/vex ks]/.

7. In addition to the Breton-type pluralization of 'advocates', the structure of the locution is also typically Breton: i.e., one noun may directly modify another without an intervening preposition, as in poan benn = mal de tête, mestr skol = maître d'école, pried Rosenn = époux de Rose, etc.
REFERENCES

Haugen, Einar. 1950. The analysis of linguistic borrowing. Lg. 26:210-231.
Snaturalità in Ruzante and the Venetian Prefix S-

Edward F. Tuttle
UCLA

Un bon snaturale si è miglio assè ca gento slibrazzòn.
"A straight natural style is better by far than a hundred weighty tomes."—Ruzante, ap. Zorzi 1967: 1229

While the Italo-Romance dialects can boast a nearly millennial written record, it was not half so long ago that something approaching accurate transcription of ordinary vernacular speech was undertaken. Earlier medieval records were subject to rhetorically or stylistically motivated deformation, and only with the Renaissance taste for more mimetic representations of plebeian characters can one begin to form a sharper image of ordinary spoken usage. An outstanding example of this new taste and its effect upon the linguistic record is provided by Angelo Beolco, nicknamed Ruzante (1502-1542), one of the most brilliant Renaissance playwrights, who has left copious testimony for the rustic Veneto dialect of the Paduan countryside. Easily one of the most striking features of Ruzante's Paduan is its exuberant prosthesis of s-. Yet, notwithstanding the fact that Ruzante has of late become the object of intense critical discussion (Milani 1970, Prosperi 1970, Baratto 1977, Padoan 1978a), this capital feature of his language has received no searching historical or semantic analysis. What was the source and meaning of this s-? Was it a characteristic of 16th-C. Paduan which Ruzante simply mirrored on stage, or was it a more personal idiosyncrasy of the comedian? If the latter, why should Ruzante have settled upon this feature in preference to others?

Initial s- abounds in modern rural Paduan and in neighboring dialects in much the same conditions in which it is found in Ruzante; although it may occur in rustic speech less insistently and extravagantly than in Ruzante's stage dialect, it is still sufficiently frequent to be remarked by speakers themselves as distinguishing this dialect group from its neighbors. A superficial glance at Veneto s- might suggest it to be roughly identical with the homophonous s- prefix (and prefixoid) of Tuscan and consequently of Standard Italian. Compare the following Veneto-Tuscan correspondences:

scambiar(e) : scambiare 'to exchange', scavezar(e) : scapezzare 'to pollard, top', scompisserar(e) : scompisciare 'to wet (pants)', sco(d)er(e) : scuotere 'to shake', scorteggar(e) : scorticare 'to flay, skin', scorlar(e) : scrollare 'to shake', sgrafar(e) : sgraffiare 'to scratch', spendre : spendere 'to spend'.

However, the Tuscan prefix most often possesses a negative or privative value which is largely absent from Veneto s-; e.g.,
sbianchezar(e) [Tusc. imbiancare] 'to whitewash', sbrodolar(e) [imbrodolare] 'to spill (soup)', sco(n)vogir(e) [convenire] 'to be suitable', sccontrar(e) [incontrare] 'to meet', sgionfar(e) [gonfiare] 'to swell', sgrandir(e) [ingrandire] 'to enlarge', squalivar(e) [aggualgiare, adeguare] 'to even', smaltar(e) [intonacare] 'to plaster'.

Instead, the semantically kindred Veneto prefix of negation crops up as des-, e.g.,

desbalar(e) [Tusc. sballare] 'to unpack', desbendar(e) [sbendare] 'to remove bandages', descalzar(e) [scalzare] 'to remove shoes', descargar(e) [scarcicare] 'to unload', descio(d)ar(e) [schiodare] 'to remove nails', descolpar(e) [scolpare] 'to remove blame', descomodar(e) [scomodare] 'to make uncomfortable', desconzar(e) [sconfiare] 'to disorder, mess up', descragir(e) [scraggiare] 'to discourage', desgranar(e) [sgranare] 'to shock, remove grains', deslutar(e) [appoppare] 'to wean', deslazzar(e) [slacciare] 'to unlace'.

Seeking a grip on the problem from a diachronic perspective opens up another series of questions—these, at least, more familiar to Romanists. Still, an adequate history of the Italian prefix dis- and its relations to the prefix dis- remains to be written.¹

For close to a century, Romance linguists have discussed the origin of Tuscan s-, but without ever directly confronting the possibility that it might represent a true amalgam, both semantically and phonologically, of the Latin prefixes DIS- and EX- which stand as its clear antecedents. A growing semantic convergence between Latin DIS- and EX- had been remarked, giving rise in Later Latin to interchanges or Präfixwechsel, but no one paused to entertain the possibility of a formal convergence between them as well. Such a two-fold convergence is what I intend to propose today. An account which incorporates an eventual phonologic congruence between the putative bases has the signal advantage of eliminating the need to make recourse to analogic substitutions on so massive a scale as has been implicitly required heretofore in treating Tuscan s- and Veneto or northern Italian des-. Furthermore, this account will explain why reduced s- triumphed south of the Apennines while the fuller form des- carried the day to the north.

Disagreement about this aspect of the prefixes' history may begin this morning. There has already been disagreement, however, about their earlier history. Some authorities would see the immediate source of s- or des- as twofold, while for others it is threefold. All agree that there were three remote Latin sources, DIS-, EX-, and DE-; however, whether all three maintained sufficient productivity to be directly relevant in the matter at hand is open to debate. Without presuming to have found a definitive answer to the question, I wish to present some data worthy of review. To begin with the two non-controversial bases, DIS-² expressed separation or privation, originally by movement away from a locus (thus its derivatives are often flanked by an antonym in CUM-, opposing gathering to scattering), while EX-³ arrived at a similar meaning through expulsion or a movement out of an original or proper locus. E. g.,
DISCURRERE 'to run in different ways, to and fro' (cf. CONCURRERE)
DISINJUNGERE 'to disjoin, disunite' (cf. CONIJUNGERE)
DISTORQUARE 'to twist different ways'
DISTRAHIRE 'to pull asunder'
EXCAUARE 'to hollow out'
EXTERMINARE 'to banish outside borders, exile'
EXTORQUARE 'to twist out'
EXTRAHIRE 'to draw out'

Both came to acquire a more general meaning, negating or reversing the action of the primitive, which Ronjat 1937: III, 444 termed dé-causatif. E.g.,

DISCOOPERIRE 'to remove cover, uncover'
EXANIMARE 'to deprive of breath, wind, life'
DISCINGIRE 'to ungender'
EXARMARE 'to disarm'
DISSUADERE 'to dissuade'
EXHONORE 'to deprive of honor'
DISPLICERE 'to displease'
EXHEREDARE 'to disinherit'

Eventually both were added for emphasis to verbs already possessing a negative connotation, and thence even to rather neutral verbs:

DISCUPERE 'to crave inordinately'
DISCRUCIARI (-E) 'to torment, torture violently'
DISPERERE 'to go to ruin completely, be utterly undone'
DISQUIIRE 'investigate carefully'
EXACERBARE 'make very bitter'
EXCRUCIARE 'to torment, torture violently'
EXHORR(ESC)ERE 'to tremble greatly (from fear)'
EXCOLERE 'to tend carefully'

Such semantic blurring prepares one for the later pairs of derivatives which seem to have existed as near-synonyms, e.g., DISCALCARE/EXCALCARE 'to remove shoes', DISCERNERE/EXCERNERE 'to sift, discern', DISPANDERE/EXPANDERE 'to spread', DISPENDERE/EXPENDERE 'to spend', DISPLODERE/EXPLODERE 'to burst', DISTENDERE/EXTENDERE 'to spread'.

Between these two poles, whose growing use in later Latin is well attested, certain scholars (Darmesteter 1874 et al.) have sought to reconstruct a third, intermediate base, a parasynthetic prefix composed of DE-, which also indicated separation, added before EX-. Jules Ronjat 1937: III, 443 may have been the first to call into question the plausibility of such a compound, observing that "DIS- rend compte de tous les ex[emples] que je connais, aucun ne postule DE-EX-." A greater obstacle seems raised by the declining vitality of the key ingredient, DE-, which, as implicit in this hypothesis, speakers would have called upon to reinforce a semantically weakened EX- in such compounds. At the vernacular level, at least in analyzable derivatives, DE- appears to have been replaced by DI- (see n. 2) and DI-, e.g., DÉFATTIGARE : DIFATIGARE, DÉMINUERE : DIMITUERE, DÉMOUERE : DIMOUERE and DISMOUERE. The Romance heirs to derivatives in DE- attest to its ebbing fortunes and to the growing productivity of DI-; for example,
DÉCADERE (➔DÉCIDER) 'to fall down (from)' + OSp. de-/des-caer
OProv. desca(z)er [mod. descaire], Ven. descazer (It. scadere and
Rum. nădeau) are not explicit to as a descent from DIS- or EX-; DÉ-
DIGNÂRT (-E) 'to scorn' + OSp. désenâr, OProv. desdenhar, OFr. des-
daignier, Ven. desdegmar; DEFORMÂRE 'to deform' + OSp., OPtg., OProv.
desformar, OFr. desformer, Ven. desformar, It. difformâre (➔ff-<sr-); DELUMBÂRE 'to cut, wound in loins' (model for *dërenäre 'to
wound in kidneys') + OSp. deslomar & desrenar/dersenar (➔rr-<sr-),
OProv., Ven. desrenar (Ven. desnombolarse, Bresc. desmobolâ 'to be
vitiated'); DÉNUDÂRE 'to strip' + OSp., OProv. desnudar, OFr. des-
nuer, Ven. desnuer; DÊLÂUAR 'to wander' + OSp., OProv., Ven. desvîar,
OFr. desvoier, OAbruzz. desbiare; etc.

The decline of DÉ- was gradual, logically beginning in clearly ana-
lyzable derivatives,3 but gathering more momentum to penetrate pro-
geressively even wholly opaque forms with little more than an initial
de- to have prompted the substitution; e.g., OVen. & OPad. descreti
'decrees' [Tusc. decretil, desleg[u]ar 'to flee, slip away' [Tusc.
dileguare], desmenteg[e] 'to forget' [dimenticare], desmeteg[e]
'to tame' [dimesticare], despùò ~ despòùò 'after' [DE+POST, cf. Sp.
despues]. Given the evident weakening of DÉ-, it seems more prudent not
to postulate a requikened life for it as reinforcement for
EX- (through a putative compound DÉ-EX-) and to depart, instead,
from two rather than from three bases in tracing the subsequent evolu-
tion of Tusc. s- and northern Italian des-.

Without offering any explanation, historical or otherwise, Ger-
hard Rohlfs 1969: 350 notes that "in many instances northern forma-
tions in des- correspond to Tuscan derivatives in s- such as Mila-
nese desmet 'to cease' [Tusc. smettere], desbottonâ 'to unbutton'
[sbottonare], desvidâ 'to unscrew' [svitare], desfiorâ 'to fade,
wither' [sfioriare]...". The list could be expanded a hundred-fold5
and extended to northern dialects from the Adriatic to the Val d'Aos-
ta (and, of course, points beyond). There is a second set of cor-
respondences—these diachronic—that could be added to Rohlfs': just
as many northern derivatives in des- harken back to a Latin source
in EX-, so numerous Tuscan derivatives in s- imply a source in DIS-.
For the latter sort, compare the following correspondences:

DISCÔ OPERÈRE : scoprire (REW 2659), as against Sp. descubrir,
OProv. descobrir, Ven descôvrir (OPad. descôindre); DISPERTÈRE :
spairire (REW 2679), Sp., OProv., Ven. despartir, Roum. desperă;
DISPLICÈRE : spiacere, Sp. desplacer, OProv. desplazar, Ven. dispi-
aser; DISCAR(R)ICARE (Late, Venan. Fortunatus): scaricare, Sp., OProv.
Ven. descârgar, Roum. descârceca; DISCALCÈUS (var. DISCULÈUS, REN
descul [vrb. descula]; *dis-rûbâr : sfibbiare (REW 2668), OProv.
desfîblar, OFr. desfbluer, Mil. desfibriâ, Bergam. desfôbiâ, Ven.
desfumbar.

Inversely, for Veneto forms in des-, a source in EX- is often sug-
gested, not merely by the presence of a Latin derivative or a con-
sensus among cognate languages, but internally by a paired antonym
formed with IN-, the prefix semantically opposed to EX-, e.g.,
EXCARNARE : descarnar, cf. Port., OProv. escarnar, OFr. escharner;
EXCULAR (Pallad., Vulg.) : descolar(se), cf. OSp., OProv. escolar,
OFr. escouler, Srd. iskolare; EXCURRERE : descorer, OSp. escorrer/escurrir, OProv. escorer, Srd. iskúrrere, Roum. scurge; EXFOLIARE
(Apicius, REW 3007a), Port., OProv. esfolhar, Fr. effeuiller; des-
barcar, cf. inbarcar; desborsar, cf. incassar; descaenar, cf. inca-
enar; descarti(g)ar, cf. incati(g)ar; des'cio(d)ar, cf. incio(d)ar;
despirar, cf. inpirar; destigrar, cf. intrigar; descolpar, cf. in-
colpar; desforhar, cf. informar; despigolar, destegolar, destrigo-
lar, descartossar 'to hull, husk, shuck, take out of shell, pod, etc.'; desnhar 'to take from nest'; destantar, cf. intantar and
desmussar, cf. imussar 'to take out of ill humor, bad mood' ver-
sus 'to put in a bad mood'.

On their very surface, such neatly-opposed Veneto-Tuscan discrep-
ancies seem to suggest some developmental opposition. The most im-
mediate problem they pose is quantitative: if one were to assume
that Tusc. s- represents the sole phonologically legitimate heir to
EX- (as against dis-, the only direct descendant of DIS-), it would
be necessary to postulate a vast number of analogic Prüfwechsel in
order to account for the host of s- formations such as those cited
above. If, instead, one can affirm that s- may also be a possible
phonologic result of DIS-, the problem vanishes. An inverse, but
strictly analogous, difficulty arises for the northern derivatives
in des- for which a source in EX- seems most plausible. In identical
fashion, this difficulty may be laid to rest if one assumes a phono-
logic merger occurred between the heirs of EX- and DIS- to the north
just as to the south of the Apennines.

What are likely to have been the mechanics of such phonologic
mergers of DIS- and EX-, prefixes which were converging semantically
to an ever greater degree in Late Spoken Latin? For both Veneto and
Tuscan one must discover some point of phonologic neutralization be-
tween them, perhaps initially through contextually determined phono-
syntactic or morphophonologic variants in which a surface distinction
may have become blurred. In the case of DIS- and EX-, become *des-/
dis- and *es-/is-, erosion of the former's occlusive onset would have
suffered for such a merger. Weakening of intervocalic occlusives,
especially of the voiced series, so well known in Transapennine Ro-
mance dialects, also occurs within the Italo-Romance group proper,
yet here it often remains within the ambit of phonostylistic varia-
tion. The several stages of weakening (spirantization and eventual
deletion) may never achieve phonemic status or be re-analyzed as un-
derlying forms, with the result that they tend to be very poorly docu-
mented. The conditions of consonant weakening in Tuscan, for example,
have only recently been clarified by Gianelli and Savoia 1978: 44ff.
However, diligent descriptions of the spirantization and loss of d,
as well as g, b, and, above all, v, were already being recorded by
historically-oriented dialectologists at the beginning of this century.
Given the durability of final vowels in Subapennine Romance, word
boundary plays a vastly reduced role in the weakening process when
compared with its decisive effect in, say, Gallo- or Ibero-Romance.
At Subiaco, in the hills behind Rome, for example, Anton Lindsstrom 1907: 237-300 recorded forms such as la ecina 'ten' [of an item], la emà 'the next day' (versus demà 'tomorrow'), ju ente 'tooth', la ifesa 'defense', la ote 'dowry', la uttrina 'doctrine', etc. Thirty years ago, Rohlfs 1966: 203ff could refer matter-of-factly to the weakening of initial d- "in vast areas of Southern Italy" and "in the dialects of Corsica." In central Italian dialects "d- may be lost entirely." Unfortunately, for Old Florentine, the interchanges of v, d, and g which occur word medially are not documented word-initially; however, structurally parallel phonologic changes do occur across word boundaries and therefore imply that at the level of rapid, careless speech the same process is likely to have gone on. Such substitutions imply neutralization to zero, e.g., adulterio/avolterio 'adultery', biada/biava 'oats', biado/biavo 'bluish', codardia/covarda 'cowardice', lòdoro/lógoro 'bird-call', pediglione/paviglione 'tent' radunare/ragunare 'to join together', etc. Before yod in Tuscan dialects, this point of neutralization is attested word-initially, e.g., diaccio (ghiaccio) 'ice', diécolo (var. ghiecolo) 'cradle' < UEBHTCULU, or, inversely, ghièci (dieci) 'ten', ghièvolo (diavolo) 'devil', ghietro (dietro) 'behind'. In short, against this background, it does not seem unwarranted to postulate two surface realizations for dis-/des- in a negligent speech register: a fuller form postconsonantly and a weakened, reduced form after vowels. In the schema which follows, rule la hypothesizes the earliest phase of the alternation for both Veneto and Tuscan; 1b presents the Tuscan vowel-raising tendency to produce early attested Florentine forms:

(1a) /des-/ → [des-] / C#(C)V [Spirantization and deletion of voiced intervocalic stops]
   /es-/ / C#(C)V

(1b) (/des-/→) /dis-/ → [dis-] / C#(C)V [Florentine & West Tuscan vowel-raising]
   /is- / C#(C)V
   / [es-] / W#(C)V

Thus the weaker variant of des-/dis- came to coincide with the result of EX-, also es-/is-. A tendency towards aphaeresis thereafter operated on Veneto-Tuscan [es-/is-], from both sources, as in 2a and 2b:

(2a) /des- → /es- / C#(C)V / [es-] / C#(C)V
   /s- / W#(C)V

(2b) /dis- → /is- / C#(C)V / [is-] / C#(C)V
   /s- / W#(C)V

Accepting this reconstructed merger, the next question to be answered is why the weakened allomorph [s-] was generalized for /dis-/ in Tuscan while the fuller form [des-] predominated in the Veneto. The answer seems to lie in the fact that the relative frequency of their contexts did not remain the same. Word-final vowels have become increasingly frequent in Tuscan, where early medieval apocope has tended to retreat and inherited forms with etymologic final consonants have been integrated into a vowel final canon. Thus the more frequent allomorphs in s- were amalgamated with the semantically kindred descendants of EX- under a single underlying form s-.

In the Veneto, instead, apo-
cope was gaining ground in the medieval period, as was initial-vowel deletion, e.g., bandonar 'to abandon', catar 'to find' (It. accattare), cusar 'to accuse', rivar 'to arrive'. The combined effect of these trends was to eliminate [es-] from alternation with [s-] among the heirs to EX- at the same time as fuller [des-] in alternation with [s-] was raised to greater relative frequency. The semantic proximity of DIS- and EX- descendants must have occasioned a growing reanalysis of any s- formation which speakers identified as possessing a negative or privative meaning as being a post-vocalic weakened variant of a fuller des- derivative. Such reanalysis based upon semantic criteria had two implications. On the one hand, all clearly negative formations were integrated under des-, which eventually became their sole realization. On the other, from the point of view of the residue of s- formations that did not possess so sharp a semantic profile, it came to represent a process of elimination, depriving s- of its negative, privative value and thus of its genuine prefixal status. S- occurred in a number of words, more preponderantly nouns now, rather than verbs as before, with a slightly negative or pejorative connotation. Thence it could be extended to other semantically kindred nouns to confer an emphatic or more expressive nuance. It is as a noun prefixoid, expressing a vaguely contemptuous attitude on the part of the speaker towards his designanda, that s- is used by Ruzante's peasant characters; e.g., sbaldoria (sbampuoria in 1553) = baldoria 'revelry', sbardasso = bardasso 'rogue', sberlengo = berlengo 'cross-eyed' (also squerozo), sberzeffo = bizzeffe 'large quantity', sbirro = birro 'bravo, henchman', scolvera = colcera 'quilt', sfigiolame = figiolame 'quantity of children', sfranze = franze 'fringe', smocenigha (var. smozanigh) = mocenighi 'ducats' coined by Mocenigo, smone 'money', smorbeza 'bizarre behavior'. Learned terms are integrated into peasant dialect with this s- of contempt or suspicion, e.g., sgardenale 'cardinal', sletran 'literato, learned person', smatatifica 'metaphysica', snobele 'noble', spersciso 'precise', sperfetto 'perfect', sprolico 'discorse'. While certain of these formations in s- may be accounted original coinage of the playwright, others are too broadly attested to not form part of a vernacular usage. The question remains, then, as to why the Veneto peasants should have had such frequent recourse to this expressive, vaguely pejorative prefixoid.

Inasmuch as Ruzante may be considered to have sought not merely a linguistic mimesis on the stage, perhaps his characters in their fuller psychology can provide part of the answer. Recent critics have observed how Ruzante, inheriting the burlesque figure of the peasant of the mariazi and the satire del villano, along with the more benevolent representations (somewhat Uncle Tom-like) of pro-Venetian propaganda pieces, endowed his peasant with far greater tensions, both poetic (as part of a naturalistic rebellion against an artificial literary tradition dubbed "fiorentinesca") and socio-political (in the wake of the disillusion and famine which followed defeat by the League of Cambrai). Ruzante appears to enter deeply into his character, as of the peasant-militiaman, passing in the words of Baratto 1977: 123 "a un approdondimento interno del personaggio, che lo porta ad agire sulla scena, e a scrivere, con la logica
del personaggio stesso, e non più con la logica dell'intellettuale
che usa il personaggio a scopo precipuo di divertimento. Ed è una
logica che viene dalla vita reale, da un'assunzione delle componenti
sociali, mentali, culturali propri del contadino." From his experi-
ence of the miserable and even desperate state of the Veneto peasantry
in the first quarter of the 16th Century, Ruzante developed a far
darker and more bitter stage representation of the rustic than any
which had gone before. Already twenty years ago, Cesare Segre 1963:
396 noted that "nelle migliori commedie del Ruzante si passa dall'
arlecchinata alla tragedia: i personaggi sono dei vinti, la loro fur-
bizia e le loro smargiassate nascondono un eterno insuccesso; se poi
essi reagiscono, è la tragedia, l'assassinio, atto di disperazione
che sfoga un odio ma non rinnova una vita." It seems likely Segre
had in mind the Bilora, the only Italian Renaissance play in which
a peasant protagonist kills his bourgeois rival. Yet even in the
Prima Orazione, a celebration of naturalism and the natural resources
of the Paduan countryside, oppression of the peasantry is an omni-
present background motif, bursting to the fore as class hatred at
the very moment the rustic speaker proposes better relations between
peasants and burghers:

"...i citaini de Pava...se magnesson del cuore...e se a' foessam cusì
nu de sora con gi è igi, bao, babao, bao, cope, fiorin! A' no ghe
dureràvegui una ora in le man." Padoan 1978:215 ['the burghers of
Padua...we eat our hearts for them...but if we were on top the way
they are, bin, bam, slam! they would not last an hour in our hands.]

Disdained, but also disdainful, Ruzante's peasants are filled with
rancor and contempt directed towards their exploiters and yet also
towards themselves. "I ghe dise, a nu containi, 'villani,' 'marassi,'
'ragani;' e nu a ghe digomo a igi 'cacariegi,' 'can,' 'osolarì,
'magna-sangue de poveriti.'" Padoan loc. cit. ['They say to us pea-
sants: "bunkins," "worms," "toads;" and we say to them: "turds,
"dogs," "usurers," "blood-suckers of the poor folk."'] One of the
more notable effects of miseria is to bring down a veil of disdain
over everything touching one's life, oneself no less than one's op-
pressors. Playing upon the medieval formula associating villani
'rustics' with villany as much as with rural ville 'farms', Ruzante
comments "we are villani because we are wretchedly poor." Such a
Weltanschauung may explain the vast extension of the vaguely pejora-
tive prefixoid s- in 16th-century Veneto.10 As an explanation it
would also account for Ruzante's seizing upon it as a stylistic means
for expressing a prime psychological constant of his peasant protago-
nists.

***

Notes

1. Devoto 1939 traces the semantic ingredients of modern Italian s-
with reference to its several Latin sources; Bröndal 1940-1 and Marchar
1953 hew to a synchronic structuralist analysis.

2. DIS- had an allomorph ĐI-, originally produced before voiced con-
sonants, and an assimilated allomorph ĐIF-, occurring before F-; both
tended to be replaced in Late Spoken Latin and in the early Romance dialects: e.g., DILUCERE: Sp. deslocir (Nebrija); DIMINUERE: Sp. diminuir (semi-learned), OProv., Ven. desminuir; DIRUMPERE: OSp. derromper (*des-romper with assimilation), OProv. desrompre, Fr. dérompre (not derrompre); DIFFAMARE (var. DÉFAMARE): OSp., OProv. desfamar, Fr. défamer, Ven. desfamar; DIFFERENTIA: Ven. desferenza (and -ar vb.); DIFFICILIS: Sou. Itl. ’disfacile’ (e.g., Abr. desfècál), Bergam. desfássel; *diffidare: OSp. desfiar (recomposed desafiar), OProv. desfi(ë)zar, Ven. desfiadar.

3. EX- developed an allomorph ë- before voiced consonants and an assimilatory allomorph EF- (also EC-) before ë-; both tended to be substituted by EX- through a form of recomposition, e.g., EXIBERE, EXDORSUÆRE (Plautus) for ëEBIBE, ëEXDORSUARE (Plautus, Apul.), EXFODERE for EFTODERE, EFXUTUERE, EXLÆX, EXLÆDERE for ëLÆDERE, EXMOUERE for ëMOUERE, EXUÁPURARE for ëTUÁPURARE, EXUEHERE, and, at the Romance level, cf. ëLÆUARE: OProv. eslevar, OFr. eslevar; ëLIGERE: OSp. esleer/(d)esleir, OProv., OFr. esleir, OFen. aslezer; EMENDARE: Cat. esmenar, OFr. esmendar, OFr. esmender; EMULGÆRE: OSp. esmucir, cat. esmniyar, Ven. smölzer/smönzer, Roum. smulge/zmulge (Macedo-Roum. zmulzire), etc.

4. The process advanced more rapidly in some dialects than in others. Commenting on the spread of des- at the expense of de- in medieval Ibero-Romance, Yakov Malkiel 1949: 202f observed that "the prefix de- [was] not necessarily learned in the earliest texts... although steadily retreating... before its rival des- from the 12th to the 14th Century." In Italy, south of the Apennines, once the joint heir to DIS- and EX- became stabilized as s- (see below for explanation), the descendants of DE- and DI- suffered less substitution. Or, stating the matter inversely, to the north, with the predominance of des-, the process of intrusion or "recomposition" could continue; thus not a few northern derivatives in des- have Subapennine cognates in di-; compare Poles. desbscðaré: Tusc. diboscðaré, desgràdare: de בזה-famare, desfærenziare: differenziare, desformare: de-ðformare, desgràssare: digrassare, desgòssare: digossare, desmagriare: dimagriare, desmòstrare: dimòstrare, desvàrio: divario, desvìziare: divezzare, etc.

9. Besides authors cited above, n. 8, see Baratto 1977: 122ff.
10. In modern Veneto dialects, the prefixoid has lost its original nuance and carries only a connotation of rusticity.
Bibliography

Baratto 1977 Mario Baratto, La commedia del Cinquecento, Vicenza, 2nd ed.

Bröndal 1940-1 Rosaly Bröndal, "La signification du préfixe italien s-," AL(Haf.), II, 151-164.

Cherubini 1839 Francesco Cherubini, Vocabolario milanesi-italiano, Milano.

Darmesteter 1874 Arsène Darmesteter, Traité de la formation des mots composés en français, Paris, 1st ed.


Prosperi 1970 Mario Prosperi, Angelo Beolco nominato Ruzante, Padova.

Rohlfs 1966-69 Gerhard Rohlfs, Grammatica storica della lingua italiana e dei suoi dialetti, revised transl., Torino. [German original 1949-54, Bern]


Segre 1963 Cesare Segre, Lingua, stile e società, Milano.

Tuttle 1982 Edward F. Tuttle, "Un mutamento linguistico e il suo rovescio," RID, V.

Idem 1983 "Snaturalità e la s- iniziale pavana: qualche considerazione storica e stilistica," SMLV.

NEAR-HOMONYMY AS A DETERMINANT OF LEXICAL RETENTION AND LOSS:
THE CASE OF HISPANO-ROMANCE despejar

Thomas J. Walsh
University of California, Berkeley

In a major study on the reconstruction of Hispano-Latin word families, published in 1954 in the University of California Publications in Linguistics, Professor Malkiel grappled with the vexing problem of the origin of Span. despejar '(a) to clear a space of obstacles', '(b) to uncloud, clear up' (in the meteorological sense), '(c) to overcome timidity, recover strength'. After surveying the various solutions advanced by earlier scholars, Malkiel placed himself squarely in the camp of the great Colombian linguist Rufino Jose Cuervo (1893:1136f.), who, on chronological grounds, had judged the Spanish word to be of Portuguese origin. Malkiel differed with Cuervo, however, as regards the precise phonetic shape of the putative etymon. Whereas Cuervo saw the ultimate root of Ptg. despejar (j = [ʒ]) in Lat. PEDICA 'shackle, fetter, chain for the feet', a word with ample reflexes in other Romance languages (cf., e.g., Fr. piège 'trap'), Malkiel leaned toward *PEDIA, a hypothetical base of identical meaning and one clearly preferable on phonetic grounds that he had determined was needed to account for a host of other Hispano-Romance lexemes.

While previous attempts to identify the origins of despejar had concentrated either on the phonetic or on the semantic facet of the problem, never successfully reconciling the two, Malkiel proposed a base not only perfect from the vantage of sound development, but also consistent with one of the verb's major semantic spheres, namely (c) above, which can quite plausibly be viewed as a metaphorical extension of the more concrete pristine meaning of 'to unfetter, free oneself from shackles'. But Malkiel, unlike his predecessors, was quick to notice that "the semantic analysis of despejar presents difficulties" (1954:139). In brief, how could a verb originally denoting 'to unfetter, free oneself from shackles' come eventually to suggest 'to clear (away), to clear up'?

My intention in this paper is to show that the semantic bifurcation of despejar is a direct result of its status as a blend of two Hispano-Romance verbs that were not only near-homonyms, but also near-antonyms. It will be argued that Span./Ptg. despejar is the product of a merger of a verbal derivative of *PEDIA, as suggested by Malkiel, and a descendant of a late spoken Latin *DISSIPSIÆRE, a reconstructed base whose existence is supported by numerous reflexes in neighboring Gallo-Romance.

Before attempting to reconstruct the events leading up to the collision in Hispano-Romance of *PEDIÆRE and *DISSIPSIÆRE, let us cast a glance at the behavior in recorded Latin of the latter verb's adjectival root SPIISS- 'thick' and of its documented verbal derivatives. The English word thick, as we find by consulting Webster's New World Dictionary of the American Language, has six distinct meanings (leaving aside dialectal and slang uses), all more or less closely related. Latin SPIISSUS corresponds by and
large to its English gloss chiefly in one of the latter's meanings, listed by Webster as (4) 'having the constituent elements arranged close together; dense; compact; abundant; specifically, a) filled or covered completely; dense; luxuriant: as, a thick head of hair, thick woods. b) great in number; abundant; crowded: as, a thick crowd. c) of great density or consistency; not very fluid; viscous; heavy: as, thick soup, thick smoke. d) not clear; turbid; muddy; foggy; close: as, the air was thick with fumes'. Objects to which the characterization of SPISSUS could be applied in Latin included hair, branches (Horace); trees (Pliny); sand, a field, twigs (Virgil); a tunic (thickly woven) (Plautus); shades (Virgil, Petronius); hail, blood or any liquid, air, and clouds (Ovid). Romance reflexes of SPISSUS, found in all major Romance languages save Rumanian, generally echo the semantic content of their ancestor.

In late spoken Latin there flourished a derivational process which produced factitive verbs by juxtaposing adjectival stems and a suffix -IARE.3 We know, both from documentary evidence and comparative reconstruction, that, at least in its early stages, this derivational schema operated only on adjectives of spatio-dimension-al import. Thus, to cite a handful of examples, AMPLUS 'wide' yielded AMPLIARE 'to widen'; BREVIS 'short' gave BREVIARE 'to shorten'; ALTUS 'high' produced ALTIIARE 'to raise'. Moreover, on evidence from a Romance language, one may confidently reconstruct *INGRASSIARE 'to fatten' (cf. CRASSUS 'fat'); *INGREVIARE 'to make heavy' (cf. GRAVIS = *GREVIS 'heavy'); *BASSIARE 'to lower' (cf. *BASSUS 'low'). SPISS-, a monosyllabic adjectival root with clearly spatial overtones, constituted an ideal base for a verb in -IARE. *SPISSIARE, following the pattern of the verbs just enumerated, would undoubtedly have had the meaning 'to thicken' (in the precise senses of thick quoted above), while its antonym *DISSISSIARE, formed regularly through prefixation of the negating particle DIS- 'un-', would have signified 'to unthicken, to thin out'.

The vast majority of Latin verbs in -IARE were flanked by counterparts derived through the more conventional process of suffixation with -ARE or -ESCRE, and *SPISSIARE was hardly an exception, in the light of recorded SPISSARE and SPISSESCERE.4 The former verb, a favorite of Pliny the Elder, signified, as one might anticipate, 'to thicken, make thick, condense', and was predicated of such nouns as flour, milk, dew (Pliny), and clouds (Lucan). The latter verb was used in the same meanings to describe a thickening of clouds (Lucr-tius) and of liquids in general (Celsus).

The existence of *SPISSIARE in the late spoken Latin of the Western Empire is all but guaranteed by a wealth of Gallo-Romance descendants. Beginning with Old French, one finds espeissier (later espeisser), a verb displaying three major semantic ramifications: (a) 'to become more viscous' (typical subject: li brai 'the mud'); (b) 'to become more numerous' (typ. subj.: noz enemis 'our enemies'), 'to press around' (typ. subj.: Francels 'Frenchmen'); (c) 'to thicken' (typ. subj.: la brüine 'the fog', l'airs 'the air'), 'to get dark' (typ. subj.: l'avespré 'the evening', li ceus 'the sky', la nuie 'the night'). In the last acceptance, by far the most common, espeissier is often found in parallel constructions with such other verbs as oscurcir 'to become dark', nercir 'to turn
black', and *anuitier 'to become night'.

In Old Provençal the emphasis was clearly on the atmospheric and meteorological side, with *espeissar generally denoting the process whereby water is transformed into mist and thus causes a "thickening" of the air.6

In the modern Gallo-Romance dialects, reflexes of *SPISSIĀRE are widely attested in the North and East in a strip running from francophone Belgium through Switzerland down to the Italian border. In Wallonia (Belgium) the predominant meanings are 'to increase in viscosity' and 'to darken, cloud over'. In the more southerly districts the idea of viscosity seems to have prevailed over other meanings. Highly interesting in the present context is the existence, in the same group of dialects, of apparent reflexes of antonymous *DISSPISSIĀRE, usually in the meaning of 'to make thinner, thin out' (e.g. plants or vegetables in a field).

Having demonstrated (a) that *SPISSIĀRE, created by adding -ĪARE to the adjectival root SPISS-, is a highly plausible formation within the framework of late Latin verbal derivation processes, and (b) that such a base is required to explain a broadly documented family of cognates in Gallo-Romance, we are now in a position to reconstruct the trajectory of *SPISSIĀRE and its antonym in Hispano-Romance.

The status of *SPISSIĀRE and *DISSPISSIĀRE as antonyms, and as verbal derivatives of SPISSUS, while perfectly transparent in late spoken Latin, would necessarily have been blurred by the time of early Hispano-Romance, largely as a result of two developments. First, medial -SS- would by regular sound change have undergone palatalization induced by following yod (< -I-/V) which, in turn, would have been "absorbed" by the palatal consonant thus created. Since g ≈ k was anything but a common alternation,7 the effect of that sound law's operation must have been to obfuscate the derivational relationship of the two verbs (now pronounced [espešar]-[despešar]) to espeso 'thick' (< SPISSUS). The pair of antonyms was thus in a sense cut loose from its moorings in the lexical structure of the language.

Secondly, the operation of yet another phonetic law, namely insertion of a prothetic vowel e- before any impure e- (i.e. word-initial e followed directly by a consonant), characteristic of all of Western Romance, could only have resulted in a blurring of the antonymous relation of the two verbs. To understand why this was the case, we must remember that Hispano-Romance, which had preserved intact the Latin process of creating antonyms through the privative particle DIS- (transformed by regular sound change into Hisp.-Rom. des-), was characterized by vacillation in many lexemes between des- and es- from Lat. EX-, a wavering which is perhaps understandable given the fact that the latter prefix, whose primary acceptance was 'out' or 'forth', also occasionally served a privative function; cf. ACCUSĀRE 'to accuse' vs. EXCUSĀRE 'to excuse', ONERĀRE 'to load' vs. EXONERĀRE 'to unload'. In Spanish such interchangeable pairs as escabullirse-descabullirse 'to slip away', escarnar-descarnar 'to pull the flesh away' espabilar-despabilar 'to trim the wick of a candle' (cited by Malkiel 1954:164) are anything but rare.
Now recalling that typical sets of antonyms in early (as in modern) Hispano-Romance conformed to the schema VERB vs. *(d)es + VERB, one readily understands why, to the etymologically naive speaker (i.e. all speakers of the period), *espeñar and *despeñar must have appeared not like an antonymous pair, but, rather, like variants of the same word.8 Furthermore, in view of the rampant fluctuation between prefixal des- and es- characteristic of many verbs, speakers must on occasion have felt a strong temptation to use *espeñar as a mere variant of *despeñar, misinterpreting initial es- as the negative prefix, interchangeable with des-. Given the verbs' occasional interchangeability due to prefixal wavering and the lack of any clear derivational link to espeso 'thick', speakers must have experienced considerable confusion as to which of the two verbs meant 'to thicken' and which 'to thin out'. As language can hardly be expected to succeed in its communicative function when one and the same lexeme can signify opposing concepts, some sort of therapeutic action was all but inevitable. Let us now proceed to observe how different conditions in the two daughter languages determined the fate of *(d)espeñar in each.

Spanish, in typically radical fashion, appears simply to have discarded the verbs in question (though retaining their ultimate root espeso), substituting for them such other readily available lexemes of like semantic ambit as espesar 'to thicken' (newly derived from espeso, or a direct descendant of SPISSEAR?), anublar 'to cloud over', aclarar 'to clear', and vaciar 'to clear out'. At least that is what one is forced to conclude from the absence of any trace of either verb in medieval Spanish. Spanish, we should not fail to note, had a further reason for abandoning *espeñar, namely uncomfortable near-homonymy with espesar 'to look in a mirror; to clean, polish' (cf. Span. espejo 'mirror'),9 a complicating factor nonexistent in Portuguese, whose cognate was espelhar (cf. Ptg. espelho 'mirror').

In Portuguese, a far more interesting sequence of events was set in motion. Malkiel, we recall, projected onto Hispano-Latin a noun *PEDIA 'fetter', which, in turn, served as the base of a verb that, through regular phonetic evolution, yielded Ptg. pejar, signifying 'to hinder, impede, obstruct', denotations which it retains to this day. Relying chiefly on the Latin and Gallo-Romance evidence adduced above, we have here posited an early Hsp.-Rom. *despeñar (< *DISSIPISSIARE) with roughly the following meanings: (a) 'to become less viscous'; (b) 'to uncrowd, clear away'; (c) 'to clear up' (weather).10 Now while pejar was well-integrated into the Portuguese lexicon by virtue of its manifest relationship to numerous other members of the family of *PEDIA, *despeñar, its connection to espeso having been severed as a consequence of regular sound evolution, was, I repeat, a word with no discernible affiliation to any other Portuguese word.

I believe that lexical isolation opened up the likelihood of *despeñar's reanalysis by speakers as a compound of the negating prefix des- and a theoretical positive base verb. Such a reinterpretation, a latent possibility on Spanish soil as well, was never carried out there owing to the want of a suitable base verb.11 In Portuguese, by contrast, speakers turned to pre-existent pejar,
a lexeme almost, but not quite, perfect from both the phonological and the semantic points of view. On the phonological side, *pejar* differed from the newly-perceived lexical root of *despejar* by only one feature, namely the voice quality of the medial palatal spirant. Semantically, *pejar* 'to hinder, impede, obstruct' was a near-antonym of *despejar*, at least in the latter verb's meaning (b) (as above) 'to uncrowd, clear away'.

What influence did the two verbs, etymologically unrelated, exert on each other in the period immediately subsequent to their presumed pairing off? First, *pejar*, now viewed as the primitive of *despejar*, exerted a phonological pressure on its adopted antonym occasioning the voicing of medial şe to ş. On the semantic side, influence was mutual. *Pejar*, while retaining its traditional denotation, developed the secondary meaning 'to occupy' (i.e. the opposite of 'to clear away'); while *despejar* sprouted a new semantic branch 'to get rid of an impediment, free oneself'. It is interesting to observe that Portuguese lexica regularly reflect this mutual semantic influence by according dual listings to both verbs. I believe that an understanding of *despejar*'s apparently hybrid nature goes a long way toward resolving the difficulties in semantic analysis identified by Malkiel twenty-eight years ago. We may now charge *despejar*'s meanings 'to clear, clear away, clear up (weather)' to *(DIS)SPISSIARE*, while interpreting its other denotations, namely 'to overcome timidity, recover strength', as representing slight metaphorical extensions of a pristine meaning 'to free (oneself) from fetters'.

To sum up, we have seen how a pair of words (*espejar*-*despejar*) whose relation to their derivational base and to each other was rendered opaque by sound change and by prefixal vacillation succumbed in one of the Hispanic languages, while surviving in the other. Proto-Spanish (*d)espejar*, suffering from the added handicap of irksome near-homonymy with *espejar* 'to look in a mirror' came to be avoided, eventually falling into complete desuetude. In Portuguese, however, *despejar* was incorporated into the thriving lexical family of *pejar*, an etymologically unrelated verb that happened to be both a near-homonym of the newly-perceived lexical base of *despejar* and a near-antonym of the entire verb. The fate of *despejar* in Hispano-Romance, then, may be taken as a dramatic illustration of the principle that well-integrated words are more likely to survive and flourish than those with weak roots in the lexical structure of a language.

Having attempted to reconstruct in some detail the trajectory of *(DIS)SPISSIARE* in Hispania, let us consider very briefly its fate in other neo-Latin domains. First, the lack of any vestige of either verb in Sardinian or Rumanian is consistent with the total absence and weak representation, respectively, of -IARE verbs in those corners of the Empire. The vogue of deriving verbs from adjectival bases through use of -IARE was characteristic of the spoken Latin of a period subsequent to the severance of communication lines connecting those outlying provinces to the metropolis. More puzzling is *(DIS)SPISSIARE*'s failure to strike root in Italian soil, until one considers what the verbs' outcome by regular phonetic development would have been. First we note that, like Hispano-Romance, Italian tended to merge DIS- and EX-, with ş representing the outcome of
both. There too, the erstwhile antonyms may well have ended up with an identical phonetic form, namely *spiscaire (-sci- = [sסי]). Now if speakers of early Italian, like their cousins in Portugal, had cast about for a new positive stem for that hypothetical verb through reanalysis into s- + VERB, they would have hit upon pisciare, a verb which, like its English cognate, serves to denote, in vulgar fashion, a certain bodily function. And since Ital. s-, though predominantly a negating prefix, can on occasion have the value of an intensive, one easily sees why speakers may have opted to avoid confusion — and perhaps even embarrassment — by simply not using the word in question.13

Gallo-Romance, we recall, provided the most fertile ground for *(DIS)SPISSIARE, due to circumstances specific to that sub-group. Firstly, prefixal wavering between reflexes of DIS- and EX- was far less common there than in Hispano- or Italo-Romance. Secondly, the phonetic modification produced there by yod, namely metathesis (*SPISSIARE > OFr. espeiss(i)er), was not radical enough to sever the link to espes 'thick' (< SPISSUS). Lastly, starting from espeiss(i)er (later espoissier), speakers extracted a new adjectival base espis (later espois), which they then proceeded to use interchangeably with espes, in addition to an abstract noun espeisse (later espoisse) 'thickness'. Thus at no point was espissier cut off from its roots in the lexical structure of French.14

I would like to conclude by asking the question why *(DIS)-SPISSIARE's possible role as a major component of Hisp.-Rom. despejar was overlooked by so many generations of etymologists. It has, after all, been over three hundred years since the first attempt to identify the word's origins was made. Had the solution offered here been put forth before 1954, critics would have argued, with absolute justification, that a Latin -SS- + yod cluster could have produced only a voiceless, never a voiced, palatal fricative in Hispano-Romance. A hypothetical *(DIS)SPISSIARE, they would have contended, while entirely plausible as a late Latin form, simply could not underlie despejar, owing to the latter's voiced palatal fricative. It is only by invoking a blend with Malkiel's *PEDICA, whose -D- + yod sequence regularly yielded a voiced palatal fricative in Portuguese, that *(DIS)SPISSIARE becomes a conceivable co- etymon for despejar.

FOOTNOTES

1 Cf. Malkiel 1954:33 for a critical evaluation of those earlier conjectures. The most widely accepted etyma were EXPEDIRE 'to disengage, extricate, set free' and SPECULARI (cf. SPECULUM 'mirror'). The former base is unacceptable for morphological reasons, -IRE > -IARE representing an unprecedented shift of conjugation class; while the latter must be rejected on semantic grounds.

2 PEDICA, had it survived into Portuguese, should have produced either *pelga, showing the expected loss of intervocalic -D-; or, had syncope preceded voiced stop deletion, *pelga (cf. Leonese pleiga, and Ptg. julgar 'to judge' < JUDICARE). Under no conceivable set of circumstances could PEDICA have yielded Ptg. peja.

Juan Corominas (1954), writing in the same year as Malkiel,
posed a Vulgar Latin *PEDEA without bothering to justify such a formation within the framework of late Latin derivational processes. Malkiel, (1954:35ff.), in contrast, believed *PEDIA (a derivative of Pës, PEDIS 'foot') to have been coined by symmetry (lexical polarization) to *MANIA 'bunch, bundle' (cf. MANUS 'hand'), an adaptation of classical MANUA also necessary to explain other Romance words (especially in dialects of northwestern Italy).

3 My Berkeley doctoral dissertation (in progress) treats the lexical and geographical diffusion of the verbal suffix -IARE from its origins in the 1st century B.C., through the period of its greatest vitality (late Empire), and into the modern Romance vernaculars.

4 Leumann 1977:545-52 provides a concise description of Latin verbal derivation with -ÄRE; while Allen 1980 traces the development of inchoative -ESCERE from Latin to the Romance languages.

5 The palatal glides preceding and (optionally) following -ss- compel the assumption of a base *SPISSIARE rather than SPISSARE, cf., e.g., OFr. baissier 'to lower' < (*BASSIARE), engraissier 'to fatten' (< *INGRASSIARE), as against passer 'to pass' < PASSARE, cesser 'to cease' < CESSARE. Precisely the same observation holds for OProv. espeissar.

6 Note the near-anonymy to Span. despejar in the latter's meteorological acceptance.

7 In those few instances where such an alternation arose through sound change, speakers took remedial action. Thus *BASSUS, which should have produced OSpan.,Ptg. *basso, shows from the earliest documents a medial palatal (baixo, OSpan.,Ptg. x = [§]) due to pressure from the verb ba(i)xar (< BASSIARE). In the case of GRASSUS 'fat'-INGRASSIARE 'to fatten', Spanish discarded the verb (replacing it with engordar) while Portuguese reshaped the adjective on the model of baixo (cf. Ptg. graxo).

8 I know of only one other synonymous pair of the form ex-VERB vs. des-VERB, namely OPTg. esperar 'to hope' vs. desesperar 'to lose hope'. But in that case speakers altered the negative verb to conform with the schema just given. Thus we find in Mod. Portuguese, as in Mod. Spanish, esperar vs. desesperar.

9 Both Malkiel and Corominas doubt that espejar ever had either of the last two meanings, and suspect misinterpretation on the part of earlier lexicographers.

10 I shall from here on speak only of *desprejar, assuming that *espejar, unattested even in the earliest Old Portuguese, either merged into its former antonym or simply fell out of currency for reasons of a semantic nature sketched above.

11 One is reminded in what follows of the extraction in French through false analysis of pouiller 'to put on' from dépouiller 'to pull off, plunder' (< DÉ+SPOLIARE).

12 Sardinian, generally the most archaic of all the Romance languages, fails to show traces of many early innovations characteristic of all other Romance varieties. To cite two examples at random, Sardinian
maintains the contrast between Latin I and II, lost everywhere else (except in a small and almost equally archaic zone of southern Italy), and continues to use DOMUS 'house', a word replaced in all other vernaculars by CASA or, less commonly, MANSIO.

The Roman province of Dacia (modern Romania), cut off from the Empire in the middle of the 3rd century A.D., was not affected by linguistic vagues originating in the late Empire.

13 Cf., e.g., Ital. piscia 'snake' < BESTIA. It is not unusual when two words, one of which has vulgar connotations, become homonymous for the non-vulgar one to be discarded. Cf. the replacement in Mod. American (though not British) English of ass and cock by donkey and rooster.

14 Romanists have generally viewed such Old French abstract nouns as grösse, graisse 'fatness', estrece (cf. Mod. Fr. détresse) 'narrowness', laize 'width' as reflexes of *CROSSIA, *STRUCTIA, *LATIA, resulting from the spread of the suffix -IA (cf. MODESTIA 'modesty'). But given the fact that no convincing motive has been unearthed for the spread of -IA to these specific bases, I believe it preferable to view such nouns as post-verbals from *INGROSSIARE, *INGRASSIARE, *(AL)LATTARE, etc., verbs whose creation is well-motivated within the derivational framework of late spoken Latin. The post-verbal status of OFr. espeisse ~ espoisse is supported further by the existence of post-verbal adjectives espeis ~ espois. This problem is treated in greater detail in my forthcoming dissertation.

REFERENCES


DICTIONARIES CONSULTED


Cuervo, R.J. Diccionario de construcción y régimen de la lengua castellana. Paris, 1886-93.

Forcellini, E. Lexicon totius latinitatis. 4th ed. Padua, 1940.


A HISTORY OF SPANISH CLITIC MOVEMENT

Dieter Wanner
University of Illinois, Urbana-Champaign

1. Within the constraints of a short paper, I will try to sketch briefly the more promising opinions voiced about clitic movement in modern Spanish, in order to trace its vicissitudes from the 12th century to the present, and to integrate the insights of this survey into one more analysis of the domain, structure, dynamics, and idiosyncrasies of this common Romance phenomenon in Spanish. The modern Spanish alternating clitic pronoun position appears in (1).

(1) a. no podemos comprenderlos = V(cm) + V(inf) - clit.
    b. no los podemos comprender = [clit. - V(cm)] + V(inf)
    'we cannot understand them'

The variable position of the clitic pronoun with the infinitive in (1a) and with the higher verb in (1b) does not affect meaning. The clitic is interpreted as an argument of the infinitive in both cases. Taking (1a) as basic, the derivation of (1b) is said to involve a rule tagged with different names, chiefly Clitic Movement (CM), Clitic Climbing, Clitic Promotion, Clitic Gliding, Clitic Raising, and more. The same phenomenon of moved clitics as in (1b) is also found throughout the history of Spanish, even in a much more extensive form in the Middle Ages, affecting more verbs, and appearing with very high relative frequency. The historical evolution consists in a gradual reduction of the domain and frequency of CM application down to the present day situation. While CM has been viewed as anchored in structural features, in the semantic content of the governing verbs V(cm), and perhaps also in the dimension of normativity (where it rates as informal), an insightful account cannot ignore the slow but constant evolution towards progressively constrained CM. CM has been noticed within Romance linguistics and Spanish philology, but it failed to produce any in-depth studies of its history. However, in the recent tradition of transformational syntax, the interest in the synchronic dimension of CM soared high on account of its exquisite diagnostic virtues. The references included here indicate the extent of this investigative program. I will first discuss the modern phenomenon; this will lead to the historical data and some necessary conclusions in the following sections.

2.1. Another modern example (2) points up these observations: acabar belongs to the as yet undefined class V(cm) which optionally allows CM (as poder in (1)). The V(inf) ofrecer defines the arguments (DO and IO).

(2) a. acabamos de ofrecerle nuestros servicios
    b. le acabamos de ofrecer nuestros servicios
    'we have just offered her our services'
For this reason (2a) is regarded as closer to the semantically expected surface result: Clitic placement chooses for le its natural host ofrecer within the simplex clause of origin. In (2b) the larger clause forms the domain of clitic placement. This is sketched in (3).

(3) a. acab- [@ ofrecer [NP] le ] => [@ ofrecer+le [NP]]  
    b. [V ac acab- ofrecer] [NP] le ] =>[[le+acab- of.] [NP]]

The presence vs. absence of the clausal bracket pair [@ ] allows one clitic placement rule to account for both versions of (1) and (2). On the other hand, a decision to regard the sentential structure as unchanged between the (a) and (b) versions requires two distinct processes: A general clitic placement for (a), and a special clitic climbing rule referring to V(cm) for (b). In addition, an overrich approach combining the two alternatives, with two structures and two placement processes, could be invoked if necessary. In all cases, optionality characterizes the operation of the structural reduction and/or the special climbing rule. Categorical absence or presence of CM is the case for most verbs which take an embedded infinitive (= V(-cm)); cf. (4); obligatory CM characterizes causative and perception verb constructions with overt reference to the embedded agent; cf. (5). This last type will not be considered further here.

(4) a. Este problema, Marisa soñaba con resolverlo  
    b. *Este problema, Marisa lo soñaba con resolver  
       'This problem M. dreamed of solving'

(5) a. Me hicieron copiarlo otra vez (or: Me lo hicieron...)  
    b. *Hicieron copiármelo otra vez  
       'they made me copy it again'

2.2. The solutions proposed so far are all unsatisfactory to different degrees, a fact which emerges clearly from Suffer 1980. In particular, it is not sufficient to let universal conditions account for the alternation (in the vein of Kayne 1975, Quicoli 1976; contrary Strozer 1976) since they cannot encompass the actual surface alternation. A structural change along the lines of the informal (3) has been proposed repeatedly. The best such analysis, Rizzi's Restructuring for Italian, can be directly transposed into Spanish. The salient feature is the creation of a unit constituent V(restruct) from a regular sentential source, so that clitic placement can now 'move' la in (6) to V(cm) instead of the infinitive. The unit constituent V(cm)+V( inf) is motivated on the basis of various parallel restrictions on movement/deletion: It cannot be broken up again; cf. (7).
(6)  
V(restr.)  
   V(cm)  V(inf)  NP  PP  
'J. must introduce her to Fr.'

Juan [debe ø presentar] la a Francisco

(7) a. Mario sinceramente quisiera -- pero en mi opinión no podrá nunca -- pagar le su deuda por entero
b. *Mario sinceramente quisiera -- pero en mi opinión [no le podrá nunca ø] -- pagar su deuda por entero 'Mario would like to -- but in my opinion will never be able to -- pay him his debt entirely'

Other such crucial contexts include cleft sentence formation, relative movement, and heavy NP shift. While the structural anchorage of CM is clearly demonstrated, the synchronic problem remains as to which verbs can undergo the rule of restructuring. A classificatory approach as in Rivas 1977 is obliged to have recourse to frequent diacritic distinctions within otherwise homogeneous structural verb classes.

2.3. Luján's restriction on the material allowed to intervene between V(cm) and V(inf), such that no more than an optional complementizer may separate the two elements, captures another relevant aspect of CM (cf. (8)) without solving the problem entirely (cf. Šufler 1980).

(8) a. quisiera no verla más 'I'd like not to see her again'
   b. *la quisiera no ver más (intervening neg)

2.4. Napoli (1981) accepts restructuring as such; in her analysis this change is triggered by a semantic criterion of unitary interpretation for V(cm) and V(inf) where CM is visible vs. a more analytical semantic interpretation in the absence of CM in Italian. The contrast is said to show up in examples such as (9) where cercare makes differential semantic contributions in the given contexts.

(9) a. ho cercato di finirlo, {ma ho fallito e ci sono riuscito
   b. *l'ho cercato di finire, ma ho fallito (focus)
   c. l'ho cercato di finire, e ci sono riuscito7 (focus)

No such claims have been made for Spanish. Even for Italian it is questionable whether the differential grammaticality judgments are clear cut or rather secondary and interpretive. The periphrastic nature and degree of the relevant governing verbs is an unresolved issue for a non-circular determination in Italian and Spanish (cf. Gili Gaya 1969:104).

2.5. The most comprehensive list of V(cm) is found in Šufler 1980. It organizes the predicates into major semantic groups. Each successive category in (10) is more restricted with regard to the
number of verbs available for CM in the semantic class. The semantic classification thus cannot explain CM all by itself, neither in its domain nor in the heterogeneity of its subclasses.

(10) a. Modal: deber (de), haber de, tener que 'must'; poder 'can'; tratar de 'try'; soler 'use'
   b. Aspectual: acabar de 'just have done'; comenzar a, empezar a 'begin'; dejar de 'stop'; cesar de, terminar de 'finish'
   c. Motion: volver a 'do again'; ir a 'go'; venir a 'come', salir a 'go out'; pasar a 'go on'
   d. Volition: querer 'want'; desear 'wish'; mandar 'order'; dejar, permitir 'let'; aconsejar 'advise'; impedir 'hinder'; ordenar 'order'
   e. Opinion: pensar 'think'; saber 'know'

V(cm) include thus some of the most basic predicates with stereotyped infinitival embedding; wherever CM occurs, the V(inf) does not have sentential status; given CM, no further movements and deletions may affect the presumed unit constituent of \( V(cm) + V(inf) \). Finally, CM is unidirectional in that no lowering of clitics can ever take place parallel to the normal raising; cf. (11).

(11) a. \textit{me permitió hacerlo} 'she allowed me to do it'
   b. \textit{me lo permitió hacer} CM
   c. *\textit{permitió hacérme lo} 'inverse CM'

3.1. The most striking aspect of the medieval language with regard to CM is its extensive occurrence, with a wider class of predicates on a virtually exclusive basis. There is clear historical continuity in the membership of the class of \( V(cm) \) between the 12th and the 20th century, as Table I shows. The big difference concerns the structural domain: The unitary nature of the restructured verbal constituent does not hold in the older language since the two verbal elements are frequently separated by secondarily intercalated material of variable length and constitution.

(12) a. porque se dexaron asi vencer (DT 120:449) 'because they let themselves be defeated thus'
   b. et envialo tu llamar (PCG 316:184b6) 'and you have him called!'
   c. Enviarone ellos entonce menazar (PCG 314:183b5) 'they had him then threatened'
   d. como vos podedas luego desto vengar (20R 253:15) 'how you can revenge yourselves of this later on'
   e. sy ... nosotros lo podieremos, como suso dicho es, fazer (Cor 49) 'if ... we could, as has been said above, do it'
The intervening structures extend to adverbs, strong pronouns, and even full subordinate clauses. Whatever the mechanism of these complex constituent orderings, the unit character of the $V(cm) + V(inf)$ constituent is effectively negated in materials stemming from texts belonging to all style levels. In (13) conjunction reduction produces a truncated constituent [podia $\emptyset$]; even more surprisingly, the otherwise not separable clitic is factored out on the left. An acceptable (modern) surface form with Gapping would have been available, as in (13b).

(13) a. e por esta razon non lo devia patir nin podia (20R 243: 48) 'and for this reason he should not suffer it nor could'
b. e por esta razon non devia nin podia patirlo

The syntactic behavior cannot be due to semantic differentiation since both poder and deber must be seen as on the same level of prominence; rather, a syntactic obligatoriness causes CM in a context which leads to syntactic problems in the second conjunct. The rare counterexamples (14a) where intervening material might have blocked CM lose much of their force since the same text is full of rather extreme cases of latinizing word order (14b).

(14) a. e non queria con otra casarse muger (12T 48)
   'and he did not want to wed another wife'
b. en la del infierno entrada (ib.)
   'in the of hell entry'

In general, it will only be accidental if the structures used for crucial syntactic argumentation in synchrony are directly attested in the historical phases of a language. But the few glimpses that the old texts allow of the more peripheral constructions (e.g. (13)) show the irrelevance of the $V + inf$ constituent to Old Spanish.

3.2. Table I summarizes the results of a limited investigation into the history of CM from the 12th to the 16th century, contrasting it further with the modern language. The texts are ordered chronologically; the symbolization of the frequency patterns is as follows:

(15) ++ only CM with the given $V(cm)$ = CM obligatory
    + majority of CM
    + even split CM/non-CM
    _ minority of CM
    -- absence of CM
    } = CM optional
    = CM ungrammatical

The table confirms the strong continuity and the constant decrease in importance of CM. Differences between the early centuries are insignificant indicating that the language was in a stable phase with regard to CM. Only in the 16th century, perhaps in part due to the larger sample, does change appear in the form of a relative reduction of CM applications with a given $V(cm)$. In spite of the
lack of data from the 17th to the 19th century, the evolution from the 16th to the 20th century shows a continued reduction in CM frequency and at the same time also in its range. In the modern language no predicate reaches beyond a rating in Keniston 1937b. The more sporadic medieval V(cm) predicates are no longer mentioned for modern Spanish. The stability of CM behavior between the 13th and 15th century derives more clearly from Table II which lists the actual number of CM occurrences in seven prose texts. The proportions between CM, non-CM, inversion forms, and original V(-cm) clitics remain essentially unchanged; equally unchanged is the strong concentration of most CM cases on a small number of different V(cm). The observed frequency of lack of CM with an otherwise attested V(cm) is constant at 5%. (16) lists the V(-cm) found in the same selections. Most of them occur only once in one text, contrasting sharply with the frequency concentration typical of V(cm). Many of the V(-cm) define possible clitic arguments of their own (either reflexives or indirect objects). Semantically, they seem to be more specific than the typical V(cm), even though they may fall marginally within one of the semantic groupings listed in (10). The low absolute frequencies preclude an easy periphrastic interpretation of these predicates, which thus guard their lexical and functional identity.

(16) List of Predicates Without CM
acostumbrarse de, apercebirse a, asentarse a, atreverse a, caber, consejar (ser aconsejado de), contentarse de, cogerse a, cumplir, cuytarse de, dar(se) a, denostar a, dexarse de, echarse a, enfirmarse de, entender, guardarse de, guisar de, mandar (#mandar in Table I), menospreiar, mostrarse, pertenecer, plazer (de), poner en su corazón de, ponerse a, punnar de, reducir a, ser + adj/NP, sostener + acc. with inf., tener logar de, tener por bien de, tener pro de, tomarse a, trabajarse de, valer
(All verbs with one occurrence in only one text, except for the underlined items in two texts. 19 of the V(-cm) are reflexive.)

3.3 The data for the 20th century are somewhat contradictory between the more restrictive Keniston 1937b and the typical transformational account. The former consciously uses only written language as a source so that the latter do not yield a commensurate picture with their yes-or-no rating of grammaticality in the spoken, spontaneous language. This judgment does not address the question of regularity/frequency/degree of expectation of any CM; Keniston on the other hand cannot express ungrammaticality beyond the quite different observation that no CM is found with a given verb in the examined corpus. This is also the only kind of information available for historical phases; a sufficiently long sample may provide a rather accurate picture of the frequency distribution within a given array of connected constructions. These can then be equated with the single grammaticality judgments so that ++, +, +, - (and with shorter corpora also --) translate into \( \sqrt{\text{0 of Table I. If different style} \)
Table I: CM According to V(cm) and Frequency per Text

<table>
<thead>
<tr>
<th>V(cm)</th>
<th>Cid</th>
<th>DT</th>
<th>PCG</th>
<th>Ber</th>
<th>20R</th>
<th>Luc</th>
<th>LBA</th>
<th>GAT</th>
<th>12T</th>
<th>Cor</th>
<th>K.a</th>
<th>K.b</th>
<th>other</th>
</tr>
</thead>
<tbody>
<tr>
<td>poder 'can'</td>
<td>++</td>
<td>++</td>
<td>++</td>
<td>+</td>
<td>++</td>
<td>++</td>
<td>++</td>
<td>++</td>
<td>++</td>
<td>+</td>
<td>-</td>
<td>√</td>
<td></td>
</tr>
<tr>
<td>querer 'want'</td>
<td>+</td>
<td>++</td>
<td>++</td>
<td>+</td>
<td>++</td>
<td>++</td>
<td>++</td>
<td>++</td>
<td>++</td>
<td>+</td>
<td>-</td>
<td>√</td>
<td></td>
</tr>
<tr>
<td>deber 'must'</td>
<td>++</td>
<td>+</td>
<td>++</td>
<td>+</td>
<td>++</td>
<td>++</td>
<td>++</td>
<td>++</td>
<td>++</td>
<td>+</td>
<td>-</td>
<td>√</td>
<td></td>
</tr>
<tr>
<td>haber de 'must'</td>
<td>++</td>
<td>+</td>
<td>++</td>
<td>+</td>
<td>++</td>
<td>++</td>
<td>++</td>
<td>++</td>
<td>++</td>
<td>+</td>
<td>-</td>
<td>√</td>
<td></td>
</tr>
<tr>
<td>saber 'know'</td>
<td>++</td>
<td>--</td>
<td>++</td>
<td>+</td>
<td>++</td>
<td>++</td>
<td>++</td>
<td>++</td>
<td>++</td>
<td>+</td>
<td>-</td>
<td>√</td>
<td></td>
</tr>
<tr>
<td>osar 'dare'</td>
<td>+</td>
<td>.</td>
<td>++</td>
<td>+</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>+</td>
<td>.</td>
<td>+</td>
<td>-</td>
<td>√</td>
<td></td>
</tr>
<tr>
<td>soler 'use'</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>+</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>+</td>
<td>.</td>
<td>+</td>
<td>-</td>
<td>√</td>
<td></td>
</tr>
<tr>
<td>enviar 'send'</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>++</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>-</td>
<td>√</td>
<td></td>
</tr>
<tr>
<td>salir 'go out'</td>
<td>.</td>
<td>.</td>
<td>++</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>-</td>
<td>√</td>
<td></td>
</tr>
<tr>
<td>ir 'go'</td>
<td>++</td>
<td>.</td>
<td>.</td>
<td>++</td>
<td>+</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>-</td>
<td>√</td>
<td></td>
</tr>
<tr>
<td>venir 'come'</td>
<td>+</td>
<td>.</td>
<td>.</td>
<td>+</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>-</td>
<td>√</td>
<td></td>
</tr>
<tr>
<td>comenzar 'be-'</td>
<td>++</td>
<td>.</td>
<td>.</td>
<td>++</td>
<td>++</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>-</td>
<td>√</td>
<td></td>
</tr>
<tr>
<td>empezar 'gin'</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>+</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>-</td>
<td>√</td>
<td></td>
</tr>
<tr>
<td>dejar 'cease'</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>++</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>-</td>
<td>√</td>
<td></td>
</tr>
<tr>
<td>mandar 'order'</td>
<td>++</td>
<td>.</td>
<td>.</td>
<td>++</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>-</td>
<td>√</td>
<td></td>
</tr>
<tr>
<td>cuidar 'think'</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>++</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>-</td>
<td>√</td>
<td></td>
</tr>
<tr>
<td>pensar 'think'</td>
<td>+</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>-</td>
<td>√</td>
<td></td>
</tr>
<tr>
<td>cometer 'order'</td>
<td>++</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>-</td>
<td>√</td>
<td></td>
</tr>
</tbody>
</table>

Table II: Frequency Distribution of CM According to Type (tokens/lexemes)

<table>
<thead>
<tr>
<th>Type</th>
<th>DT</th>
<th>PCGa</th>
<th>PCGb</th>
<th>13th</th>
<th>20R</th>
<th>Luc</th>
<th>14th</th>
<th>GAT</th>
<th>12T</th>
<th>Cor</th>
<th>15th</th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td>CM</td>
<td>24/9</td>
<td>19/7</td>
<td>20/8</td>
<td>63</td>
<td>16/9</td>
<td>28/8 (66)</td>
<td>23/5</td>
<td>5/3</td>
<td>25/9</td>
<td>53</td>
<td>182</td>
<td></td>
</tr>
<tr>
<td>inverse</td>
<td>2/2</td>
<td>2/2</td>
<td>6/4</td>
<td>10</td>
<td>6/3</td>
<td>8/3 (21)</td>
<td>5/4</td>
<td>2/2</td>
<td>4/3</td>
<td>11</td>
<td>42</td>
<td></td>
</tr>
<tr>
<td>-CM/ e-</td>
<td>0</td>
<td>0</td>
<td>2/1</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1/1</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>-CM</td>
<td>2/2</td>
<td>2/2</td>
<td>0</td>
<td>4</td>
<td>1/1</td>
<td>0</td>
<td>(2)</td>
<td>2/1</td>
<td>2/2</td>
<td>2/2</td>
<td>6</td>
<td>12</td>
</tr>
<tr>
<td>Orig.V</td>
<td>16/6</td>
<td>9/6</td>
<td>7/7</td>
<td>32</td>
<td>6/4</td>
<td>10/9 (24)</td>
<td>8/6</td>
<td>7/5</td>
<td>8/8</td>
<td>23</td>
<td>79</td>
<td></td>
</tr>
</tbody>
</table>

(Key: inverse = V(inf) + V(cm), undecided clitic attachment
- CM/ e- = no CM in [V(cm) V(inf) e V(inf) clit ]
- CM = no CM with a V(cm)
Orig.V = higher verb with clitic complements of its own)
levels are taken into account, the unreliability of the \( */^\vee \) classification increases dramatically. The range of uncertainty appears patterned, as is shown in (17).


\( 4\vee \): poder, deber, querer, soler

\( 3\vee \): haber de, acabar, terminar, empezar, volver, permitir, ordenar

\( 2\vee \): tener que, saber, ir a, venir a

\( 2^* \): sugerir, pedir, evitar, insistir, soñar; parecer

b. Discordant judgments in the same four studies:

1. Keniston 1937b: */-- vs. other(s) \( \vee \): deber de; tratar, comenzar, dejar de, llegar, pensar, desear, lograr, necesitar

2. Rivas 1977: * vs. Suffer 1980: \( \vee \): aprender, forzar, mandar, prohibir

The agreements refer to the core of the V(cm) class, the discrepancies to the periphery of the spectrum.

4.1. A composite picture of the evolution of CM starts from the structural indifference of CM vs. non-CM strings; rather, the (nearly) obligatory appearance of CM with a wide group of V(cm) depends on the linear arrangement of V(cm) and V(inf) in the same surface clause, presupposing that the embedded V(inf) at all relevant stages of derivation represent a non-sentential constituent (constant VP embedding for Spanish as it has been proposed for French in Morin and St-Amour 1977). A clitic placement process which identifies the host structure as the left-most verb which is semantically in the domain of the simplex clause containing the clitic to be placed, succeeds in producing the desired effect of extensive CM. Moreover, the non-structural nature of clitic placement includes in a natural way the problematic cases of intervening constituents or deletions/extraction sites (cf. (12), (13)). CM, at least in the medieval language, can be viewed as a consequence of clitic placement; therefore, a change in the principle of clitic placement must also bring about a change in the appearance pattern of CM. This link does indeed exist since clitic placement and linearization (enclitic vs. proclitic verb attachment of the clitics) is controlled throughout the 12th to 15th century by an originally stricter, then looser, application of syntactic criteria, the so-called Law of Tobler-Mussafia.¹⁰ From the 16th century on the modern non-syntactic, rather morphosyntactically and arbitrarily controlled enclisis/proclisis distribution has been taking hold. Here enclisis is found with non-finite verb forms plus affirmative commands, proclisis in the remaining cases (in particular finite verb forms). In the medieval system, enclisis is required with any verbal form placed initially in a major constituent, regardless of finiteness, whereas the same verb form preceded by at least one element which removes the verb from constituent initial position will show proclisis. For \( V + V(inf) \) situations, typical string situations will be as in (18).
(18) a. \[ S \text{ X clit-V V(non-finite)} \] vs. \[ S \text{ V-clit V(non-finite)} \]
depending on left context
b. \[ S \text{ V(non-fin.)-clit for absolute constructions, and} \]
\[ S \text{ compl. clit-V(non-fin.) if introduced by COMP} \]
c. \[ S \text{ V(non-fin.) clit V(finite) for inversion cases with} \]
ambiguous clitic placement
d. \[ V \text{ V(fin.) V(non-fin.)-clit.} \] as a variant on (a);
based on (b) and a reanalysis of (c) as \[ V \text{V(non-finite)-clit.} \]

(18d) represents a more difficult interpretation; but it is inherent in the system given the natural status of (b) and (c). The difference between the absolute/sentential interpretation of an infinitive as in (b) vs. a unit interpretation according to (a) is fluctuating. As appears from Table I and (16), the rarer treatment according to (b)/(d) affects the frequently lower V(finite), those that are less amalgamated with the infinitive as a periphrastic expression, that is, those that disfavor a necessary leftward placement of the clitic beyond its semantically solely binding V(inf). In a system consisting of the possibilities listed in (18) it is clear that material intervening between the finite and the infinitival verb will not block leftward placement of a clitic (= CM) since such a constituent does not affect the location of the targeted verb as host. For the same reason of structure-free clitic placement, Old Spanish did not distinguish between the clitic behavior in modal, aspectual, motion (and auxiliary) predicates vs. causative and perception verbs; they were all equally characterized by CM. The fact that causative and perception structures form a class by themselves can be seen from the slow development of non-CM strings which affects only the modal, aspectual, motion and other verbs; causative and perception verbs are structurally different from simple V(cm) strings, as hinted at in the beginning when their exclusion from consideration was announced.

4.2. Originally linearly oriented placement and linearization principles start diverging perceptibly by the 16th century, due to independent change which dismantled the Tobler-Mussafia syndrome. This produces an increasing shift towards more frequent non-CM strings which are syntactically motivated: Each argument is attached to the verb which governs it. Such a change is supported by the low text frequency of a given V(cm) (its lack of formulaic function), the semantically high profile of the V(cm) as an independent predicate, and the more conscious use of language in a formal written medium. A reflex of this last factor appears in the modern colloquial flavor of much CM uses. With the frequency balance tilted in favor the non-CM arrangement, a secondary structural differentiation becomes more reasonable where each verb defines its own clause domain, and with it a domain for narrow clitic
placement. On the basis of the competition of obligatory CM (causative, perception) and the preferential non-CM cases, a minor transition process, be it the CM rule or Restructuring, seems to characterize the behavior of a number of special verbs V(cm). As a natural extension of the sustained change towards less CM, a final stage could be expected with no optional CM whatsoever (except for the obligatory cases of causative and perception verbs). This is not (yet) the case for Spanish; only French among the Romance languages has reached this stage since the 17th century, in an evolution which in its last phase was manifestly controlled by conscious intervention (cf. Galet 1971).

5. In conclusion, the strict structure correlation claimed for modern CM cannot accommodate the facts in an easy way; rather than being a primary cause of CM, the structural interpretation is a secondary phenomenon supported (passively) by much of the relevant data which however could also be described in functional terms (especially the tests applied to the Restructuring hypothesis). CM is rather an historical relic with a fuzzy periphery and a solid, frequency based core, anchored in the spoken language, and progressively being reduced in the more formal registers. There is no single cause underlying the phenomenon, rather a number of interacting variations and dimensions which produced the individualized and changing surface effect known as clitic movement.11

Notes

1This paper is a revised version of a LSA presentation (Annual Meeting 1981, New York) and of a more ambitious presentation on Romance clitic movement (Linguistics Seminar, Univ. of Illinois, Nov. 1981). In its bare outline format, it represents a condensed version of a comprehensive treatment of Romance clitic history (in preparation).

2Generally, an historical grammar will only mention the fact that in some cases the pronoun goes to the conjugated verb, without elaborating much further; cf. Gessner 1893:47-50.

3A survey of clitic types is found in Zwicky 1977 and Jeffers and Zwicky 1980. -- Not all references discussed here will concern Spanish directly; since the phenomenon is pan-Romance in all essential aspects, such parallel treatments of Italian, French, or Portuguese are topical. The comprehensive study (in preparation) will document the historical unity of CM.


6The hypothesis of an intervening complementizer (as in (2)) vs. a true preposition (as in (4) con) for CM/non-CM appears justified, but the tense/non-tense contrast for virtual indicative
vs. subjunctive complements (with non-CM vs. CM properties) cannot be maintained; cf. Sűner 1980.

7Napoli's (95), (96), 1981:870. The implication is that a focused cercare cannot at the same time be periphrastically reduced. Gloss for (9): 'I have tried to finish it, but I have failed and I have succeeded'.

8The aberrations are idiosyncratic to the particular texts and very low in absolute number (e.g. the -- mark of saber in DT represents a context conditioned use of saber as 'to know an answer' rather than as near-modal verb; the - rating of soler and ir in Berceo, and dever in the Libro de Buen Amor remains unexplained). While the same lowness in number applies also to some of the non-aberrant cases, their composite effect of pointing (by accident?) in the same direction to such a degree lends them credibility in spite of their statistical irrelevance.

9Of these texts, Cid, Ber, LBA are in verse. The sample size for prose is 5000 words of text; for verse, all infinitives appearing in the respective concordances beginning with a-d are included. I would like to thank E. Pearce for letting me use her research results on the verse texts. K.a and K.b are both based on very extensive corpora. The column other refers to Aissen and Perlmutter 1976, Rivas 1977, Luján 1979, Sűner 1980. Table I includes only verbs which have at least one CM attestation overall. All others figure in example (16). Table II and example (16) contain only the prose texts and, in II, PCG is represented with two separate fragments; the parenthesized totals include the effect of enlarging the numbers for the 14th century by 3:2 to make them directly comparable to the 13th and 15th centuries.

10Cf. Ramsden 1963 for extensive, even though not always conclusive, discussion of clitic placement; Gessner 1893 passim.

11A true solution needs a much larger frame for argumentation and documentation than is presently available; section 4 is thus only a summary of the most relevant points.

References
Clíticos en el español actual (Los). 1980. (Diálogos hispánicos de Amsterdam, 1). Amsterdam: Rodopi.
In ICHL 4.221-232.
Cambridge: MIT Press.
Texts


PROTO-MON REGISTERS: TWO, THREE, FOUR . . . ?

Gérard Diffloth
University of Chicago

Historical linguistics has lost, perhaps permanently, the central position it used to occupy in the study of language. Nowadays, it tends to receive new insights from other branches of linguistics, more often than it gives. But there is nothing irreversible about this situation: watching an organism like language change through time still remains one of the best ways of understanding its inner composition.

In the field of phonetics, for instance, historical information can play a crucial role in framing precise questions. The experimentalist, faced with large and undetermined numbers of parameters, may want to know that the dice are actually loaded, and if so, how. What follows is an example.

The Southeast Asian linguistic area has become one of the best regions for the study of registers (i.e. phonation types), among other things. Several of its languages have contrastive phonation types, usually clear voice vs. breathy voice, accompanied or not by pitch contrasts. Several more languages used to have such register contrasts in the past, which have now given way to tone or aspiration contrasts, as in standard Thai, or to vowel distortions, as in the case of Khmer. Some others, like Javanese, are just now in the process of acquiring registers.

The Mon language has long been known to possess a two-way register contrast: clear voice vs. breathy voice, affecting all vowels. Mon can be considered the archetypal register language. And yet, we still know very little about Mon phonetics. Early descriptions referred to breathy voice as being "une qualité plutôt gutturale, tenant de la cavité postérieure de la bouche" (Blagden, 1910), and more recent studies suggest that pitch distinctions may be associated with the two phonation types to create a "quasi-tonal system" (Shorto, 1962). From my own observations, impressionistic but repeated, it seems that the register distinction is fundamental though implemented somewhat differently by different individuals. The pitch correlates which may accompany the two registers appear to be a typical feature of word-by-word elicitation. In the normal flow of speech, intonation appears to completely take over, and eliminate whatever pitch differences might have been present; but the two phonation types are still clearly audible.

Historically, the origin of Mon registers is simple. As in numerous other cases in Southeast Asia, Mon has lost a voice distinction in its initial stops. Before disappearing in the stops, the voice vs. voiceless distinction gave rise to a difference in the phonation type of the following vowel: *voiceless initials conditioned a clear voice in the vowel, while *voiced ones conditioned a breathy voice. Nothing surprising so far.

We should note, however, that Proto-Monic possessed not two but three series of stops: in addition to voiceless *p, t, c, k and voiced *b, d, j, g, there was an implosive series: *ɓ, ḏ,
which has remained unchanged to this day, with only slight differences in the amount of implosion among various individuals. This implosive series has, in most dialects, the same effect on the phonation type of the following vowel as the *voiceless stop series: it conditions a clear voice, except in a handful of words. This again is not too surprising, at least in the Southeast Asian context: Khmer, and the Tai family, offer parallel examples.

But from a phonetic point of view, there is a problem which has not received the attention it deserves: after all, implosives are phonetically voiced, not voiceless, and, in Khmer and most Tai languages, they have remained voiced to the present day, just as in Mon, even after the ordinary voiced stops have become voiceless: why should implosives form a natural class with voiceless stops at all?

An explanation which has been proposed (Li, 1943, 1977), and generally accepted (e.g. Haudricourt, 1961), consists in saying that these articulatorily complex sounds, i.e., implosives, are "preglottalized" and form, therefore, a natural class with the initial glottal stops commonly found in Southeast Asia. The initial glottal stop of Mon does indeed condition clear voice in the following vowel, even though it is neither voiced nor voiceless, but constitutes by itself a distinct phonation type. And it is true that implosives require, in the initial stages of their articulation, a double closure, one at the glottis and the other in the oral cavity. But there are two difficulties with this explanation: a historical one and a phonetic one.

The historical difficulty, which I have suggested elsewhere (Diffloth, 1980), is that the tones and registers of vowels which immediately follow stops are not influenced by phonetic material which precedes the release of these stops. Certain Mon-Khmer languages, notably in the Palaungic branch, show that *kb- and *gb-initial-types condition the same registers and tones as do simple *b-initial-types. There is no reason why *?b- cluster-types should be any different in this respect. In this respect, stops differ from liquids and nasals, which are actually permeable to voice features of preceding segments, so that *kl- and *kn-initial-types behave like *k-initial-types, while *gl- and *gn-behave like *g-. Historically, stops are not permeable.

The phonetic difficulty is that the glottal closure which is needed in implosives in order to lower the air-pressure in the oral cavity is not maintained beyond the first few milliseconds of the stop: at some point before the release of the second (oral) closure, some pulmonic air is let into the oral cavity through a tight but gradually loosening glottis. It is this movement of air which causes some glottal vibrations and gives the auditory impression that implosives have the same phonation type as voiced stops. However, even without experimental evidence, it is easy to imagine that the vocal cords probably do not vibrate in the same way during an implosive and during a normal voiced stop: the air-pressure configurations are different, and so are the successive states of the glottis itself. In all likelihood, then, implosives have a unique phonation type (or succession of phonation types), which has no technical name to my knowledge, but should be distinguished
from normal voice. This phonation type, not the initial glottal closure, is what we should look at in order to explain why im-
plosives form a natural class with voiceless stops and glottal stop itself.

From these considerations, one should be able to foresee that initial implosives might give rise in some languages to a register of their own, a third register, distinct from the clear and the breathy registers found, for example, in Mon today.

The study of history and dialects reveals that there is indeed evidence for a third register in Mon. But the evidence is indirect and requires us to examine the Mon vowel system, more precisely, the correlation between vowel qualities and registers in the history of Mon, a history noted for its complexity.

Since the Monic branch is only distantly related to other branches of the Mon-Khmer family, the only historical guidelines we had, until recently, were the orthography of the modern language ("Litrrary Mon") and the various Middle and Old Mon inscrip-
tions, going back to the 6th century AD (Shorto, 1971). These, though precious, are not always systematic or exhaustive in their notations. Recently, I have recorded and compared the few remaining dialects of Nyah Kur, the only language in the Monic branch other than Mon. With this information, I have reconstructed the Phonol-
ogy of Proto-Monic, including that of the vowel system (Difflloth, in press). I have also conducted, at the same time, a dialect survey of Modern Spoken Mon, in both Thailand and Burma. In what follows, the ancestral language common to both Mon and Nyah Kur will be called Proto-Monic, and the ancestral language common to all dialects of Modern Mon will be called Proto-Mon.

Proto-Monic had a vowel system consisting of at least fifteen units, not a very impressive one by Mon-Khmer standards, but cer-
tainly rich by comparison with later stages of the language. By Proto-Mon times, the system had lost vowel-length contrasts and merged some vowel qualities; but register had become established and the relatively poor vowel system began acquiring many new phonetic values, conditioned by both registers and final consonants. Exactly how many contrastive vocalic nuclei there were in Proto-
Mon is not a simple matter to decide upon; several analyses are possible, as is often the case in languages of this type (Shorto, 1966; Phillips and Miller, 1976). Matching these two very different vowel systems, those of Proto-Monic and Proto-Mon, is not a simple matter. In order to do this, we need to consider an intermediate stage between Proto-Monic and Proto-Mon, a time in the history of the language which would predetermine the appearance of registers and subsequent distortions of vowel qualities, but postdate the loss of Proto-Monic vowel length. We shall call this stage: Pre-Mon. The vowel system at this Pre-Mon stage was simple:

```
i e a o
```
Except for the iæ/e contrast, it is this vocalic system which the orthography of Modern Mon represents fairly consistently, even today. In what follows, we shall be concerned with the evolution of three of these vowels, from Pre-Mon to Proto-Mon and to several Modern Mon dialects, namely: Pre-Mon *i, *æ, and *u.

The evolution of Pre-Mon *æ is a good illustration of what happens in the classical case where only two registers interact with vowel qualities. With the breathy register, *æ remains unchanged with all finals, including zero:

"forest" Pre-Mon *græp; Proto-Mon *kræp; Mod. Mon: kræp
"to step on" " " *læn; " " *læn; " " læn
"tree stump" " " *tægæ; " " *hækæ; " " hækæ

except for final velars:

"to lift" Pre-Mon *yæk; Proto-Mon *yæk; Mod. Mon: yæk
"foot" " " *jæŋ; " " *caŋ; " " caŋ

With the clear register, *æ is split into two subsegments: the first is more open and more prominent (louder and longer) than the second; before final velars, h, and zero, the outcome is *-æŋ-, before alveolars: *-æk-, before labials: *-æ-.  

"thick" Pre-Mon *tam; Proto-Mon *taæm; Mod. Mon: tæm
"to climb" " " *tan; " " *tæn; " " tæn
"to get up" " " *tæ; " " *tæŋ; " " tæŋ
"to pluck" " " *pæk; " " *pæk; " " pæk

"to build" " " *sæŋ; " " *sæŋ; " " saŋ
"pus" " " *pætæŋ; " " *pætæŋ; " " pætæŋ

Throughout Mon-Khmer, one can find examples of similar evolutions: a bi-partition of the vowel system where high vowels remain intact in the breathy register, but are diphthongized, or distorted by lowering the initial part of the vowel, in the clear register: Khmer is a well-known example.

The evolution of Pre-Monic *i and *u appears at first to follow the same general pattern; they remain unchanged in breathy register:

"delicious" Pre-Mon *mip; Proto-Mon *mip; Mod. Mon: mip
"happy" " " *sgit; " " *hakit; " " hakît
"bed-bug" " " *gægi; " " *hækî; " " hækî
"centipede" " " *gwi1; " " *kwi1; " " kwi1
"turtle" " " *gwi1; " " *kwi1; " " kwi1

"snake" Pre-Mon *jrum; Proto-Mon *sym; Mod. Mon: sym
"termite" " " *grun; " " *kryn; " " kryn
"(rain) to fall" " " *gu; " " *kuy; " " kûy
"eldest child" " " *glu2; " " *klu2; " " klu2
except before final velars:

"to sew" Pre-Mon *jiŋ; Proto-Mon *cəŋ; Mod. Mon: colŋ.
"to steam (rice)" " " *jrŋ; " " *saŋ; " " səŋ.

In the clear register, Pre-Mon *i and *u are generally distorted, but here we have to sort out the influences of various initials and various finals, and pay attention to the great variety of Modern Mon dialects.

The northern part of the Mon-speaking area of Burma comprises a few dialects which are historically distinct from all other forms of Modern Mon, including those spoken today in Thailand. Mons themselves refer to these Northern dialects as "Mon Ro," and to others as "Mon Rao." Geographic and linguistic information on Modern Mon dialects is given elsewhere (Diffloth, in print).

In Mon Ro dialects, clear register *i and *u are distorted before -ʔ finals:

"earth" Pre-Mon *tiʔ; Proto-Mon *teiʔ; Mon Ro: taiʔ
"moon" " " *gətuʔ; " " *hətaʔ?; " " həaoʔ?

Before zero finals (Proto-Monic *-r, *-l, or *-w), only *u is distorted in clear register, while *i remains little changed:

"sand" Pre-Mon *bəti; Proto-Mon *həti; Mon Ro: hətel
"be burning" " " *tu; " " *tə; " " təo

Before other finals, clear register *i and *u are undistorted:

Mon Ro dialects; *i is simply lowered to /e/ but not diphthongized:

"stairs" Pre-Mon *kənin; Proto-Mon *kənin; Mon Ro: ənen
"a bear" " " *khmim; " " *hmim;
"to know" " " *tim; " " *tim; (also: təm)
"to sprout" Pre-Mon *klut; Proto-Mon *klut; Mon Ro: klut
"macaque" " " *khnuy; " " *hnyu;
"five" " " *pəsun; " " *pəsu;

Final velars, as usual, create patterns of their own:

"pig" Pre-Mon *klik; Proto-Mon *klik; Mon Ro: klot
"elephant" " " *cɨŋ; " " *cəŋ; " " con
"mango" " " *krk; " " *krəŋ; " " krəŋ
"high" " " *slŋ; " " *hləŋ; " " hləŋ

However, there are a number of words where the expected vowel distortions do not take place:

"intoxicated" Pre-Mon *bəbu; Proto-Mon *baŋu; Mon Ro: baŋu
"wood" " " *chuʔ; " " *chuʔ; " " chuʔ
We shall return to these in a moment.

In the various Mon Rao dialects, vowel distortion is more thorough: clear register *i and *u with final -i have the same distortion patterns as in Mon Ro (unless otherwise specified, the Mon Rao forms quoted here are from the vicinity of Mudon):

"earth" Pre-Mon *t2i?; Proto-Mon *t2i?; Mon Rao: t2e?
"moon" " " *gstu?; " " *hανt2?; " " hαnαu?

But we also find distortion before all other finals, except velars:

"sand" Pre-Mon *bati; Proto-Mon *hαt1i; Mon Rao: hαte
"be burning" " " *tu; " " *t2u; " " tao
"to know" Pre-Mon *tim; Proto-Mon *tim; Mon Rao: tαm
"a bear" " " *khmim; " " *hmim; " " maem
"stairs" " " *knαn; " " *kαn; " " kαnαn
"to sprout" Pre-Mon *klut; Proto-Mon *klut; Mon Rao: klut
"five" " " *pαsun; " " *pαsun; " " pαs
"macaque" " " *khnuy; " " *hnuy; " " nα
"pig" Pre-Mon *klik; Proto-Mon *klikic; Mon Rao: klico
"elephant" " " *ciŋ; " " *ciŋ; " " ciŋ
"mango" " " *kruk; " " *krαk; " " krαk
"high" " " *sluj; " " *hλt2ŋ; " " hλt2ŋ

Some of the Mon Rao reflexes of *i and *u have become monophthongs, in kαn and pαs, for example, but it is clear that they are the result of a simplification of what used to be complex, "distorted" vowel nuclei, probably *knαn and *pαsun respectively. The evidence for this comes from other Mon dialects, one of which is presented below. In addition, since the reflexes of Proto-Mon *-en and *-on are -en and -on in Mon Rao, the evolution of *-in to -en and of *υn to -un, jumping, so to speak, over -en and -on, implies diphthongization; a simple lowering process would have caused mergers. In what follows this implied diphthongization, or distortion, will be taken for granted.

From the above evidence, it appears that the Mon Ro and Mon Rao groups of dialects separated from each other at a time when the process of vowel distortion had not yet been extended to all finals (except velars). Only Mon Rao dialects proceeded with the distortion process.

But, as we briefly noticed in Mon Ro, there are many words in Mon Rao dialects where the expected innovation does not occur:

"blood" Pre-Mon *chim; Proto-Mon *chim; Mon Rao: chim
"mortar" " " *ga2i; " " *hα2i; " " hα2i
"sea" " " *bi; " " *bi; " " bi
"to drift" " " *hi; " " *hi; " " hi
"to bathe" Pre-Mon *hum; Proto-Mon *hum; Mon Rao: hum
"knife" " " *sun; " " *sun; " " sun
"to simmer" " " *dun; " " *dun; " " dun
"intoxicated" " " *ba2u; " " *ha2u; " " ha2u
"medicine" " " *gα2uy; " " *ha2uy; " " ha2uy
These exceptions, in both Mon Ro and Mon Rao, have a common environment: the initial consonants are: \(-\), \(-\), \(-\), \(-\) (and perhaps \(-\) in a few cases). Some phonetic aspect of these initials appears to have prevented the distortion of vowel qualities, whereas *voiceless initials encouraged it, while both groups of consonants conditioned a clear register. Since the phonetic element common to all four, but absent from the rest, is laryngeal activity, the question of a possible third register naturally arises at this point: the clear voice register of present-day Mon could represent a merger of two formerly distinct phonation types, both opposed to the breathy voice register.

It might be possible, by examining the numerous country-side dialects of Mon spoken in Burma today, to find some phonetic trace of such a three-way distinction. What I have found is not exactly a third register, but something very close to it phonetically: in several Mon villages around Kamawet ([kama wak]), about 12 kms. south of Mudon, a variety of Mon Rao is spoken where all words having what I have called distorted vowels in Mon Rao are pharyngealized with various degrees of strength.

This pharyngealization affects vowel nuclei in such a way as to separate the two subsegments of a distorted vowel by a voiced pharyngeal approximant; the vocalic subsegments themselves have what sounds like a clear, ordinary phonation type, as in other Mon dialects:

"earth" Pre-Mon *ti?; Proto-Mon *ti; Kam.: 
"moon" " *gətu?; " *həti?; 
"sand" " *təti; " *həti; 
"be burning" " *tu; " *tu;

"to know" Pre-Mon *tim; Proto-Mon *tim; Kam.: 
"a bear" " *khhimim; " *hkim; 
"stairs" " *kənin; " *kənin; 
"to sprout" Pre-Mon *klut; Proto-Mon *klut; Kam.: 
"five" " *pəsun; " *pəsun; 
"macaque" " *khnu; " *hnuy;

In this dialect, the first part of the vowel nucleus of pharyngealized vowels is always [ə], which leads directly to the pharyngeal; the second part is high, shorter and unstressed, but may have a drastic effect upon the final consonant (e.g. "earth").

Clear register vowels which are not distorted, i.e. those preceded by \(-\), \(-\), \(-\), \(-\) (and sometimes \(-\)) are not pharyngealized and have about the same quality and register as in other Mon dialects, Rao or Ro:

"blood" Pre-Mon *chim; Proto-Mon *chim; Kam.: 
"mortar" " *gə?i; " *hə?i; 
"sea" " *bi; " *həi; 
"to drift" " *hi; " *həi;
"to bathe" Pre-Mon *hum; Proto-Mon *hum; Kam.: hum
"knife" " " *gün; " " *gün; " gun
"intoxicated" " " *habu; " " *habu; " habu
"medicine" " " *gəuy; " " *gəuy; " gəuy

Laryngeal initials have apparently prevented pharyngealization (and vowel distortion) of the following vowel.

Considering the phonetic conditioning, it is probable that pharyngealization in the Kamawet dialect is the present-day realization of a Proto-Mon laryngeal feature, a distinct phonation type. The fact that pharyngealization agrees in all cases with Rao distortion indicates that it is possible to reconstruct it back to Proto-Mon-Rao times. Whether it appeared earlier, e.g. at the same time as the clear/breathy distinction between Pre-Mon and Proto-Mon, or actually very recently, only in the Kamawet sub-dialect, cannot be decided upon in the present state of our knowledge.

There is an additional piece of patterning in the pharyngealization of distorted vowels which actually confuses this issue and does not help us in dating the innovation: the evolution of *ə. Before final velars, as we saw above, reflexes of *ə are distorted in both Mon-Ro and Mon-Rao (see "build," "to pluck"); as expected, these are pharyngealized in Kamawet:

"to pluck" Pre-Mon *pək; Proto-Mon *pək; Kam.: pək
"hole" " " *səŋ; " " *səŋ; " səŋ

But they are also distorted, in Mon Ro and Mon Rao, after laryngeal initials:

"completed" Pre-Mon *dək; Mon Ro: dək; Mon Rao: dək
"sambhar deer" " " *dəŋ; " " dəŋ; " dəŋ
"hornet" " " *həŋ; " " həŋ; " həŋ

And these are also pharyngealized in Kamawet:

"completed" Pre-Mon *dək; Proto-Mon *dək; Kam.: dək
"sambhar deer" " " *dəŋ; " " *dəŋ; " dəŋ
"hornet" " " *həŋ; " " *həŋ; " həŋ

This only shows that the influence of laryngeals in preventing pharyngealization is not deterministic but simply a phonetic option: in the case of *-k, *-ŋ it simply did not occur. It seems that pharyngealization may have spread to those vowels which were already distorted. In any case the history of vowels before velars in Mon is not completely congruent with the development of vowels in other environments.

This question aside, the phonetic options encouraging or discouraging pharyngealization and vowel distortion present the phonetician with precise questions: what kind of phonation type, distinct from clear or breathy, could be the ancestor of pharyngealization and also be prevented by initial ɟ-, ꞌ-, ꞌ-, and h-? Can clear voice be subdivided into two subtypes?
Note, in addition, that breathy voice itself is not without resources: there are a few examples in Mon of *voiced stops plus h initials, mostly borrowings, which become voiceless aspirated stops, but are followed by breathy vowels:

"Dharma" Pre-Mon *dʰɔ; Proto-Mon *thɔ; Mod. Mon: thɔ

There is even the mysterious case of five Mon words with an implosive ɓ- initial followed by breathy, not clear, vowels:

"female (animal)" Mod. Mon: bɔ (see Shorto, 1962)

I have so far been unable to trace their history, but they are certainly old enough to have required the invention of a distinct letter in the Mon alphabet, a letter which graphically resembles a combination of m and ordinary, unimploded b. A fourth register in Proto-Mon?

Footnotes

1 Breathy voice will be noted here with a subscript: /../; by contrast, a special symbol was created to indicate clear voice: /_/; phonation types are indicated only on stressed (ultimate syllable) vowels, and only on the syllabic portion of diphthongs or distorted vowels.

2 This is apparently a borrowing from a Mon Rao dialect nearby.

3 Y. Mitani, Kyoto University, is to be credited for discovering this configuration, having presented it at a public lecture on the Mon Writing System at the American University Alumni association in Bangkok, around January 1982.

4 I was not able to visit the area myself, but met several Mons from Kamawet, Kalawthut and Hnipadau, in Rangoon and in Thailand. They all had spent most of their life there. I wish to express my special gratitude to Nai Pan Hla, Ministry of Culture, Rangoon, and to Theraphan L. Thongkum, Chulalongkorn University, Bangkok, for their whole-hearted help in this research. Many other acknowledgments are given in Diffloth (in press). My research project was funded by NSF grant BNS-7926808 "A Mon-Khmer etymological lexicon."

Bibliography


A Note on Raising in Indo-European

Gary B. Holland
University of California, Berkeley

For the Neogrammarians, questions of raising and deletion were easily answerable, or rather simply did not arise, for they viewed a sentence like 'I want him to go' as having come about through the addition of a verbal noun or infinitive 'to go' to a fully formed sentence 'I want him'. The development of productive accusative with infinitive constructions, such as 'him to go', came about secondarily as a result of a reanalysis of the constituent structure of the sentence, a 'Verschiebung der syntaktischen Gliederung' (see Delbrück 1897, Brugmann 1904, Sommer 1931 among others). The Neogrammarians derived support for this interpretation of infinitive phrases from the fact that many infinitives in the earlier IE languages have transparent nominal morphology, and hence are to be viewed as case forms of abstract nouns rather than as infinitives in a more modern sense. Furthermore, no distinctive infinitival morphology is reconstructible to Indo-European. To take the most striking situation, Vedic Sanskrit has nineteen different 'infinitive' forms, only three of which are never used as nominal case forms. Vedic infinitives (or verbal abstracts) are not marked for voice, tense, or aspect. In later Sanskrit, all of these forms fall into disuse except -tum. Hittite, on the other hand, has only two infinitives, in -anna and -uwanzi. The distribution of these two forms is determined solely by the morphonological structure of the verb root: ablauting verbs take -anna, non-ablauting verbs take -uwanzi. There is no semantic distinction between the infinitive suffixes, and there is no marking for tense or voice. In contrast, distinction to Hittite and Vedic Sanskrit, Early Greek has a well developed infinitive system with suffixes clearly differentiated for tense and voice and to a limited extent for the morphological class of the verb.

The following are some typical sentences containing infinitive constructions in Greek, Sanskrit, Avestan, and Hittite. The first group of examples presents a few infinitive phrases from Greek:

1) hum'mn mèn theo̱l do'ven ... ekpérsai Priámoio pólin, eũ d' dat ptc nom 3pl inf gen acc adv ptc you gods may give to sack Priam's city well of'kad' hikésthai acc inf home to come 'May the gods grant you to sack the city of Priam and to come home safely' (Iliad 1.18f.)

2) bē d' iēnai 3sg ptc inf went and to go 'he went to go' (Iliad 4.199)
3) mēdē m’ aē’dēn apéruke
   neg acc inf 2sg
   not me to sing prevent
   'do not prevent me from singing' (Alkman 171P.)

4) hēmēas g’ ou pōs ésti methiēmenai polémoio
   acc ptc neg ptc 3sg inf gen
   us not at all is to desist battle
   'It is not possible at all for us to desist from battle'
   (Iliad 13.114)

In (1) the infinitive phrases are objects of do’en ‘give’3pl.opt.
The controller of deletion in the infinitive phrases is the dative indirect object. One of the infinitives is transitive; the other
is intransitive with an accusative adverbial goal (oīkade). In
ex. (2) the subject of the infinitive is the subject of the main verb; both verbs are intransitive. The construction type of ex. (3)
happens not to be attested in Homer, but it does appear in Alkman and should be old. It has the same surface structure as any other
infinitive complement. Ex. (4) illustrates an impersonal construction made with 'be', 'it is not' = 'it is not possible', and the
subject of the embedded infinitive is accusative.2

Exx. (5-9) are Vedic Sanskrit:

5) tāt paśūn evāsmā etāt pāri dadāti gūptyai
   conn acc ptc-dat adv prev 3sg inf
   thus animals him now gives to guard
   'Thus he gives him the animals now to guard' (Śatapathabrāhmaṇa 2.4.1.5)

6) úpo emi cikitūṣo vipčcham
   prev-ptc 1sg acc inf
   I go wise to ask
   'I go to the wise to inquire' (Ṛgveda 7.86.3)

7) tvām Indra srāvitavā apās kaḥ
   nom voc inf acc 2sg
   you Indra to flow waters made
   'You, O Indra, made the waters flow' (ṚV. 7.21.3)

8) bhūyo vā dātum arhasi
   acc ptc inf 2sg
   more or to give are able
   'Or you are able to give more' (ṚV. 5.79.10)

9) rāyaḥ syāma dharuṇam dhiyādhyaī
   gen 1pl acc inf
   wealth we are foundation to place
   'We should place the foundation of wealth' (ṚV. 7.34.24)

In ex. (5) the dative object of the upper verb has controlled sub-
ject deletion of the infinitive, while the accusative object of the
upper verb has controlled object deletion of the infinitive. The
infinitive in ex. (6) expresses purpose and depends from an intransi-
tive verb of motion. Ex. (7) is very much like a periphrasis of
a causative. The infinitive in ex. (8) depends from an auxiliary
verb arhasi 'you are able'. Ex. (9) shows another idiom using the verb 'be'. Here 'be' plus infinitive expresses obligation, and it takes a personal subject and optative mood.

The next three examples are Avestan:

10) yezī ahīā ašā pōī maṭ xšaiiehī
   conj gen instr inf abl 2sg
   if it Aša to ward off me are able
   'If you are able to ward it off from me through Aša' (Yasna 44.15)

11) tāṭ nā mazdā vīduvanōī vaocā
    acc acc voc inf 2sg
    that us Mazda to know tell
    'Tell us that, O Mazda, (for us) to know' (Yasna 31.3)

12) uṭaiūītī tawūśīm gattōī vasāmī
    acc acc inf 1sg
    eternal strength to come I wish, want
    'I want eternal strength to come' (Yasna 43.1)

Ex. (10) contains a finite verb that occurs both as an independent verb and as a quasi-auxiliary. The object of the infinitive is the genitive pronoun ahīā. Ex. (11) has a structure similar to that of (5) but with 'tell' rather than 'give'. Finally, the structure of (12) is ambiguous; the accusative noun phrase may be the object of the upper verb and hence it may have controlled deletion of the coreferential subject of the infinitive, or the entire infinitive phrase may be the object of the verb vasāmī 'I want'.

Exx. (13-18) are Hittite. In ex. (13) the infinitive expresses purpose and depends on an intransitive motion verb:

13) dUTU-ŠI-wa šu-ma-a-āš wa-al-ah-ḫu-wa-an-zi ú-iz-zi
    nom quot dat-loc/acc inf 3sg
    majesty-my you to strike comes
    'My majesty comes to smite you' (comes to you to smite (you))
    (KBo V 8 I 8)

The role of the pronoun šumaš 'you' is ambiguous, since this form can be either dative-locative or accusative. Hence it is unclear whether it should be taken as the goal of the verb ūizzi or the object of the infinitive waḫuwanzi. If the former, then one may assume that it has controlled deletion of the object of the infinitive.

14) EGIR-pa-ya -aš -kān še-šu-an-zi GAM DU-ri
    adv conj-nom-pte inf adv 3 sg
    back and -he to sleep down goes
    'And he goes back down to sleep' (KUB V 1 I 61)

In ex. (14) the subject of the finite verb and that of the infinitive are the same; both verbs are intransitive.
15) ḍLAMA-aš-ša ku-e KARAŠ.HI.A I-NA KUR uru nu-haš-ši
nom -conj acc acc dat
Lama god and which troops Nuḫašši
hal-ki.HI.A-uš ĥar-ni-in-ku-wa-an-zi pî-e-ḫu-da-an ĥar-ta
acc inf part 3sg
grain to destroy brought had
'And which troops the LAMA god had brought to Nuḫašši to destroy
the grain . . .' (KBo IV 4 II 63f.)

The structure of ex. (15) is somewhat different, since the accusa-
tive object of the matrix verb is also the subject of the trans-
itive infinitive which also has an accusative object.

16) nu -mu te-ip-nu-ma-an-zi ša-an-ah-ta
conn-acc inf 3sg
and -me to make little he sought
'And he sought to make me little' (KUB XXI 15 I 14)

17) nu KUR.KUR.HI.A ū-LÚ ... ku-i-e-es-ma -az šu-me-en-za-an
conn nom nom nom -conj-ptc gen
and lands enemy which -but your
E.HI.A DINGIR.MEŠ-KU-NU ar-ḫa wa-ar-nu-um-ma-an-zi
acc acc prev inf
Temples i-la-li-iš-kán-zi
3pl desire
'And the enemy lands . . . which desire to burn up your temples'
(KUB XXIV 1 III 21f.)

The subject of the finite verb, on one reading of ex. (16), is also
the subject of the infinitive, and the object of the finite verb is
the object of the infinitive. That is, šanṭa 'sought' functions
more or less like an auxiliary: it may occur independently as a
transitive verb or it may occur in close conjunction with infini-
tives. The structure of ex. (17) is similar to that of ex. (16),
but has the matrix verb ilališkanzi 'they desire'. The impersonal
verb in ex. (18) UL kišari, literally 'it does not become' = 'it is
not possible', here has an embedded infinitive complement with a
dative subject and is analogous to the Greek example in (4).

18) nu -uš-ši Û-UL pa-ra-a i-ya-an-ni-ya-u-wa-an-zi Û-UL
conn-dat neg preverb inf neg
and -him not forth to go not
ki-ša-ri Û-UL-ma -aš-ši EGR-pa ti-ya-u-wa-an-zi ki-ša-ri
3sg neg -conj-dat prev inf 3sg
becomes not -but -him back to step becomes
'it is not possible for him to go further, it is not possible
for him to step back' (KUB VIII 53 IV 18-20)

The preceding examples will suffice to give a general idea of
the kinds of infinitive complements that are found. Most of the
examples have been chosen to illustrate the range of matrix verbs that take infinitive complements. In contrast with English, with its variety of complementizers and complement types, in these languages there appears from a surface structure perspective to be only one basic construction, without complementizer. Generally speaking, the infinitives are equivalent to consecutive or purpose clauses, and in many of them it is unclear whether raising or Equi-NP deletion has applied.

All of the languages discussed here have an active: passive (or active: medio-passive) distinction in the morphology of finite verbs. Only one of them, however, makes an active: medio-passive distinction in infinitive morphology. Although it has overtly marked medio-passive infinitives, Greek, in common with Hittite, Vedic Sanskrit, and Avestan, may use active (or at least diathetically neutral) infinitives in passive meaning. The development of the Greek infinitive system is generally regarded as a late feature of the language. A number of examples of infinitives used in apparently passive meaning are discussed below.3

The first examples are Hittite:

19) **BE-LI-NI-wa** -an-na-āš ŠA uru-a-ri-ip-ša-a i-wa-ar voc -quot-acc gen ptc
    lord-our -us Aripša like
    uru ḥa-at-tu-ši Ša-a-ru-wa-ū-wa-an-zi li-e ma-ni-ya-aḫ-ti dat/loc inf neg 2sg
    Hattuša to plunder not hand over

    'Our Lord, do not hand us over to Hattuša to be plundered like Aripša' (KBo IV 7 IV 20f.)

20) nu nam-ma **MA-HAR** dUTU-ŠI ar-ga-mu-uš-ša conj adv acc
    and furthermore before my majesty tribute
    ú-tum-ma-an-zi Ū-UL tar-na-i inf neg 3sg
to bring not lets

    'and furthermore, he does not allow the tribute to be brought before my Majesty' (KUB XIV 1 Obv. 32)

I have translated the infinitives as passive in both instances, but ex. (19) could also be translated 'do not hand us over to Hattuša to plunder like Aripša' or conceivably 'to be plundered by Hattuša'. Ex. (20) is more straightforwardly passive, since there is no overt NP to control subject deletion of the infinitive.

The two Homeric examples (21) and (22) are again ambiguous:

21) Héktrɔ a d' oû ti / d̃sɔ Priamidēn pùri daptēmen acc ptc neg ptc 1sg acc dat inf
    Hektor but not I will give Priam's son fire to devour

    'But I will not give Hektor, son of Priam, to be devoured by fire' (Iliad 23.183-183)
22) polloì mèn gār emoì Trôes ... kteïnein
nom ptc ptc dat nom inf
many for me Trojans to kill
'For many Trojans are to be killed by me' 'For there are many
Trojans for me to kill' (Iliad 6.227)

In ex. (21) by Homeric convention 'fire' may be regarded as animate,
and hence we may also have the translation 'to give Hector to fire
(for it) to devour (him). Ex. (22) contains an infinitive embedded
into a nominal sentence. Of course, if emoì 'me' had been omitted,
the infinitive would necessarily have to be interpreted as passive.

23) tâvān ayám pátave sómo astu
nom nom inf nom 3sg
so great this to drink soma let be
'let this soma be drunk to so great (an extent)' (RV. 1.108.2)

24) vayā ayas prāhutā asur āttave
nom gen nom 3pl inf
branches his offered were to eat
'His branches were offered to be eaten' (RV. 10.92.3)

The infinitive in (23) is obligatorily passive because of the pres-
ence of astu. Ex. (24) too is obligatorily passive. Here there is
a form of 'be' with a past passive participle 'were offered', and
the infinitive has to be passive for the simple reason that there
is no other way to interpret it.

25) aśauvanam tē aśaonat āfīieīiiāi mraomi uruuaθam uruuaθat
acc dat abl inf lsg acc abl
righteous you righteous to help I say friend friend
'I say to you the righteous (man) is to be helped by the right-
eous (man), the friend by the friend' (Yasna 71.13)

26) yō ništaiiiti kāratāe sraošiām
nom 3sg inf acc
who orders to perform punishment
'Who orders the punishment to be performed' (Yašt 10.109)

In the two Avestan examples (25) and (26) a passive reading is in-
escapable. Ex. (25) makes sense only if we assume a deleted 'be'
form and consequent meaning of obligation, while in (26) a passive
reading is forced by the absence of potential agents. These are
both verbs of saying.

The following group of infinitive constructions shows clear
passive meaning for the infinitive. Here, however, verbs which are
usually impersonal are found with overt nominative subjects.4

27) İŠTU KUR uru-ku KÜ.BABBAR-ti ū-
abl lû
MU-NAB-TUM EGIR-pa pî-ya-an-na
nom prev inf
Hatti fugitive back to give
Ú-UL a-a-ra
neg adv
not right
'A fugitive from Hatti is not right to give (=to be given) back'
(KBo V 4 Obv. 38)

28) 1ú-MU-NAB-TUM-MA EGIR SUM-u-an-zi Ú-UL a-a-ra
    nom -ptc prev inf neg adv
    fugitive -but back to give not right
'A fugitive is not right to give (=to be given) back'
(KUB XXII 70 Rev. 63)

Examples (27) and (28) contain the phrase ÚL āra 'it (is) not right, not allowed'; āra 'right' is an adverb, and 1ún-MUNABTUM is an Akkadian nominative (presumably Hittite nominative too).\(^5\)

29) na -aš pí-di -iš-ši I-NA KUR uruKum-ma-an-ni I-NA
    conn-nom dat/loc-dat/loc dat/loc
    and -it place -his Kummanni
    É DINGIR-LIM pí-i-ya-u-wa-an-zí SIxSÁ-at
    dat/loc inf 3sg
    temple of the gods was established by oracle
    'And it (i.e. scape ox) was established (by oracle) to give
    (=to be given) in his stead at Kummanni in the temple of the
gods' (KBo IV 2 III 52f.)

30) nu-uš-ši GUD pu-u-bu-ga-ri-iš pi-i-ya-u-wa-an-zí IZI-it
    conn -dat nom nom inf instr
    and -him ox expiratory to give fire
    wa-ah-nu-ma-an-zí MUŠEN.HI.A wa-ah-nu-um-ma-an-zí SIxSÁ-at
    inf nom inf 3sg
    to burn birds to burn
    was established by oracle
    'And a scape ox was established (by oracle) to give (=to be
    given) to him (i.e. the God) to burn (=to be burned) (and)
birds to burn (=to be burned)' (KBo IV 2 III 50f.)

Example (29) shows a nominative subject with another impersonal verb SIxSÁ- ( handjob-) 'to establish, ordain by oracle' (medium tantum).
Here again, the usual construction is with a dative subject of the infinitive or no personal referent at all, as is the case here. The same impersonal matrix verb is used in ex. (30) with two asyndetically linked nominative subjects, GUD puḫugariš 'scape ox' (nom) and MUŠEN.HI.A 'birds' (nom). The first of these is in turn the underlying object of the following infinitives piyauwanzi 'to give' and wahnumanzi 'to burn'; the second infinitive is clearly dependent from the first (notwithstanding the translation given by Götze-Pedersen 1934: ad loc.). The second of these, MUŠEN.HI.A 'birds' is the underlying object of the repeated infinitive wahnumananzi. All these infinitives have to be interpreted as passives; there are no overt agents in the context. The dative -ši refers to the god to whom the animals are offered.

The Homeric sentence given in (31) shows exactly the same structure as the Hittite ex. (27): a nominal sentence with adverb as predicate has an embedded infinitive with nominative subject.
31) tēlōthi d' hūlē aksēmen eks óreos
adv ptc nom inf prep gen
far and firewood to bring from mountain
'Firewood is far to bring (=to be brought) from the mountain'
(Iliad 24.662-663)

Here too, the infinitive has to be read as a passive, even though it is active in form, and even though Greek has a passive infinitive at its disposal.

32) tōphra dē rhēiteroi polemīzein ēsan Akhaioī
conj ptc nom inf 3pl nom
then and easier to fight were Achaeans
'And then the Achaeans were easier to fight (=to be fought)'
(Iliad 18.258)

In light of the preceding examples in this section, it would seem best to extend the same analysis to exx. (32) and interpret the infinitive as passive in this instance too. This example shows clearly that an analog to Tough movement existed in Homeric Greek; it differs from the preceding examples in that it has an adjective (with concord) as predicate rather than an adverb.

The Vedic sentences in (33) and (34) have negatives with deleted 'be'; the infinitives are obligatorily passive:

33) nāiśā gāvyūtīr āpabhartavā u
neg-nom nom inf ptc
not-this cow pasture to plunder
'This cow pasture is not to plunder (=to be plundered)'
(RV. 10.14.26)

34) nā vāḥ pratimāi sukṛtāni
neg gen inf nom
not your to measure good deeds
'your good deeds are not to measure (=to be measured)'
(RV. 3.60.4)

35) hīaṭ-cā gāuś jaidiīāi mraoī
conj -conn nom inf 3sg
since-and cow to kill said
'and since the cow is said to kill (=to be killed)'
(Yasna 33.14)

Finally, the Avestan example (35) shows how far such a construction can be taken: the cow (nom.) is underlying object of jaidiīāi 'to kill'. Presumably this infinitive is to be viewed as depending from a deleted form of 'be': 'it is to kill the cow' = 'one must kill the cow, the cow must be killed'. This assemblage is then further embedded into an impersonal construction 'it is said' (so-called aorist passive) with the cow ending its derivational existence as the surface subject of the sentence.

Although there are ambiguities of analysis in the sentences in exx. (1-18), many of which could show either subject-to-object raising or deletion, there are none in the examples just discussed (exx.
27-35). In each of these, the surface nominative noun is clearly
the underlying object of the embedded infinitive, and it appears as
the surface subject of the impersonal expression (respectively it
is not right, it is established, it is far, it is easy, it is not =
one must not, it is said). Furthermore, the presence of the nom-
inative noun forces a passive reading of the infinitive. These
similarities cannot be due to chance or to parallel development.
The most recent book length study of IE infinitive con-
structions, Disterheft 1980, maintains that 'subject equi is the earliest
type of infinitive complementation while deletion controlled by ob-
ject and subject raising (both to object and subject) were indepen-
dently added to the various grammars [of early IE languages] at
widely divergent dates' (1980:192). Disterheft also maintains that
the following three uses of infinitives can be posited for Indo-
European:6

1. the imperative infinitive,
2. predicate in purpose clauses,
3. complements to verbs whose subject controls corefer-
ence.

Disterheft bases her arguments on an investigation of Vedic Sanskrit,
Avestan, Hittite, and Old (Middle) Irish data. I think that at
least two additional categories should be added to her list:
4. narrative infinitive,7
5. infinitive complements to impersonal verbs.

Furthermore, there seems to be no evidence for the relative chron-
ology of infinitive constructions she posits.

The evidence for infinitive complementation to impersonal verbs
is drawn from the three oldest IE traditions: Homeric Greek, Old
Indo-Iranian, and Hittite legal phraseology. The examples of these
constructions are not numerous, but they have a wide distribution
and share notable characteristics which cannot have come about as
a result of secondary, language specific developments. These con-
structions with rather sophisticated subject raising presuppose a
fully developed system of infinitival complementation in Indo-
European. Hence, arguments about the historically observable de-
velopment of infinitives from verbal nouns need to be reconsidered;
one would not expect subject raising to occur with abstract nouns.
Furthermore, these constructions are not later than any of the other
types of infinitive (-like) syntagms traditionally reconstructed
to Indo-European; in fact, they may be earlier given the non-
productive nature of their occurrence, especially with adverbs. More-
over, the fact that the infinitives in certain cases can only be
given a passive reading, even when the language otherwise has pas-
sive infinitives at its disposal, argues for their archaic nature.
It also supports the notion that Indo-European had a semantic cate-
gory passive in its earliest conceivable stages. It would seem,
then, that raising at least in connection with impersonal upper
verbs must have been a feature of the syntax of IE infinitives:
'John is easy to please' has a very long IE pedigree.
Notes

1. The phrase is from Brugmann (1904:604). This analysis of accusative with infinitive constructions could be labeled ‘lowering’. This explanation is still maintained in Schwyzer-Debrunner (1950:374).

2. Dative subjects of embedded infinitives in this construction are found in Homer too, cf. Odyssey (1.261-262):

   ὀφρα ὦν εἶ ἴως κηρakesthai khalkeeras
   conj dat 3sg acc inf acc
   so that him would be arrows to anoint bronze fitted
   'so that it would be possible for him to anoint the bronze fitted arrows'

   In later Greek γίγνεται 'becomes' is used in this meaning. Compare the idiom with 'become' in the Hittite ex. (18).

3. E. Adelaide Hahn (1966:397f.) argues with her usual acuity for the 'original voicelessness' of verbal nouns and adjectives in Indo-European, comparing the distinction traditionally made between subjective and objective genitives with nouns that denote action without forming part of a verbal paradigm, as in amor matris 'the mother's love' or 'the love for the mother', where the difference in diathesis is simply a matter of nomenclature or of translation. On the basis of the evidence I cite below, I prefer to regard verbal nouns and infinitives as neutral with respect to voice since there are syntactic environments (not considered by Hahn) which force an interpretation as passive.

   In fn. 11 of the paper, Hahn cites such English examples as the apples are ready to eat or for eating, which although active in form are 'seemingly passive'. She notes further that 'we can substitute a true passive (periphrastic) form, and say the apples are ready to be eaten.' However, there seem to be some semantic distinctions between such sentences as, say, there are lots of dishes to do or to be done, although they are difficult to define. Such overt differentiation is of course impossible in a language like Hittite.

4. The examples cited here involve object to subject raising. Since the predicates of the matrix sentences all contain adverbs, this type of raising would not be possible in English. The controversy about subject to object raising (cf. Chomsky 1973, Postal 1974) does not concern us here.

   At first sight, the examples discussed here appear to be quite similar to the 'nominative object' constructions of the North Russian dialects, of Baltic, and of Finnish studied by A. Timberlake (1974), e.g.

   North Russian: zemlja paxat'
   nom inf land to plow
   'it is necessary to plow the land (nom.)'
Lithuanian: reiškia duoti žodis 'it is necessary to be necessary to give your word (nom)'

Timberlake (1974:88f.) discusses eight criteria for nominative objects; of these eight criteria two are 'cardinal properties', namely a 'systematically impersonal environment' and an animacy constraint (pronouns and masculine animate nouns are excluded). Although the constructions discussed here occur in systematically impersonal environments, there appears to be no constraint on animacy. Claiming that the Baltic and North Russian constructions are isolated within Indo-European, Timberlake (1974:127) discusses two Vedic examples of nominative with infinitives, where the nominative is notionally the object of the infinitive, and concludes that they are subjective on the grounds that there is agreement between subject and verb 'to be' (optative and imperative in his examples) and that there is no restriction on animacy. However, the examples adduced here are more directly comparable to the Baltic and North Russian constructions.

5. I follow A. Kammenhuber's (1954:260-261) interpretation of these examples. F. Ose (1944:82) took lúMU-NAB-TUM (an Akkadian nominative) as the object of the infinitives piyanna and SUM-anzi and interpreted it as concealing a Hittite accusative on the grounds that the Hittite scribes paid little or no attention to Akkadian morphology and that there was no possibility of putting this form in any direct relationship with UL āra, since āra is an indeclinable adverb. As Kammenhuber points out, however, clear Hittite nominatives do occur in constructions with āra:

na -aš A-NA dUTU-ŠI a-a-ra e-eš-du (KUB XIII 7 I 10)
conn-nom dat adv 3sg
'er soll Meiner Sonne (zu beliebiger Handlung) rechtens überantwortet werden'

Hence, lúMU-NAB-TUM should be interpreted as concealing a Hittite nominative, and these examples are to be translated as above. The comparative evidence I have assembled here adds further support to Kammenhuber's view.

6. These are of course the principal categories of infinitive uses reconstructed to Indo-European by Brugmann (1904:603f.).

7. I intend to discuss narrative infinitives elsewhere. Here I may say that they are found in Sanskrit, Greek, Latin, Old Norse, and Hittite (although Disterheft uses Hittite evidence, she has not noted the existence of this infinitive use there).
Bibliography


Kammenhuber, Annelies. 1954. Studien zum hethitischen Infinitivsystem II. MIO 2.245-265.


DIVERGENCE AND APPARENT CONVERGENCE IN THE DEVELOPMENT OF YET AND STILL

Ekkehard König*  
University of Hannover  
and Stanford University  

A look at the entries in the OED for yet and still suggests that yet functioned very differently in earlier stages of English than it does now, and yet overlapped with still in several of its uses. The purpose of this paper is to show that, while the syntactic range of yet has changed considerably, there has been little change in its meaning, and furthermore that while still took over part of the range earlier available to yet, there is little, if any, evidence of true convergence. Indeed, the original meanings of yet and still account for all the temporal and even the concessive uses of these particles: the core meaning of yet is "continuation up to an imminent boundary/change," while that of still (which originated in the adverb "quietly, without interruption") is "continuation without boundary."

Modern English

In Modern English (NE), as is well known, temporal yet functions as a negative-polarity item and is thus restricted to "downward-entailing" contexts (cf. Ladusaw 1980), where it can be regarded as a suppletive form of already (cf. Traugott and Waterhouse 1969):

(1) a. He is already here. b. He isn't here yet.

In such contexts still contrasts clearly with yet:

(1) c. He is still here. d. He still isn't here.

Temporal yet, however, may also occur in a few affirmative environments, especially in modal, comparative, and superlative contexts. Here the distinction between yet and still is less obvious and may even be neutralized. A contrast is, however, clearly to be observed in examples like:

(2) a. It is early yet (...let's go to a movie).
   b. It is still early.
(3) a. You may yet buy the horse. [possibility]
   b. You may still buy the horse. [possibility/permission]
(4) a. I have yet to see a generous Scotsman. [non-referential]
   b. I still have to see a generous Scotsman. [referential]
(5) a. (Your son is not shaping up too badly) ... we'll make a pitcher of him yet.
   b. We'll still make a pitcher of him.
(6) a. This is the best essay yet.
   b. This is still the best essay.

Yet in (3)a. excludes a permission reading for may. Indefinite
object phrases in sentences like (4)a., but not (4)b., can only be non-referential. (6)a., in contrast to (6)b., indicates that the speaker expects other essays to be better. Some of these differences between yet and still are discussed in Hirtle (1977). He proposes that yet is associated "with an impression of being BEFORE, still with an impression of being WITHIN or DURING" (1977:30; cf. also Quirk et al. 1972:498).

In moving toward a more precise description of the meaning differences between yet and still, consider (2)a., which is a relic of an earlier use (to be discussed below), but which is still widely used in some dialects, especially British English. Let \( \phi \) stand for the proposition without yet and \( \ell \) for the interval (around the moment of utterance) during which \( \phi \) is asserted to be true. Yet in (2)a. presupposes that there is an interval immediately preceding \( \ell \) such that \( \phi \) was the case during \( \ell \):

(7) a. \( \lambda p[\exists j(\forall p)](\text{instantiation prior to some reference point}) \)

and that there is an interval \( k \) immediately following \( \ell \) such that \( \phi \) will not be the case (or is expected not to be the case) during \( k \):

(7) b. \( \lambda p[\exists_k(\forall \forall p)](\text{imminent change}) \)

This analysis corresponds exactly to that normally given for noch in German or nog in Dutch (cf. Doherty 1973; König 1977; Abraham 1980). The difference between yet and still in (2) is that yet encodes the presuppositions in both (7)a. and (7)b., whereas still only encodes the presupposition of previous instantiation ((7)a.).

The analysis just given is not, however, directly applicable to constructions in which the predication is in a future or modal context and refers to an event rather than a state or process (cf. (3)a.- (5)a.). For example (3)a. and (4)a. imply the possibility and necessity of a continuation through the event specified in the sentence. In this they contrast with (3)b. and (4)b., which imply the persistence or continuation of a possibility or obligation. The dependence of the interpretation of German noch and English yet on the aktionsart of the predication was noted by Abraham (1980) and Hoepelman and Rohrer (1981) in connection with sentences like:

(8) a. Wir suchen das Geld noch "We are still looking for the money."

b. Wir finden das Geld noch "We'll find the money yet/ eventually."

Abraham and Hoepelman and Rohrer concluded that the meaning of noch in (8)b. is more or less the opposite of that in (8)a., i.e., (8)b. is true iff the relevant sentence without noch is true at \( k \) but false at \( \ell \) with \( \ell < k \). According to this analysis, the same contrast would oppose the meaning of yet in (2)a. to that in (3)a.- (5)a. It is not a convincing strategy to assign more or less opposite meanings (i.e., homonymity) to two uses of the same phonological form, especially when these uses are in complementary distribution. The dilemma can be solved if we consider that "continuation" can be relevant not
only to processes or states but also to events. Processes and states are homogeneous. A part of a certain process or state is a further instance of the process or state in question. Events, by contrast, are not homogeneous. Furthermore, they are bounded. If the concept "continuation up to an imminent boundary" is applied to events, what we get is not a process or state going on over several intervals but a change of state within a larger, superordinate event. Note that the gloss given in the OED for the use of yet in future and modal contexts includes the specification "ultimately, before all is over" and "while there is still time." What we have here is the continuation of an ongoing process through a new event, where both the process and the event in question are part of a larger unit. (3)a. asserts the possibility that a process (of negotiation) may culminate in a new event (the purchase), where the whole superordinate event is a transaction. The superordinate event in (5)a. is the coaching given to a person, and in (8)b it is the search for the money.

We therefore propose, as a first approximation, the following revised semantic analysis for all uses of yet discussed so far:

(9) Given a sentence 'φ yet', if φ denotes an eventuality ev₁ such that ||φ||(ev₁) = 1 at an interval i, this sentence has the following presuppositions:

a. (∃ev₂)(ev₂ ⊆ ev₁) & (∃ev')([(ev₁ < ev') & (ev₂ < ev')]

b. ∼ (∃ev₃)[(ev₁ ∪ ev₃) & (ev₃ < ev')]}

Note that the presuppositions given in (7) for yet in combination with state or process descriptions are a special case of the more general description just given. If ev' denotes a state or process, every part of ev' and therefore also ev₁ and ev₂ must also be instances of the state or process in question. If ev₁ denotes an event, the second presupposition specifies that this event occurred at the periphery of a more comprehensive event (ev').

Still shares with yet the first presupposition ((9)a.) for the particular case that ev' denotes a state or process. The relevant presupposition is therefore described adequately by (7)a.³

Historical Development

Let us now turn to earlier periods of English to see how the situation just described has evolved in the history of the language. In Old English (OE) yet was a temporal adverb; it acquired the concessive meaning of "nevertheless" in Middle English (ME) and became associated with negative polarity in the early part of the modern period. Still(e), however, was used in OE only as an adjective or adverb with the meaning "still, quietly." The adverb developed a purely temporal sense in the ME period, and a concessive use in Early Modern English (ENE). The facts can be represented schematically as follows:
<table>
<thead>
<tr>
<th>OE 450-1100</th>
<th>ME 1100-1500</th>
<th>ENE 1500-1700</th>
<th>NE 1700-</th>
</tr>
</thead>
<tbody>
<tr>
<td>get/git</td>
<td>&quot;continuation to boundary&quot;</td>
<td>concessive</td>
<td>polarity item</td>
</tr>
<tr>
<td>stille</td>
<td>&quot;quietly&quot;</td>
<td>temporal durative</td>
<td>concessive</td>
</tr>
</tbody>
</table>

In OE *yet* (spelled get, git, giet, gyt, etc.) signalled that a state or process was considered to continue up to some point in time, when a change occurred or was expected to occur. This is particularly clear when a before-clause follows, as in:

(10) ic gyt þa wæs wuniende in minum mynstre, ær ic I yet then was living in my minster, before I pas biscopscire underfengce the diocese received. (Werferp's Dial. of Greg. 273:16)

Negatives may precede *yet* as in (11)a. or may follow it as in (11)b.:

(11) a. ic ne mæg nu giet geandwyrdan ærpon dees tiid wyrd I not may now yet answer before that time comes "I cannot as yet answer, before the right time comes."
   (Alfred's Bo. 12:4)

b. Fordon in þa tiid þa get ne wæron monig Because in that time then yet not were many mynster getimbred in Ongolbeode (Bede's Eccl. Hist. churches built in England 176:14)

In both cases *yet* has wide scope. In ÆElfric's Grammar, *yet* is considered to be equivalent to Latin adhuc "up to now, as yet, still" in connection with predications denoting states or processes (Zupitza 1966:237). *Yet* could, however, also be used in combination with predications denoting events, as in:

(12) Hlaford sancte nicolaie help us and geteode us þæt Lord St. Nicholas help us and instruct us so-that we be gett geseon moton and þine halige fett cyssen. we you yet see may and your holy feet may-kiss.
   (St. Nicholas, CCC 303,1. 929)

Here, as in (3)a.- (5)a., *yet* does not imply the continuation of a state or process, but the continued unfolding of events, in this case within St. Nicholas' larger scheme of miracles. This use can
be found only in future (including imperative) and modal contexts. In contexts such as these in Ælfric's Grammar yet is used to gloss not adhuc but rather a Latin future or future perfect, cf. amo-ic lufige; amabo-ic lufige gyt to daeg ode to merjen "I will-love today yet or tomorrow"; amato tu-lufa du gyt; cum amavero-ponne ic lufige gyt (Zupitza 1966:130-33).

So far we have assumed that yet always functions as a sentence adverb in OE and thus has the whole sentence as its domain. To round off this brief sketch we should also mention the use of yet as a focus or scalar particle. Just like also, even, or only in NE, yet could also focus on a constituent, typically a VP or object, as in:

(13) Ac ic wolde giet acsian sumre spræce de
    But I wanted yet to-ask about-some discussion which
    me ymbe tweeob
to-me about doubts

"But I also wanted to ask about some of the discussion about which I had doubt." (Alfred's Bo. 144:10)

Just as in (12) yet presupposes a preceding event which, together with the event of asking is part of a more comprehensive event; here, however, all events are predicated of the same subject. In the ME of Chaucer's time, yet continued to have all its OE uses, as in:

(14) a. Therfore my theme is yet, and evere was (Chaucer Pard. 425)

b. Thou shalt have yet, or hit be eve,
   Of every word of thy sentence
   A preve by experience (Chaucer HF 876)

"Before it is evening you shall yet have empirical proof for every word of this pronouncement."

Yet was, however, highly restricted in past contexts, usually occurring in negative environments. Furthermore, a concessive sense had developed.

A major difference in the ME period is that stille and later all ready "all prepared" were grammaticalized as temporals. At Chaucer's time stille usually still means "quietly, without disturbance" as in:

(15) For in the bussh he sitteth now ful stille (Chaucer K.T. 1527)

If one sits, stands, abides, or holds still, the state obtains without change or interruption. The temporal relation can be an additional implication in such sentences as:

(16) Lat it still on the roser sitt,
    And growe til it amended be (Chaucer R.R. 3124)

"Let it (the rose) remain still (without being picked)
on the rose-bush and grow until it is finer."

Temporality came to be permanently associated with stille in contexts where the idea of uninterruptedness is minimized, i.e., in non-stative contexts:

(17) Thus they fought stille togyders more than halfe a day (Malory 382:17)

Later, in ENE uninterruptedness was bleached to pure durativity, especially in future contexts:

(18) While I remain above the ground, you shall
Hear from me stille (Shakespeare, Cor. IV.i.51)

From the beginning of its grammaticalization as a temporal, stille had the meaning in (7)a. (previous instantiation of a state or process). In this it overlapped in meaning with yet, and indeed appeared to replace it in most affirmative contexts like (1)c. or (2)b. Like yet, stille also came to be used in comparative and superlative contexts, and ultimately developed a concessive sense*. However, despite the similarities, and despite some neutralization of differences, for example in comparatives like Fred is taller yet/stille than Bob, there was no actual convergence of the two adverbs (contrary to Ladusaw (1977) and what the OED suggests). Stille differed from yet in that it was (and continues to be) limited to states and processes (i.e., it never expanded its range from (7)a. to (9)a.) and, crucially, it never came to have the presupposition of imminent change characterized for yet in (9)b. Evidence for the lack of convergence comes from the persistence of minimal pairs such as (3)-(6) (cf. also Hirtle 1977), the use of stille as "always" (cf. OED stille 3), and the failure of stille to replace yet in contexts most clearly suggestive of a boundary, such as (11)a. and (14)b.

Furthermore, even in their concessive uses yet and stille contrast. Yet emphasizes contrast and is rather like but, while stille emphasizes continued cohesiveness, as in:

(19) He knew Conrad had told him the truth. It was so.
Yet/*Stille it wasn't so. It wasn't so because it couldn't be so (the contrast is introduced as new information and contrary to expectation)

(20) a. The death of man is unique. Yet it is universal.
(new, contrasting fact)
b. The death of man is unique. Stille, it is universal.
(universality has been the topic of discussion)

The reason that stille appears to have converged with yet is that stille can occur in affirmative contexts like (1)c., contexts that were available to yet until NE, but which are now largely unavailable. We follow Ladusaw (1977) in assuming that the exclusion of yet in these contexts is the result of a radical reinterpretation of the scope of yet in negative contexts⁵. Originally, yet had
wide scope in negative contexts, just as its German and French counterparts still do:

(21) a. (John is not here) yet.
    b. Noch (ist J. nicht hier).
    c. J. n'est pas encore là.

Reanalysis or rebracketing is made possible by the fact that scope is under-determined by syntactic position. This means that there are several ways of compositionally arriving at the same result. What happened to yet was that it was analyzed as being in the scope of a preceding (or following) negative. This rebracketing, resulting in the reinterpretation of yet as having the same meaning as already, led to a suppletive pairing of already and yet, but did not actually change the overall interpretation, as (22) shows:

(22) a. (John is not here) yet
     \[ \phi \at j \text{ (} j < i \text{)} \]
     i.e., John was not here
     \[ \phi \] (=noch)
     Entailment: \( \phi \at i \) i.e.,
                 John is not here
     Presupposition: \( \neg \phi \at k \text{ (} i < k \text{)} \)
                 i.e., John will be here

b. Not ((John is here) yet)
   \[ \phi \] (=already)
     Entailment: \( \neg \phi \at i \) i.e.,
                 John is not here
     Presupposition: \( \phi \at k \) i.e.,
                    John will be here

Note that reanalysis of the scope of yet took place only in connection with state or process predicates. Because of this, yet continues to be used in its old meaning in affirmative modal contexts such as (3)a.- (5)a. and elsewhere where events are treated as occurring within a larger unfolding event. (2)a. It is early yet is only a relic, and is largely restricted to that member of a polar pair like early-late, young-old which denotes a time prior to an expected change (early, young) rather than the result of change (late, old).

Data given in the OED (yet 2b.) and in Shakespeare's works show that ENE was a period of transition; at this period the relative scopes of not and yet were not clearly marked by either word order or lexical selection (still vs. yet). The sequence of not ... yet could be interpreted as either indicating wide scope of yet (≈"still not," "not already") as in (23)a., or as marking wide scope of not (≈"not ... anymore"), as in (23)b.
(23) a. I have not yet made known to Mariana
    A word of this (Shakespeare M.M. IV.i.49)
    b. No more yet of this;
    For 'tis a chronicle of day by day,
    Not a relation for breakfast. (Shakespeare. Temp.
    V.i.162)

Note that in (23)b. wide scope of no is also lexically marked by
more, one of the forms that have replaced yet in this function.

The claim that polarity item yet in NE is the result of reanalysis
and reinterpretation in negative contexts with state or pro-
cess predicates leads to the prediction that the spread of yet in
the sense of already to other downward-entailing contexts like in-
terrogatives was a later development. The data in Shakespeare are
not helpful in determining the relative order of development since
both the older and the newer uses already coexist in his works, as
exemplified by:

(24) a. Hath yet the deputy sent my brother's pardon?
    (="already") (Shakespeare M.M. IV.iii.118)
    b. What my dear Lady Disdain. Are you yet living?
    (="still") (Shakespeare MAdo I.i.119)

According to the OED there are a few cases in earlier ME which ex-
emplify a yet that is interpretable as already in interrogatives,
prior to the development of the same interpretation in negatives:

(25) Hu þinc be, artu zut inume,
    Artu mid riȝte ouercume? (Owl and Nightingale 541)
    "What do you think, are you yet caught, are you fully
defeated?"

However, yet in these sparse data can equally well be interpreted
as "eventually, after all" (i.e., in the sense yet always had in
event predications), therefore these data are not convincing coun-
terexamples to the hypothesis that reinterpretation started in nega-
tive contexts. The precise path of entry and spread of reanalysis
is beyond the scope of this paper, but clearly needs investigation.

Conclusion

In summary, we have shown that the various uses of yet and still
cohere both synchronically and diachronically. There is a potential
for convergence in so far as neither adverb affects truth conditions,
and both share the presupposition of prior instantiation. But full
convergence is continually negated by the potential for divergence
in so far as yet encodes a presupposition of imminent boundary (a
sense clearly reflected in as yet).

The pair we have been discussing is particularly interesting in
that the core meanings we have proposed persisted for a considerable
period of time (over a thousand years in the case of yet) and, furt-
thermore, these core meanings have to a large extent constrained
subsequent changes, even through several stages of grammaticalization, including the shift to nontemporal, concessive meanings.

Among a number of broader implications of this study, there is space to mention only two here. A major theoretical question in historical semantics is when polysemy begins. Our study of yet and still suggests that polysemy is best treated as beginning only when the constraints of a core meaning cease to be in operation (for example, it is not only unnecessary, but also misleading, to postulate two yet's or two noch's). Furthermore, our discussion supports the view that fundamental types of eventualities (states, processes and events) should be taken as primitives (i.e., semantic primes). It is recognition of these basic distinctions that permits us to formalize the semantic coherence of the adverbs despite different interpretations given different aktionsarten; that this is typical of temporal adverbs, particles, and affixes in general, not just of the two adverbs in question, is strongly suggested by W. M. Jacobsen (this volume).

Footnotes

* E. König gratefully acknowledges the support he received from the Deutsche Forschungsgemeinschaft (DFG) during his stay at Stanford.
2 This analysis makes use of some of the ideas and the notation proposed by Bach and Partee (1982). Ev is used as a cover term for states, processes and events. ∠ stands for "immediately precedes," and < for a ("part-of") ordering relation.
3 Sentences like Are you still writing your dissertation? (suggested by Len Talmy) are not counterexamples, although an expected terminus (of dissertation writing) is implied. World knowledge of the event denoted by write a dissertation assumes a limited period of time, and this, together with the contrastive stress, contributes the sense of boundary. Contrast Are you still teaching at Stanford? where no specific period of time or imminent boundary is necessarily implied.
4 The change from a temporal to a concessive meaning is common in the languages of the world. There is a strong affinity between the notions of "continuation" and "concessiveness" (cf. German dannoch, French encore que, Spanish aunque). The assertion that "q continues" given another fact p gives rise to the generalize conversational implicature that this persistence is remarkable or unexpected and that therefore p and q do not normally go together. This conversational implicature later comes to be conventionally associated with the temporal adverbs.
5 Ladusaw (1980:125f) has shown that an analogous but reverse process or reanalysis from narrow to wide scope has affected anymore, which is now used by many speakers in affirmative (i.e., "upward-entailing") contexts in the sense of "nowadays.'
References


Stressed o in American English Borrowings from Spanish
David W. Reed
Northwestern University

Casual contact with words borrowed by English from Spanish in the American Southwest makes one aware of words like calaboose and vamoose, in which Spanish /o/ has been rendered by English /u:/ . Perusal of all the entries in a dictionary of American English borrowings from Spanish suggests that such words do not constitute an isolated or aberrant phenomenon but that they are part of a larger, fairly regular pattern of phonetic adaptation.

The eighteen words that will be discussed shortly are taken from Bentley's Dictionary of Spanish Terms in English. It is tempting to classify them as (a) borrowed from Spanish in the American Southwest, or (b) along the Gulf coast and in the Caribbean area, or (c) from other Romance sources as well as Spanish in Europe. Then one might wish to subclassify the list according to whether the affected vowel occurs in (1) the final stressed syllable of the source (quadroon < cuarterón), or (2) a final syllable that became stressed in English (vamoose < vamos), or (3) a stressed syllable that became final in English (calaboose < calabosa).

Even such a simple system of classification yields nine possible subclasses, which hardly seem necessary for a list of only eighteen items. Several of the words, moreover, require glosses or special comment that renders the procedure of classification even less practicable. Accordingly I have resisted the taxonomic temptation and will present the words in alphabetical order with appropriate comment on each, in line with the principle that each word in a language has its own history.

Alamosa (Colorado) does not, at first glance, appear to belong on the list. Its historic pronunciation, however, is /ælə'muːse/. The /u:/ has been corrected to /o:/ over the years as a result of continued contact with speakers of Spanish or awareness of the spelling or both. This phenomenon of reapproximation to the source of a borrowed word is by no means uncommon. For example, Old English borrowed the name Rome from Italian with /o:/, which became /u:/ as part of the Great Vowel Shift of the fifteenth century. Within a short time, however, the vowel was corrected back to /o:/.

A final observation about Alamosa is that its affected vowel does not occur in precisely the range of phonetic environments outlined above, since the syllable has never been final.

Barbecue, with a first citation in the OED dated 1697, is from Spanish barbacoa, which is ultimately
from the Haitian Indian language. It is unusual that the affected vowel is rendered /yu:/ rather than /u:/.
Foreign /u/ after /k/ often becomes /yu:/ in English (e.g. Cuba), but barbecue is the only example I am aware of in which foreign /o:/ is given this treatment.

Barracoon, 'large barrack for temporary confinement of slaves', is from Spanish barracón, augmentative of barraca, 'barrack', with an earliest English citation dated 1851 (OED). It is thought to be the source of coon, a derogatory term for 'black person'. The popularity of this appellation was presumably supported by homophony with the shortened form of raccoon, a word of Algonquian origin.

Buckaroo or buckaroo derives from Spanish vaquero, and is first cited in English as recently as 1928 (Bentley). Several observations appear to be in order: First, the word may have been reshaped by folk etymology, combining the verb buck with the suffix -aroo, which is difficult to define but appears to mean something like 'prototype' or 'prime example of'. Second, although the affected vowel was presumably stressed in the earliest English version, stress in contemporary speech is often shifted to the first syllable by the countertonic principle (cf. Danielsson).

Calaboose is from Spanish calabozo, with a first English citation from 1792 (DAE). The OED suggests an intermediate source in 'Negro French of Louisiana calaboose'. If this suggestion is correct, the word does not belong in our list, since the immediate foreign source already had /u:/ rather than /o:/.

Canoe is cited in English before 1555 (OED). Its immediate source is Spanish canoa from Carib kanoa. (Cf. barbecue above for different treatment of Spanish final -oa.)

Chilcoot, 'California place name', from Spanish chilicote (Bentley). No indication is given as to the precise application of the name or its earliest appearance in English.

Doubloon derives from Spanish doblón, augmentative of doble. Its first English citation is dated 1622 (OED). The English form may be a spelling pronunciation of a Dutch intermediate form spelled -oo- to represent /o:/, but such derivation is not clearly attested.

Hondoo, 'small loop in one end of a lariat through which the other end of the rope is threaded', is from Spanish honda, which has the same meaning. Although there are earlier English citations with the Spanish spelling, the first instance in -oo is dated 1922 (Bentley). The word is interesting in that Spanish
unstressed /a/ is the source of English /u:/ when the stress is shifted to the final syllable. Here is a possible explanation: In the English of the Southwestern United States, the distinction between unstressed /e/ and /o:/ in final syllables is often neutralized so that window and similar words end in /e/. If such a /e/ is restressed it might become /o:/ for a semiliterate speaker who is not guided by spelling. The transition from /o:/ to /u:/ is then parallel to the vowel change in other words in the list.

Lasso, from Spanish lazo, is first cited in English in 1834 (Bentley). None of the dictionaries consulted indicates that the vowel of the second syllable is ever /u:/ . Yet a tabulation of responses in field records of the Linguistic Atlas of the Pacific Coast reveals that 68 percent of interviewees who volunteered this lexical form in California and Nevada gave the vowel as /u:/ rather than /o:/ . When responses are analyzed in terms of three major areas, that dominated by San Francisco shows an 87 percent preference for /u:/, that by Portland, Oregon, 67 percent (only 4 of six responses, however), and that by Los Angeles only 40 percent—that is, 60 percent of informants in the area dominated by Los Angeles gave forms with /o:/ rather than /u:/ . Responses have not been tabulated in terms of which syllable was stressed, since several interviewers failed to record stress in this item. Where stress is recorded, however, it is clear that there is not a perfect correlation between stress on the second syllable and occurrence of the vowel /u:/ . Informants seemed to be concerned about the correctness of their responses, since some changed their answer from /u:/ to /o:/, others from /o:/ to /u:/ . A few indicated that the noun is /læsə:/, the verb, /læ'su:/.

Maroon, the color, is from French marron, 'chestnut', and was first recorded in English in 1594. Of more interest to this study is the noun meaning 'fugitive slave', derived from Spanish cimarrón, formed in turn from cimarro, 'bushes', and first cited in English in 1626. The English verb maroon, 'abandon in the wilds', appears to be derived from the latter noun.

Octoroon, 'person who is one-eighth black and seven-eighths white', is a non- etymological formation of Latin octo + roon from quadroon (q.v. below). The earliest English citation is dated 1860 (Matthews).

Pantaloon derives from French pantalon, whose ultimate source is Italian. The earliest English citation is dated about 1590 (OED).

Patroon is from French patron or possibly Spanish patrón, by way of Dutch in the New York State area. As
with doubloon (q.v. above), the English form may be a spelling pronunciation of the Dutch form spelled -oo- to represent the vowel /oː/. The first English citation is dated 1662 (OED).

Picaroon, 'rogue, knave, thief, brigand,' derives from Spanish picarón, augmentative of picaro (cf. picaresque). Its earliest English citation is 1629 (OED). Quadroon is from Spanish cuarterón, and its first English citation is dated 1707 (OED). Its meaning is ambiguous—either one-fourth black or fourth generation from pure black, which is to say one-eighth black.

Saloon is probably from French salon, reinforced in its American meaning by Spanish salón. Its earliest English citation is 1747 (OED).

Vamoose is obviously from Spanish vamos and has a first English citation dated 1844 (Matthews).

Can any significant generalizations be culled from the welter of detail that has been presented about these eighteen words? Three points struck my attention: (1) Although the words cited above were taken from or suggested by a dictionary of Spanish terms in English with special reference to the American Southwest, not all of them are from Spanish. Three are ultimately from French—one of those by way of Dutch—and one of the words that is ultimately from Spanish may have had a Dutch intermediary. (2) Not all of the borrowings are associated with the United States. A full third of the list, or six items, are words borrowed by British English, generally in the sixteenth or seventeenth century. (3) An unusually large number of items (nine, or half of the entire list) are words that end in -oon.

All of these observations suggest that words borrowed from Spanish in the American Southwest, in which Spanish /o/ becomes English /uː/, may be only part of a more general phenomenon affecting all varieties of English over a period of several centuries. To test this hypothesis, I went through an unabridged dictionary of English rhymes (Wood), seeking plurisyllabic words with stressed /uː/ in the final syllable. These were then checked in Webster's Third New International Dictionary, and many of them were eliminated in accordance with one of the following criteria:

(1) The only words retained were those that derive from a word that contained /o/ in the source language.
(2) Only words with earliest English citations after 1500 were retained. The reason for this requirement is that Middle English borrowings with foreign /o/ passed through the Great Vowel Shift, which transformed /oː/ to /uː/. The most comprehensive and authoritative study of Early Modern English pronuncia-
tion states categorically (Dobson, 681) that the change from /o:/ to /u:/ was completed by 1500. Therefore, words with /o/ in the source language, borrowed after 1500, should not be affected by the Great Vowel Shift. (3) Obsolete words (as determined by nonlisting in Webster) were eliminated. This may seem to be an arbitrary criterion, since the fact that a word has fallen out of use is irrelevant to the phonological information it may provide about the period in which it was actively used. There is a problem, however, in the use of historical dictionaries, and the principle of disregarding obsolete words was designed to deal with it, at least in part. A certain proportion of the words that gain entry to historical dictionaries are nonce forms that were never in active use in the language. By definition these words were obsolete almost from their date of citation. The principle of disregarding obsolete words is, of course, a very rough screen. It may lead to eliminating some real data, that would have been useful to consider. On the other hand, it provides some assurance that fictitious and misleading data will not be considered.

The result of this procedure was a list of twenty-eight additional words—twenty-four of them, rather remarkably—ending in -oon. Of those that do not end in -oon, only one, shampoo, has any appreciable current frequency. These words will not be dealt with in the same depth as the original eighteen. For our purposes it will be sufficient to list the words alphabetically with the date of earliest English citation in parentheses (OED unless otherwise indicated), source language if other than French (which is the source for a vast majority of these words), and finally a gloss for words judged to be unfamiliar.

- **balloon** (1598) Italian
- **bandicoot** (1789) Telugu, 'very large rat of India and Ceylon'
- **bassoon** (1727-51)
- **batoon** (1562) 'archaic variant of baton'
- **bridoon** (1753) 'snaffle and rein of military bridie'
- **buffoon** (1549)
- **cardoon** (1611) 'type of thistle related to the artichoke'
- **cartoon** (1671) Italian
- **cocoon** (1699)
- **dragoon** (1622)
- **festoon** (1676)
- **gallow** (1604) 'braid, ribbon' [Note relation to gallon in ten gallon hat.]
- **Gentoo** (1838) Portuguese, obs. exc. hist. 'Hindu'
gossoon (1684) from garçon, chiefly Anglo Irish karoo, karroo (1789) Hottentot, 'dry, elevated plateau in SW Africa'
macaroon (1611)
monsoon (1584) Dutch from Portuguese ão as oe /u:/.
[Dutch rendered Portuguese ã as oe /u:/.
platoon (1637)
pontoon (1676)
quintroon (1797) Non-etymological formation in English, 'fifth generation from pure black, therefore one-sixteenth black'
ratoon (1631, DAE) Spanish retoño, 'new shoot from a root of sugarcane'
rigadoon (1691) 'dance, formerly in vogue'
seroon (1833) 'bale of exotic produce in an animal hide'
shampoo (1762) Hindi shalloon (1678) 'closely woven woolen material'
spittoon (1823, DAE) English spit + -oon
spontoon (1746) 'half-pike or halberd'
Walloon (1567)

The preponderance of words in -oon led me to one final bit of data. In an entry labeled -oon, which I suspect is rarely noticed, the OED comments, 'the form usually taken in English by Fr. final -on [It.
-one, Sp. -on] in words stressed on the final syllable, esp. those adopted during the 16th-18th c....Eng. representatives of Fr. or Romanic words in -on, when not stressed on the last syllable, and modern borrowings generally have regularly -on. [I.e. not -oon.]

From the data assembled for this study, it seems clear that English borrowings from Spanish in the American Southwest, in which Spanish /o/ becomes English /u:/, are merely an extension into the nineteenth and twentieth centuries of a tendency that goes back, in the case especially of French to the early sixteenth century. What was responsible for first establishing this tendency is not entirely clear. Perhaps speakers of English were aware of the fairly regular correspondence between English words with /u:/ that had been modified by the Great Vowel Shift and their French sources in /o/. It might have seemed the most natural thing in the world to Anglicize later borrowings from French, then from other Romance languages, and finally from such diverse sources as Telugu and Hottentot by changing foreign /o/ to English /u:/. It might even be hypothesized that the average monolingual has a mental dichotomy between what is native and what is foreign, so that all foreign languages are viewed as being like the language with which he is most familiar—which would have been French in the case of speakers of English in the sixteenth century.
Other factors may have played a minor role. It has been suggested, for example, that words coming to English through Dutch may have developed an /u:/ vowel as a spelling pronunciation of Dutch forms written oo, but pronounced /o:/. It has also been suggested that calaboose may already have had /u:/ in the Black French of Louisiana, just as monsoon had /u:/ in the now obsolete Dutch form from which it was taken. Finally, English spellings from the sixteenth into the eighteenth century show fluctuation between o, ou, and oo for many of the words on the second list above.

After all is said and done, however, we are left with several puzzling questions: First, why was the tendency to change foreign /o/ to English /u:/ confined so largely to stressed final syllables and especially to words in -on? It is as if English -oon took on the status of a quasi-suffix—quasi because it would prove impossible to assign one or several consistent meanings to it. Second, why did the tendency to change foreign /o/ to English /u:/ disappear in most varieties of English during the eighteenth century, but remain active in the American Southwest into the twentieth century? Although this is the kind of question that linguistics generally cannot address, it might be suggested some phonetic characteristics of English in the American Southwest favored the tendency. English back vowels are, as a general rule, longer, more lax, and more subject to diphthongization than the corresponding back vowels of Spanish. In addition, /o:/ and /u:/ in many American dialects of English, including those of the Southwest are subject to considerable centralization, making them even less like the Spanish back vowels. In other words, since there were no very close phonetic equivalents among English and Spanish back vowels, speakers of English may have reverted to a subconscious habit that was by now firmly fixed in the speech community and as a result they transformed foreign /o/ into English /u:/.

REFERENCES


The Indo-European Vocabulary of Exchange, Hospitality, and Intimacy
(The Origins of Greek *kṣēnos, sūn, φιλός; Avestan *xšnu-, *xšanman-, etc.):
Contributions to Etymological Methodology

Martin Schwartz
University of California, Berkeley

In Section I I shall provide the evidence for a Proto-Indo-European base *kʷسن(-w)- 'to give one thing for another', with special attention to its role in the societal and religious vocabulary of ancient Greece and Iran. The elaboration of related etymological problems will then serve to illustrate two phenomena of general theoretical interest for genetic linguistics: parallel patterning of semantic courses (Section II) and "syntropy" (Section III).

I

The new etymon *kʷسن(-w)- explains the following forms:

*ksiṇa-: (1) Hittite kuṣṣan- 'requital, payment'; (2) Avestan xšanman- 'substitution' (in dative xšānmaine 'instead'); (3) Ossetic kṣān 'common, communal'; (4) Irish sōn *'exchange' (after ar 'for' = 'in exchange, in requital, instead'); *kʷṣenw-, alternating with zero-grade */kʷšnw/ [kʷšnw-, kʷšnu-]; (5) Gr. ksūn (later sūn) 'together with', ksūnos 'common'; (6) Gr. kṣēnw- (-w- indicated dialectically and e- graphically) in kṣēnwos 'host/guest (Hom. etc.), stranger', kṣēnwion 'gift of hospitality', kṣēnwia 'hospitality'; (7) Ir. root xšnu- (Avestan present stems xšānuuaia-, kuxšnu-, desid. cixšnuak- *'to requite, provide hospitality' [!!!], nouns xšūt- 'requital', xšnaora- 'grace, gratification, gratitude, propitiation', etc.). Before focusing on (6) and (7), commentary on the items preceding is necessary.

In the greater majority of words from various languages for 'h ire' as analyzed in Buck (1949: 813 ¶11.77), i.e. Ital., Latv., Russ., Rum., Irish, and O/MHGerm., 'h ire' is from 'to arrange, order, secure, fix, stipulate' (but Fr. engager 'hire' < gage, wage < Gmc. *waedia- 'promise'). Hitt. kuṣṣan- does not go with Germ. Heuer, Eng. hire as thought by Klingenschmitt (1980: 150). The connection of Gr. koion, koion, kōion (*kouion) 'a pledge' (Hes.), Gortyn. enkoiótai 'money given as security' with Lat. caedere 'to take care for, provide, order, stipulate, pledge, give surety, guarantee money' points to Gmc. *huž- or *hūr- from PIE *khu-s- or *ku-h-r-; r. *kewH- 'to be attentive, take care' (whence also Gr. kōeō 'notice, hear', Goth. hausian, Eng. hear). (See further below, n. 7.) Phonologically kuṣṣan- < *kʷṣyn- is like kunanzi < *ghʷonti 'they smite'. Possibly kuṣṣan- is a root-stem (neuter, after -n- stems), but may be haplographical < *kṣšāna-. I take kuṣṣata 'bride's price' n.pl., which otherwise would show a rare type of suffixation, from *kuṣṣanta (haplographical for *kuššanata) in avoidance of homophony with a participial form of kuš- 'to make trouble' (cf. also the uncertain hapax Lųkša- 'son-in-law').

For Av. xšānmaine Y. 29.9 the usual translation 'that I must put up with!' is unprecedented morphologically, and based on a comparison with OInd. kṣam- 'to endure' excluded by Pashto zyanal 'to endure' with voiced cluster (on which see Burrow [1954: 5]). In Y. 29, the Bovine Soul requests a protector (stanzas 1-7). Good Intent declares that only one man has been found as suitable: 'Zarathushtra the Spitamid, who

† Remarks in the Addenda are noted as [A].
wishes to sing praises for us, o Mazda, and for Righteousness, so let us give him sweetness of speech' (st. 8b-c). In st. 9 the Bovine Soul answers: 'Then the Soul of the Bovine complained, "Thereby (you would give) for a xšānman an impotent support (rādem nā), the mightless speech of a feeble man, while I want someone mighty in force; when shall he ever be, he who will give him manual help?"

8b zaraθuṣtrā ṣpītāmō / huṣū nā mazādā vaṣṭī aṣaica c carēkārōrā śrāvaciṣyatiche / hihiht hoi ḫudāmēm dhīiht vaṣeṇahitē 
9a aṭcā gaḥū uruwa raqastā /*ya anaēśam xšānmanē rādem b vicim noraś asrāhīhi / yām +me vasaṃī iṣa-xṣāθrīm c kādā yauaḥ huṣū aḥaṭ / vō hōi dadat zastauaṭ auuō

The two stanzas are closely connected in structure (reflecting a conscious Gāthic artistry which will be noted again in III). In the same position in 8b2 and 9b2 a statement of granting, hōi (...) dā-, whose object, voice (vāk-/vaṣeṇā- etc.), is also represented in each stanza. This parallelism frames a series of contrasts: Z.'s desire vs. B.S.'s interests, the intangible vs. the tangible: specifically Righteousness (aṣa-) and Good Intent vs. Force (xṣaṇā-, cf. -xṣaθrīja), thus contrast of Entities at the end of 8/9b2; mightlessness (an-aēša-) vs. might (iṣa-); sweetness of voice vs. manual help (the reconciliation is seen e.g. in stanza 11c: 'May you, Ahura Mazda, give strength through Righteousness and Force in accordance with Good Intent'). Thus the Bovine Soul's complaint is that whereas it has asked for a powerful protector, it is assigned a mere poet-priest for a substitute, i.e. 'instead'; thus xšānman-, expectedly < Proto-Ir. xšām-man-, is 'something given for / in place of something else'.

Gr. ksun < *kwspn- like lūkos 'wolf' < *wλkʷo-, perh. via *kspn-, as also ksenw- < *kwšenw- with retrogressive dissimilation (cf. ksiphos 'sword', Myc. *kwšipos in ge-se-pē-e, dual). From *ksuna (nom. pl.) developed apocopic ksun, cf. an(a), par(a), as per Holland (1977: 644 seq.), and prob. en(i); the apocopae was completed by the synonymy of *ksun(a) with *kon < *kom (= Lat. cum), which it replaced, leaving however the adj. koinōn < *kom/n-yō- 'common', the model for ksūnōs < *ksun-yō-. Further on ksun(-) below, II.

Now to Gr. ksenw- and Ir. xšnu-. Phonologically the etymon of xšnu- must have an initial labio-velar; this, and not xšn- < *g(h)n-, is shown by the reduplicative stems kuxšnu-, cixšnuša-, the latter contrasting neatly with zixšnāθha-, desid. of xšnā- (PIE *gneO-), the root with which xšnu- was connected by Benveniste (1945: 47-50) and Kent (1953: 182). Thus Gr. ksenw-, Ir. xšnu- are reconciled by a PIE base */kʷς(e)n-/. Semantically the Gr. is comparable with the Ir. (for which the gloss 'to please, to placate, to satisfy' has hitherto been deemed adequate) because they both refer to hospitality as well as to exchange/requital. This must be understood in connection with the independent demonstration by E. Benveniste (1969: 87-100) that Indo-European hospitality was characterized by an exchange of gifts between an alternating host and guest.

For the Greek, Benveniste (who left aside the problem of finding cognates of ksenw-) merely cited Herod. 3.39 (exchange of gifts between heads of state, i.e. the Persian [!] Cambyses and the Egyptian Amasis, institutes kseinfē) and Iliad 6.215-233 (two opposing
warriors swap armor on battleground to renew their relationship as hereditary mutual kseinoi; the obligation transcends personal and national interest). I add to the Homeric evidence Od. 1.311-318 and Od. 24.266-289 and esp. 311-314. Here the foregrounding of gift-exchange, against a background provision of lodging and food, as the virtual raison d'être of hospitality, together with the close linguistic connection of kseinos and ksenic with forms of ameibbo 'exchange' (ll. 6.230-231, Od. 24.285-286 and Od. 1.318, and cf. mikesthai ksenici Od. 24.314) and the fact that ksenwos meant both 'guest' and 'host', suggest that ksenw- originally meant something like 'to exchange!'

For the Iranian, Benveniste only cited MPers mehemân, MPers. mihmân 'guest' from Olr. *mai\O\man- (whose existence, I add, is supported by Pashto mel\O\m and Yagazhulami mi\O\man 'id.')< r. mai\O\- 'to exchange, to pair'. Much more proof exists in Avestan for Old Iranian hospitality as an institution of exchange.

It seems not to have been previously noted that Av. xšnu- often means 'to provide hospitality', as at HN 2.13 / Visht. Yt. 59; Purs. 49; Y. 5.112; Y. 46.1, 13, etc. The verb must originate in a root meaning 'to requite', for the root-stem xšnut- means 'requital' in the Gāthās, where it is followed by aši- (ašiti-) 'reward', both terms referring to eschatological compensations meted out to the good and the wicked.3 [A]

In both Gr. and Ir. *kwsew- furnished the term for 'hospitality-gift'. The Gr., kselwion, is well attested in Gr.: Hom. kseinion (alongside the later form ksenêion, like presbeion; see Od. 9.365 ~ 9.370), and already in Mycenian, at Knossos, spelled ke-se-nu-wi-ja etc. pl. adj. of textiles (as hospitality-gifts; cf. Od. 24.276-277). The Olr. equivalent is xšnut- 'requital', in the Younger Avestan hospitality contexts Y. 60.2 and Purs. 39, formulaically paired with aši- / 'araiti- 'reward' and followed by the appositional phrase, 'the welcomes (paiti.zainti-) as compensations (yiiađa-)'. The term paiti.zainti- (etym. 'acknowledgment') is glossed in Middle Persian as padirifith, padirifarīh 'reception', elaborated 'he gives abundantly of his property from piety', while the verb paiti.zan- Y. 29.11 (*'to acknowledge') is glossed pad(d)āšn kardan 'give a counter-gift (or reward)'. The actual granting of a gift to a departing guest so that he is properly xšnutā is reflected at V. 3.9.

In both Gr. and Ir. hospitality is protected by a special aspect of a well-known divinity, whose epithet is connected with a term for hospitality-gift (resp. Hom. kseinion, Av. aši-); in each instance the god presides over consequences of respect or disrespect for the hospitality principle. In Homer it is Zeus Kseinos (Od. 9.266-271, ll. 1.623-627), whose Avestan equivalent I identify as Sraosha Ašia 'Sraosha-associated-with-Reward' (see Y. 57.10, 14, 34 with Yt. 11.3 and cf. V. 9.40).

Both Gr. and Olr. use forms signifying intimacy and dearness alongside or in place of the derivatives of PIE *kwsew- to indicate hospitality. In Homer the root kseinizō is followed by philēō e.g. in ll. 3.207, Od. 14.322, but philēō alone 'provide hospitality' e.g. ll. 6.15; Od. 17.69; 8.208; 5.133. The adj. philos is found with kseinos 'guest' e.g. Od. 19.190-191 biš, cf. Od. 1.313; note also the unique compd. philōkseinos Od. 6.121 etc. (opp. kakōkseinos Od. 20.376), ll. 6.15 etc., philos referring to the source or object of the affect. In Av. hospitality formulas we find, in addition to the verbs xšnu-
paitizan-, frī- 'treat dearly, intimately', adj. friia-. Thus (friia-) fria-
pai-ti-za-ta- Y. 57.34, Yt. 15.36, and Yt. 13.147. In Yt. 13.50-51 the
Fravashis, i.e. Ancestor Spirits, ask, 'who will treat us intimately, who
will welcome us (kō firiāt kō pai-ti-za-nāt) with meat and clothes in
hand?' so that they may be properly xšnūta- (cf. also Yt. 13.156-159).
Finally the adj. friia- is a fixed epithet in friia- asti- = Oln. priyā-
atithi- 'the dear guest' (> Skt. compd. priyātithi- 'guest').

In both archaic Gr. and Olr. both terms of hospitality (i.e. the
reflexes of *kwsenw- and the forms indicating intimacy) have cultic
application, and refer to a relationship of reciprocity between worship-
per and deity. In Mycenean, in the "Pyllos Olive Oil Tablets" *ksenwion
(ke-se-nu-wi-jo- etc.) designates the fragrant oils offered to the goddess
Potnia (and perhaps the ancestor spirits, with di-pi-ši-jo-i, = Dipsōl-
Thirsty Ones (thus Guthrie, Palmer, Bennett et.al., cf. the Av. passages
referring to the Fravashis cited above from Yt. 13). Cf. also the
Theoksenia, Apollo's festivals at Pellene (Chadwick). In Homer phila-
dora are the hospitality gifts for the departing guest (e.g. 8.545, with
vb. philēō, and the guest, kseño, said to be treated as next of kin,
also Od. 13.41; but the same phrase is used of cult offerings in Il.
67-68, where Zeus declares Hector most dear philaitaō to the gods
because he never failed to provide phila dora: the divine feast, the
drink offering, the savory of the sacrifice. In Avestan, xšnū- occurs
for 'to propitiate a god', as at Yt. 8.49, where we also have the typical
statement of reciprocity on the part of the god (Tishtriya); in Yt.
8.43, Tishtriya was already said to be most potent when vaista- xšnūta-, fria-
pai-ti-za-ta- 'worshipped, properly requited, treated as intimate, welcomed'.
Alone fri- (verb and root-stem) mean 'pray(er) to propitiate a god.' In
Y. 46 (for which the motifs of hospitality and reciprocity are central,
see Section III), st. 1-2, Zarathushtra says that since the community did
not grant him hospitality (xšnauñ) i.e. as priest, he is too poor to pro-
pitiate (xšnaošāi) Ahura Mazda, of whom he asks the support given by
one friend to another (friiō friiāi). [Aa]

P. Thieme (1939: 105-123) showed in detail that Old Indic cultic
procedure was based on hospitality customs (in passing, I note that we
have parallels to the Indic hospitality ritual [svāga- and Asana-, p. 107]
in Y. 19.32: Good Intent greets the righteous departed souls by asking
how their transition [*trip] was, and escorts them to a golden throne in
Ahura Mazda's House of Song). Later Thieme (1957: 90) suggested (on
grounds wholly independent from mine) that in ancient Iran cult was also
modeled after hospitality. Not only can this now be confirmed for Indo-
Iranian, but in view of the Greco-Iranian correspondences, it seems true for
the Proto-Indo-European situation.

The social changes accompanying the rise of polities and empires
resulted in the loss of the sense of reciprocity originally central to the
Greek and Iranian derivatives of kwsenw-. In Greek the forms in ksen-
expanded, via 'guest', the mg. 'strange, foreign'. In Iranian, where 'give
one thing for another' > 'requisite' > *giving what is merited or expected' >
'please, placate' took place within Olr. (cf. Av. sṛjasa- 'satisfied' replac-
ing xšnūta- with friia- and pai-ti-za-ta- in Y. 57.14, the common collocution
of xšnūta- and 'unoffended': atbīsta-, anāzāra- etc.), it was only the last
mg. which survived into Middle Iranian (in Sogd. xšnaw-, MPers. šnāv-
< Olr. xšnawaya-). [Cf. also OPers. xšnuta- 'pleased' (DNb 25).]
II

By "parallel patterning of semantic courses" I refer to the recurrence of discrete developments in meaning of an etymon, and, more interestingly, such a recurrence of developments in derivatives of one or more other etyma of similar basic signification but unrelated phonological shape. Each course may consist of a series of semantic developments. This parallelism helps map out the semantic terrain characteristic of a language group and provides a check against arbitrariness in assumptions of specific semantic evolutions.

Thus the derivation of Gr. ksúnos 'common' from PIE *kwśen(w) (whence also Gr. ksénwos) is supported by Ossetic (a lexically conservative Eastern Iranian Scythoid language of the Caucasus), which has xsán, áxsán 'common'; the independence of the evolution is indicated by ksún as basis of ksúnos, and the difference in mg. between xsán and OIr. xšámnae. The latter is itself paralleled by Irish ar son (with ar equivalent to the Avestan dative), which also shows the connection of 'instead' with 'requal' in Hitt. kuššan-, Av. xšnut-. While xšnut- and the verb xšnu- were used in reference to hospitality, their more general meanings, as those of allied forms which lack the hospitality reference, and the lack of the hospitality reference outside of Greek and Iranian, make it likely that the semantic overlap of xšnut-, xšnu- with ksénwos [ksénwion, ksenwizō etc.] is another instance of a parallel course for 'give one thing for another'.

The semantically similar root *mey- and its extended *meiH- (denom. <*meiteH?) 'to (ex)change' parallels the entire semantic course proposed for kwśen-. From Proto-Indo-Iranian *maith- (OInd. méthate 'changes, alternates', Av. maṣōa 'vacillation, uncertainty', Av. maīmāna- 'to pair') comes OIr. *maiHman- m. (acc. *maiHmanaH 'guest', reflected in later West and East Iranian) and OInd. mithás 'together with', which precisely parallel ksénwos, ksún. From the idea of mutuality (Lat. mútuus <*moituus) may be explained 'common' (ksúnos, xsán), cf. Lat. (com)munis (*moini-), Goth. gamains id.: Lith. mainas 'exchange'. Av. xšnut- 'requal' is paralleled by maěni- 'penalty' (textually, resp. Y. 31.9 ~ Y. 31.9, where also dāora- 'gift'), and, as 'hospitality gift', by Goth. mai̯pms 'gift (of exchange)', and finally Av. xšnaoHra-, MPers. and Parth. ašnōhr 'gratitude' is matched by Sicilian moitos.

Similarly the Greco-Iranian series posited for *kwśenw- is paralleled by the evidence assembled by Benveniste for the semantically similar *ghosti- 'compensation, equalization' appearing in Latin: ksénwos 'host, guest, stranger': OSlav. gosti, Goth. gasts 'guest', Lat. hostis 'stranger' > 'enemy', hospes 'host' (> also 'guest'); WMr. ašnōhr 'gratitude': Lat. (red)hostīre; Av. xšnūman-, ZorMPers. xšnūm 'offering of) propitiation'; Lat. hostia.

This casts doubt on the conventional etymology of OInd. átiHī-, Av. āsti- 'guest': from r. at- 'to wander, pass, go' (OInd. átati). Now Hr. 'guest' should not be a 'wanderer' but 'a partner in exchange', like its Ir. successor *maiHman-. The forms átiHī-, āsti- should go back to a form with a laryngeal after the first dental, *HvtH- expectedly resulting in OInd. *áthī- OIr. ast-, cf. OInd. pathibis, OIr. padbī̯s; OInd. duhitar-, OIr. dugdhr-, Gr. thugētēr, etc. Moreover a suffix -th- would be unexplained. Thus I propose PMr. *áthī- (with the common suffix -ti-), whence OInd. *áthīHī- > átiHī-, with metathesis expectable
from the usual Grassmann patterns, and from associations with átati- and perhaps áti- 'beyond a border'. [A3] It thereby becomes likely that átithi-, asti- be parallel to ksenwos, gosti- and mēchman etc. from the etymological viewpoint, but also from the morphological viewpoint:

*átHti- m. would be based on an abstract noun indicating an institution
*átHti- f. just like hospis, gosti- etc. < āhosti- m. (with atithipati
'host' paralleling Lat. hospēs, OSlov. gospodi < āhosti-pe-oτ- < f.
*āhosti-, cf. *maîman- m. < maîman- n., and quite possibly ksenwos,
with -e- vocalism indicating an underlying verbal noun (*ksenwos n.?)

The required evidence for PIIR. *átH-, having a mg. similar
to kʷsen(w)- and *mey(-tH) - 'to alternate, vacillate', appears in Olnd. vyaðh- 'to vacillate', for which I propose *vi-ath- (with *vi- 'in different directions') against the usual connection with Olnd. vithura-,
Goth. wipondans 'to vacillate, shaking from side to side', PIE **wyetH-
*wyet(-tH) - 'winding, deviating', is shown by the lack of other PIE
etyma in *wy- or *my-, *ny-, *ry- (similarly Olnd. vyadh- [vyādhaya-
etc.], see Mayrhofer, KEW s.v.) 'to pierce' and vyaðhא- 'make spacious',
lacking any PIE etymology; I suggest resp. *vi-adh- to PIE *(E)edh-
'spitz, stechend' [Pokorny IEW 280] and PIIR. *wi-an(n)č- 'like nya(n)č-
adj., and/or < anč- 'to bend'; OIr. w(a)y[a]nc- > OPers. winč- > MPers.
winj- > gunj-).

Further evidence for PIE *AetH- 'to alternate, to vacillate'
(from which, in place of the alleged át- 'gheßen' would derive not
only IIr. 'guest' but also Olnd. 'wanders' as well as the Italian
and Gothic words for 'year') may be seen through parallelism of the
semantic course of *mey- etc.: Olnd. átithi-, Av. asti- (partially
homonymous with asta- 'dwelling' and ast- 'bone'); MPers. mēchman etc.;
Av. aθi- 'harm', aθi- 'uncertainty, danger, injury, harm' (aθi-
linked at Y. 32.16 and 48.9 to duuaēQa- 'doubtful, dangerous situation',
glossed MPers. gumāntīth 'doubt, uncertainty', thus confirming
Benveniste [1966.294] on Gr. en doféi, deido, PIE dwej- 'to fear!': Av.
maēQa- 'instability', ONor. mein 'harm, injury!'; Olnd. átati' 'wanders',
ātya- *passing;swift', Lat. meō 'wander, pass, move', further Gr.
ameibō 'exchange, Lat. migrē 'wander, migrate' (*mey-gw-);
Lat. annus, Goth. āpna- (*atno-): Sogdian and Shughni mēQ 'day'.

Note that annus etc. < *goi is not supported by PIE *Hvēr-
'year', which is not from *Fev- 'to go' but rather *Aev- 'to allot'
(*Ay-, not EY- > Gr. h-); cf. the parallels Lith. mētās 'year, time';
Eng. tide, Germ. Zeit, Arm. ti 'age, years, days' < deAy- 'to dist-
ribute', Hitt. lammar 'time' < *nem- 'to assign', etc. For annus:
mēQ cr. Gr. hōra with mg. 'hour, day' as well as 'year'. Cf. also
Eng. week, ONor. wika 'week; exchange of oarsman (nautical mile)',
ONor. giafa-viXl 'exchange of gifts', Swed. vicka 'to be unsteady'
< *wyg- 'to vacillate'. Finally, Heb. šanāḥ, Aram. šanta 'year'.
Heb. šanāḥ, Aram. šenah 'changed' provides a parallel from Semitic.

The use of parallels from another language group is often
justifiable as an ancillary or heuristic aid. Thus the etymology of
Olnd. hnu- 'to deny, conceal, to atone for, make expiation, appease'
which figures prominently among unsuccessful comparisons with Av.
xšnu-, 5 may now be explained as the cognate of ONor. gnūa 'to
rub', Gr. khnōos, khnōs 'powder, chaff, incrustations' and khnōe
'axle-box', for which I set up PIE *gēnew- 'to rub'; cf. Bibl. Heb.
kipper 'atoned for, expiated, appeased', koñir 'atonement fee', Arab. kafara 'concealed, denied God's existence, was ungrateful', kaffara 'concealed, atoned for, made expiation', Syr. kapı 'rubbed off, wiped, deleted, denied, (ab)negated', and Accad. kapı 'to wipe off, to rub; to cleanse, to trim, peel, or pare off, to polish', kuppuru 'to wipe off, to rub; to cleanse, to purify ritually (e.g. through sacrificial victims)' (von Soden). Parallel semantic development provides an etymological solution in the instance of two words discussed in Sect. 1, Gr. phi/os and OIr. fria- (OInd. privā-) 'intimate, dear, beloved, friendly'. The Homeric and the OIr. (chiefly evidenced by Vedic) refer to one's own self, vital force, body and its parts, home and familiar personal objects, kin and wife (philē, privā, nominal), friends and, as discussed above, the hospitality sphere (and its cultic projection); furthermore, due to the rise of the city and state entity as the chief force in social organization (as against individual relationships), in both Gr. and Ilr. the word became limited to 'dear, friend(ly)'. Ilr. p/frīva- and its cognates (which include Eng. friend) have been derived from a "preposition" *preh₂- ('preh₂i?) 'close by', cf. Lith. priē, pri 'by, at', OLat. prī, also *preh₂ 'before', Gallic are- 'before, by', in view of *preh₂o- as denoting the intimate, the personal sphere of an individual; thus Scheller (1958:122 sqq); Mezger (1965:32-33) and Schwartz (1975:207 n.31). The etymology of philos, hitherto unknown, may now be given in completion of the parallelisms with privā-. The formal analysis necessary a priori, *bhī-lo-, allows its identification as an adj. in -lo- from PIE bhī 'close, at hand', cf. Goth. bi, OHGerm. bi 'by, at', originally a post-position, and the Myc. comitative case-ending *-phi, productive in Hom. in sg. and pl. with nouns of various shapes. The opposite of philos (philēo) is ekhrōs 'hated, inimical' (ekhrhátō 'to hate', etc.), from PIE *èkòh₂-tro- 'external, extraneous, estranged, alien', adj. to *èkòh₂, Gr. eks 'out(side)'. Clearly the opposition of the particles *bhī and *èkòh₂ indicates intimus vs. extraneus, close vs. distant. By the principle of parallelism of semantic patterning, applied with the rigor of symmetry, we would expect that Ilr. dwīsta-, OInd. dvistā-, Av. bhīstā- etc., the precise semantic equivalent of Gr. ekhrōs, should also have an etymon indicating the idea of being outside, distanced, alienated. It does: *dwīsta- is the precise cognate of ONor. twistr (PIE *dwis-to-s) 'separate', vb..twistr 'to separate', MGHerm. twist 'quarrel', cf. Goth. twis-stass 'standing apart', from PIE *dwis 'in two parts'. This Gmc.-Ilr. etymology is supported by the connection I propose of Av. bhīstā- 'joint' with OEng. twisla 'confluence of two rivers' and related forms for bifurcation. The derivation of *Ilr. dwīsta- from PIE *dwey- 'to fear' (< 'fearful uncertainty', see above), which has been favored in recent literature, must now be abandoned.
In Iranian, the term xšnuta-, indicating reciprocity, had taken on an additional sense of 'pleased, placated' as already noted. With the additional close association of xšnuta- with friya-, xšnuta- became the canonical opposite of dwiṣta-, whose mg. included 'alienated' (> 'offended' = 'non-placated, mistreated').

The conceptual picture of archaic PIE society that emerges from our study is that of individuals centered in circles containing their close possessions, family, and friends; the outsider to these circles was viewed as a potential enemy. Alliances neutralizing or eliminating the potential threat were brought about by the rapprochement of the two circles, with each penetrating the border of the other by means of alternating presentation of dear possessions from within each circle of intimacy upon the reciprocative entry into the respective households. This was Indo-European hospitality.

By "syntropy" I mean change or creation brought about by the simultaneous interactions of various factors within and across different hierarchies and parameters of form and meaning; this may be seen in terms of the dynamics of the associative process taking place within a multidimensional network of mental data. This outlook provides a theoretical structural framework in which to analyze the effects of phenomena such as "attraction", "contamination", "word-play", etc.

One problem for the etymology of xšnu- has been the mg. 'to hear' found in Wlr.: OPers. ā-xšn(a)u-, MPers. āšnaw-, (a)šnaw-, Parth. (a)šnaw-. In terms of syntropic analysis we must start from the following items in the lexical network: (i) xšn(a)u- 'to require, reciprocate favorably, be hospitable, please'. (2) pres. stem srun(a)u- > OPers srun(a)u- 'to hear, to obey', (3) (a) xšnā- 'to know', (b) *ā-xšnā- 'be aware of something' (cf. MPers āšnāg 'aware, familiar with'), and possibly (c) *pāti-xšnā- = *pāti-zan- 'welcome with tokens of hospitality'; cf. Av. pāti.xšnāta- = pāti-zanata- (both glossed MPers. padīrīt 'received'), where -xšnāta- is from PIE *pāntīto- and -zanta- its later analogical replacement. In OPers. we would have the following potential phonological (---) and semantic (-----) connections:

The chief factor in linking *xšn(a)u- and *srun(a)u- was OPers. *sunuyah ... xšnuyah, the equivalent of the Avestan formula surunuiā ... xšnuiā 'may you hear and reciprocate favorably'(obj. yasna- 'liturgy, prayer'), Yt. 10.32, Y. 68.9. Here we would have an 'irreversible binomial' (to use Prof. Malkiel's term) with close phonological association and simultaneous close semantic association (hear/obey: reciprocate favorably). This would motivate the replacement of srun(a)u- (itself semantically overloaded, with additional mgs. 'sing' and 'make famous' in the causative and past participle) by xšn(a)u-, which phonologically connected the semantically associative srun(a)u- and (ā)xšnā- ('hear' being
commonly replaced by 'perceive'). The ā- of ā-xšnā- then attached itself to xšn(a)u-, bringing about the formally distinct form ā-xšn(a)y-, whence MPers. āšnaw-, āšnaw-, the latter passing into Parthian probably during the period of Sasanian rule.

Another problem for the history of PIE *kʰw-se-nw-, Olr. xšnu- is solved by a "syntropic" analysis: the fact that Vedic r. śā- (ṣā-) 'to sharpen' also means 'to treat favorably, treat hospitably'. According to the view first proposed by Humbach (1952: 111.6) and independently taken up recently by Hollifield (1978: 175-176), each citing a personal communication by Karl Hoffmann, the second sense of śā- provides a parallel for a development of PIIr. r. kšnu- 'to sharpen' (Olnd. kśnāti; Ir. only hu-xšnuta-, of a dagger) to 'treat favorably, hospitably'. Here is an interesting instance of the limitations of mechanically assigning probative value to a single instance of a putative non-serial semantic parallelism. In this case, doubt arises because the proposed development cannot be explained by culture-bound factors, nor by universal patterns of association: it is difficult to bridge the semantic gulf of 'sharpen' and 'treat hospitably', etc.; Humbach's putative intermediary 'strengthen' is indemonstrable and otherwise of little help.

Before proposing a different solution, a survey of the relevant occurrences of śā- is in order.

It would require a separate monograph to document and discuss the complexity in use of śā- in the poetic language of the RgVeda. Here only a crude summary of the chief data is possible. The vb. śā- often has as direct object the gods, usually with a request for reciprocity (RV 8.67.7, 8.40.10 seq.), or the dir. obj. may be the worshipper rewarded by the god (3.24.4-5; 3.16.3; 10.12.4 etc.) or else the hymns and petitions themselves (8.24.3, 7.18.2, etc.). Clear hospitality imagery is found with regard to Agni: 7.42.4: When Agni is treated well in the dwelling of a rich man, a guest well pleased (ātithi-, su-pritā-) in the house, then he grants the clan's (house's) wishes. Since Fire, "Lord of the House", is kindled from Fire (1.12.6), we read ātithi (imperative) the Dear Guest, the Lord of the House . . . at his resting place', 6.16.42 etc. Conversely in return for his being made great with fuel, the "hosts" ask Agni to śā- them, 6.15.19.

While such passages provide perfect parallelism with the Av. xšnu-, with combination of hospitality with reciprocity, the use of āšā-differs in that it frequently has an additional reference to actual sharpness, with comparison to pointed weapons. This double mg. 'treat favorably/sharpen' is found commonly of Agni with reference to his flames (tējas-, combined in the continuation of the last-cited verse with tigma- 'pointed weapon'), compared with blades (6.3.5), horns (5.9.5), teeth (10.43.3) sharpened to overcome evil. In the opening of 10.87, Agni is said to be sharpened (ṣīsāno) when kindled and invoked to grab the sorcerers, metal-toothed, with his flame; verse 24, Agni is addressed, 'burn the . . . sorcerers . . . I sharpen you (ṣīsāmi) . . . with my prayer-thoughts; awaken, o inspired one!' Here śā- simultaneously refers to propitiation, sharpening, stoking, and stimulating.
However, the verb occurs with regard to the propitiatory "sharpening" of the weapons of other gods, esp. Indra, and of propitiation (offerings, hymns) in general. Quite commonly, too, the god is asked to "whet" the prayer itself or, e.g. 2.39.7: imā girō aśvina yusmayantāḥ kṣnottrenā vaśdhitam sam sīśtham 'O Aśvins, whet for us these praises of you as an axe with a whetstone!"

Alongside sā- we find r. cud- 'to sharpen, whet, urge, propel', e.g. cōdāyāṁ ā ta āvudhā vácobbhiḥ sam te sīśāmi brāhmaṇā váyaṁśi 'I "sharpen" your weapons with words, and I "whet" strengths (= sustenance) for you with sacred utterance', 10.120.5. Cf. the alternation sā-, cud- in requests for divine "sharpening" of inspired hymns, e.g. cōdāya dhīyam (with simile 'blade of metal!') 6.10.17, dhīyam ... sīśādhi 8.42.3, etc.

Another difference from the Iranian situation is the occurrence of both sā- and cud- with dir. obj. 'wealth' (rādhas-) sought from the gods, or simultaneously from the patrons (7.96.2 and 1.48.2 cud-; 7.18, 10.42.3 sā-, etc.). Conversely 'just him, i.e. Indra, do I whet (urge) to / for great wealth (in return for soma) for drinking' 8.67.7. Finally, note 8.4.15-16, in a prayer to Pūšan, patron-god of hymnists: 'We choose for friendship Pūšan of many treasures; may you, able, much invoked, facilitate, through the inspired hymn (dhīya), the propulsion (tuīj) of riches. Sharpen (sīṭhi) us like a knife in the hands, grant us wealth, o releaser! Through you are riches in cattle easy to obtain, when you propel (or advance, treat favorably: hinōši) a man'; cf. also tuī- w. rá-, 9.87.6. Here it may be seen that 'propel, speed forth' found for cud- (but not sā-) with dir. obj. 'wealth' or the petitioner would fit in well with the terms for 'to grant', etc.

[hi- 'propel' = 'treat with favor' commonly; cf. hitā- 'dear'.]

A syntropic analysis may now be suggested. Pllr. had the following: The r. *kśnu- 'to requisite, etc.', whence the Ir. forms discussed above, including, via Pllr. *kṣnautra-, Av. xōnaOra- 'grace, favor'; r. *kśnu- 'to sharpen, whet, abrade', attested only in ava kṣnāmi 'I efface, destroy' RV 10.23.2; pres. ptc. mid. kṣnūvānā- AV 5.20.1; and Av. huxśnutā- 'well sharpened', with *kṣnautra- Olnd kṣnótta- 'whetstone'; r. sā- 'to sharpen, whet, to abrade', represented both in Indic and Iranian (Pers. sāyad 'rubs' etc.), Pllr. *śaṇa- > Olnd. śaṇa-, Pers. sān 'whetstone'; Pllr. r. cud- 'to whet, to sharpen, to stimulate, to impel', Olnd. r. cod-, cf. Pers. čust 'agile' etc. (cf. also ONor. hvetja 'to sharpen, stir up', Goth. gahuatjan 'to impel, whet', ONor. hvatr 'quick, sharp!'). The poor attestation of the verb r. *kśnu- in both branches indicates that its obsolescence in favor of sā- probably began in Pllr., attributable to the homonymy of *kśnu-.

It is the homonymy of the two roots kśnu- from which one must start in order to explain the development of sā. The acquisition by sā- of the meanings of kśnu- in Indic would have begun in contexts where there was a semantic associability between the two homophonous verbs *kśnu-. A starting place may have been 'prayer' etc. as obj. of *kśnu-, cf. Av. yasna- as obj. (dir. or indir.) of xśnu-. We have in AV 5.20.1 the attestation of kṣnūvānā- modifying vāc- 'voice' (of a war-drum).
'Sharp' i.e. 'cutting' with regard to the effectiveness of a prayer could be interpreted as incisive, or decisive (Arab. qāti‘ 'cutting, asserting decisively'). The simile would have been completed by the homonymy of *kśautra- 'favor', 'whetstone'. Furthermore, the verb cud- meant not only 'sharpen, whet', which permitted its well-attested interchangeability with śā-, but also had the notion of 'further, favor, treat well' from 'push forth, propel', supported by the semantically parallel courses of hi- and tu-, and would also have wealth as dir. obj. (a usage not found for Av. xśnu-); thereby 'sharpen' would undergo a commensurate semantic expansion.

As concerns specifically the cult of the gods, the ritual centrality of Fire (Agni) had an important role in the Indic merger of *kśnu- as 'reciprocate, treat hospitably, propitiate cultically' and 'sharpen, whet' etc. Agni was the divine idealization of both guest (ātithi-) and host (grhāpati-) and thus an optimal representation of the reciprocity of hospitality (cultural) at the same time there was a close association between stoking and feeding the sacred flames, which was seen as whetting Agni's blades, horns etc.; in our texts precisely the same verb (ō-sam-/ni-)śā- is used for 'stoking' and 'sharpening'. This would have set a precedent for the 'sharpening' of other gods, whereby their being offered food, drink, praise, etc. was conceived of as both stimulating them (i.e. making them active and/or urging them) and sharpening their weapons to combat evil. Probably Indra figured prominently in the transition, being the most important divinity of the RV, activated by Soma and wielding the vajra. A close association between Indra and Agni is indicated by their forming a compound divinity; note esp. 6.40.10-11, where the worshippers are exhorted to sharpen (śīshī) each of the two, who pierce or split (bhid-) the eggs (brood) of the monster Susīg.

The chief convergent semantic trajectories of the various relevant roots may be schematized as follows:

While the precise chronology of events is uncertain, it is clear that the Indic replacement of *ksnu- by śā- is due to the concerted operation of a variety of factors: (1) the homophony of the two roots *ksnu-; (2) the complexly manifold semantic associability between the various meanings of each root; (3) the expansion of śā- at the expense of
the synonymous *kśnu-; (4) the semantic overlap of cud- with *kśnu and śā- as well as with *kśnu-. It may also be noted that polysemy was an important aspect of the vatic tone of the RgVeda, valued as both an aesthetic and hierophantic quality, increasing the value of the hymn as a means of stimulating and strengthening the divinity addressed, and also increasing the professional hymnist – priest’s merit of reward by his patron-host; this characteristic of the liturgical hymnic corpus, the most important context for the terminology involved, would have furthered the processes at issue (whose reflection in the everyday language cannot be determined).

The general interest of the development of *kśnu- and śā- in Indic is, apart from its illustration of syntropic operations, its presentation of an unusual phenomenon: the complete replacement of a lexical item not by its synonym, but by the homonym of its synonym.

A final illustration of syntropy, this time as reflected beyond the linguistic realm, in the realm of poetic organization, and in the oldest corpus of Iranian texts, Zarathustra’s Gāthās:

As noted in section I, the Avestan canonical terms for the gifts of hospitality are xšnūt- and aši- (araēti-), as at Y. 60.2 and Pūrs. 39; at the same time they are the ordinary words rep. for 'requital' and 'reward'. They occur consecutively in the Gāthās for eschatological remunerations, but are immediately followed by hospitality motifs in Y. 51.9-16 and Y. 31.3-4; 19-22 (with 3-4/19 showing the same motif), which show sequential linear parallelism:

Y. 51.9: 'That requital (xšnūtēm) which you will assign/create for both sides [good and evil] through your bright blazing fire and molten metal, to designate among creatures harm to the deceitful and benefit for the righteous'.

Y. 51.10: (Against the wicked opponents of Z.) 'I invoke Righteousness to come to me with Good Reward (ašī)!'

Y. 51.11: 'Who is an ally (uruwaθē) to Z.? ... Who is intent on the gift (magāi) from Good Mind?'

Y. 51.12: 'Not that bugger of a Kāvi; at the Bridge of Winter he did not give hospitality to (xšnāus) Z., blocking his stay, even when his draft animals were trembling from wandering and from cold.'

Y. 51.13: 'The Kāvi’s soul will vex him at the Bridge of Judgement because of his deeds ... !'

Y. 51.14: 'And the Kārapans who mistreat cattle are not allies (uruwaθē) and will be doomed to the "House of Deceit".'

Y. 51.15: 'But Z., who promised reward (mīzdēm) to the generous patrons (magauuabiō), will lead them into the House of Song.'

Y. 51.16: E.g. Vishtaspa, 'through the power of the gift (magahiśi), via the paths of Good Mind.'

Y. 31.3: 'That requital (xšnūtēm) through Righteousness and Fire, which you have created for both sides with your Spirit ... declare it for us to know.'

Y. 31.4: 'When I call upon Righteousness, Mazda and the other Ahuras will be present, with Reward (ašī) ... '

Y. 31.19: 'That allotment (vidātā) for the good of the two sides through your bright-blaezing Fire, o Ahura Mazda.'
Y. 31.20: 'Whoever comes to the aid of a righteous man, heavenly glory will be his future possession. But a long duration of darkness, bad food, and sounds of woe—to this state, 0 evil ones, will your conscience lead you for your deeds.'

Y. 31.21: (Ahura M. grants support to his ally, uruuaθd).

Y. 31.22: The benefactor will become 'Ahura's best fed guest' (vāzištō anhaitī astīs).

Moreover Y. 51.12 seq. is paralleled in linear sequence by Y. 46.11 seq.: Kavis and Karapans injure creatures; their souls will vex them at the Bridge of the Judge; they will be forever 'guests (astaiθo) in the House of Deceit'; those allied for the maga-gift will be in Ahura Mazda's abode, esp. Vishtaspa; praise of Spitamids and Hauqvids, etc. Note that Y. 46.1-6 and 13 is specifically concerned with hospitality and reciprocity (xšnū-).

Zarathushtra linked together the disparate usages of xšnūt- and aši-, i.e. as applied to hospitality and eschatology, by the fact that each usage was independently associated with houses; moreover both usages were connected by the relationship of social and religious principles:

<table>
<thead>
<tr>
<th>Social Principles</th>
<th>Religious Principles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gifts of Hospitality (xšnūt-, aši-)</td>
<td>Eschatological Requital (xšnūt-, aši-)</td>
</tr>
<tr>
<td>Domestic Reception</td>
<td>Heavenly/Hellish Abodes</td>
</tr>
</tbody>
</table>

The conflation of the remunerations of hospitality with those of eschatology permitted Zarathushtra further to project events of his own experience, esp. as regards hospitality, into his eschatological vision; at the same time he could integrate his experience near a bridge with his notion of an eschatological bridge of crisis. One axis of symmetry was afforded by the requital/reciprocity model, and the other by Z.'s strict dualism. The combined picture gained from a comparison of Y. 31, Y. 51, and Y. 46 may be schematized as follows:

<table>
<thead>
<tr>
<th>ACT (OF GIVING)</th>
<th>REQUITAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kavi refuses Z. at Winter's Bridge</td>
<td>Kavi's soul condemned at Judge's Bridge</td>
</tr>
<tr>
<td>Vishtāspa et al. grant Z. hospitality</td>
<td>will be best-fed guest(s) in A.M.'s House</td>
</tr>
<tr>
<td>Kavis et al. don't grant Z. hospitality</td>
<td>will eat bad food as guest(s) in the House of Deceit</td>
</tr>
<tr>
<td></td>
<td>with sounds of woe in hell</td>
</tr>
</tbody>
</table>
It now emerges from the relationship of the three texts (which are from different sections of the Gāthās) that the entirety of the Gāthās forms a compositional unity. Here we find syntropy as an important factor in the poetic *tours de force* whereby Zarathustra achieved this end. As in the Vedic material discussed above, the exploitation of polysemy is a characteristic of archaic Indo-Iranian vatic technique. Here, as in a large range of poetry, the syntropy of linguistic (and paralinguistic) data, which begins unconsciously, becomes part of a process of artistic organization. [A4]

NOTES

1. The radically aberrant view of Insler (1975: 156) must be rejected. Insler rightly objected to seeing an inf. in *xšānmāne*, but his own reading *xšanān māne* (sic) for *xšanām mānā* is far-fetched: (1) the dangling clause 'I who have recognized . . .' is impossible; (2) the assumption that *māne* is for *mānā* and this for *manā* is unsupported; no help is furnished by Insler's interpretation of *manā* vistaśī Y. 46.19 (allegedly for *manā vistaśī*, with *-ā- . . . -i- > -ā- . . . -i-), where moreover 'my possessions' makes less sense as part of an eschatological reward for a righteous man than the straightforward *manā vistaśī* 'things seen in the mind, envisioned in the plan'. (3) If *xšanān/ān* were the older reading, one would expect the Pahl. translation to have recognized it as a form of 'to know'. Instead the Pahl. has *āsād*, which seems to reflect */hšn-*, cf. Bartholomae s.v. *xšānmāne*.

2. Possibly here one can compare typologically the contrast of the "upper" and "lower" Sephiroth in the hierophany of the Kabbalah.

3. Insler (1975: 182) strongly defends *xšnut-* as 'satisfaction' "in the legalistic sense" (seeing the Gāthic eschatological terminology as chiefly derived from the legal sphere), for which he cites the oldest usage of Eng. *satisfaction* in the OED. The sentence cited there indicates that the goal of the satisfaction is the offended party, as is to be expected; in the Gāthic passages however Ahura Mazda (the party to be satisfied) gives or assigns the *xšnut-* to the good and evil.

4. The term *vāzišta-* modifying *asti-* was shown conclusively by Humbach (1952: 24-27, 33-34) to mean 'most strengthened, best fed', [cognate of OInd. *vāja-* 'invigoration, prize']. I would add that the old positive of *vāzišta-* was *vāzra-*, OInd. *vairā-* 'bloated, forceful' (> 'mace'), cf. OPers. *vāzīkā-* 'great, big' etc., ONor. *vakr* 'energetic', etc. Furthermore, *vāzišta-* as applied to the guest finds an important correlation in Ossetic: Digor *iwāzāg*, Iron *wāzāg* 'guest'! The latter attests another replacement for OIr. *asti-*. 5.

5. Insler's translation of *hnu-* as 'to satisfy' is inaccurate; the mgs. 'deny, conceal, atone for' were conclusively demonstrated by Charpentier (1916: 96-105) and cf. J. Brough, Siddha-Bhāratī, 1950, 1-5. The connection of *hnu-* with Ir. *xšnu-* is rejected on formal grounds (the velar attested in the Av. redup.) by Charpentier, 105, and recently by Hollifield (1978: 175-176), who also notes the discrepancy in mg.: his own etymology, -n- infix from *gēw-* 'to call', is ins supportable semantically and formally (note Gr. *pepnmēnos*, ēmpnūto cannot be wholly separated from *pnew-* 'blow, inspire', anapnēō etc.).
—Av. snuš in the Frahang-i Qīm is probably a corrupt, truncated form; the gloss sōgenīdan 'to bring about benefit' suggests sāus-, sōûiš- or the like < r. sav-.

6 Against Scheller (whose study is invaluable for the mg. of privá-, its cognates, and the parallelism with philos), it does not seem necessary to reconstruct a laryngeal base preA-. Gr. praus 'gentle, friendly' may be conn. w. prāos 'meadow', Lat. prāvus 'bent', with the same semantic course as Sogd. namrē 'gentle', Lat. nemus 'meadow', Av. nam- etc. 'to bend'. Ír. prī-, Gmc. fri- perh. *pri-A-, with the same verb marker as Hitt. newaḥ- etc.

7 Cf., in addition to the etymologies of Gr. akouō, Eng. hear, etc. < 'perceive', in Ir. Ormuri amar- 'hear' < 'take account of'.

8 Humbach (1952:11; 1956:70) not only takes Ir. xšnu- 'to treat well' but also 'to hear' (which he unconvincingly tries to demonstrate for an Av. form without ā-) from 'sharpen'; see against this already Gershevitch (1959:324).

9 Aspects of the parallelism of Y. 51 to Y. 46, with remarks on the contrasts along what I call the horizontal axis, and comments on the 'ring-compositional style' of the texts, are found in Humbach (1952:20); the same article is particularly important for its recognition of the guest status of the professional priest.

ADDENDA

[1] The clearest contexts for xšnu- as 'provide hospitality' are (1) Pursišnihā 49: 'He who has not x.d (xšnaosṭa) nor will x. (xšnauauiieite) the righteous man coming to his door-post (aθāhuua with Humbach *aθāhuua = Ond. ātāsu) [will not go to Paradise]'. (2) Hadōxt Nask 2.19 (of exempla of piety): 'x.ing (kuxšnunuṣānō) the righteous man coming from near and from far' (also Vištāsp Yašt 59, in connection with Vištāspa, who having put an end to Zarathushtra's wanderings, is the host par excellence); for 'righteous man' (= 'Zoroastrian') cf. Y. 46. 5-6, where Zarathushtra, in stating the rules of hospitality, distinguishes the decentful from the righteous, admonishing hosts to warn their families against suspect guests; (3) Y. 51.12: 'He ... did not x. (xšnāus) Zarathushtra ... though his (Z.'s) draft beasts were trembling from wandering and cold'.

The use of the middle voice with xšnu- in hospitality contexts is connected with its status as a verb of reciprocity.

[2] Mayrhofer, IIJ 4, 1960, 136-140 has reported, from cuneiform materials from Nuzi and Alalakh, a number of apparent Aryan personal names in -atti, which appears to be yet another realization of PIlr. *atHti-*'guest'. Thus Birjatti *Priya-atthi- [or the like], 'Philoxenos', cf. Ond. priyā- ātithi-, Av. ātia- asti-', and forms with first member of compd. the name of a god (*Mitra, Asura, Sūrya, Indra), i.e. 'Having Mitra (etc.) as a guest'. This may now be seen as a further reflection of hospitality as model for cult.

[3] Ond. ātya (ātiya-) literally means 'by-passing' and is from āti-, as was shown by Kuiper, III 4/4, 1960, 220 n. 10. This
further confirms the secondary association of átithi- (*āthit-*) with both átati and áti-, and the parallelism of the semantic course of their root with that of mey-, which may be illustrated schematically as follows:

<table>
<thead>
<tr>
<th>PIE *mey- (t-H-) 'exchange'</th>
<th>PIE *Ae-t-(H-) 'to alternate'</th>
</tr>
</thead>
<tbody>
<tr>
<td>OInd. nimāyate 'changes'</td>
<td>OInd. vyāthate 'vacillates'</td>
</tr>
<tr>
<td>Sogd. etc. mēg 'day'</td>
<td>Lat. annus etc. 'year'</td>
</tr>
<tr>
<td>Lat. mēg 'pass, wander'</td>
<td>OInd. átati 'wanders', átya- 'by-passing'</td>
</tr>
<tr>
<td>ONor. mein 'harm'</td>
<td>Av. ÍGi- 'harm'</td>
</tr>
<tr>
<td>MPers. mēhmān etc. 'guest'</td>
<td>Av. ásti- etc. 'guest'</td>
</tr>
</tbody>
</table>

Other parallel courses may be schematized similarly, e.g.

<table>
<thead>
<tr>
<th>PIE *kWsen-(w-) 'to exchange'</th>
<th>PIE *mey- (t-H-) 'to exchange'</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gr. kūnos, Oss. xsān</td>
<td>Lat. commūnis 'common',</td>
</tr>
<tr>
<td>'common'</td>
<td>mútuus 'shared'</td>
</tr>
<tr>
<td>Gr. ksún 'together with'</td>
<td>OInd. mithás 'together with'</td>
</tr>
<tr>
<td>MPers. ūnōr 'grateful'</td>
<td>Sic. moīts 'gratitude'</td>
</tr>
<tr>
<td>Av. xsnūt- 'requital'</td>
<td>Av. maēni- 'penalty'</td>
</tr>
<tr>
<td>Gr. ksenwos 'guest'</td>
<td>MPers. mēhmān 'guest'</td>
</tr>
</tbody>
</table>

[4] The idea of heavenly reciprocity for earthly hospitality passed from the Gāthās (probably via digests and catechisms such as the Pursīṣṭhānas) into the Pahlavi literature; note esp. Some Sayings of Ādurābdh, Son of Mahraspand 16 (PT 146): 'Give hospitable reception (padir bawed) to the traveler so that they will receive you all the more here (on earth) and there (in heaven), for he who gives, gets, and with increase (profit, interest: wāxā) besides'. Here may even be seen a reflection of the "attenuated sort of potlatch" characterizing the archaic situation.

CITATIONS

Benveniste, Émile 1945. Transactions of the Philological Society of London.
--- 1969. Le vocabulaire des institutions indo-européennes, I.
Brough, John 1950. in: Siddha-Bhārati.
Burrow, Thomas 1954. in: Saruṣa Bhārati.
Freien, Freund.
Esselen Structural Prehistory

David L. Shaul

University of California, Berkeley

This paper reviews the structural (grammatical and phonological) prehistory of the Esselen language isolate from an areal point of view; for the geographic location of Esselen and surrounding languages, please refer to Map 1. A section of background information will be given. Methodology will then be discussed, and then the results of the survey will be presented by presenting the essential grammatical features of Esselen. Conclusions reached will be related to other results of linguistic prehistory studies in the area of central California, as well as to findings of non-linguistic study of the area.

Esselen was one of the smallest aboriginal speech communities in California, and the first to become extinct. Isolated in the Big Sur country in essentially undesirable land, the Esselen language was an enclave in the Costanoan culture area, sharing an eastern border with Salinan. Ethnographical sources report the Esselen similar in material culture to the Costanoans, with whom they were friendly. Hostile relations obtained between the Esselen and the Salinan.

This is borne out by the archaeological record. Relations along the Costanoan-Esselen border with Salinan were hostile— an effective trade barrier. An archaeological site near the coast along this border may reflect hostility and competition for valuable shell resources in the area (Pohorecky 1978; written 1964). The only site well inside the historic Esselen territory that has been excavated is the Isabella Meadows Cave which was occupied for at least 470 years, A.D. 1350 to 1825, if not about 1000 years (Meighan 1955:24). Meighan found that "the few scraps available suggest that the Esselen were culturally more similar to Costanoan than to the Salinan... for the present the Esselen must be regarded as a group with fairly distinctive technological pattern (in basketry, arrows and cordage)" (1955:26). Yet the Esselen must have been highly conservative culturally, for the large sample of fragments of all sorts of baskets "has a unique kind of twining with highly specialized technology not known anywhere else in America" (Dawson 1973:2). Linguistic similarity may be more expected between Esselen and Costanoan because the Esselen were an enclave in a Costanoan matrix culture.

Even earlier linguistic relations between Esselen and other languages is suggested by Beeler's study of the Esselen numeral system: "examination of Esselen numerals has shown us a basically quinary system that has been overlaid, in prehistoric times, by a quaternary and, later, by a decimal system" (1978:33). Esselen is a member language of the Hokan hypothesis, which is supported by both
grammatical and lexical data (Sapir 1925). A broad view of early Esselen linguistic prehistory would begin with the traditional view that Hokan-speaking groups were forced from central California into peripheral areas by Penutian-speaking groups (Shipley 1978:81). It may be inferred that Esselen was once spoken over a larger area than its historical location, yielding territory to Penutian-speaking groups to the north (Costanoan) and to the south (Yokuts).

Kroeber was the first to suggest a more extensive northerly territory for the Esselen (1925:544-545). Two of the Esselen:Costanoan lexical resemblances may point to an Esselen substratum for Costanoan (Beeler 1961), while it is impossible to determine the direction of borrowing with other sets (Beeler 1978:35). Some of these resemblances are found in other languages of central California and the Great Basin (cf. Nichols 1981).

Esselen:Uto-Aztecan resemblances, including some loanwords from Uto-Aztecan into Esselen, may indicate a more southern spread of Esselen speech prior to the Yokuts (Penutian) occupation of the Central Valley. This parallels Klar's observation that Obispeño (Northern) Chumash has more loanwords from Uto-Aztecan than any other Chumash variety (1973:62-63). In light of Whistler's model of a series of Penutian migrations into central California from the north (Whistler 1977), further study of the two "frontiers" involving Esselen might prove fruitful.

That is what I would like to do here using Esselen structural data, reserving the lexical study as a sort of check to the findings of this first study.

An outline was made of those features of Esselen structure that can clearly be demonstrated or are reasonably sure. This was done by surveying the four grammatical analyses that have been made of Esselen (Kroeber 1904, Harrington 1913, Beeler 1978 and Shaul 1981b). It would be beyond the scope of this paper to justify every point made about Esselen structure. These touch points formed a dragnet that was used to survey languages that may have been in contact with Esselen: Salinan, Costanoan, Chumashan, Uto-Aztecan and Yuman-Cochimí. In order to be considered significant, a given structural feature had to meet three criteria: (a) have identical phonological shape, (b) have the same function, and (c) have the same distribution. A model was then constructed of Esselen linguistic prehistory which may be checked by a follow-up study on Esselen lexical prehistory.

The results of the survey will be presented under seven rubrics in the following order: 1. phonology, 2. syntax, 3. noun syntagma, 4. noun classes, 5. pronominal forms, 6. transitive verb syntagma, and 7. stative syntagma.

1. Phonology

The minimal phonemic system for Esselen proposed by Shaul (1981a) is given in (1), along with the rosters for Proto-Yuman (Wares 1965:99; Langdon 1968), Southern Cochimí (Mixco 1978), Uto-Aztecan (Langacker 1977:21), Proto-Chumashan (Klar 1977:32), Salinan (Turner 1980), and Costanoan (Okrand 1977). All exhibits follow the text of the paper.

In terms of basic consonants, vowels, consonant series, syllabic
shape and stress, the following are impressionistically like Esselen in descending order of likeness: Costanoan, Uto-Aztecan, Proto-Chumashan, Proto-Yuman, Southern Cochimi, and Salinan. I will discuss the similarity of the Esselen sound system to Costanoan in detail.

Typologically, Esselen may be compared to the convenient summary of Proto-Penutian compiled by Shipley (1978:82) and Proto-Hokan compiled by Langdon (1974 and 1979). Hokan is likely to have had monosyllabic roots, a three-vowel system and perhaps a series of glottalized stops. On the other hand, Proto-Penutian was likely to have had the same five-vowel system as the one inferred for Esselen, a number of sonorants (m, n, r, l, w, and y) and roots with a CVCV(C) structure, where the vowels frequently were identical in quality. This concurs well with Esselen syllabic structure, where a noticeable number of the roots have identical vowels. Typologically, Esselen seems much closer to the Penutian type than to the Hokan type to which it is supposed to belong.

More specifically, the segment inventory of Esselen proposed in Shaul (1981a) closely resembles Costanoan languages. The main differences between these two rosters is that a palatal series is phonemic in Costanoan (but not in Esselen?). The Mutsun and Esselen vowel systems are identical: /i e a o u/. Syllabically, Mutsun had medial consonant clusters, including geminated ones (Okrand 1977:89). Consonant clusters are atypical of Esselen, though there is some question as to whether length was a syllabic property in Esselen as is typical in Costanoan languages (Okrand 1977:90).

The typological similarity between Esselen phonology and Costanoan phonology, noted by Kroeber (1904:80), may have prompted Harrington's stray remark that "Esselen belongs with Smuhuwichoid Penutian as opposed to Eastern Penutian" (Beeler 1978:8). At any rate, most of Harrington's rehearsings of Esselen material with his Rumsen consultant Izabel Meadows concentrate on this problem. Izabel's varied preference for forms of a given word with and without consonant or vowel length may well be interference from her native Costanoan variety (cf. Beeler 1978:4 on the problem of language interference).

In an article entitled "Sibilants and Naturalness in Aboriginal California, William Bright found that the "retracted [s] , rather than the non-retracted [s] should be regarded as the normal, natural, unmarked sibilant for a large area of Western North America... which seems to center in California" (1978:48). Esselen is no exception to this. It was suggested (Shaul 1981a) that Esselen may have had both /s/ and /ʃ/, and that the /s/ may have been [ʂ] phonetically. On the basis of the data in (2), it seems likely that Esselen shares in this /s/:/ʃ/ area. As with word order considerations, below, this particular trait does not reveal any specific pattern of prehistory with regard to Esselen.

2. Syntax

Esselen had both SOV characteristics and SVO characteristics, as seen in (3). From this, I infer a basic SOV type for Esselen. The order head + relative clause, however, is not a typical SOV trait. It is interesting to note that Arroyo de la Cuesta noted that
the Esselen speech community probably had a larger territory anciently (as suggested above). The situation of Uto-Aztecan in the southern part of the Central Valley has been inferred in recent work by Klar.

Klar (1977:164) presents evidence of ancient contact between Uto-Aztecan and Chumashan, which are historically situated a considerable distance from each other. Klar postulates that after contact between Chumashan and Uto-Aztecan, the southward Yokuts movement split the Uto-Aztecan and Hokan groups apart (1977:164). In particular, "Obispeño [Northern Chumash] shares so many loanwords from Uto-Aztecan languages, loanwords not shared by other of the Chumash dialects to the south, with whom Uto-Aztecan had direct contact in historical times" (1977:165) that the Northern Chumash:Uto-Aztecan contact must have been ancient. Klar (1980) gives a convenient example, shown in (22), noting that no Yokuts or other Chumash language has this item as a word for 'one' (Klar 1980:115).

Turner's work on lexical prehistory of central California (1981) confirms Klar's hypothesis. Her lexical sets involving Salinan show that Salinan must have been farther east and south than at contact. In particular, Salinan had contact with Uto-Aztecan, probably at two different periods. In addition to sharing lexical resemblances with southern distribution in Uto-Aztecan (indicating ancient contact), Salinan also has lexical resemblances with the Takic subfamily of Uto-Aztecan. Turner suggests that Chumashan:Uto-Aztecan contact was more intensive than Salinan:Uto-Aztecan contact, and that Salinan:Uto-Aztecan was particularly intensive with the Numic subfamily of Uto-Aztecan.

Taken together, the hypotheses presented here and by Klar and by Turner point to an arrangement of speech communities in the southern portion of the San Joaquin Valley that is roughly sketched in (23). The location of Yuman and Salinan is problematic.

Discussion

Traditionally, the epistemology of linguistics has treated language as an isolated, self-contained phenomenon. This has prevailed from Bloomfield on to the present day. Despite the convenience of describing languages as self-contained, reductionism should not be allowed to dictate linguistic theory. Reconstructed entities should be as variable as their descendents. Such constructs as basic vocabulary and kernel morphology do not hold absolutely.

The contribution areal linguistics can make to linguistic theory is by showing that social environments in the past have influenced the infrastructures of languages. This suggests that a universal base hypothesis is untenable, and that a universal or near universal grammar should not be predicated on any single language or observation. The beneficial effects of doing areal linguistics simultaneously with comparative method is not new. However, areal linguistics, if taken seriously, has implications for linguistic epistemology, for a theory of language change, and ultimately for constructing an explanatory cross-language theory.
Map 1. Situation of Esselen and Surrounding Languages
(1) **Esselen (Es)**

\[
\begin{align*}
pt & tkk^? i u \\
c & e o \\
s(r) & x h a \\
m & n \\
w & y \\
p/ & \rightarrow [φ] /VV_feont \\
s/ & \rightarrow [ζs]/VV_feont \\
c/ & \rightarrow [ζs]/VV \\
\text{Syllable canon: CV; common} \\
\text{root shapes: CV, CVCV, CVVCVC;} \\
\text{stress: penultimate}
\end{align*}
\]

**Proto-Chumashan (Ch)**

\[
\begin{align*}
pt & kq^? i (υ) u \\
pt & kq e o \\
s(c) & a \\
m & n \\
w & y \\
/\text{s/ vs. } /\text{t}/ \text{likely (KW)} \\
/\tilde{a} & \text{is certain (KW)} \\
w & l y \\
/\tilde{ζ} & \text{phonetic (?) (KW)} \\
\text{Allophonic series of aspirated stops (KW).}
\end{align*}
\]

**Proto-Yuman (Y)**

\[
\begin{align*}
pt & t kω^? i u \\
c & s x x a \\
v & n y l y \\
w & r y \\
\text{Phonemic vowel length; syllable canon: (C)VC(C); root types: mono-} \\
\text{and di-syllabic; stress: on first} \\
\text{syllable of root}
\end{align*}
\]

**Salinan (Sa)**

\[
\begin{align*}
pt & t c k^? i u \\
p & t \tilde{c} c k e o \\
s & s x h a \\
m & n l \\
w & r y \\
/\tilde{ζ} & \text{phonetic} \\
\text{Phonemic vowel length; syllable} \\
\text{canon: (C)CV(:)(C)(C); roots: mono-,} \\
\text{di-, and tri-syllabic; stress: not} \\
\text{predictable, phonemic}
\end{align*}
\]

**Southern Cochimi (SC)**

\[
\begin{align*}
pt & tc kω^? i u \\
(b) & (d) (g) (e) (o) \\
s & s x a \\
m & n n^? \\
w & l y \\
\text{No vowel length indicated; syllable} \\
\text{canon: CV most common} \\
\text{pattern; final stress}
\end{align*}
\]

**Costanoan (C): Mutsun**

\[
\begin{align*}
pt & ty tk^? i u \\
pt & tc k e o \\
s & s y a \\
m & n n^? \\
l & l y \\
w & r y \\
\text{Length contrasts affect syllable} \\
\text{shape; syllable canon: CV(:)C; common} \\
\text{root types: mono-, di-syllabic; stress:} \\
\text{mostly morpheme-initial}
\end{align*}
\]

**Proto-Uto-Aztecan (UA)**

\[
\begin{align*}
pt & tc kω^? i i u \\
s & h o \\
m & n a \\
w & l y \\
\text{Phonemic vowel length; syllable} \\
\text{canon: CV; root types: CVCV, CV;} \\
\text{stress: penultimate}
\end{align*}
\]
(2) Sibilants
Rumsen /s/ /ʂ/ /ɕ/
Mutsun /s/ /ʂь/ /ɕь/
Ch (Inez.) /s/ /ʂ/
Ch (Barb.) /s/ /ɕ/
Ch (Vent.) /s/ /ɕ/
Ch (North.) /s/ /ɕ/
Salinan /s/ /ɕ/
Proto-Yokuts /s/ /ɕ/

Rumsen (Okrand 1980); Barb.
Ch (Beeler 1976); Inez. Ch (Applegate 1972); Northern Ch (Klar 1973); Salinan (KT); Proto-Yokuts
(Golla 1964); Vent. Ch. (KW)

(3) Es. Syntactic Traits
SOV: modifier + noun
noun + postposition
possessor + possessed
consistent OV order
SVO: head + relative clause

(4) Syntactic Characteristics

<table>
<thead>
<tr>
<th></th>
<th>order</th>
<th>head + rel.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
<td>SOV</td>
<td>+</td>
</tr>
<tr>
<td>SC</td>
<td>SOV</td>
<td>+</td>
</tr>
<tr>
<td>UA</td>
<td>SOV</td>
<td>+</td>
</tr>
<tr>
<td>Ch (N)</td>
<td>VOS</td>
<td>+</td>
</tr>
<tr>
<td>Ch (Cent)</td>
<td>VOS</td>
<td>+</td>
</tr>
<tr>
<td>Ch (Is)</td>
<td>SVO</td>
<td>?</td>
</tr>
<tr>
<td>Sa (below)</td>
<td>SVO</td>
<td>?</td>
</tr>
<tr>
<td>C</td>
<td>SVO</td>
<td>+</td>
</tr>
</tbody>
</table>

Sa has VS, VOS, VO and VSO word orders attested; these may be an artifact of translation from Spanish
(KT). VOS is rare in Ch., as subj. fronting gives SVO (KW)

(5) Es. Noun Syntagmas

- modifier + (š) + stem + 1 + 2
  - non-class derivatives or class suffix
  - postposition or predicative -k
š- co-occurs with possessed nouns, possibly only with body parts and kin terms

(6) Other Noun Syntagmas

Y poss. - stem - dem - case/postp
SC stem - 
  - numeral
  - stative
  - poss
UA poss - stem -
  - class - case
  - pl
  - postp
Ch (Barb) dem - poss - is - stem - suf
Ch (Inez) art - poss - is - stem - suf
  - agt
  - dem
Ch (Is) art - poss - is/is - stem - suf
Sa prep -
  - dem - adj - stem - pl - poss
  - art
C poss - stem - 1 - 2

In C, 1 = pl and other, 2 = postp and other; Sa data is from a text analysis of KT and Mason (1918)

(7) is Constructions

<table>
<thead>
<tr>
<th></th>
<th>order</th>
<th>head + rel.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Es</td>
<td>poss - iš - stem - X</td>
<td></td>
</tr>
<tr>
<td>Ch(Is)</td>
<td>poss - iš/iš - stem - X</td>
<td></td>
</tr>
<tr>
<td>Ch(Barb) {art} - is - stem - X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ch(Inez)</td>
<td>poss - is - stem - X</td>
<td></td>
</tr>
</tbody>
</table>

(8) *-is- in Chumashan

<table>
<thead>
<tr>
<th></th>
<th>alien.</th>
<th>inalien.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch (Is)</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>Ch (Barb)</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Ch (Inez)</td>
<td>-</td>
<td>+</td>
</tr>
</tbody>
</table>

Absent from Northern Ch (KK)

(9) *Ch inalienable: mi-/si-poss-noun
  *Ch alienable: article-poss-noun
(10) **Es. Postpositions**
- **-nu** instrumental
- **-manu** comitative
- **-no** locative
- **-pam** illative (?)

Y - **m** instrumental
Y - **m** comitative
SC - **mo** locative
SC - **no** locative

(11) **Numic Compound Suffix**

\[-\beta\text{i}l + [\xi] = [-\beta\text{i}t\xi] /-pici/\]

**agt** dimin

(12) **Es. Noun Classes**

- **nouns**
  - **unmarked**
  - **marked**
    - **human**
      - **-s**
        - **-si(s)**
        - **-1** series
    - **non-human**
      - **-n**
      - **-pśa**
      - **-t**
      - **-sa**
      - **-nVx**
      - **-śa**

(13) **Es. Noun Class Endings**

- **-x**, **-nVx**, **-sVx**
- **-s**, **-sa**, **-si(s)**
- **-š**, **-śa**, **(-sVx)**
- **-l**, **-lV**, **-lVx**
- **-n**, **(-nVx)**
- **-t**, **-ta**
- **-pśa**

- **UA (Takic)**
  - **-ca** (**-śa**) **-l** **-ta**
  - **-ś**
  - **-l** **-t**

- **UA (Tûb)**
  - **-∅**
  - **-l** **-t**

(14) **Salinan Stem Final Consonants**
- **∅** (**-V**)
- **-t**, **-t̪**, **-t̄a**
- **-L**, **(-lax)**
- **-n**, **(-nax)**
- **-s**, **-śa**, **-ča**
- **-k**
- **-p**

N.B. The suffixes in **-x** are pl.

(15) **Subject Pronoun Tactics**

<table>
<thead>
<tr>
<th></th>
<th>indep.</th>
<th>affixal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Es</strong></td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td><strong>Y</strong></td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td><strong>SC</strong></td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td><strong>UA</strong></td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td><strong>Ch</strong></td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td><strong>Sa</strong></td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td><strong>C</strong></td>
<td>+</td>
<td>-</td>
</tr>
</tbody>
</table>

Es, UA, and C have the optional of using a subject clitic.

(16a) **Object Prefixes**

| **Es** | **ē** | 3rd obj |
| **Es** | **mi-** | indef obj |
| **Es** | **ha-** | 3rd obj |

| **Ch** | **mi-** | possessor |
| **SC** | **m-** | obviative |
| **SC** | **n-** | indef |

(16b) **Es. Plural Pronouns**

- **we**: le:-č
- **you**: nem:ē-č
- **they**: la-č, lawa-ni

Cf. Y -č pl (to nouns, verbs and pronouns in some languages; LH)
(17) **Transitive Verb Syntagmas**

Es 1-2-s-stem-tense/aspect
1 and 2 are interchangeable, and may include: čili- hort/imp, e-, ha-, both obj markers; -s- is a transitive marker; tense/aspects: -lala fut, -nv continuative

Y subj/obj-g-stem-suf
SC subj/obj-stem
UA obj-stem-na-tawa-suf (Steele 1979)

Ch(Inez) ...-subj-sV(s)-stem...
Sa conj-neg-\(k\)-stem-pl-fut \{subj\} \{obj\}

C stem-s-(obj)-tense

Sa k- is stative, while -p is active (KT); t- is a nom. UA -na is a caus and UA -tawa is pass. Transitivity is not a syntactic category in Ch. (KW)

(18) čili- hort/imp -nv cont
Es + +
Y ? -
SC ? ?
UA - +
Ch + ?
Sa ? -no- fut
C - -

(19) **Stative Syntagma**

Es stem-k(I)
Y *kw-stem
SC stem-ku
UA stem-k
Ch(Inez) ?
Sa k-stem
C stem-tense

Statives marked like other verbs in Ch. (KW)

(20) **Data Summary**

1. CONSONANT TYPES: Es, C; maybe: Y-C, UA
2. CONSONANT SERIES: Es, C, UA, Y-C
3. VOWEL TYPES: Es, C
4. SYLLABLE SHAPE AS CV: Es, C, UA, Ch

(20) continued

5. PENULTIMATE STRESS: Es, C, UA, Ch
6. SOV ORDER: Es, Y-C, UA
7. NOUN SYNTAX: Es, C, UA
8. POSS-IS-NOUN: Es, Ch
9. -M COMITATIVE/INSTR: Es, Y-C
10. -NV LOCATIVE: Es, SC
11. NOUN CLASS MARKERS: Es, UA, Sa(?)
12. BASIC SUBJ MARKING TACTICS:
   - Es, UA, C
13. M(I)- INDEFINITE: Es, Ch, SC
14. OBJ-S-STEM (TR): Es, Y, Ch
15. ČILI- HORT/IMP: Es, Ch
16. -NV CONT: Es, UA
17. STATIVE SYNTAX: Es, SC, UA

(21) **3+ Member Sets**

Es, C, UA, Ch: (3), 4, 5
Es, C, UA, Y-C: (1), 2
Es, C, UA: 7, 12
Es, Ch, Y-C: 13, 14
Es, UA, Y-C: 6, 17

Sets of Two Members

Es, C: 1, 3
Es, Ch: 8, 15
Es, UA: 11, 16
Es, Y-C: 9, 10

(22) N. Ch sumo 'one' *UA stum 'one'

(23) Numic

UTO-AZTECAN

ESSELEN

Takic

SALINAN

CHUMASH

YUMAN-COCHIMI

Subfamily names are in lower case.
Notes

1 Thanks to the following persons for personal communications: Leanne Hinton (LH), Kathryn Klar (KK), Katherine Turner (KT), and Ken Whistler (KW). Other primary sources are given in the first paragraph of Section 1, Phonology. Other abbreviations include the following:

| 3rd       | third person | inanim | inanimate |
| adj       | adjective    | indef  | indefinite |
| agt       | agentive     | intr   | intransitive |
| anim      | animate      | neg    | negative   |
| art       | article      | nom    | nominalizer |
| caus      | causative    | obj    | object     |
| conj      | conjunction  | pl     | plural     |
| cont      | continuative | poss   | possessive |
| dem       | demonstrative| postp  | postposition |
| dimin     | diminutive   | prep   | preposition |
| fut       | future       | subj   | subject    |
| hort      | Hortative    | suf    | suffix     |
| imp       | imperative   | tr     | transitive |

Language names are abbreviated on Map 1.

2 The exception is perhaps the portion of Ventureño that was in historical contact with Uto-Aztecan, especially Kitanemuk (KK).

3 The factors mentioned here (consonant types, vowel types, syllable canon, consonant series, stress) are considered individually in the analysis section.

4 The distinction is actually preserved in Inezeño; there are two -is-markers with exactly opposite meanings: one alienable, one inalienable (Applegate 1982).

5 Esselen -piši or pisi may be compared to northern Uto-Aztecan forms as in (11). The resemblance is striking, and, while some of the Numic (Uto-Aztecan) languages place postpositions after the form -pići, it is not clear how old this formative is in Uto-Aztecan.

6 Chumashan languages have a noun formative usually termed "resultative", which has the form -Vż, but nothing that really resembles the Esselen or Uto-Aztecan systems.

7 The entire numeral system was displaced by this borrowing.

References


Harrington, J. P. 1913. The Excelen Language. Ms, National Anthropological Archives, Smithsonian Institution.


Krooer, A. L. 1904. The languages of the coast south of San Francisco. UCPAAE 2(2).


Mason, J. A. 1918. The language of the Salinan Indians. UCPAAE 14(1).


Pohorecky, Z. S. 1978. Archaeology of the South Coast Ranges of California. Contributions of the University of California Research Facility, 34.


------. 1981. Salinan. Special Field Examination, Department of Linguistics, University of California, Berkeley.


Linguistic Contact in Ancient South China: the Case of Hainan Chinese, Be, and Vietnamese
David B. Solnit, U.C. Berkeley

This paper considers three genetically unrelated languages spoken on Hainan island and in Vietnam, and shows that there are close similarities in the historical development of the initial consonant systems. This convergence is seen to be the result of linguistic contact in the South China area in the second half of the first millennium A.D. In addition, an explanation is suggested for the direction of phonological convergence.

The three languages are:
1) Hainan Chinese (HnC), by which is meant the Min dialects which are the main form of Chinese spoken on Hainan island (Guangdong province). Chinese is one branch of the Sino-Tibetan stock.
2) Be, sometimes also referred to as Ong-Be or Limkow. In spite of large numbers of Chinese loans (over 50 per cent of the lexicon, according to Hashimoto (1980)), Be is clearly related to the Tai and Kam-Sui families.
3) Vietnamese (Vn), the national language of Vietnam, which belongs to the Viet-Muong (VM) branch of the Mon-Khmer (MK) stock.

The modern initials. A comparison of the initial consonant inventories of these three languages shows some interesting resemblances (Table 1). HnC is represented by the Haikou dialect, from Chang 1976; Be is from Hashimoto 1980; Vn is represented by the Hanoi dialect, with the traditional (quoc-ngu) spelling in parentheses. We may note these common features: 1) presence of the voiced implosives [ɓ̝ d̝ ]; 2) the labial and velar voiceless aspirates vary with or are replaced by affricates/fricatives, while [tʰ] is missing in HnC and Be; 3) there is no plain (voiceless unaspirate)[p]; 4) there is only one apical (i.e. dental/palatal/retroflex) affricate: this is particularly remarkable in HnC, since most Chinese dialects distinguish at least an aspirated/plain pair in this region.

Genetic/historical background. Before turning to the historical developments lying behind these common features, some general points should be made concerning the genetic affiliations of the languages.

The exact position of Be vis-à-vis the Tai and Kam-Sui(KS) groups is not yet clear. It has been linked to KS by Benedict (1975, 4) and Haudricourt (1966, 53), and to the Central branch of Tai by Hashimoto (1980, v); see diagram, Table 2. The further affiliations of Kadai are still in doubt, with Austronesian (Benedict 1942 and 1975) and Chinese (e.g. Li 1976)---and therefore presumably Sino-Tibetan---the main contenders. In any event, HnC, Be and Vn may be regarded as unrelated genetically: it has never been suggested that Vn is related to Chinese; and even if Tai and Chinese are to be connected genetically, the developments under consideration here date from a time or times when the two were indeed separate, namely the periods of proto-Tai and Ancient Chinese.

However, both Vn and Tai (and also KS) have a large number of words with Chinese correspondences. In Vn these are clearly loans,
of two types: 1) a homogeneous group originally borrowed as the readings of Chinese characters, when these were acquired, in the late first millennium A.D., for use in writing both Vn and Chinese (as a literary language); this type is known as Sino-Vietnamese (SV); 2) a more heterogeneous, non-literary group that is generally considered to represent earlier borrowing than SV. As for the Chinese-related words in Tai, many are reconstructible for proto-Tai (pT), although they may represent loans antedating the pT period. In comparing Be and HnC an attempt will be made to exclude words having this type of dual etymological possibility, since the aim is to show that Be and HnC have influenced each other in areas beyond the scope of lexical borrowing. That is, the two languages share so many phonological changes that any given Tai/Chinese root may well have the same phonological shape whether it arrived in Be by inheritance from proto-Kam-Tai or by borrowing from modern HnC.

This paper will mainly deal with the evolution of initial stops, with some reference to the affricates and fricatives. The proto-languages that are the sources for the three languages are all to be reconstructed with three full series of stops, namely plain, aspirated and voiced. Kam-Tai and proto-Viet-Muong(pVM) also show a partial series of preglottalized initials /B D T/. The tonal systems of all three languages may be understood in terms of a three-way proto-tone contrast in non-stop-final syllables, plus a fourth, non-distinctive "tone" in stopped syllables. At a relatively early point the voicing distinction in stops was lost, the voiced stops merging in various ways with the plain and/or aspirated stops, but leaving an effect on the tone, so that (to simplify somewhat) each tone was split into two (see Matisoff 1973). In Vn and Be the *preglottalized initials pattern with the voiceless stops in tonal development.

In the discussion that follows, Vn will be compared with pVM forms as reconstructed by Thompson (1976), with SV loans compared to Karlgren's Ancient Chinese (AnC). HnC is compared with Amoy (Am; Southern Min) and Fuzhou (Fu; Northern Min) as given in Norman 1973 and 1974, plus Norman's proto-Min initials. It is generally considered that the Min dialects split off from the rest of Chinese at some point prior to the time of AnC (main attestation in the Qi-e-yun rhyming dictionary, 601 A.D.). In the case of Be, it is uncertain which proto-language is to be taken as directly ancestral: accordingly, comparison is made both to pT and KS, occasionally also to Li4. Tones are labeled according to the historical categories /A B C D/(D is the stop-final category), with added numbers 1 for reflexes of non-voiced initials ("high series") and 2 for reflexes of voiced initials("low series").

For fuller treatment of some of the historical developments discussed below, see Hashimoto 1960 and Chang 1976 for HnC, Haudricourt 1965 for Be, and Ferlus 1975 for "native" VM and Maspero 1912 for SV. The implosives. In all three languages the modern implosives represent a merger of the *plain and *voiced stops; see Table 3 for representative examples. Note that the Be and Vn implosives do not, contrary to what might be expected, have any historical connection with the *preglottalized initials of pT and pVM, which have become
Table 1 - Modern Initials

<table>
<thead>
<tr>
<th>HnC</th>
<th>Be</th>
<th>Vn</th>
</tr>
</thead>
<tbody>
<tr>
<td>b</td>
<td>d</td>
<td>b(d)</td>
</tr>
<tr>
<td>t</td>
<td>ts-tʃ</td>
<td>t</td>
</tr>
<tr>
<td>k</td>
<td></td>
<td>k(k, c, q)</td>
</tr>
<tr>
<td>ph[pʰ-ʃ]</td>
<td>kh[kʰ]</td>
<td>f(ph)</td>
</tr>
<tr>
<td>m</td>
<td>n</td>
<td>m</td>
</tr>
<tr>
<td>s</td>
<td>h</td>
<td>s</td>
</tr>
<tr>
<td>v</td>
<td>1</td>
<td>v</td>
</tr>
</tbody>
</table>

Table 2 - Kadai Relationships

Kadai

Kam-Tai

Li Lakkia, etc.

Southwest

Tai

Central

North

Be'

Table 3 - Modern Implosives from *plain, *voiced

<table>
<thead>
<tr>
<th>HnC</th>
<th>Be</th>
</tr>
</thead>
<tbody>
<tr>
<td>HnC</td>
<td>Am</td>
</tr>
<tr>
<td>-----</td>
<td>----</td>
</tr>
<tr>
<td>to fly</td>
<td>Sui A1</td>
</tr>
<tr>
<td>to bark</td>
<td>Sui C2</td>
</tr>
<tr>
<td>belt</td>
<td>súa C1</td>
</tr>
<tr>
<td>long</td>
<td>do A2</td>
</tr>
</tbody>
</table>

Vn | pVM; AnC |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>three</td>
<td>ɓa A1</td>
</tr>
<tr>
<td>harrow</td>
<td>ɓiŋ A2</td>
</tr>
<tr>
<td>sick</td>
<td>ɗau A1</td>
</tr>
<tr>
<td>field</td>
<td>ɗon A2</td>
</tr>
<tr>
<td>cloth</td>
<td>ɓo C1</td>
</tr>
<tr>
<td>skin</td>
<td>ɓi A2</td>
</tr>
<tr>
<td>certain</td>
<td>ɗiŋ C2</td>
</tr>
</tbody>
</table>
### Table 4—*preglottalized stops > sonorants*

<table>
<thead>
<tr>
<th>Be</th>
<th>Pt</th>
<th>Vn</th>
<th>pVM</th>
</tr>
</thead>
<tbody>
<tr>
<td>thin</td>
<td>viə̍n A1</td>
<td>*ʔbaan A1</td>
<td>vomit</td>
</tr>
<tr>
<td>nose</td>
<td>log A1</td>
<td>*ʔdən A1</td>
<td>water</td>
</tr>
<tr>
<td>salty</td>
<td>laŋ B1</td>
<td>*ʔdəŋ B1</td>
<td>fire</td>
</tr>
</tbody>
</table>

### Table 5—HnC Aspirates

<table>
<thead>
<tr>
<th>HnC</th>
<th>Am</th>
<th>Fu</th>
<th>pMin</th>
</tr>
</thead>
<tbody>
<tr>
<td>break</td>
<td>pfua C1</td>
<td>phua C1</td>
<td>phuai C1</td>
</tr>
<tr>
<td>escort</td>
<td>pfua C2</td>
<td>phuə̍ C2</td>
<td>phuə̍ C2</td>
</tr>
<tr>
<td>sky</td>
<td>hi A1</td>
<td>thỉ A1</td>
<td>thięn A1</td>
</tr>
<tr>
<td>bug</td>
<td>hanə̍ A2</td>
<td>than A2</td>
<td>theęn A2</td>
</tr>
</tbody>
</table>

### Table 6—/t/ < apical affricates/fricatives*

<table>
<thead>
<tr>
<th>HnC</th>
<th>Am</th>
<th>Fu</th>
<th>pMin</th>
</tr>
</thead>
<tbody>
<tr>
<td>early</td>
<td>ta B1</td>
<td>tsa B1</td>
<td>tsa B1</td>
</tr>
<tr>
<td>snake</td>
<td>tua A2</td>
<td>tsua A2</td>
<td>sɨ A2</td>
</tr>
<tr>
<td>time</td>
<td>ti A2</td>
<td>sɨ A2</td>
<td>sɨ A2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Vn (Muong(Lang-Lo))</th>
<th>Vn (SV)</th>
<th>Anc</th>
</tr>
</thead>
<tbody>
<tr>
<td>hair</td>
<td>tok</td>
<td>sõk</td>
</tr>
<tr>
<td>ear</td>
<td>tai</td>
<td>sai</td>
</tr>
</tbody>
</table>
sonorants in the modern languages (Table 4).

The aspirates. (Here and subsequently 'aspirate' will be used as a cover term for these phonemes, which are etymologically related to voiceless aspirated stops, but which in the modern languages include aspirated stops (Vn /th/); affricates, usually with the stop element very weak; and fricatives). The HnC aspirates correspond regularly to Min aspirates, with Min th corresponding to HnC h (this development is also found in the Jianyang (mainland) Min dialect). HnC also agrees with the rest of Min in showing some aspirates with low-series tones; for these Norman reconstructs *voiced aspirates*. See Table 5.

The picture in Be is complex. As in HnC, Be /h/ corresponds to pT *th and occasionally to *d: Be hem Al, pT *thɛm Al 'together'; Be ham Al, pT *thram Al 'scrotum'; Be hup C2, pT *dɔŋ C2 'stomach'. The velars have a few correspondences, but none involving pT: Be kxo C1, Kam ṭha C1 (*khja ?), Lì khà ʒ 'lightweight'; Be kxon Al, Kam ṭhan Al (*khjan ?), Lì khàn l 'heavy'; Be kxou A2, Lì kha:ʒ 3 'calculate'. The Be labial/pf/ has regular pT correspondences, but they involve fricatives, not stops: Be pfun Al, pT *fon Al 'rain'; Be(Savina) phon C1, pT *fan C1 'twist'. In these sets Be shows aspirates; there are also examples of Be nonaspirates = pT *aspirates: Be dıa C1, pT *thood C1 'cup, saucer'; Be ᵐong Al, pT *thın Al 'arrive'; Be ka C1, pT* khaa C1 'kill'. The examples cited in this paragraph are close to exhaustive for roots involving aspirates that may not be suspected of being Chinese loans: it seems that most of the Be aspirate-initial words are of Chinese origin (Haudricourt 1965, 139 and 145-6), although the high proportion of Chinese-related words with all initials makes it difficult to be sure of this. To add to the complexity, the status of aspirates in pT itself is not entirely clear. We lack space to go into this problem, the gist of which is that cognate sets where all three branches of Tai unambiguously indicate *voiceless aspirates are relatively rare (see Gedney 1979 for a proposed solution to this question); furthermore, these sets seldom correspond to aspirate-initial words in KS. At this point I will only say that the confused status of the Be aspirates may in part reflect the situation in pT.

The picture is also murky in Vn, but in a similar way. Again, most aspirate-initial words are of Chinese origin(Ferlus, 43); for these there is a fairly straightforward relation to the AnC aspirates */ph th kh*/(Maspero, 52), e.g. SV fɔm B1, AnC setLayout *phiom B1 'item'; SV thai C1, AnC setLayout thai C1 'great'; SV xo B1 AnC setLayout khuo B1 'bitter'. Ferlus (43) is of the opinion that Vn /f th x/ (spelled ph th kh) represent earlier aspirated stops; cf. also Maspero (42). The labial f(ph) also is found in words originally having AnC *p and *b that underwent a conditioned change to *f and *v later in Chinese. If this change (known to students of Chinese historical phonology as dentilabialization) is dated back to the Chinese source of SV (e.g. Dong Tonghe (1954) reconstructs a series /f f' v m/ for AnC), we have a close equivalent to the development of Be /pf/.

There are also non-Chinese roots in which both Vn and Muong (the 'other', less Sinicized branch of VM) have aspirate initials, with the labial not exemplified(cf. Be, where native/pf/ may be a
secondary development from *f). For these it is possible to re-
construct pVM aspirates (Thompson), but Maspero does not do so
owing to a lack of correspondences in the rest of MK; he considers
that the VM aspirates are a later development in pVM "at the expense
of the former plain and voiced stops" (Maspero, 112). No mechan-
ism or conditioning for such a change is suggested by Maspero;
Ferlus (43) cites examples indicating development from the collapse
of a presyllabic stop with a main-syllable-initial /h/, i.e. ÇhVC> ChVC (e.g. Thavung kʰɔhɔy, Vn *kʰɔi> xoi 'smoke')⁹.

To sum up, the aspirates of Be and Vn show a clear connection
to the AnC voiceless aspirated stops, in that many or most of the
words with these initials are of Chinese origin. The labial members
of the series also relate to fricatives(pT *f in Be, Chinese denti-
labialized stops in SV). Finally, there is also an unclear relation
with a series of *aspirated stops which is of uncertain status in
the respective protolanguages.

Lack of /p/; source of /t/. In all three languages, initial
/t/ is secondary, deriving from various apical affricates and fric-
atives; see Table 6 (recall that original *t merged with *d as /d/).
F.K.Li (1965, 156) suggests that correspondences of pT velars with
Sui palatals, as in 'crow'/spit out' and 'thatchgrass'(table 6), may
represent proto-Sui-Tai(probably equivalent to proto-Kam-Tai) palat-
alized velars; while Sui dental sibilants corresponding to pT
velars ('stride') may represent "a new series...perhaps palatals."
Parallelism with HnC and Vn suggests that Be derives from forms
more similar to the Kam and Sui: this is one area in which Be re-
sembles KS rather than Tai.

The absence of initial /p/ may now be explained. In the his-
torical perspective, the initials/B DH k/ in all three languages form
a single series, representing the former plain and voiced stops,
which presumably first merged, then shifted towards implosives, with
the velar unaffected for physiological/aerodynamic reasons (Haudri-
court 1950, 177; Greenberg 1970, 128; Wang 1971, 272; Ohala forth-
coming, ms. 7-11). The later advent of initial /t/ then gives the
system the appearance of having two incomplete series (B/DH/ and -/t/)

The Li languages. In considering the languages of Hainan, men-
tion should be made of the Li dialects spoken in the south and cen-
tral portions of the island. Distantly related to Kam-Tai (see dia-
gram, Table 2), these languages may be aboriginal to Hainan (Schafer
1970, 56 ff.), and might be suspected of showing some of the devel-
opments described for the neighboring HnC and Be. Unfortunately,
nothing conclusive can be said about the applicability of these de-
velopments to Li owing to the lack of any reliable notion of the as-
pect of proto-Li. The picture that emerges based on some prelimi-
ary study is one of dissimilarity to the HnC-Be-Vn developments,
along with a few vaguely reminiscent points. At least two dialects
(Ouyang and Zheng 1980) have a plain/aspirated/preglottalized con-
trast in initial stops, as well as a plain/aspirate distinction in
the affricates /ts tsh/. The latter, along with the presence of ini-
tial /p/, diverges from the HnC-Be-Vn type of system. Also, unlike
the Be and Vn implosives the Li /ʔb/ and /ʔd/ do have connections with the *preglottalized stops of pT, and therefore presumably also with some such element of proto-Kadai; e.g. Li ?beŋ İ, pT *ʔbai Al 'leaf'; Li ?don 3, pT *(kra-)*ʔdon Cl 'winnowing basket'. There is no indication of the Be and Vn development of preglottalized stop to sonorant.

Location and date of contact. The presence of the traits under discussion in the separated locations of Hainan and Vietnam suggests that these are outliers of an area that formerly encompassed the intervening portion of the mainland, roughly equivalent to present-day southern Guangxi. Contact among our three languages in this area must be dated not much later than 939 A.D., the date of the independence of Vietnam from China. This fits with the historical facts: although Chinese political presence in the area dates as far back as the Han dynasty, with the first conquest of northern Vietnam in 111 B.C.(Schäfer 1967, 15), large scale settlement and diffusion of Chinese language and culture probably began in earnest only with the Sui dynasty's re-conquest of Vietnam in 603 A.D., and lasted throughout the Tang, with Vietnam reducing its participation in the Chinese sphere with its independence in 939. Much the same history of conquest and re-conquest applies to Hainan, with the difference that it has remained a part of China. Hashimoto (1978, 9) states that the source of SV was "a kind of koine spoken in the southwestern part of China". To this it must be added that, insofar as the koine shares in the special developments also seen in Vn and Be, it represents only one third of a three-language interaction (more precisely, it is a later phase of the Chinese 'third', since Chinese contact is attested that is earlier than the SV period). HnC may be seen as a descendent of this old southwestern Chinese, surviving in Hainan as a relic area. Certain of the special traits of this type of Chinese are still found in some dialects on the neighboring mainland (Hashimoto 1978, 6-7; note especially the presence of implosives in Huaxian of Guangdong and Tengxian of eastern Guangxi). The Be may or may not have been located on Hainan during this period: Schäfer (1970) indicates that the Be are among the ethnic groups that were not present on Hainan before the Southern Sung era(c. 11th century A.D.). The linguistic evidence does not indicate whether Be acquired the areal traits from both Chinese and Vn in concert, or from Chinese alone.

Explaining the common features. Granted that the resemblances between HnC, Be and Vn are to be attributed to contact, why is it these particular features that are held in common, rather than any others? Two types of cause for this seem possible: influence of a fourth language, or the interaction of characteristics of the phonological systems of the three languages in question.

The first type of cause has been suggested for the HnC implosives, namely influence from Li (Ting, 1, citing F.K.Li in the Monthly Bulletin of Academia Sinica 1.7, 1930). Extension of this explanation to the rest of the contact area as defined above cannot be ruled out, since the Li may have formerly inhabited the mainland as far west as Vietnam (Schäfer 1967, 53). It is difficult to
imagine how a language such as Li, with a three-way contrast for initial stops, including plain, aspirated and preglottalized, could have encouraged the HnC-Be-Vn *plain and *voiced stops to merge as implosives. On the other hand we have little notion of the appearance of proto-Li, and it is true that at least some of the modern plain initial stops are secondary developments from nasals, e.g. Li (Baoding) pa 1, southern Li (Savina 1931) ma, Sui ma Al, pT *hmaa Al 'dog'.

But while factors 'external' to the HnC-Be-Vn grouping may not be ruled out in explanation, internal factors seem more important here, by which I mean the characteristics of the three languages involved and how they may have affected each other while in the contact situation. It should be emphasized that we are dealing here with a rather intensive degree of contact: the particular phonological commonalities of the three languages, as well as the highly Sinicized lexicons of Be and Vietnamese, differentiate them from the multiplicity of other languages spoken in or near the same area. It may be hypothesized that Chinese, Be and Vn participated in a lowland community of relatively advanced culture, distinct from the highlands which were the location of the various non-Sinicized groups, only nominally under Chinese control.

Probably the most puzzling and interesting phonological development described above is the reinterpretation of the old plain/aspirate/voiced contrast as one of implosives versus highly aspirated affricates and fricatives. The change of apical affricates/fricatives to /t/ must have been later, since the secondary /t/ is seldom confused with the /d/ that represents the original *t, and it may have been in part due to structural pressure (cf. Chang 1976, 24, where the developments in the dental/palatal region are described in terms of a drag chain).

Let us assume that the merger of the old plain/voiced contrast in both Vn and the southwestern-Chinese ancestor of HnC was in favor of the plain, voiceless nonaspirate. This would produce for HnC the common type of plain/aspirate system found in all modern Chinese dialects except Wu. As Hashimoto points out (1960, 132-3), this may be seen as a contrast of glottalized versus non-glottalized, in the following way: the plain stops are accompanied by a glottal closure which relaxes to begin voicing simultaneous with the release of the oral closure (Harris 1972 describes this as a characteristic of the voiceless unaspirate initials /p t c k/ of modern Siamese). Aspirates, on the other hand, must be free of glottalic activity (i.e. the glottis must be open) until well after release of the oral closure, in order to allow for delay in voice onset. Now, while this sort of reinterpretation seems natural and is attested as subphonemic characteristic, no Chinese dialect outside of the area we have been describing is known to have taken the glottalized member of the pair so far as to produce implosives.

Thus, the development of implosives (highly glottalized) and fricated aspirates (highly un-glottalized) seems to show an attempt at maximizing a glottalization contrast. Motivation for this attempt may be found in the question of the origin of the Vn aspirates. If
we assume that pVM lacked aspirates as a distinct class, then upon
the loss of the voicing distinction the language was left with only
one phonemic series of stops. The language then began to acquire
the aspiration contrast, partly by the collapse of presyllables
(CshVC > ChVC), and especially by the advent of great numbers of
Chinese loanwords in which aspirates had to be kept distinct from
non-aspirates (cf. the Pattani Malay phenomenon referred to in note 9).
Evidently the single stop series already extant had some phon-
etic trait (perhaps breathiness) that made it insufficiently dif-
ferent from the newly-acquired aspirates; having had no other stop
series to oppose it, it may have ranged rather widely in phono-
logical space. To maintain the new distinction, the old and the
new series repelled each other in phonological space, producing the
implosive/aspirated affricate system now familiar to us.

While this change may have had its initial impetus from the
confrontation of Vn and Chinese, the resulting tendency spread to
both Chinese and Be. Again, it is difficult to situate Be in the
proposed scenario: it may or may not have been located on the main-
land during the period in question, and it may or may not have had
phonemic aspirates prior to the contact situation. It is quite
possible that Be acquired the areal traits described here largely
from HnC alone.

Summary. We have described several remarkable phonological
changes held in common by HnC, Be and Vn. Essentially these are a
reinterpretation of a plain/aspirate/voiced contrast as an implo-
sive/aspirated affricate contrast, with a subsequent change of var-
ious apical affricates and fricatives to /t/. It is postulated that
these common features arose during contact among the three
languages in the area of northern Vietnam-Guangxi-western Guangdong
during the approximate period 600-950 A.D. The principal phono-
logical change described may be the result of the introduction of
the phonemic feature of aspiration from Chinese into Vn (and pos-
sibly also into Be).

Notes

1. I am indebted to the following for their comments, criticism
and assistance in obtaining reference materials: Chang Hsien-
pao, Chang Kun, Christopher Court, Mantaro Hashimoto, John
Kingston, James Matisoff, John Ohala, and William Wang. Ab-
Abbreviations used: Am Amoy, AnC Ancient Chinese, Fu Fuzhou
HnC Hainan Chinese, KS Kam-Sui, MK Mon-Khmer, p proto-, SV
Sino-Vietnamese, T Tai, VM Viet-Muong, Vn Vietnamese.

2. E.g. all eighteen dialects listed in Hanyu Fangyan Cihui

3. For a somewhat more realistic analysis of the pVM consonant
system, incorporating more Muong dialects than Thompson,
see Ferlus 1975, which does not, however, propose reconstruc-
tions for individual lexical items.

4. Li (Baoding dialect, "northern" type) from Ouyang and Zheng
1980, Kam from Liang 1980, Sui from Zhang 1980 and Li 1965. pT initials and tones as in Li 1977. As a matter of convenience pT forms are cited with rhymes as in modern Siamese; this is not meant to suggest that Siamese is especially conservative as to its vowels.

5. Note that occasionally later mergers and ambiguity of comparative evidence make it impossible to be exact about the proto-tone; e.g. Be shows mergers B1=C1 and B2=C2.

6. Norman reconstructs "softened" stops and affricates (written -p -t etc.) based on reflexes in certain dialects of the northwestern part of the Min area; these are not distinct from the plain and voiced nonaspirates in the dialects cited here.

7. These may also represent influence from the neighboring Gan and Hakka dialects, which consistently show voiceless aspirates for the AnC *voiced stops.

8. The Li tones 1 2 3 (= White Sand (Wang 1952) mid level, low falling, high level respectively) correspond partially to pT and KS A B C.

9. Precisely this phenomenon can be observed in the Malay presently spoken on the east coast of southern Thailand (i.e. Pattani type), where the polysyllabic Malay roots tend to become monosyllabic under Thai influence; e.g. pohon - pophon- phon 'stump'. Aspirates are also being acquired in Thai loan words (Christopher Court, personal communication).

10. The same type of development is found in Khmer (Haudricourt 1950); this is well removed from the contact area described here, and would be well worth investigating for typological and genetic parallels.

11. Cf. Moulton 1962, Liljencrantz and Lindblom 1972. Use of the notion of phonological space in connection with consonants must be regarded as speculative at this time; hitherto only vowels have been considered (e.g. the two works cited).

References


Li, F.K. 1965. The Tai and the Kam-Sui languages. Lingua 14, 148-79.


_______. (cf. Haudricourt 1965).


0. Introduction

This paper is concerned with the effects on one language's semantic system when it is under the influence of another's, where there is no transfer of actual morphemic shapes—in particular, with the development of intermediate or hybrid semantic patterns that differ from the influencing language's pattern as well as the borrower's original one. Certain aspects of this investigation are not wholly new. Certainly the particular case to be focused on—Slavic influence on Yiddish verb prefixes—has been long recognized and in certain respects characterized (e.g., U. Weinreich (1952), M. Weinreich (1980:527-530)). And the encompassing framework here—the overall semantic organization of a language—is familiar as the major concern of Whorf (1956). But this investigation makes several unique contributions. First, it aims beyond the pure cataloguing of cases of semantic borrowing to an explanatory account. To this end, cases are considered within the general framework of "semantic space"—that is, for any language, the patterns in which semantic domains are subdivided and in which the resulting concepts are represented among the surface morphemes; the characterizing features of semantic space are presented in Section 1. Also to this end, the conclusion presents nine principles—generalized from the specific observations of the Yiddish example—that may govern the processes of semantic borrowing in general. Second, thanks to the larger framework, previously unnoticed forms of semantic borrowing become evident. Several such forms appear among the types of accommodation and non-accommodation made by Yiddish to Slavic, as set forth in Sections 4 and 5. Third, the overall most contributory finding of this investigation is that the language under study did not simply take on another language's semantic system whole, but creatively adapted it to its own pre-existing system, thereby generating hybrid formations, intersections, "unpackings", expansions, and further forms of novel patterning. And the conclusion suggests that this behavior may be quite general. This paper's final, but not least, contribution is sheer addition to the relatively small amount in the literature that concerns the borrowing of meanings without adoption of actual morphs. Outside of discussions of calques (loan translations) or the presentation of particular instances, the major offering on the subject has remained chapter 2 of U. Weinreich (1953). 1

1. Characterizing Semantic Space

Before I detail the general features of semantic space, I will illustrate its character with a contrastive example involving two different language groups. Indo-European languages and their neighbors all seem to exhibit a particular semantic pattern. They have a set of verb roots that express an agent's using a body part to move or position an object—e.g., English hold, put (in)/take (out), give (to)/take (from), carry/bring/take (to), throw, kick. The agent and object themselves are expressed independently by nouns; the verb root expresses
the remainder of the activity, often indicating the manner of maneuvering (ballistic throw vs. controlled put), the body part involved (the arm for throw, the leg for kick), the participation of a secondary agent (give vs. put), the sense of the motion (put vs. take), and deixis (bring vs. take). Most of these languages in addition have another set of forms—variously known as particles, preverbs, [(in)separable] prefixes, etc., though I have proposed to refer to all the different types alike as "satellites" (Talmy (1975, forthcoming b))—that largely express path configurations in space, e.g., English up, out, back, through. Further, the languages that have both these morpheme sets can combine them in a construction that expresses not only the concrete compounded sense, but also a more abstract, often psychological meaning. Still further, particular constructions of this type are often quite parallel across the various languages, comparable in both semantic makeup and resultant meaning, even where their corresponding morphemes are not cognate. Thus, the non-cognate verb roots meaning 'hold' in English, Russian, and Latin combine with largely non-cognate path satellites to yield forms with very similar abstract and "psychological" meanings: 2

<table>
<thead>
<tr>
<th>English</th>
<th>Russian</th>
<th>Latin</th>
<th>common meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>hold</td>
<td>deržat'</td>
<td>tenere</td>
<td>'hold'</td>
</tr>
<tr>
<td>hold up</td>
<td>pod-deržat'</td>
<td>sus-tenere</td>
<td>'support'</td>
</tr>
<tr>
<td>hold back (tr)</td>
<td>u-deržat'</td>
<td>re-tenere</td>
<td>'restrain'</td>
</tr>
<tr>
<td>hold back (intr)</td>
<td>s-deržat'-s'ä</td>
<td>abs-tenere</td>
<td>'refrain'</td>
</tr>
<tr>
<td>hold out</td>
<td>vy-deržat'</td>
<td>sus-tenere</td>
<td>'endure'</td>
</tr>
</tbody>
</table>

However natural the preceding semantic arrangement may seem to us as speakers of European languages, the fact is that it is far from universal. A wholly distinct semantic landscape appears in America among northern Hokan languages and some of their neighbors—as illustrated by Atsugewi (cf. Talmy (1972)). To begin with, this language simply lacks verb roots with meanings like 'hold', 'put', 'give', 'throw', etc. Its roots refer to various kinds of objects or materials as moving or located—e.g., -gput- 'for loose dirt to move/be located', -caq- 'for a slimy lumpish object (e.g., a toad, cow turd) to move/be Located', -p'up- 'for a bundle to move/be located'. Forming a second set of forms, some fifty directional suffixes give the combined indication of path or site plus reference object—e.g., -ak- 'on the ground', -wam 'into a gravitic container (e.g., a basket, pocket, cupped hand, lake basin)', -ta: 'out of an enclosure', -wi-šu 'over to a neighbor's'. Notably included among these and of the same semantic mold are forms referring to holding: -ahn 'in one's grasp', -ay 'into someone's grasp', -tip -ay 'out of someone's grasp'. In a third set, some two dozen instrumental prefixes indicate the even causing the verb root's action—e.g., ca- 'from the wind blowing on (it)', ru- 'by pulling on (it)', ci-'by acting on (it) with one's hands', un- 'by acting on (it) with a swinging linear object' (hence, by pounding, batting, or throwing [with the arm as linear object]). It is combinations of these three morpheme sets that provide the nearest equivalents to the Indo-European-type formulations for putting, giving, etc. For example:
(2)  a. uh-caq-ta:  b. ci-p³up-ay  c. ru-qput-wi'sül
   a'. Literal: '(cause) a slimy lumpish object to move out of an
      enclosure by acting on it with a linear swinging object'
      Instantiated: "throw a toad out of the house"
   b'. Literal: '(cause) a bundle to move into someone's grasp by acting
      on it with one's hands" Instantiated: "give someone a bundle"
   c'. Instantiated: "drag some dirt over to one's neighbor's"

There may be some diachronic process at work among the cognate lan-
guages of each group, acting to maintain a single organization of se-
matic space. But if so, it must operate at a linguistic level more
abstract than that of particular morphemes—for the parallelisms ob-
served across the languages largely involve non-cognate forms. A pro-
cess might have to be posited that maintains (among other aspects of
pattern) semantic "slots"—regardless of the etymologies of the mor-
phemes that come and go to fill them. Such a process can well be imag-
ined, a consequence of a language's high degree of overall structural
interconnection. For example, Atsugewi's expression of 'taking' is per-
haps kept suffixal partly because 'having' and 'giving' are also ex-
pressed thus. Further, if a verb root were to take over that meaning,
it would have to cede its usual expression of the 'thing taken' to some
sentence constituent ill-adapted to it. The sweep of structural read-
justments that would be entailed might militate against any change at
all. In any case, whether or not a diachronic process of this sort
exists, it is not necessary to postulate any, since commonality of
semantic space is clearly an areal phenomenon extending to unrelated
languages, so that a theory of inter-language influence can account
for the whole. Some properties of such a theory are worked out in the
remaining sections of this paper.

Now, a close comparison of the different formulations for 'object
maneuvering' in the two language groups above reveals a number of re-
pects in which semantic organizations can differ: (a) Different concepts
are expressed—e.g., the Atsugewi notion of a 'gravitic container' has
no direct analog in English. (b) Corresponding concepts are expressed
under different grammatical categories—e.g., 'dirt' is expressed by
an English noun but by an Atsugewi verb root. (c) The concepts of cor-
responding sets are parcelled out in different ways among the grammatical
categories—e.g., 'giving' and 'throwing' are classed together in English
as actions one does to an object, so that both are expressed by verbs,
whereas in Atsugewi, 'giving' is classed as a directional concept to
be expressed by a directional suffix, while 'throwing' is classed as a
precursor causal action to be expressed by an instrumental prefix.
(d) Corresponding concepts are combined with different sister concepts
within a morpheme—e.g., a path's referent object is expressed alone
in an English noun (into a container) but is combined with indication
of the path in an Atsugewi directional suffix (—wam 'into a container').
(e) Otherwise corresponding concepts have different degrees of inclus-
siveness—e.g., English throw refers to a swinging motion only as made
by an arm to propel an object, whereas the Atsugewi instrumental pre-
fix uh- can refer to a swinging motion made by any linear object (such
as an arm or axe) with any resulting action (such as propelling or chopp-
-ing. (f) Corresponding concepts have different obligatoriness of ex-
pression—e.g., the causal instrumentality within a referent situation must be indicated in Atsugewi but is largely optional in English. (g) Different morpheme sets are present, having different group mean-
ings—e.g., English has a set of verb roots that express manner of man-
euvering; Atsugewi lacks this, but has one that expresses an object's type and its state of motion. (h) The morpheme sets come together in different constructions—the English construction that combines a verb, a satellite and/or preposition, and a noun corresponds to the Atsugewi combination of a verb root plus two affixes. (i) Otherwise corres-
ponding constructions have some different constructional meanings—
e.g., while the English and Atsugewi constructions just mentioned cor-
respond in their indication of object maneuvering, the English con-
structions often extend to indicate abstract and psychological concepts, while the Atsugewi ones largely do not (other sets of morphemes that bear such meanings directly are used instead).

On the basis of these and additional observations (including ones from Yiddish and Slavic), we can compile the features that might char-
acterize any semantic space and that can serve to distinguish one such space from another:

(3)

a. the particular concepts (with their componential makeup and degree of inclusiveness) that are expressed by the morphemes—and the meta-concepts expressed by the morpheme sets
b. in cases of polysemy, the particular set of concepts grouped together under a single morpheme—and the meta-meaning common to them
c. the grammatical categories of the individual morphemes and of the morpheme sets

d. the constructions in which the different morpheme sets come together—and their meta-meaning
e. the obligatoriness and the frequency of use of each concept and meta-concept
f. the ramifiedness of each meta-concept, i.e., its number of distinc-
tions, its complexity of organization, its extent of application...

2. The Yiddish Verb Prefixes

Looking now within Indo-European to Germanic and Slavic—whose res-
spective semantic systems do differ, though not as drastically as those above—I turn from comparing two static unconnected systems to observing how one system changes under the influence of another. Yiddish is a particularly appropriate case for such observation because, in migrating, it came under new areal influence. The language developed its initial form beginning around 800 C.E. in the Middle High German-speaking Rhineland and then around 1200 C.E. started extending progressively further into Slavic-speaking territories. Under Slavic influence, the Yiddish semantic system made a number of accommodations, many of which can be observed in the verbal prefix system and its constructional associates.

The main prefixes in this system are listed below. Notice that the originally preposed hin-/her- forms have been reduced to an undifferen-
tiated ar- and their 'hence'/'hither' meaning distinction eliminated (as colloquial modern German, with forms like runter-, is now in the
process of doing). There has emerged a group of opposed prefixal doublets, with and without the ar-, that now mark a semantic distinction mainly of 'concrete' vs. 'abstract'. The prefixes with ar- indicate major concrete paths of motion (e.g., arayn- 'into'), while their ar-less mates indicate some minor concrete paths (e.g., oyf- 'to an open position', ayn- 'collapsing inward') and, especially, more abstract and metaphorical path-derived notions.4

(4) separable [stressed] doublets
long
arayn-
aroys-
aroyp-
arop-
arunter-
arum-
short
ayn-
oys-
yf-
op-
unter-
um- 5

singlets
on-
durkh-
avek-
tsu-
farbay-
anider-
nokh-
tsurik-
kapoyer-
tsunoyf-
tsuzamen-
funander-
antkegn-
faroys-
mit-
for-
afer-
fir-
inseparable [unstressed]
tse-
der-
far-
ant-
ba-
ge-

3. The Borrowing Pattern

In order to determine higher level accommodation patterns under semantic influence, one must start by identifying the first-order aspects of another language's semantic space that have transferred over, as well as those that have not. "Aspects" here refers not simply to features like category differences (say, the borrowing of nouns vs. verbs) but to major types of structural phenomena.

3.1 Aspects of Slavic Semantic Space that Were Borrowed by Yiddish

With particular reference to verb prefixes, five aspects of Slavic semantic space can be pointed to as entering the semantic space of Yiddish:

3.1.1 Individual Meanings of Morphemes

One type of semantic borrowing involves the transfer of one meaning of a morpheme in an influencing language into a morpheme of the borrowing language—preferentially into one with similar phonological shape, grammatical category, and prior semantic content. In this way, Yiddish has borrowed a number of individual meanings expressed by Slavic prefixes, using its own prefixes to express them. For example, Russian na-, prefixed to a verb V and taking the genitive of a noun N, has the meaning 'create an accumulation of N by Ving'. Thus, with a verb meaning 'tear/pluck' and the noun for 'flowers', na-rvat, čvetov means literally 'form an accumulation of flowers in plucking them' and loosely 'pick [a bouquet of] flowers'. Yiddish has taken on this exact meaning of na- with its phonetically similar and semantically compatible prefix on-, otherwise the correlate of German an-, and in fact has the analog of the preceding Russian expression (exact except for the use of accusative for the object noun): on-raysn blumen "pick [a bouquet of] flowers". The on- prefix in this meaning is now quite freely usable in Yiddish, not tied to the original Slavic models—appearing, e.g., in expressions like Di kats hot ongehat ketslekh., very loosely "The cat has birthed up quite a batch of kittens in her life". To put this prefixal usage in tabular form and add further examples:
3.1.2 The Grouping of Meanings under a Single Morpheme

A language can adopt not only a single meaning from a morpheme of an influencing language into one of its own but also, in a case of polysemic, several meanings from the same morpheme. It might be said that meaning clustering itself is a kind of semantic aspect that can be borrowed. Yiddish shows several prefixal borrowings of this kind from Slavic. Thus, Russian na- expresses not only 'accumulate by Ving' but also 'fill by Ving' and, with the reflexive, 'V to one's full capacity'. And Yiddish on- has these three same meanings. It should not, however, be assumed that such meanings simply form a natural set or continuum, so that a morpheme in any language expressing one meaning will also express the others. In fact, in as close a language as German, the three meanings are parceled out for distinct treatments: the 'accumulation' meaning has no prefixal equivalent, the 'fill' meaning is expressed by the prefix voll-, and the 'capacity' meaning is taken by the prefix satt-:

(6) Russian Yiddish German common meaning

a. na- GEN on- ACC - - - - - - - - 'accumulate, Ving'
b. na- ACC INS on- ACC mit voll- ACC mit+DAT 'fill, Ving'

c. na- REF GEN on- REF mit satt- REF an+DAT 'V to one's capacity'

b'. na-lit' stakan vodoj / on-gisn a gloz mit vaser / ein Glas mit Wasser vollgieBen // "pour a glass full of water"

c'. na-smotret'-s'a kartin / on-zen zikh mit bilder / sich an Bildern sattsehen // "have seen one's fill of pictures"

3.1.3 The Distribution of Usage Within a Grouping

Another possible type of borrowing may involve the relative frequencies of occurrence of the different meanings grouped together under a single morpheme. Now, the Yiddish prefixes I have inspected in this regard do not clearly exhibit such a form of borrowing, but I employ a near case to explain the matter for potential application elsewhere. The Russian prefix raz-, in combination with various verb roots, exhibits a set of meanings that range from high to low frequency of occurrence in roughly the following order: 'radially outward', 'dispersal', 'one into many', 'into bits/annihilation'. Examples of each meaning are: raz-dut' 'puff out (as, cheeks)', raz-bežat'-s'a '(many to) run apart in all directions', raz-rubit' 'Chop (wood, etc.) into several pieces', raz-gryzt' 'gnaw to bits'. The Yiddish prefix tse- exhibits the same meanings in just about the same frequency distribution as in the Russian case, and participates in quite comparable verbal combinations. The cognate modern German prefix zer-, on the other hand, exhibits approximately the opposite distribution, with just one or two cases indicating radial movement (zer-streuen 'disperse') and with a majority of cases
indicating 'destruction' (e.g., zer-rühren 'stir to a pulp'). As it happens, Middle High German zer- had a distribution closer to that of Russian, with a number of 'radial' usages (e.g., zer-bläsen 'puff out', 'disperse by blowing'), so that Yiddish, coming from this background, had little to change under Slavic influence. It was rather the line leading to modern German that lost most of the 'radial' usages, thus shifting the balance of the distribution. But if we can imagine that Yiddish came from a non-Slavic-type distribution and then changed over, we have a model for a type of semantic borrowing that might come to be observed in other language contact situations.

3.1.4 The Meta-Meaning of a Morpheme Class

Another form of semantic borrowing involves the meta-meaning of a morpheme class. In the present case, Yiddish has borrowed the whole system of using the native set of path prefixes to indicate aspect. That is, it has been influenced to extend metaphorically the class's spatial path reference to cover temporal aspect as well. Actually, since Yiddish, like most languages with path satellites, did already have some instances of aspectual use with them, it would be more accurate to say that what it borrowed was the ramifiedness and obligatoriness of such aspect indication. To characterize it simply for now, the borrowed system consists of the obligatory appending of a prefix, a particular one for each verb, when the aspectual character of the referent situation is perfective. Comparable Russian and Yiddish examples are:

(7) pro-čitat' iber-leyenen 'read through to the end'
    na-pisat' on-shraybn 'write in full'
    s-jest' oyf-esn 'eat all of'
    vy-pit' oys-trinken 'drink all of'
    za-platit' ba-tsolt 'pay in full'
    raz-rezat' tse-shnaydn 'cut through the requisite number of times'

3.1.5 The Obligatory Appearance of a Morpheme Class

Another form of semantic borrowing is that of the obligatory use of a particular morpheme class in the representation of some meta-concept. Path is expressed by satellites as well as prepositions in the Indo-European languages that have both morpheme classes, and a path-expressing sentence can often contain the combination of a satellite and a preposition together. In some languages, for example in German from Middle High to modern, a satellite is often only optional in a sentence that contains a preposition, and in fact is at times stylistically better omitted. Thus, NHG Er ging ins Haus is complete as it stands, but can also add hinein at the end, though colloquial usage may prefer it absent. In these same circumstances, however, both Yiddish and Russian must include the satellites. Thus, these languages have no option but to say Er iz arayn-gegangen in hoyz and On vo-šēl v dom, 'He went into the house', with the path prefixes included. This obligatory appearance of the prefix in addition to the preposition is a well-established pattern in Slavic, and it seems that Yiddish must have acquired it under Slavic influence.
3.2 Aspects of Slavic Semantic Space Not Borrowed by Yiddish

An influencing language can include a number of concepts expressed by individual morphemes and meta-concepts expressed by morpheme classes that a borrowing language does not adopt. Some omissions of this sort seem part of a broader pattern of avoidance—perhaps nothing so general as rejection of a whole borrowing "type", on the order of those just preceding, but nonetheless principled. Yiddish exhibits semantic borrowing failures of several kinds with respect to Slavic. I will later suggest a principle that accounts for some of these, but here will simply point them out.

First, Yiddish has not borrowed certain individual concepts expressed by Slavic prefixal constructions—e.g., those of Russian za- za+ACC 'to beyond/behind' (za- plyt' za mol "swim beyond the breakwater"), s- na+ACC 'to and back from' (s- letat' na počtu "hurry to the post office and back"), pro- +ACC 'the length of' (pro-bežat' vs'u uliče "run the whole length of the street").

Second, Yiddish has failed to borrow several Slavic aspectual distinctions. One is the so-called "determinative/indeterminative" distinction marked by most motion verbs, which involves, among other properties, the difference between motion along a single direct path and anything more intricate. Russian marks this distinction either with suppletive verb forms (idti/xodit' 'go on foot') or with suffixal material immediately after the root (let-e-t'/let-a-t' 'fly')—and Yiddish has copied neither. Another Slavic aspect is "secondary imperfective", also marked with suffixation, which functions this way: Often the addition of a prefix to a verb root not only renders its meaning perfective, but also adds a nuance or even substantially alters the basic meaning. This novel semantic entity, already a perfective, now needs a sister form for the imperfective, and this is accomplished by the addition of certain stem-forming suffixes—e.g., -yy in the third form of this Russian series: pis-at' 'write (impf.)', za-pisat' 'jot down (pf.)', za-pis-yy-at' 'jot down (impf.)'. Yiddish exhibits no trace of such forms. Finally, Slavic languages have suffixation that indicates semelfactive aspect, i.e., the single occurrence of a punctual event—e.g., -nu in Russian čix-nu-t' 'sneeze once' (vs. čix-at' 'sneeze a plurality of times'). However, though Yiddish does indicate semelfactive, and has possibly borrowed the idea of extensively doing so from Slavic, it has not borrowed the idea of using suffixation for the purpose; it uses, instead, a special periphrastic construction (treated below).

4. Types of Accommodation by the Borrower's Semantic System to the Donor's

In the preceding, I have presented the cases of borrowing or non-borrowing as if they were more or less insular events that had no moorings within a larger system. In fact, however, every semantic feature that undergoes a transfer is originally situated within an integrated framework, and must be adopted into another one. The borrowing language must find creative solutions to the problems that this situation poses. I have identified the following four types of accommodation that Yiddish has made in incorporating features from the non-commensurate semantic space of Slavic: hybrid formation, perfect intersection, de-polysemizing, and elaboration.
4.1 Hybrid Formation

One type of accommodation is to borrow only part of some donor semantic system and to incorporate this in a way that it becomes only part of the recipient system. This kind of part-to-part borrowing results in a hybrid system, one that is neither wholly like that in the influencing language nor like that originally in the influenced language, but rather a new formation with its own organization of characteristics. I can point to three cases of this sort in Yiddish borrowing from Slavic.

4.1.1 Reduplication in the Prefix-plus-Preposition System

Many Slavic prefixes have the same phonological shape as the semantically corresponding prepositions, so that their obligatory use for path indication (Section 3.1.5) often results in a kind of "whole reduplication". Thus, Russian has y- y+ACC 'into', na- na+ACC 'up onto', s- s+GEN 'off of', ot- ot+GEN 'away from', iz- iz+GEN 'emanating from'. Yiddish has borrowed the pattern of obligatory prefix use. But in the case of its prefix doublets, its prior system demanded the use of the long prefix form for the indication of a concrete path. Yet it was only the short prefixes that were phonologically identical to the prepositions. The result was a merely partial overlap of phonological form in a new hybrid system of "partial reduplication": aroyf- oyf+DAT 'up onto', ariber- iber+DAT 'across', arunter- unter+DAT 'under', farbay- far+DAT 'past' (this last form is treated further below).

4.1.2 The Polysemous Range of a Prefix and its Overall Meaning

I have shown that a set of meanings under a polysemous morpheme can be borrowed as a group into a single morpheme of another language, but such borrowing does not have to result in a slavish semantic replica, a morpheme like its model in every detail of meaning. It can happen that only some, not all, of the source morpheme's meanings are borrowed, and that the affected morpheme retains some of its own original meanings. The result in such a case is a hybrid polysemy: the range of meanings encompassed by the remodeled morpheme is neither that of the donor nor that of its old self. To the extent that an overall semantic character attaches to a polysemous range, it can be said that because the affected morpheme has added and lost some meanings, its semantic envelope has shifted and also become a hybrid.

Hybrid polysemy seems to be the norm, rather than an exception, in the Yiddish prefixes affected by Slavic. For example, the same on-prefix that was earlier seen to have borrowed a group of meanings from (say) Russian na- did not borrow them all (the others were borrowed by different prefixes); it retained some of its original Germanic meanings (which put it in relationship with Russian prefixes other than na-); and it has virtually lost at least one original meaning (the 'initiate' sense seen in German an-, as in anschneiden 'make the first cut in (a loaf of bread)'); perhaps as a result of semantic "overcrowding" from the newly acquired senses. As a result, the prefixes of Yiddish and Russian (to take one Slavic language) cannot be placed in neat semantic correspondence but rather exhibit a series of overlaps, as seen in the following table (which also lists the origin--"Gmc" or "Slc"--of each meaning of a Yiddish prefix):
The shifting of semantic envelopes can be more readily characterized for another Yiddish prefix, op-, the cognate of MHG abe/ab/ap and NHG ab-. This prefix has borrowed some, but not all, the meanings of two different Slavic prefixes, while retaining some unique meanings of its own (other original meanings had Slavic counterparts) -- as seen in this table:

An accurate analysis of a polysemous range must include treatment of all the meanings actually present (see Lindner (1981) and Brugman (1981) for some thorough treatments in English) -- and the above prefixes each have a number of additional meanings. But perhaps something of the following analysis will stand: The original senses of op- in (g) to (j) cluster around a general notion of an object progressively distancing itself from some reference location, as indicated schematically in (10a) (see Talty (forthcoming a) for such spatial characterizations). But the meanings that op- acquired from pro- and ot-, (d) to (f), all imply spanning the whole of some bounded extent, whether each of the endpoints is definite or merely implicit, as schematized in (10b). Thus, the overall meaning of op-, which originally encompassed only motion away from a source point, has expanded to include optionally the trajectory and termination arising from that originating motion. In a way, the original 'depart' sense of op-, (g), occupies a pivotal position in this shift; before it was a suitable member-meaning because of its movement-from-source character, and now it fits because it also implies a destination. The overall semantic character of pro- is quite distinct from that of op-, involving movement along a linear path, as suggested in (10c). Thus, the distance/time-spanning sense, (d), common to both pro- and op-, fits into the larger schema of each by virtue of two different characteristics, its linear extent on the one hand and its boundedness on the other. As for the overall meaning of ot-, this seems rather similar to that of op-,
but because the latter includes the distance/time-spanning sense, it fits even more strongly in the 'bounded extent' schema; this allows us to speak of a hybrid character that distinguishes it from both its influencing morphemes as well as from its original self.

(10) a. away from
b. depart
c. through past

the length of, cover/spend

depart

finish

reciprocate

4.1.3 The Prefixal Aspect System

Yiddish exhibits a further case of hybrid formation in the character of the aspect system manifested by its prefixes. To explain the matter, it is necessary to consider four aspectual notions, those listed in (11), with English sentences for illustration:

(11) a. to completion once
b. to completion habitually
c. in progress toward completion
d. ongoing

I drank up my milk. I drink up my milk every time I'm given some. I'm drinking up my milk. I'm drinking my milk.

Slavic and Yiddish verb forms do not distinguish all four aspects but, in different ways, divide them into subgroups. A Russian verb stem that takes a prefix for the perfective but allows no suffixes to indicate a secondary imperfective—e.g., točit' and na-točit' 'sharpen', in the dialect of some speakers—groups the four aspectual notions as shown in (12A). The prefixed form refers solely to an action performed once to completion, e.g., sharpening a knife to a fine edge—aspect type (a). However, aspect types (b) and (c)—e.g., sharpening a knife to a fine edge every day, or now getting a knife toward full sharpness—have no unique indication and are in fact expressed in the same way as aspect type (d)—ongoingly sharpening away at a knife or knives. A different grouping pattern is exhibited by verb stems that can also take suffixes to indicate secondary imperfective—e.g., Russian uč-it'-s'a 'learn', taking prefix vy- and suffix -iv, as shown in (12B). Here, the form with prefix alone, as before, indicates solely aspect type (a). But now the form that also contains the suffix serves to distinguish aspect types (b) and (c) from aspect type (d) which, as before, is indicated by the unaffixed form.

(12) A. 'sharpen'

a. na-točit'

b. točit'
c. točit'
d. točit'

B. 'learn'

vy-uč-it'-s'a
vy-uč-iv-at'-s'a
vy-uč-iv-at'-s'a
uč-it'-s'a

C. 'sharpen'
on-sharfn
on-sharfn
sharfn
Now, Yiddish verb stems take prefixes for aspect indication—as in sharfn / on-sharfn 'sharpen'—but no suffixes. They do not, however, behave like the unsuffixed Russian verb in (12A) but, in a way, more like the suffixed type in (12B). In the Yiddish pattern for grouping the aspect types, shown in (12C), the prefixed form covers the first three types, in effect corresponding to the prefixed Russian verb with or without its suffix. With an array of this sort, one might take the Russian pattern as basic, and conclude that the Yiddish prefixed form indicates both perfective and secondary imperfective (perhaps with a "zero" derivation for the latter). However, this seems a discordant imposition from an external system. For within Yiddish, all three aspectual uses of the prefixed form can be encompassed under a single semantic notion. Whereas the Slavic prefix indicates true perfective, i.e., that the end point of a process is actually reached (unless countermanded by a secondary suffix), the Yiddish prefix indicates, rather, that the end point of a process is in view. This aspectual arrangement is a hybrid system, the result of differential borrowing of elements from the Slavic system.

4.2 Perfect Intersection

In another form of accommodation by one language system to another, the borrowing language maintains all of the distinctions it had originally made in a particular semantic domain while adding on "orthogonal" distinctions made by an influencing language, without either set interfering with the other, and so forms an intersection of both distincional sets. Yiddish exhibits a number of such intersections with Slavic, for example the following five involving the prefix or the verb.

Yiddish has maintained the Germanic distinction of separable versus inseparable prefixes, while using both kinds for the aspect indication borrowed from Slavic. Thus, separable on-, requiring a ge- in the past participle, and inseparable tse-, precluding a ge-, both indicate perfective aspect in 

Ikh hob ongesharft dem meser 'I sharpened the knife' and Ikh hob tserisn mayn hemd 'I tore my shirt'.

While they have acquired various meanings from Slavic, the Yiddish long and short prefix doublets still distinguish "role-precedence" among the nominals of a sentence. Using the term "Figure" for the moving object in a motion event, and the term "Ground" for the stationary reference object (see Talmy (1978a)), we can note the following approximate generalization: The long prefix marks the Figure as coming ahead of the Ground on the case hierarchy—e.g., as direct object vs. oblique object—while the short prefix marks the reverse precedence. Thus:

(13) arayn-shtekhn a nodl in orem 'stick a needle into one's arm'
ayn-shtekhn dem orem mit a nodl 'stick (puncture) one's arm with a needle'

Without a Slavic parallel, Yiddish maintains its Germanic use of two different auxiliaries for forming the past tense, with zayn 'be' for use with verbs of motion, position, being, and becoming (roughly generalized) and hobn 'have' elsewhere. We can see the intersection of this distinction with constructions otherwise wholly borrowed from Slavic in examples like:
(14) Oni raz-bežali-s'. Zey zaynen zikh tse-lofn. 'They ran off in all directions.'
Oni raz-legli-s' Zey hobn zikh tse-leygt. 'Lying there, they stretched out'.

Yiddish also keeps its Germanic option of dropping a non-finite motion verb, and intersects this with factors otherwise borrowed from Slavic, e.g., with the obligatory use of a prefix in conjunction with a preposition. For example: Bald vi er iz aroyn[getrotn] oyn dem tretar, iz er arayn[gegangen/gekumen] in der kretshme. "As soon as he stepped onto the sidewalk, he went/came into the tavern".

Yiddish has developed a unique set of expressions that indicate deixis—in particular, motion toward the speaker's perspective point—coupled with the mode of motion, whether on foot or in a vehicle, as shown in (15). This construction may have arisen as the intersection of a Germanic factor with a Slavic one. Germanic frequently indicates deixis in the verb with its come/bring-type forms, quite lacking in Slavic. Slavic, on the other hand, extensively insists on indicating mode of transit in the verb, a feature that Germanic must forego when expressing deixis. Yiddish, heir to both sensibilities, has thus devised a construction that indicates both at once:

(15) kumen tsu geyn/forn 'come walking/riding'
brengen tsu trogn/firn 'bring by carrying/conveying'

4.3 An Ampler Borrower's System can De-Polysemize a Donor System

While Russian has on the order of twenty-two prefixes, Yiddish has as many as some thirty-six, and it has put them to good use in taking on Slavic prefixal meanings. Where a Slavic prefix has several meanings grouped together under it, Yiddish often splits them up so that they come under distinct prefixes. This process, moreover, is in large measure semantically principled. Thus, where Yiddish doublet prefixes are involved, the long form takes on the commoner concrete senses, while the short form takes on the rarer concrete meanings as well as the more abstract senses, including all the aspect indications. For example, Russian uses the same prefix pod- to indicate both the notions 'to underneath' and 'up to', as in pod-katat's's+a pod+ACC 'roll under' and pod-exat' k+DAT 'drive up to'. Yiddish borrowed both these senses, but assigned them to different forms of the same doublet, as in aruner-kayklen zikh unter 'roll under' and (in some dialect areas) unter-forn tsu 'drive up to'. Likewise, long prefix aribet- acquires any 'across' usages from Russian pere-; while short iber- has taken on such meanings of pere- as 'in transfer': iber-shraybn 'copy (something written)' (pere-pisat'), iber-ton zikh 'change clothes' (pere-odet'-s'sa); and 'back and forth between': iber-varfn zikh mit 'throw...back and forth to each other' (pere-brosit'-s'sa +INS), iber-vinken zikh 'wink to each other' (pere-mignut'-s'sa).

With regard to aspect indication, Russian vy-, for example, does double duty expressing both spatial 'out' and aspectual 'perfective', as in vy-bežat' 'run out', vy-pit' 'drink to completion'. Yiddish separates these two senses with its doublet prefixes, as in aroyn-loyn 'run out' and oys-trinken 'drink to completion'. Likewise, in the other cases of
doublet forms indicating aspect, it is always the short prefix that is
used, as in these perfective verbs: iber-leyenen 'read', op-vegn 'weigh
(tr.)', ayn-zinken 'sink', oye-esn 'eat'.

These Yiddish examples manifest an apparently hitherto unobserved
phenomenon. It is the general expectation that a borrowing language
will at best be faithful to its influencer's distinctions, but more
likely will in part efface them. Here we have instead a case of
refinement. The general case can be put this way: One language's sub-
system, having more components than the corresponding subsystem in
another language, can in a semantically principled way sort out some of
the latter's forms of polysemy—or "de-polyseminate" it—in borrowing from it.

4.4 A Borrower Extending a Borrowed Feature Further than the Donor

In certain cases of borrowing, a feature of an influencing language
so successfully takes root in a borrowing language that it develops there
beyond its previous scope. Such seems the case with the semantic notion
of semelfactive aspect—i.e., singleness of occurrence—in going from
Slavic to Yiddish. In Russian, the semelfactive suffix -nu is mainly
limited to verbs whose imperfective sense involves a sequence of "unit"
actions, like jumping or breathing. When -nu is added, the resultant
reference is to a single such unit—e.g., pryg-at' 'jump along', pryg-nu-t'
'take a jump'. Yiddish, presumably inspired by the Slavic indication of
aspect in general and of semelfactive in particular, elaborated its
occasional inherited construction of the type gebn a kush 'give a kiss'
into an extensive and sometimes obligatorily used system for indicating
single or momentary occurrences of any type. The system's periphrastic
construction, consisting basically of a "dummy" verb like gebn or ton
('give', 'do') plus a nominal form of the contentful verb, can now addi-
tionally include a reflexive and a separated prefix, e.g.:

(16)   gebn a shmek  'to take a sniff'
       gebn a zog    'to remark'
       gebn a kum-arayn  'to enter'
       gebn zikh a makh-oysf  '(a door) to open up'

It is not clear why Yiddish was so hospitable to the growth of the semel-
active. It is somewhat clearer, though, why the periphrastic construction
became its vehicle. First, since the language has resisted borrowing
suffixes, it may have turned to the construction it already possessed
with something of this meaning. Moreover, that construction had already
gained in currency on another front—it was the main vehicle for the
language's incorporation of Hebrew verbs—e.g., khasene hohn 'to marry',
moysde zayn zikh 'to admit'.

Another case of the pupil outstripping the teacher is the redupli-
cation of prefix upon preposition (Section 4.1.1). Yiddish caught on to
the obligatory inclusion of a like-sounding prefix and extended it beyond
the cases found in Slavic. Thus, corresponding to non-reduplicative forms
in Russian are durkh- durkh 'through', arum- arum 'around', nokh- nokh
'along after', mit- mit 'in accompaniment with', ariber- iber 'over/across'
and farbay- far 'past'. The last example is noteworthy in that the origi-
nal and also presently existing form, farbay- DAT, gave way to the felt
need for some kind of phonological reduplication through the addition,
in some dialects, of the semantically unmotivated preposition far because
of its phonological character.

5. Types of Non-Accommodation by the Borrower to the Donor

The preceding section dealt with cases of actual borrowing of features from one language into another, classing them according to the type of accommodation to them made by the recipient system. But a language that has accepted some features can resist others. Yiddish can be seen to manifest two forms of such non-accommodation while otherwise under Slavic influence.

5.1 Rejection of Features of an Influencing Language

Much as the instances of borrowing first mentioned in Section 3.1 were just now seen to behave as parts of larger systems, so the instances of non-borrowing first mentioned in 3.2 can now be seen to reflect larger motivating factors. One such factor, stated generally, is that a structure in another language can be incommensurate enough to a potential borrower that neither the structure nor sometimes even the meanings expressed by it will be acceptable. In just this way, Yiddish seems to have an aversion to borrowing inflectional suffixes on the verb to indicate anything but syntactic relations. Only this latter function has been served by its inherited suffixes, which indicate the infinitive, the participles, and person and number agreement. Thus, Yiddish has no precedent for verb inflections that would add meaning, such as notions of aspect, and so has resisted the Slavic inflectional suffixes that do just this. Formally, it has rejected them outright--nothing of them has been borrowed that might appear in the actual form of suffixes. Semantically, Yiddish has also rejected the meaning expressed by one set of Slavic suffixes, those for the determinate/indeterminate distinction of motion verbs (see 3.2). Yiddish has borrowed the function of the suffixes indicating secondary imperfective, but only to the extent that its prefixes have extended their aspectual reference so as to encompass that function. The only strong case of semantic borrowing from a Slavic suffix is the indication of semelfactive, but this, as already seen, is manifested by an entirely distinct construction.

Another factor, possibly a widespread one, is a language's seeming tendency to ignore an influencing language's relative lack of distinctions. That is, a language otherwise subject to external influence may tend not to lose inherited distinctions just because the influencing language lacks them. Such a factor amounts to a bias in favor of "positive" borrowing--i.e., the taking on of novel features and discriminations--rather than "negative" borrowing, the taking on of another system's comparative limitations. An example in our present context is the prefixed indication of the path notion 'down'. Russian has for this only the non-productive prefix niz-, and mainly relies on external adverbial expressions to indicate the notion. Yiddish in the face of this prefixal sparseness has maintained its basically four-way distinction: arop- fun 'down off of', arunter-fun/durkh/oyf 'downward through space', anider- oyf 'down onto (general)', avek- oyf 'down onto (for acts of placing)'.

5.2 Changes Counter to Influence (and Inheritance As Well)

A language can not only maintain an original structure without assimilation to an influencing language's pattern, but can go so far as to
change it in the opposite direction. In the three cases of this type cited next for Yiddish, the avoided Slavic model is largely the same as the inherited Germanic one--Yiddish here flies in the face of both influence and inheritance. To account for such a development, one may have to invoke a notion of strong "drift"-like pressures internal to the system.

One case involves the common Germanic-Slavic use of two different nominal cases, the dative and the accusative, after the same preposition to indicate location and motion, respectively. Counter to both these linguistic inputs, Yiddish has come to use only the dative after all prepositions (except those meaning 'as, like', which take the nominative)---even though it has otherwise largely maintained the dative/accusative distinction in both noun phrases and pronouns. Though Yiddish has thus lost marking of the distinction by case, it can mark it by a novel construction --perhaps one that arose under continuing Slavic influence--in which a path prefix is repeated after the object nominal in the case of motion but not of location--e.g., aravn-krikhn in kastn aravn 'crawl into the box', zitsn_in kastn (*aravn) 'sit in the box'.

Another common Germanic-Slavic feature is the use of different prepositions to distinguish types of 'motion from'--thus, German aus+DAT 'out of', von+DAT 'away from', and Russian iz+GEN 'out of', s+GEN 'off of', ot+GEN 'away from'. Yiddish has not maintained such distinctions in its prepositional usage but has gone on to indicate the whole semantic range with the one preposition fun 'from'.

A third Germanic-Slavic shared feature is a certain form of aspect distinction and the means for indicating it. Traversing the total length of a bounded linear path in a period of time is indicated in both German and Russian with an accusative and a verbal prefix (inseparable, in the case of German), as in (17a). However, open motion along an unbounded path for a period of time is indicated with a preposition and no prefix (though German may also include a separable prefix), as in (17b). (The latter construction has become increasingly used in German for the bounded case as well, though the former construction is still not used for the unbounded case).

(17) a. Der Satellit hat die Erde in 3 Stunden umflogen.
   Satellit obletel zemli' u v 3 časa.
   "The satellite flew around the earth in 3 hours".
   (i.e., made one complete circuit)

b. Der Satellit ist 3 Tage (lang) um die Erde geflogen.
   Satellit letel vo'krug zemli 3 dni'a.
   "The satellite flew around the earth for 3 days".

Yiddish, backed and surrounded with this common semanto-syntactic feature, has nevertheless gone on to lose it. It expresses both cases in the same way: Der satelit iz arumgefloygn arum der erd in 3 sho / 3 teg. The loss is possibly due to the decline of the (a)-type construction, itself perhaps the result of Yiddish dropping the inseparable use of such originally dual-functioning prefixes as um-, durkh-, iber-.

6. General Principles that Govern Semantic Borrowing

In this concluding section, I want to abstract and condense into a single set of principles the properties of semantic change that Yiddish
prefixes have here been seen to exhibit under Slavic influence. These properties may well apply more generally to other cases where one language adapts its semantic space to that of another. Accordingly, the principles below are formulated in a generic phrasing, with "D", for "donor", referring to any influencing language and "B", for "borrower", to any corresponding influenced language. Such phrasing is not intended as a claim that all languages in fact behave according to the principles. It is meant, rather, as a suggestion that some languages might, and as a framework for investigating other language-contact situations with an eye toward working out a fully secure set of principles for semantic influence.

(18) Factors for Semantic-Space Borrowing from a D(onor) Language into a B(orrower) Language

a. A meta-meaning generally transfers from a morpheme-class of D to a similar one of B--i.e., to one of comparable syntactic category and with some semantic instances already consonant with the other's meta-meaning.

  --Thus, aspect indication by the Slavic verb-prefix category was borrowed by the Yiddish verb-prefix category, in which a few instances of prefix use had already indicated aspect.

b. Within such corresponding morpheme-classes, a meaning generally transfers from a morpheme of D to a similar one of B--i.e., to one of comparable phonological shape and with some meanings already consonant with the other morpheme's meaning-range.

  --Thus, Yiddish op- sounded like Russian ot- and already had certain 'off from' meanings in common with it, before borrowing others of its meanings.

c. With such corresponding D and B morphemes, several meanings tend to transfer over, so that a partial identification grows between the two.

  --Thus, Yiddish op- borrowed both the 'finish' and the 'reciprocate' meanings from Slavic (Russian) ot-, and Yiddish on- borrowed the 'accumulation', 'fill', and 'satiety' meanings from Slavic (Russian) na-.

d. As a corollary of (a), B generally borrows neither syntactic category nor meanings from a D morpheme-class to which it has no parallel, seeming to treat it, rather, as incommensurate or alien.

  --Thus, in Slavic verbs, certain inflectional suffixes add semantic content, whereas Yiddish ones only indicate syntactic relations; Yiddish has developed no suffixes akin to this novelty and, moreover, has largely avoided even the meanings they express.

e. If B does borrow from an unparalleled D morpheme-class, it generally takes on not the syntactic category but the meanings, expressing these with a native construction already semantically consonant.

  --Thus, Yiddish did borrow the Slavic suffixally indicated semelfactive, but expressed it with its native periphrastic construction, which already had some instances of such meaning.

f. B tends to maintain the properties of its original semantic space--i.e., all its inherited semantic and syntactic features and distinctions. Thus, B generally does not replace its original features when borrowing from D. Rather, it adds the novel features to its own, making various kinds of accommodation between the two patterns: hybrid formations, intersections, "unpackings" (de-polysemizing), extensions.

  --See Section 4 for examples.
g. Similarly, due to such retention, B generally does not drop its original features just because D lacks parallels.

Thus, Yiddish kept its 4-way prefixally indicated 'down' distinction, and also most original meanings of prefixes like on-, even though Slavic lacked these.

h. B does not borrow all of D's semantic system but only portions of it. Thus, some original B features continue unchallenged within the B system, or even develop in a direction counter to the D model.

Thus, Yiddish has not borrowed certain Slavic prefixal meanings such as Russian pro-'s 'the whole length of', and has neutralized its inherited accusative/dative 'motion/location' distinction even counter to the Slavic model.

i. All the preceding factors that govern borrowing probably continue to recycle at successive stages as B remains under D's influence. That is, B, rather than taking over D semantic space at the outset, makes a continuing sequence of "creative" adaptations and accommodations, most of which take it ever closer to the D system. This process might go on until an end point of complete homology between the B and D semantic spaces, with only the morphemes' shapes differing.

Several of the last principles can benefit from further comment. Principle (f) raises the question of how languages resist an overload of features if they tend to preserve old ones while adding new ones. I suspect that a language does not so much replace old features with new ones in direct response to an influencer as that--secondarily in its own time and way--it cuts down on original, borrowed, and hybrid features alike through internal processes of pruning, reshuffling, etc., that operate on the new configurations of material as a whole. Regarding principle (h)'s assertion that not all of an influencer's features are borrowed, it is not clear what factors--outside of principle (d)--might determine the pattern of what is and what is not borrowed. But we can at least be sure of this much: Undoubtedly involved is the integrated sense that native speakers have for their language's overall organization of lexical items and grammatical features--and hence, for what of another language might fit in more felicitously and what less so. As for principle (i)'s notion of ultimate homology between two contacting languages, Gumperz and Wilson (1971) describe just such an end state for a Dravidian language under Aryan influence in one Indian community. It seems quite possible, however, that a language could continue indefinitely without arriving at such total homology. Yiddish might well have turned out to be such a case if it were to have continued in Slavic territories, because it had two external connections: continuing associations with the German-speaking world, and its special connection with the Hebrew of religious writings, whose vocabulary and structure exerted a continuing influence on the language. In conclusion, it is my feeling that with Section 1's feature for semantic space in general, with the present principles for the ways that one such semantic space can affect another, and with the earlier detailing of Yiddish under Slavic influence--a case that instantiates both sets of general factors--we have a framework for understanding the structured interaction of semantic systems.

7. Notes

1) For their contribution to the preparation of this paper, I am grate
to several friends and colleagues—to Anna Schwartz, Malka Tussman, and Rose Cohen for their native linguistic expertise in Yiddish, Simon Karlin and Esther Talmy in Russian, Karin Wanderspek in German, and Henryka Yakušeŭ in Polish; to Dan Brink and Tom Shannon for their proficiency with Middle High German and to Martin Schwartz for his with the Hebrew component in Yiddish; to Yakov Malkiel and Elizabeth Traugott for their special knowledge of the relevant literature; and to Jennifer Lowood for her editorial acumen. In addition, the following reference works proved of great value: U. Weinreich (1968) for Yiddish, Ozhegov (1968) for Russian, and Lexers (1966) for Middle High German. Needless to say, these kind folk and worthy volumes are to be held innocent of any misfeasances in presentation, analysis, or assertion of fact that follow. It is my observation, over a variety of Yiddish speakers and writings, that the phenomena reported on here are quite sensitive to differences of dialect. Indeed, the observations below on Slavic-influenced features in Yiddish were gathered from different dialect representatives and are not necessarily all to be found in any one dialect.

2) Johanna Nichols has pointed out to me that some of the Russian forms --likeliest pod-deržat' and possibly also u-deržat'--may well be calques based, in fact, on Latin forms. While such a fact would detract from the present tabular demonstration, the general phenomenon of wholly parallel constructions must still be seen to hold.

3) Grammatical category may at first seem an odd inclusion among semantic factors, but each category actually contributes its own semantic "twist" to any concept expressed in it. Thus, the action of telephoning when expressed as a noun instead of a verb (He called me/He gave me a call) acquires some sense of reification into a delimited "thing". And a material like blood when expressed by a verb (I'm bleeding) seems to lose some of its sense of materiality and become "actionalized". (see Talmy (1978b).

4) The orthography used here and throughout to represent Yiddish (normally written with Hebrew letters) is the one approved by the YIVO Institute for Jewish Research and adopted by the standard-setting Yiddish and English dictionary of U. Weinreich (1968). It uses kh, sh, and ts instead of the more usual linguistic notations x, š, and č.

5) In most dialects, um- occurs rarely and seems to have little felt connection with arum-. Both prefixes might be better placed in the singlets column.

6) As M. Weinreich (1980:539) points out, the various Slavic languages are so close that for most phenomena dealt with here they can be regarded as having exerted an undifferentiated Slavic influence on Yiddish. Russian is used as the Slavic language of reference throughout the paper (though a spot-check of Polish suggested that this language, too, was consonant with the borrowing pattern observed). The term "Germanic" is used differently below. It does not refer to a whole linguistic family, but only to features common to the transmitted Germanic component of Yiddish, the MHG of the Rhineland, and in a number of instances also modern standard German.

7) In the examples cited hereafter, the abbreviations REF, GEN, ACC, etc., stand for "reflexive", "genitive", "accusative", etc. After Yiddish prepositions, no case indication is given because they all take the dative (ones meaning 'as' or the like take nominative, but do not appear here). The -iť', -ěť', and -ať' on Russian verbs are infinitive endings and -s'a is the reflexive; the Yiddish equivalents are -n and zikh.
8) Examples of the new forms here are: (a) o-beżat' dom / arum-loyfn arum a hoyz // "run around a house" (b) ob-lokotit's'a o dver' / on-shparn zikh on a tir // "lean against a door" (c) pri-exat' / on-forn // "arrive in a vehicle" (g) na-stupit' na zmeju / aroyf-tretn oyu a shlang // "step upon a snake" (h) vz-letet' / aroyf-fliën // "fly up".

9) Depending on the verb and on the speaker, aspect type (c) might not be expressible at all in one word. For example, pro-čit-yv-at' can be used for 'read a newspaper through to the end every day', but not for 'now be reading a newspaper until the end be reached'. In such cases, aspect type (d) can be used as a substitute aspectual notion, with the unaffixed form used to express it.

10) Martin Schwartz has suggested to me that the conjugal complexities of the Hebrew verb favored its incorporation in a selected frozen form within a periphrastic construction.

11) While it rejects such suffixes for inflections, Yiddish has borrowed derivational suffixes that add meaning—e.g., -eye (cf. Russian -ov-a), conferring a pejorative sense, as in shraybeven 'write in an inferior manner' (M. Weinreich (1980:531)).

8. References


Subgrouping on the basis of shared phonological innovations:
a Lolo-Burmese case study.

Graham Thurgood
CSU Fresno

0. Introduction. Through the imaginative and creative work of a small number of scholars the last two decades have seen enormous progress in the reconstruction of Lolo-Burmese. Although little has been done on some languages, for others the basic sound correspondences have already been outlined, and for still others detailed work has already been done. However, despite the advances obvious elsewhere, subgrouping remains more 'suggestive' than 'definitive', the subgrouping work of Shafer (1938, 1955, 1966-7, 1974), Benedict (1972), Matisoff (1972a), Nishi (1975ab), Bradley (1979ab), and others notwithstanding. Thus, it is not the absence of work that leaves us without a definitive subgrouping; instead, this lack of a consensus is a direct consequence of different ideas about what constitutes evidence. What this paper argues, illustrating with examples from the Loloish component of Lolo-Burmese, is that the most useful and the most valid basis for subgrouping is the presence of shared phonological innovations. Other approaches based on other types of evidence are not only of dubious validity but unnecessary; by itself, the evidence provided by shared innovations constitutes a sufficient basis for a principled preliminary subgrouping of Loloish.

1.0 Lexical approaches. The variable nature of the data sources condemns lexical approaches to failure. Thus, for Akha we have several sources including Paul Lewis' valuable Akha-English Dictionary; on the other hand, for Lü-ch'üan we have only Ma Hsüeh-Tiang's excellent but obviously lexically restricted annotated translation of the Lolo sacred book Performing Rites, Offering Medicines, and Sacrificing Beasts. Similarly, for Lahu we have through Matisoff's works thousands of forms; however, for Jino we have only the 150 or so words of a recent Chung-ko Yü-wen article. Under these conditions, it makes little sense to talk of subgrouping on basis of lexical criteria such as percentages of shared vocabulary, etc.

2.0 Shared retentions. In the literature, one finds cited as potential subgrouping evidence such shared retentions as *b- > b-, *-a > -a, and *-m > -m. However, this use of retentions is simply fallacious; retentions provide no evidence of a period of common development unique to the languages involved. Here, the burden of proof to the contrary lies with those that suggest the use of retentions as subgrouping evidence.

3.0 Shared innovations. In contrast to shared retentions, shared innovations are potential evidence of periods of common development and thus valuable for subgrouping. Of course, the more common the phonological change, the more likely that shared innovations are due to parallel but independent development, and, the less likely the change, the less likely that the change occurred more than once. A change such as *-a > -o or *-ak > -a?, for example, is common enough that parallel independent occurrences are not unexpected; however, changes such as *pl- > t- or *mp- > b' are far less likely to have occurred independently more than once.
A prime example of a shared innovation useful for subgrouping is found in Chart 1 below. In Sani (=Nyi) and Ahi there is a tone split in the devoicing of old voiced initials that is correlated with tone; the old voiced initials devoiced under proto-tone 1 but remained voiced under proto-tone 2. This correlation of a devoicing split with tone

<table>
<thead>
<tr>
<th>PLB</th>
<th>Sani (Ma)</th>
<th>Nyi (Shafer)</th>
<th>Ahi (Yum)</th>
<th>Ahi (Shafer)</th>
<th>'gloss'</th>
</tr>
</thead>
<tbody>
<tr>
<td>*duŋ⁰¹</td>
<td>ty 33</td>
<td>tu-</td>
<td>to 33</td>
<td>to-</td>
<td>'wing'</td>
</tr>
<tr>
<td>*byam⁰¹</td>
<td>tši 33</td>
<td>tši</td>
<td>tši 33</td>
<td>tši-</td>
<td>'to fly'</td>
</tr>
<tr>
<td>*dzam⁰¹</td>
<td>tsə 33</td>
<td>tsə-</td>
<td>təζ 33</td>
<td>tsə-</td>
<td>'bridge'</td>
</tr>
<tr>
<td>*gun⁰¹</td>
<td>kw 33</td>
<td>ko-</td>
<td>kr 33</td>
<td>ko-</td>
<td>'body'</td>
</tr>
<tr>
<td>*m-dzi¹</td>
<td>təζ 33</td>
<td>təζ-</td>
<td>təζ- 33</td>
<td>təζ-</td>
<td>'rice wine'</td>
</tr>
<tr>
<td>*dza¹</td>
<td>tsa 33</td>
<td>tsa-</td>
<td>tso 33</td>
<td>tso-</td>
<td>'rice; food'</td>
</tr>
<tr>
<td>*dəway¹</td>
<td>təζ 33</td>
<td>təζ-</td>
<td>təζ- 33</td>
<td>təζ-</td>
<td>'tusk'</td>
</tr>
<tr>
<td>*gray¹</td>
<td>təζ 33</td>
<td>təζ-</td>
<td>təζ- 33</td>
<td>təζ-</td>
<td>'star'</td>
</tr>
<tr>
<td>*dəw¹</td>
<td>təζ 33</td>
<td>təζ-</td>
<td>təζ- 33</td>
<td>təζ-</td>
<td>'short'</td>
</tr>
<tr>
<td>*du¹</td>
<td>tu-</td>
<td></td>
<td></td>
<td></td>
<td>'nephew'</td>
</tr>
<tr>
<td>*gun¹</td>
<td>kə 33</td>
<td></td>
<td>kr 33</td>
<td></td>
<td>'use up'</td>
</tr>
<tr>
<td>*m-dza¹</td>
<td>kə 33</td>
<td></td>
<td></td>
<td></td>
<td>'sparrow'</td>
</tr>
<tr>
<td>*rum¹</td>
<td>po 33</td>
<td></td>
<td></td>
<td></td>
<td>'divide; pile up'</td>
</tr>
<tr>
<td></td>
<td>by 11</td>
<td>bu/</td>
<td>bu 21</td>
<td>bʊ/bo/</td>
<td>'insect'</td>
</tr>
<tr>
<td>*də⁻²</td>
<td>dəζ 11</td>
<td>dəζ/</td>
<td>dəζ/ 21</td>
<td></td>
<td>'eat'</td>
</tr>
<tr>
<td>*ba²</td>
<td>ba 11</td>
<td>ba/</td>
<td>bo 21</td>
<td></td>
<td>'thin'</td>
</tr>
<tr>
<td>*gra²</td>
<td>ga 11</td>
<td>ga/</td>
<td>dəζ/ 21</td>
<td></td>
<td>'hear'</td>
</tr>
<tr>
<td>*bay²</td>
<td>bʒ 11</td>
<td>bʒ/</td>
<td></td>
<td></td>
<td>'give'</td>
</tr>
<tr>
<td>*gray²</td>
<td>dzə 11</td>
<td>dzə/</td>
<td>dzə/ 21</td>
<td></td>
<td>'copper'</td>
</tr>
<tr>
<td>*dzim²</td>
<td>dzə 11</td>
<td>dzə/</td>
<td></td>
<td></td>
<td>'unripe, raw'</td>
</tr>
<tr>
<td>*bya²</td>
<td>dəζ 11</td>
<td>dəζ/</td>
<td>do 21</td>
<td>do/</td>
<td>'bee'</td>
</tr>
<tr>
<td>*daŋ²</td>
<td>do 11</td>
<td>do/</td>
<td>du 21</td>
<td>du/</td>
<td>'word; speech'</td>
</tr>
<tr>
<td>*ba²</td>
<td>ba 11</td>
<td>ba/</td>
<td>bo 21</td>
<td>bo/</td>
<td>'chin; cheek'</td>
</tr>
<tr>
<td>*groʰ²</td>
<td>gu 11</td>
<td>gu/</td>
<td>dəζ/ 21</td>
<td>dəζ/</td>
<td>'nerve; vein; sinew'</td>
</tr>
<tr>
<td>*bəw²</td>
<td>(bu-)</td>
<td></td>
<td>bu/</td>
<td></td>
<td>'carry on back'</td>
</tr>
<tr>
<td>*bəw²</td>
<td>bəζ 11</td>
<td>bəζ/</td>
<td>bu 21</td>
<td>bu/</td>
<td>'long'</td>
</tr>
<tr>
<td>*dum²</td>
<td>dy 11</td>
<td></td>
<td></td>
<td></td>
<td>'blunt'</td>
</tr>
<tr>
<td>*dzaw²</td>
<td>dzə 11 'an official'</td>
<td></td>
<td></td>
<td></td>
<td>'govern'</td>
</tr>
<tr>
<td>*gam²</td>
<td>gə 21</td>
<td>gə/</td>
<td></td>
<td></td>
<td>'give'</td>
</tr>
<tr>
<td>*bəŋ²</td>
<td>bo 11</td>
<td>(na-bo/)</td>
<td>(no-bu-)</td>
<td></td>
<td>'deaf'</td>
</tr>
</tbody>
</table>

Chart 1. Sani (Nyi) and Ahi devoicing split correlated with tone.
Thurgood (1980:212) contains a discussion of this change.

is quite unexpected typologically since consonants usually affect tone but not vice versa. In effect, however, this characterization is deceptive since each of the 'tones' has its own distinct phonation type and it is the phonation types that affected the variable devoicing of initials. In any case, the fact that Sani and Ahi share this particular
is strong evidence for subgrouping them together.

From a practical viewpoint, such relatively-uncommon innovations are an efficient starting place for an analysis since they are the least likely to have evolved independently. Nonetheless, a single phonological change—no matter how rare and unique—is not by itself a sufficient basis for subgrouping. Even the unique Sani-Ahi split needs substantiation from additional shared innovations. In this case, it is easy to find further evidence; for example, only Sani and Ahi share the change *-ak > -e/-ε (Chart 2) and, in addition, numerous other sound changes can be found that are shared only by these two or only by these two and the two languages at the immediately above level of subgrouping.

<table>
<thead>
<tr>
<th>PLB</th>
<th>Written Burmese</th>
<th>Sani</th>
<th>Ahi</th>
<th>Nasu</th>
<th>Lu-ch'üan</th>
<th>'gloss'</th>
</tr>
</thead>
<tbody>
<tr>
<td>*V-pak</td>
<td>phak</td>
<td>p'e 22s</td>
<td>phie 44s</td>
<td>p'a 44s</td>
<td>p'a 55c</td>
<td>'leaf' #29 305</td>
</tr>
<tr>
<td>*zkak</td>
<td>sak</td>
<td>ze 22s</td>
<td>ze 44s</td>
<td>dza 55</td>
<td>za 55c</td>
<td>'descend' #121 653</td>
</tr>
<tr>
<td>*mek</td>
<td>mak</td>
<td>me 22s</td>
<td>mie 44s</td>
<td>ma 55</td>
<td></td>
<td>'soldier, war' #135 172</td>
</tr>
<tr>
<td>*C-sak</td>
<td>sak</td>
<td>se 22s</td>
<td>se 44s</td>
<td>sa 55</td>
<td>sa 55c</td>
<td>'breathe' #123 138</td>
</tr>
<tr>
<td>*m-tak</td>
<td>tak</td>
<td>de 44</td>
<td></td>
<td>da 44</td>
<td>da 22s</td>
<td>'climb' #98</td>
</tr>
</tbody>
</table>

Chart 2. Front vowel reflexes of PLB *-ak.

Notes: The forms listed above are only a subset of the data. The significance of the change is that it divides the Sani-Ahi-Nasu-Lü-ch'üan subgroup into Sani-Ahi and Nasu-Lü-ch'üan.

The numbers preceded by # are from Matisoff 1972a; the numbers underlined are from Bradley 1979a. *C- and *V- are a consonantal and a vocalic tone lowering prefix.

This change is discussed in Thurgood and Javkin (1975).

From a practical point of view, the more common a change, the less useful it becomes for initial subgrouping. The change *-a > -o or -o, for instance, is found in Ahi -o, Mpi -o, Kao's Hani -o, Nasu -o and -u, and Woni -o. This change occurred independently at least two if not three times.

4.0 Subgrouping Loloish. A thorough and definitive subgrouping of Loloish is not completed but, on the basis of the evidence provided by shared phonological innovations, a preliminary subgrouping has been done. What follows is that subgrouping.

4.1 The Sani-Ahi/Nasu-Lu-ch'üan connection. Sani and Ahi were connected by Charts 1 and 2 found in section 3. Both languages are part of a larger subgroup which includes in addition Nasu and Lu-ch'üan. This four language grouping has in common the shared innovations *pl- > ti- (Chart 3) and *my- > n- (Chart 4) in addition to more common changes.
<table>
<thead>
<tr>
<th>PLB</th>
<th>Written Burmese</th>
<th>Sani</th>
<th>Ahi</th>
<th>Nasu</th>
<th>'gloss'</th>
</tr>
</thead>
<tbody>
<tr>
<td>*plu₁</td>
<td>phru</td>
<td>ဗ 33</td>
<td>တ'o 22</td>
<td>သ'ာ 24</td>
<td>'white, silver'</td>
</tr>
<tr>
<td>*plun₂</td>
<td></td>
<td>ဗ 11</td>
<td>နာ 44</td>
<td>တာ ၄၄</td>
<td>နာ 32</td>
</tr>
<tr>
<td>*C-plek</td>
<td>phrac</td>
<td>တ'a 22</td>
<td>တ'a 44</td>
<td>တ'a 55</td>
<td>'become' #68</td>
</tr>
<tr>
<td>*blek</td>
<td></td>
<td>တ'a 22</td>
<td>တ'a 44</td>
<td>တ'a 55</td>
<td>'become' #68</td>
</tr>
<tr>
<td>*m-priŋ₁</td>
<td>praŋ</td>
<td>တ'a 33</td>
<td>တ'a 44</td>
<td>တ'a 55</td>
<td>'become' #68</td>
</tr>
<tr>
<td>*byam₁</td>
<td>pyam</td>
<td>တ'a 33</td>
<td>တ'a 44</td>
<td>တ'a 55</td>
<td>'become' #68</td>
</tr>
<tr>
<td>*m-bliŋ₃</td>
<td></td>
<td>တ'a 33</td>
<td>တ'a 44</td>
<td>တ'a 55</td>
<td>'become' #68</td>
</tr>
<tr>
<td>*bya²</td>
<td></td>
<td>တ'a 33</td>
<td>တ'a 44</td>
<td>တ'a 55</td>
<td>'become' #68</td>
</tr>
<tr>
<td>*m-byan₁</td>
<td>pyan:</td>
<td>တ'a 33</td>
<td>တ'a 44</td>
<td>တ'a 55</td>
<td>'become' #68</td>
</tr>
</tbody>
</table>

---

**Chart 3.**

Dental reflexes of original bilabial clusters. Lu-ch'üan would also be expected to have dental reflexes. This parallels the behavior of *my*- and *mr*- clusters which also have a dental or alveopalatal reflex in these languages.

For an explanation of this change, see Ohala (1978).

---

<table>
<thead>
<tr>
<th>PLB</th>
<th>Written Burmese</th>
<th>Sani</th>
<th>Ahi</th>
<th>Nasu</th>
<th>Lu-Ch'üan</th>
<th>Lisu</th>
<th>Lahu</th>
<th>Phunoï</th>
<th>Bisu</th>
<th>Mpi</th>
<th>Akha</th>
<th>'gloss'</th>
</tr>
</thead>
<tbody>
<tr>
<td>*myok</td>
<td>myok</td>
<td>nu 55</td>
<td>nu 55</td>
<td>nu 55</td>
<td>မ်း ၄၄</td>
<td>မ်း ၄၄</td>
<td>မ်း ၄၄</td>
<td>မ်း ၄၄</td>
<td>မ်း ၄၄</td>
<td>မ်း ၄၄</td>
<td>မ်း ၄၄</td>
<td>မ်း ၄၄</td>
</tr>
<tr>
<td>*(s-)*myak</td>
<td>myak</td>
<td>နာ 44</td>
<td>နာ 44</td>
<td>နာ 44</td>
<td>ဆာ ၄၄</td>
<td>ဆာ ၄၄</td>
<td>ဆာ ၄၄</td>
<td>ဆာ ၄၄</td>
<td>ဆာ ၄၄</td>
<td>ဆာ ၄၄</td>
<td>ဆာ ၄၄</td>
<td>ဆာ ၄၄</td>
</tr>
<tr>
<td>*mrən₂</td>
<td>mraŋ</td>
<td>ဗ 55</td>
<td>ဗ 55</td>
<td>ဗ 55</td>
<td>မှဴ ၄၄</td>
<td>မှဴ ၄၄</td>
<td>မှဴ ၄၄</td>
<td>မှဴ ၄၄</td>
<td>မှဴ ၄၄</td>
<td>မှဴ ၄၄</td>
<td>မှဴ ၄၄</td>
<td>မှဴ ၄၄</td>
</tr>
<tr>
<td>*mra²</td>
<td>na 55</td>
<td>နာ 33</td>
<td>နာ 33</td>
<td>နာ 33</td>
<td>နာ 33</td>
<td>နာ 33</td>
<td>နာ 33</td>
<td>နာ 33</td>
<td>နာ 33</td>
<td>နာ 33</td>
<td>နာ 33</td>
<td>'many'</td>
</tr>
<tr>
<td>*mrük</td>
<td>ဗ 55</td>
<td>မှဴ ၄၄</td>
<td>မှဴ ၄၄</td>
<td>မှဴ ၄၄</td>
<td>မှဴ ၄၄</td>
<td>မှဴ ၄၄</td>
<td>မှဴ ၄၄</td>
<td>မှဴ ၄၄</td>
<td>မှဴ ၄၄</td>
<td>မှဴ ၄၄</td>
<td>မှဴ ၄၄</td>
<td>'to weed; grass' #136</td>
</tr>
<tr>
<td>*mwaṭ</td>
<td>mwaṭ</td>
<td>ဗ 22</td>
<td>ဗ 22</td>
<td>ဗ 22</td>
<td>မဝေ ၄၄</td>
<td>မဝေ ၄၄</td>
<td>မဝေ ၄၄</td>
<td>မဝေ ၄၄</td>
<td>မဝေ ၄၄</td>
<td>မဝေ ၄၄</td>
<td>မဝေ ၄၄</td>
<td>'hungry' #122</td>
</tr>
<tr>
<td>*mraŋ₃</td>
<td>mraŋ</td>
<td>မှဴ ၄၄</td>
<td>မှဴ ၄၄</td>
<td>မှဴ ၄၄</td>
<td>မှဴ ၄၄</td>
<td>မှဴ ၄၄</td>
<td>မှဴ ၄၄</td>
<td>မှဴ ၄၄</td>
<td>မှဴ ၄၄</td>
<td>မှဴ ၄၄</td>
<td>မှဴ ၄၄</td>
<td>'high' #758</td>
</tr>
<tr>
<td>*s-mra¹</td>
<td>s-mra</td>
<td>မှဴ ၄၄</td>
<td>မှဴ ၄၄</td>
<td>မှဴ ၄၄</td>
<td>မှဴ ၄၄</td>
<td>မှဴ ၄၄</td>
<td>မှဴ ၄၄</td>
<td>မှဴ ၄၄</td>
<td>မှဴ ၄၄</td>
<td>မှဴ ၄၄</td>
<td>မှဴ ၄၄</td>
<td>'see' #596</td>
</tr>
</tbody>
</table>

---

**Chart 4.**

Reflexes of *my*- & *mr*- clusters.

Notes: Numbers preceded by # are the numbers used in Matisoff 1972a; numbers underlined are the numbers from Bradley 1979a.

For an explanation of this change, see Ohala (1978).
The close relationship of Nasu and Lu-ch'üan within the subgroup is reflected in the shared otherwise unique aspirated reflexes for *m-pak type initials (Chart 5).

<table>
<thead>
<tr>
<th>PLB</th>
<th>Sani</th>
<th>Ahi</th>
<th>Nasu</th>
<th>Lu-ch'üan</th>
<th>'gloss'</th>
</tr>
</thead>
<tbody>
<tr>
<td>*m-pup</td>
<td>br 44</td>
<td>bu 44</td>
<td>b'u 32s</td>
<td>nts'a 22s</td>
<td>'satiated' #86</td>
</tr>
<tr>
<td>*m-puk</td>
<td>gu 44</td>
<td>ba 44</td>
<td>g'u 32s</td>
<td></td>
<td>'write; make spots' #89</td>
</tr>
<tr>
<td>*m-pok</td>
<td></td>
<td></td>
<td>b'a 32s</td>
<td></td>
<td>'shoot' #108</td>
</tr>
<tr>
<td>*m-tsak</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*m-dzil</td>
<td>ts'z 33</td>
<td>ts'i 33</td>
<td>dž'i 21</td>
<td>nte' II</td>
<td>'a drop; to drip' #82</td>
</tr>
<tr>
<td>*m-tanl</td>
<td></td>
<td></td>
<td>d'o 213</td>
<td>nte' II</td>
<td>'rice wine'</td>
</tr>
<tr>
<td>*m-pyanl</td>
<td></td>
<td></td>
<td>d'a 24</td>
<td></td>
<td>'drink'</td>
</tr>
</tbody>
</table>

Chart 5. Aspirated reflexes of *m-pak proveniences. Those *m-prefixed voiceless initials which are clusters have unaspirated reflexes.

In addition, Nasu and Lu-ch'üan have both merged the tonal reflexes of *s-mak and *s-bak syllables with the tonal reflexes of *C-pak, *C-sak, *rak, *bak, *zak, and *mak syllables (Chart 6).

4.2 The Sani-Ahi-Nasu-Lu-ch'üan/Lisu-Lahu conconnection. This still higher level grouping is substantiated by the patterns of tonal reflexes of the formerly checked syllables (Chart 6). For all six languages, there is a three-way tonal split rather than the two-way split found elsewhere in Loloish. In addition the chart shows three other developments of no use for subgrouping: Nasu has innovated a unique 34 tone from *ryak syllables, Lisu has innovated a 3 tone from *(s-)mak and *m-pak syllables, and Lahu has extended its 35 high-rising tone to syllables of the structure *ryak and *C-sak. Aside from these three independent, non-shared innovations, the common tonal splits constitute evidence for subgrouping these six languages together.

4.3 Phunoi and Bisu. The development of certain nasals into corresponding homorganic voiced stops, whatever its ultimate phonological explanation may be, subgroups Phunoi, Bisu, and, according to Bradley, Pyen together (Chart 7). This subgrouping is substantiated by their
<table>
<thead>
<tr>
<th>Initial Class</th>
<th>Sani</th>
<th>Ahl</th>
<th>Nasu</th>
<th>Lu-ch'i'an</th>
<th>Lisu</th>
<th>Lahu</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>s</em>bak</td>
<td>55</td>
<td>55</td>
<td>55</td>
<td>55c</td>
<td>1</td>
<td>' (35)</td>
</tr>
<tr>
<td><em>m</em>ak</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*pak</td>
<td>44</td>
<td>44</td>
<td>32s</td>
<td>22s</td>
<td>2</td>
<td>'? (54s)</td>
</tr>
<tr>
<td>*sak</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>r-k</em>ak</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*s-pak</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*(s-)*mak</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*(s-)*im-pak</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*ryak</td>
<td></td>
<td></td>
<td>34</td>
<td></td>
<td></td>
<td>' (35)</td>
</tr>
<tr>
<td>*C-sak</td>
<td></td>
<td></td>
<td></td>
<td>55c</td>
<td>6</td>
<td>'? (21s)</td>
</tr>
<tr>
<td>*C-pak</td>
<td>22s</td>
<td>44s</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>b</em>ak</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>z</em>ak</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>m</em>ak</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Chart 6.

Tonogenic Developments of the Checked Proveniences.

Notes: The original syllable is represented here with an *-ak rhyme since the final rhyme variations had no variable effect on reflexes. The tone marks are Chao tone symbols in which the starting point and the ending point of the tone are marked with 1 being low and 5 being high. The ' symbol designates 'stopped' and the symbol 'constricted'.

*s* = PLB spirantal prefix *(s-*) = Proto-Loloish spirantal prefix *C- = tone lowering prefix

similar reflexes for *-im ( > -um/-u) and *-ip ( > -up/-u) (see Chart 8). The Akha treatment of *-ip ( > -u) suggests but certainly does not prove a connection with the Phumoi-Bisu-Pyen subgroup (Chart 3).

4.4 A preliminary subgrouping. In addition to these shared innovations, others are found amply documented in the literature. On the basis of these as well as on the evidence presented here, a preliminary subgrouping can be made (Chart 9).

5.0 Conclusion. This paper first argued that shared phonological innovations should constitute the major if not the sole basis for the subgrouping of Lolo-Burmese. Further, it was argued that at least from a practical viewpoint the more unusual the shared development, the greater its potential value for subgrouping and vice versa. Finally, on the basis of shared phonological innovations, a preliminary subgrouping was done of Lolo-Burmese.

Footnote

1 Burling 1967; Shafer 1966-7, 1974; Benedict 1972; Matisoff 1972a; Nishida 1966ab, 1967, 1975; Nishi 1975ab; Bradley 1979ab; Wheatley 1980; and others.
<table>
<thead>
<tr>
<th>PLB</th>
<th>Written Burmese</th>
<th>Phunoi</th>
<th>Bisu</th>
<th>Mpi</th>
<th>'gloss'</th>
</tr>
</thead>
<tbody>
<tr>
<td>*myok</td>
<td>myok</td>
<td>dà bá</td>
<td>mè hñw</td>
<td>sa'pó</td>
<td>'monkey' 23, #133</td>
</tr>
<tr>
<td>(*s-)myak</td>
<td>myak</td>
<td>?ā bja mè hñw</td>
<td>m'tš̄ó</td>
<td>'eye' 91, #145</td>
<td></td>
</tr>
<tr>
<td>*s-mra</td>
<td>hmrā</td>
<td>bala bò</td>
<td>mjo</td>
<td>'arrow' 266</td>
<td></td>
</tr>
<tr>
<td>(*s-)mak</td>
<td>?ip mak</td>
<td>jùp ba ba mè būn būn maŋ</td>
<td>mjo</td>
<td>'dream' 586, #144</td>
<td></td>
</tr>
<tr>
<td>*mruk</td>
<td></td>
<td>bò bo mòkā</td>
<td>mja</td>
<td>'to weed; grass' 302/621 #138</td>
<td></td>
</tr>
<tr>
<td>*mwat</td>
<td>mwat</td>
<td>hā bát hāng bē</td>
<td>mja</td>
<td>'hungry' 132, 637</td>
<td></td>
</tr>
<tr>
<td>*C-mi</td>
<td>mi</td>
<td>bI bI tho mi</td>
<td>mi</td>
<td>'fire' 329</td>
<td></td>
</tr>
<tr>
<td>*maw</td>
<td>mūi</td>
<td>mòthā mūn 'smoke'</td>
<td>mi̊ khwì</td>
<td>'sky' 321/333</td>
<td></td>
</tr>
<tr>
<td>*nat</td>
<td>nat</td>
<td>dāt</td>
<td>nv</td>
<td>'spirit' 361, #136</td>
<td></td>
</tr>
<tr>
<td>(*s-)nak</td>
<td>nak</td>
<td>?ā da</td>
<td>nan</td>
<td>'black' 142, 503</td>
<td></td>
</tr>
<tr>
<td>*nyaw</td>
<td>nyui 'brown'</td>
<td>?ā hjà</td>
<td>ni</td>
<td>'blue, green' 508</td>
<td></td>
</tr>
</tbody>
</table>

Chart 7.

Reflexes of *C-prefixed nasals.

Notes: In the above for which it is known from other evidence that the prefix is spirantally marked with *s- or (*s-); if the other evidence only indicates that the prefix was consonantal but of undetermined quality, it is marked with *C-; and, if the Phunoi and Bisu are the only evidence for the prefix it is unmarked.

Numbers preceded by # are the numbers used in Matisoff 1972a; numbers underlined are the numbers from Bradley 1979a.

<table>
<thead>
<tr>
<th>PLB</th>
<th>Written Burmese</th>
<th>Lahu</th>
<th>Phunoi</th>
<th>Bisu</th>
<th>Akha</th>
<th>Mpi</th>
<th>'gloss'</th>
</tr>
</thead>
<tbody>
<tr>
<td>*yim</td>
<td>?im</td>
<td>yè</td>
<td>jùm</td>
<td>jùm</td>
<td>ym*</td>
<td>?iŋ</td>
<td>'house' 341</td>
</tr>
<tr>
<td>*blim</td>
<td>pim: prim:</td>
<td>pIūm</td>
<td>bym</td>
<td>'taro' 285</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*dim</td>
<td>tim</td>
<td>ƀ-c</td>
<td>chūm</td>
<td>jm</td>
<td>ti</td>
<td>'cloud' 320-2</td>
<td></td>
</tr>
<tr>
<td>*dzim</td>
<td>tsim</td>
<td>hńum</td>
<td>hńum</td>
<td>níŋ 3/5</td>
<td>'unripe; raw, green' 764A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*nim</td>
<td>níŋ/níŋ' nè&lt;k*&gt; 1</td>
<td>hńum</td>
<td>hńum</td>
<td>níŋ 3/5</td>
<td>'low; short' 759 755</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*yip</td>
<td>?ip</td>
<td>y Replay</td>
<td>yù</td>
<td>yu</td>
<td>?iŋ</td>
<td>'sleep' #180 735 773C</td>
<td></td>
</tr>
<tr>
<td>*zum</td>
<td>sum:</td>
<td>yè</td>
<td>sè</td>
<td>zm</td>
<td>'to use' 710</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*sum</td>
<td>sum:</td>
<td>sè</td>
<td>sùm</td>
<td>sm</td>
<td>'three' 480</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*dum</td>
<td>tum:</td>
<td>sè</td>
<td>sùm</td>
<td>sm</td>
<td>'blunt' 542</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*tsuz</td>
<td>chūm: T</td>
<td>tshūm</td>
<td>tam</td>
<td>'rice pounder' 240B</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*dzum</td>
<td>cum</td>
<td>sè-cè</td>
<td>lùm</td>
<td>lùm</td>
<td>lʊm</td>
<td>'pair' 420A</td>
<td></td>
</tr>
<tr>
<td>*lum</td>
<td>pum</td>
<td>lùm</td>
<td>pùm</td>
<td>'warm' 516</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*pum</td>
<td>pum</td>
<td>pùm</td>
<td>bym</td>
<td>'pale, grey' 627A</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Chart 8. Phunoi, Bisu, and Akha reflexes of *-im, *-ip, and *-um.
Chart 9: A preliminary subgrouping of Lolo-Burmese. Note that the position of

Proto-Burmish

Proto-Lolo-Burmese

Proto-Lolo

Proto-Keln
Bibliography


1980. "Consonants, phonation types, and pitch height".

[February 10, 1982]
Governed Anaphors in Basque

M. Azkarate, D. Farwell, J. Ortiz de Urbina and M. Saltarelli
University of Illinois

1. The pro-drop parameter in Basque

This paper deals with Basque syntax in relation to the concept of government (Chomsky 1981). It is shown that its typological characteristics observed in Inversion, Pro-drop, and Clitic Doubling suggest a core grammar in which argument bearing categories are ungoverned (in 'free' positions) and coindexed with a verb agreement system of argument-bound anaphors governed by V. This parametric option, it is claimed, defines Basque as non-configurational, i.e., as an Absolutive/Ergative language in which the Subject/Object asymmetry of Nominative/Accusative languages is not recognized.

In a recent paper we (Authors 1981) argued that the definition of pro-drop language is not generally characterized by a rule of syntax assigning the INFLecional constituent to the VP (Chomsky 1981, Chapt. 4). Such a rule is available as an option only in the grammar of languages like Italian. When the rule applies, it leaves the subject position free from its governing category. Thus, in such languages an empty category is an option in subject position, which defines the phenomena of subject Inversion and Pro-drop. In Basque the two phenomena obtain irrespective of the relational asymmetry between Subject and Object observed in accusative languages, as can be gleaned from the data in (1), illustrating Inversion, and (2) illustrating Pro-drop. If the question of focus or galdegaia is disregarded

(1) zu-k Mikel-i egkutitza idatzi d-io-zu
    you-E Michael-D the letter-A write 3SA-3SD-2SE
    (you have written the letter to Michael)

(2) (a) Mikel-i e\textsuperscript{k} kutitza idatzi d-\text{-}io-zu
    (b) eskutitza idatzi d-\text{-}io-zu
    (c) idatzi d-\text{-}io-zu

for ease of exposition (but cf. Authors 1981, sect. 1,2), all permutations of the verb idatzi d-\text{-}io-zu and the arguments zu\textit{k}, Mikel\textit{i} and e\textsuperscript{k} kutitza result in grammatical sentences. Likewise, in (2) it is shown that any or all of the arguments may be Pro-dropped. The extended pro-drop parameter just exemplified for Basque exceeds the characterization of pro-drop vs. non-pro-drop language proposed in view of languages like Italian vs. English, as the incorporation of an optional rule of syntax assigning INFL to VP. Any adequate government and binding theory of Basque must be rich enough to provide at S-structure a scenario where all major categories in maximal S (a) appear in
all possible permutations and (b) are ungoverned. Any
hypothesis characterizing such a theory must insure that INFL
is in V and, at the same time, that no one of the major cate-
gories is in \( \overline{V} \). One such viable theory for Basque would
incorporate a (partially) unordered base roughly of the form (3).

(3) (a) \( S : \alpha \overline{V} \)
(b) \( \overline{V} \rightarrow e \overline{V} \) \( e : \text{galdegaia} \)
(c) \( \overline{V} \rightarrow V \) \( \text{INFL} \)

2. Case marking and inflectional anaphors

Further insights into the government structure of Basque
come from the binding relation between the morphological case
marking system of nouns and pronouns (as well as adjectives and
demonstratives) and the inflectional system of the verb. In
addition to tense and aspect the verb in Basque agrees with its
arguments via a case bound system of pronoun-like morphemes in
portmanteau with the auxiliary verb, or with the main verb in
synthetic constructions, as one can see at a glance in (4). In
this example, for each argument in the sentence there is a

(4) \[ \text{zu-k Mikel-i e\text{eskutitza idatzi d-\text{io-zu}} \]
you-E Michael-D letter-A write 3sA-3sD-2sE
(you have written the letter to Michael)

The correlation between case markers, pronouns and inflec-
tional anaphors can be more inclusively seen by comparing the
synopses presented in (5). Basque, like many other languages,
inflects nouns by suffixation. Of some fifteen different

(5) (a) Nouns:
\[ \begin{array}{ccc}
\text{A} & \text{D} & \text{E} \\
-\emptyset & -i & -k \\
\end{array} \]
(b) Pronouns: 1s ni niri nik Anaphors: n- -it- -t
2s hi zuru hik h- -ik/in -k/n
3s hura hari hark d- -io -\emptyset
1p gu guri guk g- -igu -gu
2s zu zuei zuk z- -izu -zu
2p zuek zuek z- -izue -zue
3p haiek haiei haiek d- -ie -te

morphological cases, Basque nouns (5)(a), and pronouns (5)(b),
may be inflected for the Absolutive, the unmarked or \( \emptyset \) case, for
the Ergative -k and for the Dative -i, which signal roughly
the semantic roles of experiencer/patient, actor/agent, and goal
respectively: the classic arguments of main verbs. In strict agreement with the case inflectional system of its arguments the verb is inflected for person, case (and number for the Absolutive). It is evident on inspection that the case inflectional system of verbs is cloned from pronouns (5)(b), with some expected accidents. This pronoun-derived system of inflectional morphemes is obligatory in Basque. Every argument in a main clause is doubled onto its inflection bearing auxiliary (or main verb for synthetic constructions) by a corresponding morpheme, which will be defined as its anaphor. It is not the case, however, that the converse is true: i.e., that each inflectional morpheme implies an argument. The system appears to have become grammaticized in that it is used for the strict subcategorization of its syntactic/morphological verb system. The linear order in which the three sets of inflectional anaphors (5)(b) may appear is strictly determined by the case they mark, namely A-D-E. There is one curious variation from this order in which the Ergative morpheme appears in first position (6)(a). This occurs in only one form: in the preterite with a third person absolutive marker exhibiting the pluralizing morpheme only (6)(a).

(6)(a) ni-k txoriak hil n-it-u-en
     I-E birds-A kill 1sE-3pA-Root-pst
     (I killed the birds)

(b) txori-e-k ni hil n-in-du-te-n
     birds-E I-A kill 1sA-pst-Root-3pE-pst
     (the birds killed me)

For expository purposes we shall be referring to the inflectional anaphors as part of the inflectional constituent in terms of the case-argument system of major categories to which they are bound and in the prevalent linear order in which they appear: A-D-E (7).

(7) VERB-A-D-E

From a cross-linguistic perspective the argument-anaphor doubling of Basque reminds us of Clitic Doubling in Porteño Spanish (Jaeggli 1980) and Romanian (Steriade 1980). Basque and Romance are similar in that in both the anaphor is obligatory while the bounding argument may appear as an empty category. Doubling is however quite distinct in other significant respects. Morphologically the anaphors are clitics in Romance but inflectional suffixes in Basque. Syntactically, whereas in Romance doubling is restricted to object arguments, in Basque the phenomenon obtains regardless of the subject/object asymmetry. Inflectional anaphors offer then further evidence, along with Inversion and Pro-drop (Authors 1981), that in Basque the
relational categories of nominative/accusative languages are not recognized.

3. Cooccurrence restrictions on inflectional anaphors

We have shown, in the preceding section, that Basque nominal inflection exhibits a system of suffixes distinguishing an Absolutive case, which is phonologically unmarked, a Dative case (suffix -i), an Ergative case (suffix -k), and a dozen more (5). For the first three cases mentioned, the suffixation system is doubled onto the verb via a set of pronominal anaphors (cf. (5)(b) which appear in the inflectional constituent of the verb in the prevalent linear order A-D-E (cf. (7)). In this section we define the possible cooccurrences of the inflectional anaphors with respect to the verb. The possible cooccurrences of Verb+ A-D-E are displayed in (8). Examples of V+A-D+E are given in (9). A morphologically-based implicational statement of the anaphors is presented in (10).

(8)(a) \*V+\Ø
(b) *V+E
(c) *V+D
(d) V+A
(e) V+A-D
(f) V+A-E
(g) V+A-D-E
(h) *V+D-E

(9)(d) V+A  
\text{hil d-a}  
\text{die 3sA-R}  
\text{(Root: izan 'be')}  
\text{(he has died)}

(e) V+A-D  
\text{gustatzen n-a-tza-io}  
\text{like 1sA-prs-R-3sD}  
\text{(Root: izan 'be')}  
\text{(he likes me)}

(f) V+A-E  
\text{hil d-u-gu}  
\text{kill 3sA-R-1pE}  
\text{(Root: ukan 'have')}  
\text{(we have killed him)}

(g) V+A-E-E  
\text{idatzi d-io-zu}  
\text{write 3sA-3sD-2sE}  
\text{(Root: ukan 'have')}  
\text{(you have written it to him)}

(10) [A \text{< E,D}]

One can see at a glance in (8) that of the eight possible combinations of anaphors which may be suffixed to the verb, given the linear order determined in (7), only four occur as actual sentences. It can be read in (8) that anaphors appear
obligatorily on the main/inflected verb. There is no main verb, in the morphologically understood sense, that may appear without at least one inflectional anaphor (cf. (8)(a)). Of the three types of anaphors considered only the one which marks the Absolutive case is a well-formed construction (cf. (8)(d) and its corresponding example (9)(d)). This class includes, apparently, verbs like hil 'die' which take an experiencer as an argument. The class of verbs defined by Perlmutter (1978) as the 'unaccusative' fall under this morphological subcategorization in Basque. It is also this class that selects izan 'be' rather than ukan 'have' as the inflectional auxiliary verb. The Absolutive marking anaphor may cooccur with the Dative marking anaphor, as illustrated in (9)(e). This construction, reminiscent of the Spanish construction me gusta 'I like it (it is pleasing to me)' often called the 'dative subject' construction in recent analyses of the Romance languages, falls under the Absolutive verb subcategorization as (9)(d) in that morphologically both take an Absolutive inflectional anaphor, syntactically both select the auxiliary izan, and semantically both accept an experiencer argument.

The remaining two inflectional patterns (9)(f,g), illustrated in (9), involve the cooccurrence of the Ergative case marking anaphor with the Absolutive anaphor (9)(f), as well as with the Dative (9)(g). The Ergative verb class involves morphologically the inflectional anaphor marking Ergative case, syntactically it selects the auxiliary verb ukan, and semantically accepts an agent/actor argument. One should note, in particular, that in this language 'transitivity' is signaled by the cooccurrence of the Absolutive and Ergative inflectional anaphors (cf. (9)(d) and (f)). The verb hil is intransitive ('die') or transitive ('kill') in conjunction with the cooccurrence of the Absolutive and Ergative inflectional anaphors. The sentence (9)(f) is equivalent to direct causative constructions such as E. John caused Bill to die or It. mi fai morire di paura 'you scare me to death' in which the causer and the causee are coreferential. The causative verb erazi in Basque is found in indirect causative constructions in which the causer and the causee are not coreferential: hil erazi d-io-gu 'we have had him killed.' In such sentences, the increased valency of the verb is reflected in the presence of the inflectional anaphors d- (3sA), d- (3sE), d-gu(1pE). The inflectional cooccurrence of anaphors in indirect causative constructions is, thus, the same as that of di-transitive constructions (9)(g), which represents the maximum valency that can be marked on a main/inflected verb. It follows from this that causative constructions with di-transitive lower verbs such as E. John caused Mary to write the letter to Peter which in Italian can only appear in Clause Union type constructions, i.e., It. (11)(b) Gianni fece scrivere la lettera a Piero da Maria, must be handled differently in Basque. In fact, in this language we find the equivalent di-transitive
Clause Union type causative construction in the form (11)(c), where the goal Peter is in a dependent clause with the verb eman. There is an interesting dialect variation with respect to (11)(a). For some speakers this sentence is not interpreted with the meaning "we have had him killed." For these speakers Clause Union types with erazi 'to cause' are limited to those cases in which the lexical valency of the main verb is not altered. In this strategy, in other words you cannot make an intransitive verb transitive nor a transitive di-transitive. Thus for this variety of Basque you can have a Clause Union type for the English equivalent of "John made Bill write a letter," but not for "John made Bill kill a bird," owing to the fact that 'write' is a three-place predicate and 'kill' is a two-place predicate.

(11)(a) hil erazi d-io-gu cause 3sA-3sD-1pE (we had him killed)

(b) abbiamo fatto scrivere la lettera a Piero da Maria have-1p cause write letter to by (we caused Mary to write the letter to Peter)

(c) Miren-i ekukutitza idatzi araži d-io-gu Pedror-i ema-teko Mary-D letter-A write cause 3sA-3sD-1pE Pedro-D give (we caused Mary to write the letter to Peter)

There is one final point which should be made regarding the cooccurrence restrictions on inflectional anaphors. They are statable by an implicational hierarchy based on the morphological case system which the inflectional anaphors reflect, as given in (10). It should be noted that the implicational cooccurrence properties of Absolutive, Ergative and Dative are independent of the linear order (cf.(7)) in which they appear in the inflectional constituent.

4. Bound and 'free' inflectional anaphors

In the preceding section 3. a statement of the cooccurrence properties of the anaphors displayed in (8)(b) with respect to the verb was presented in the form of the implicational case hierarchy (10). It was shown that they define a morphological system of verb subcategorization by virtue of their obligatory presence in surface structures. The case subcategorization, signaled by the inflectional anaphors, defines auxiliary selection and appears to indicate at first glance some properties of the thematic structure of the sentence.

In this section we consider the boundness properties of inflectional anaphors, i.e., the nature of the correlation between the occurrence of an inflectional anaphor and its
bounding argument. If we look at inflectional anaphors in a way parallel, but not identical, to Jaeggli's appraisal of clitic doubling in Porteño Spanish (Jaeggli 1980) it follows that for every argument noun phrase in a main clause (be it phonological or as PRO, morphologically marked Absolutive, Dative or Ergative) we should find a corresponding inflectional anaphor. This is indeed the case, as one can observe in (12)(d-g). The

(12)(d)  
(Jon) hil d-a  
John-A 3sA  
(John has died)

(e)  
(har-i)(ni) gustatzen n-a-tza-io  
him-D I-A 1sA 3sD  
(he likes me)

(f)  
(gu-k)(hura) hil d-u-gu  
we-E he-A 3sA 1pE  
(we have killed him)

(g)  
(zu-k)(Miren-i)(eskutitza) idatzi d-io-zu  
you-E Mary-D letter-A 3sA-3sD-2sE  
(you have written the letter to Mary)

antecedent-anaphor cooccurrence between an argument and its bound inflectional anaphor is also defined by the case hierarchy (10). There are however constructions in which we find an inflectional anaphor with apparently a missing antecedent (13)(a) as well as constructions in which an argument does not appear, on inspection, to be doubled by an anaphor (13)(b,c).

(13)(a)  
euria egin d-u-Ø  
rain-A make 3sA-R-3sE Root: ukan 'have'  
(it has rained)

(b)  
txoria Peru-k hil-a izan d-a  
bird-A Peter-E kill-A be 3sA-R Root: izan 'be'  
(the bird has been killed by Peter)

(c)  
Jon eskutitza idazten ari d-a  
John-A letter-A write 'be' 3sA-R Root: izan 'be'  
(John is writing the letter)

The first example concerns meteorological verbs such as euria egin du 'it has rained' (13)(a), as well as elurra egin du 'it has snowed' and the like. In these constructions we find an Absolutive-Ergative cooccurrence of inflectional anaphors (cf. (8)(f) but only one antecedent bounding the Absolutive anaphor. The question is the following: is the Ergative anaphor argument 'free' or is it bound by PRO? If the latter is the
hypothesis, PRO in meteorological verbs must be assigned properties distinct from those of PRO alternating with phonological lexical matrices. The other hypothesis available is that the Ergative inflectional anaphor is 'free,' that is not bound by an antecedent. The latter analysis requires that anaphors be base-generated. Note further, in relation to the meteorological construction illustrated in (13)(a), that euria, the noun phase which we assumed to be the antecedent of Absolutive anaphor d-, behaves syntactically differently from other noun phrases with argument bound inflectional anaphors. Whereas all three major arguments of inflected/main verbs can generally be prodropped and/or inverted in Basque (as shown in section 1. and in Authors 1981), euria cannot be subjected to either of the characteristics of the pro-drop parameter. Neither egin du euria nor egin du are well formed constructions which correspond to (13)(a). One analysis that comes to mind as the usual dictionary entry for this verb is that euria is in fact part of the verb and not the Absolutive antecedent of the inflectional anaphor -d. Under this intuitively plausible hypothesis neither one of the inflectional anaphors in (13)(a) would have a bounding argument of the more observable pro-drop variety, thus lending more credibility that the anaphors in meteorological verbs are argument 'free.' It should be noted that lexically complex verbs like euria egin 'to rain' are not limited to meteorological verbs. A long list of the class defined by Perlmutter (1978) as 'unergative' verbs are lexically complex in Basque. Such list includes verbs like 'to work' lan egin, 'to run' korri egin, and many others. Under the complex verb analysis the Absolutive anaphor would be 'free' in this instance as well.

A syntactically more prominent violation of the antecedent-anaphor relation embodied in the case hierarchy (13) is apparent in (13)(b) and (13)(c). The first example, txoria Peruk hila izan da 'the bird has been killed by Peter' shows two arguments, an Absolutive txoria and an Ergative Peruk, but only one anaphor, the Absolutive inflectional suffix d-. The question is the following: why is the Ergative argument Peruk not doubled as an inflectional anaphor? An appealing solution is available if one considers constructions such as (13)(a) as passives, in the sense established for accusative languages like English. The Basque construction exhibits in fact izan 'be' as main verb. More interestingly, from a relational grammar point of view (Postal, P. 1976), Peruk would represent a demoted non-term, a chomeur. Consequently, one can argue, it would not play a role in the surface syntax of these constructions. Another analysis is however available which is internal to the structure of Basque. There is evidence that in this type of sentences Peruk hila functions as a sort of adjectival phrase with respect to txoria, hence the Absolutive nominal case marker -a suffixed on hil-a. Consequently Peruk is an argument of hil, which not being a main verb is not inflected
and therefore does not carry a suffixed anaphor. *txoria* on the other hand is the one, and only one, argument of the main verb *izan*. Hence, only one Absolutive inflectional anaphor is doubled on the auxiliary *d-a*. The latter adjective phrase hypothesis likens sentences of the type (13)(b) to copulative constructions already existing in the language. Positing a passive analysis for Basque requires independent proof.

The last aberrant example with respect to the uniqueness relation between an inflectional anaphor and its antecedent is given in (13)(c), the so-called 'continuous' or *ari* construction. In contrast with (13)(b), we find in (13)(c) two Absolutive arguments *Jon* and *eskititza* but only one inflectional anaphor *d*-i. Following the accusative-language type of reasoning entertained in relation to the previous construction, it has been suggested (Postal 1976) that the continuous construction is itself a detransitive structure where *ari* functions like *izan* in so-called passive constructions like (13)(b), above. Thus, a relationally-based hypothesis would posit that *eskititza* is a demoted non-term or chômeur via a more properly termed anti-passive process. Consequently, *eskititza* is not doubled as an anaphor on the main verb inflection. A language internal analysis for this aberrant type of antecedent-anaphor is not readily available.

Following the reasoning invoked in the putative passive case (13)(b) it can be established that all permutations of the arguments with the verb are possible. Evidence from negative formation also shows that either *ari* or *idazten* may function as a main verb. *idazten* is in these constructions analyzed as a nominal in the inessive case. Comparative evidence shows that *eskititza* is *eskititza-ren* in such constructions in the northern dialects. *ren*, the genitive case, does not double onto the inflection of the verb. If the same structure can be assumed for the southern dialects the apparent argument-anaphor aberration in continuous constructions would have a language internal explanation.

5. Summary and conclusions

In summary, we have shown that the phenomenon of inflectional anaphor doubling, along with Inversion (free word order) and Pro-drop (the possibility of null categories) in Basque fall under an organizational principle subsumed under the concept of governed/ungoverned category. In this ergative language all arguments are ungaoverned but in a binding relation with their anaphors which are all governed by the verb. In this syntactic scenario configurations can play no role. Hence, the asymmetry between subject (i.e., governed by inflection) and object (i.e., governed by the verb) restricting syntactic phenomena in configurational languages like English and Italian is not recognized in Basque.
References


3→2 ADVANCEMENT, BENEFICIARY ADVANCEMENT, AND WITH
Robert Channon
University of Chicago

Sentence pairs like that illustrated in 1, which are usually said to be related to each other by a rule of DATIVE MOVEMENT or INDIRECT OBJECT MOVEMENT in Transformational Grammar, following Fillmore's 1965 treatment of them, are analyzed in Relational Grammar as being related by the rule of 3→2 ADVANCEMENT.

1a. Sally gave the book to Bill.
1b. Sally gave Bill the book.

3→2 ADVANCEMENT, formulated by Perlmutter and Postal (1974) in a paper presented at the Fifth Annual Meeting of the North Eastern Linguistic Society and in other lectures, is a rule which advances a 3 (Indirect Object) to 2 (Direct Object) in the hierarchy of relations between nominal arguments and their predicates. In so doing it displaces the initial 2, causing it to become a 2-chômeur (2) and to cease being or functioning as the 2. The labels on the arguments in 1 sum up the change in structure which takes place.

The case for 3→2 ADVANCEMENT has been made quite strongly by Perlmutter and Postal and in other places (e.g., Chung 1976, Channon 1978), and no further argumentation will be given here. I will, instead, concentrate on an apparently unsystematic idiosyncracy of 3→2 ADVANCEMENT and on a closely related rule of BENEFICIARY ADVANCEMENT.

The idiosyncracy concerns not the core of the rule (the promotion of the 3 to 2 and consequent displacement of the initial 2 from that function), but rather the so-called "side effects" (attendant changes in word order, verbal markings and nominal markings which may be occasioned by the application of a rule). As can be seen from example 1, in English there is no change in verbal markings as a result of this rule, but there is a change in word order (the new 2 moves to the position immediately following the main verb, the spot which is reserved for and which is characteristic of 2s in English).1 Examining the markings of the nominals affected by the rule, we find that the 3 loses its characteristic marker to and has no marker, like other 2s in the language, and that the 2-chômeur does not acquire any overt marker. But the problem here is that in other pairs of sentences which seem to be related by the same rule, there can be different side effects, cf. 2a and 2b; note also the ungrammaticality of 1c and 2c.

2a. Our firm supplies coats to the army.
2b. Our firm supplies the army with coats.
1c. *Sally gave Bill with the book.
2c.*Our firm supplies the army Ø coats.
In the sentences of 2, as in 1, there is no change in verbal markings, the expected change in word order takes place, and the 3 loses its marker; but in this example, unlike in the previous one, the 2-chômeur does get a marker, the preposition with. The advancement thus does not seem to operate in a uniform way, at least with respect to the treatment of the chômeur created, which is a somewhat suspicious circumstance; it becomes even more so when compared to advancements in other languages or to other advancements in English, which, in general, seem to have uniform effects whenever they apply. This lack of uniformity was recognized by Perlmutter and Postal themselves, and they were forced to say that side effects of advancements (or, at least, certain side effects of this advancement in English) were not just rule-specific, but could be idiosyncratic to the lexical items that are marked for undergoing the advancement. While such a statement accounts for the facts, it is not very satisfying on the explanatory level (and even seems to run counter to the usual situation found with other advancement phenomena, as noted above), and this weakness has been used as an argument against the 3+2 analysis. Aside from being an argument against the 3+2 analysis in general, it could also be used as an argument that there are really two different advancements of 3+2 involved here (and that would engender a host of other problems, since there would not appear to be any difference in the environments for the two advancements); further, it could be wondered whether there were not still more varieties of 3+2 advancement with additional forms of chômeur marking or other differences in side effects, or even whether other advancements might not also cover domains which included corresponding idiosyncracies. Any of these possibilities would, at least to a degree, call into question the 3+2 analysis. In the remainder of this paper I will attempt to show that the occurrence of with is not unpredictable in those cases of 3+2 ADVANCEMENT in which it appears, and that it can be determined by reference to the subcategorization or case frame of the predicate. In a sense, then, the appearance of with as the chômeur marker is a fact about certain lexical items, as noted by Perlmutter and Postal, but, to the extent that this fact is correlated with other, independently arrived at facts about these lexical items, it ceases to be ad hoc.

To begin with, we must consider the role of Beneficiary arguments and the distinction between Beneficiary and Recipient arguments. Adequate diagnostics for these and most other argument types do not exist, and so the terms are applied somewhat loosely here. "Beneficiary" will be used to designate that argument in the initial structure for whose benefit an action is performed; in English, if its relation has not been changed in the course of derivation, it appears on the surface with the marker for, in the meaning 'for the benefit of.' It can, however, be promoted by an advancement rule, and so may appear in the surface structure as the bearer of other relations and with other markers. "Recipient" will be used to designate that argument in the initial structure which is the receiver (animate Goal, in the terms of Fillmore 1971)
of the Patient moved or affected by the verb, regardless of whether or not that argument also represents the beneficiary of the action. The Recipient normally appears in the initial level of syntactic structure as a 3, just as, in Nominative-Accusative languages, the Patient normally becomes the initial 2 and the Agent becomes the initial 1. If this initial relation is left undisturbed, the Recipient will appear on the surface as a 3, and in English will have the marker to; it, too, however, is subject to promotion (e.g., by 3→2 ADVANCEMENT), and so may appear as the bearer of other relations and with other markers. An example of a sentence with both a Recipient and a Beneficiary, showing clearly that they are separate arguments, is given in 1d, where the underlying Recipient appears as a surface 3.

1d. Sally gave the book to Bill for his children.

In English, some verbs, like sell, may take only a Recipient from among the two arguments under consideration here; others, like buy, may, at least overtly, take only a Beneficiary. (Since buy contains a deictic component which has the meaning that the action must be directed toward the initial 1 [underlying Agent], the notion of Recipient is already incorporated, and no Recipient can be or need be expressed; the Beneficiary, however, may be expressed, since it is not built into the meaning of the verb.) Still other verbs may allow both a Recipient and a Beneficiary; among these, some, like reward, may require that the two arguments be the same (or, at least, coreferential), while others, like give, may permit them to be the same (and this may in fact be the usual case), but may also allow them to be different. As a general pragmatic principle of interpretation for verbs which can have both arguments, but where only one is mentioned, the Recipient and the Beneficiary are normally construed as being the same (or coreferential) unless it is otherwise specified or made clear from the context that they are not (cf. 1a and 1d above). Beneficiaries, like other arguments, may be promoted by advancement rules, as can be seen in the sentences of 3, which illustrate a verb with BEN and its possibility of advancing to 2.

3a. Harry bought the book for Elaine.
3b. Harry bought Elaine the book.
3c. *Harry bought Elaine with the book.
3d. Harry bought Elaine with the book.
3e. *Harry bought the book to Elaine.
3f. *Harry bought the book to Elaine for Alice.
3g. *Harry bought Alice the book to Elaine.
3h. *Harry bought Elaine the book for Alice.
there is also a similar and related sentence, 8h.

8h. Cuba supplies arms to El Salvador. (El Salvador is the Recipient and also the Beneficiary)

A word about the form of 8h is in order here. I have been arguing that supply requires a Beneficiary argument, and that in the sentences of 8 El Salvador is a Beneficiary, but have also said that the Beneficiary is marked with for, while the Recipient normally succeeds to the relation 3 and is thus marked with to. In 8h, however, the putative Beneficiary is marked with to. One possible explanation for this is that there is a rule of BEN+3 ADVANCEMENT which may apply with some verbs if there is not already a 3 in the sentence. But 8h does not really have the same meaning as 8d, i.e., it does not simply have a Beneficiary which has been advanced to 3. In 8d we are told that Cuba supplies arms which are intended for El Salvador, but there is no suggestion that they are actually received by El Salvador, or, at least, that Cuba has anything to do with their being sent or received; in 8h, on the other hand, it is clear that the arms are received by El Salvador, i.e., that El Salvador in 8d appears only in the role of Beneficiary, while in 8h it has both the role of Beneficiary and the role of Recipient. It thus seems more appropriate to treat 8h as having both a Recipient and a Beneficiary, which in this sentence are the same or coreferential. In that event, we can easily explain the absence of the concrete instantiation of one of the two identical arguments by coreferential deletion. Such deletion is, of course, a syntactic matter, and thus, in spite of the fact that semantically the Beneficiary is more central to the meaning of this verb than the Recipient, it is syntactically the BEN which is deleted under coreference with the 3, and not vice versa, since 3s outrank BENs and other non-terms in the hierarchy of syntactic relations. Thus, in 8h, while El Salvador represents both the Beneficiary and the Recipient, it appears in the sentence only as a 3 (i.e., in the form of the Recipient).

We are now in a position to try to isolate the circumstances which call forth the marker with for the 2-chômeur of 3+2 ADVANCEMENT. The examples in 5, 6, 7, and 8 below present sets of sentences which show the possibilities for and the limitations on advancement among verbs of the types given earlier, and they also show the distribution of the occurrence of with vs. no chômeur marker.

5a. Bob sold the book to Steve.
5b. Bob sold Steve the book.
5c. *Bob sold Steve with the book.
5d. *Bob sold the book to Steve for BEN
5e. *Bob sold the book for BEN Harry.
5f. Bob sold the book for (=on behalf of) Harry.\(^{14}\)
5g. *Bob sold the book to Steve.
6a. Harry bought the book for Elaine.\(^2\)
6b. Harry bought Elaine the book.\(^2\)
6c. *Harry bought Elaine with the book.\(^2\)
6d. Harry bought Elaine with the book.\(^2\)
6e. *Harry bought the book to Elaine.
6f. *Harry bought the book to Elaine for Alice.\(^3\)
6g. *Harry bought Alice the book to Elaine.\(^3\)
7a. Louise gave the blouse to Rick for his wife.\(^3\)
7b. Louise gave Rick the blouse for his wife.\(^2\)
7c. *Louise gave Rick with the blouse for his wife.\(^2\)
7d. Louise gave the blouse to Rick.\(^2\)
7e. Louise gave Rick the blouse.\(^2\)
7f. *Louise gave Rick with the blouse.\(^2\)
7g. *Louise gave the blouse for Rick's wife.\(^{19}\)
7h. Louise gave the blouse for (=on behalf of) Rick's wife.\(^{14}\)
7i. *Louise gave his/Rick's wife (with) the blouse to Rick/him.\(^2\)
7j. *Louise gave his wife (with) Rick (with) the blouse.\(^2\)
8a. Cuba supplies arms to Nicaragua for El Salvador.\(^3\)
8b. Cuba supplies Nicaragua with arms for El Salvador.\(^3\)
8c. *Cuba supplies Nicaragua arms for El Salvador.\(^15\)
8d. Cuba supplies arms for El Salvador.\(^2\)
8e. Cuba supplies El Salvador with arms.\(^2\)
8f. *Cuba supplies El Salvador arms.\(^2\)
8g. *Cuba supplies arms to Nicaragua. (Recip.#Benef.)\(^{10}\)
8h. Cuba supplies arms to El Salvador. (3=Recip.=Benef.)\(^3\)
8i. *Cuba supplies Nicaragua with arms to El Salvador.\(^2\)
8j. *Cuba supplies Nicaragua arms to El Salvador.\(^2\)
8k. *Cuba supplies El Salvador (with) arms to Nicaragua.\(^3\)
8l. *Cuba supplies Nicaragua arms. (Nicaragua=Recip.#Benef.)\(^2\)
8m. *Cuba supplies El Salvador (with) Nicaragua (with) arms.\(^2\)
8n. *Cuba supplies Nicaragua (with) El Salvador (with) arms.
Keeping in mind that an underlying Recipient normally is the initial 3 but a Beneficiary is not, and that if both a Recipient and a Beneficiary are expressed, it is therefore the Recipient which will bear the 3-relation in the initial stratum, and keeping in mind also that a Beneficiary, if it advances to 3 or to 2, can do so only if there is no 3 already present, we can see the following:

1. As noted by Perlmutter and Postal, the chômeur marking is not uniform: some verbs take no marker, while others take with.

2. The appearance of with is not conditioned by the type of argument which advances: with sell an underlying Recipient advances without evoking with (cf. 5b, 5c), and with buy an underlying Beneficiary advances without evoking with (cf. 6b, 6c). By contrast, in the case of supply, when an underlying Recipient advances it calls forth with (cf. 8b, 8c), and the same is true when an underlying Beneficiary advances (cf. 8e, 8f). Thus, neither the advancement of a Recipient nor the advancement of a Beneficiary by itself either requires or prevents the occurrence of with, and its appearance is somehow connected with the individual verb.

3. The distribution of the chômeur marker with in cases of 3→2 ADVANCEMENT is not a specific fact about individual verbs, but is based on the subcategorization of the verb: those verbs which are subcategorized for only one argument (either one) from the pair Recipient/Beneficiary do not take with; those verbs which are subcategorized for both arguments and which are Recipient-directed (i.e., which require a Recipient and allow a Beneficiary) also do not take with; but those verbs which are subcategorized for both arguments and which are Beneficiary-directed (i.e., which require a Beneficiary and allow a Recipient), regardless of whether the optional Recipient is present, take with as their chômeur marker. Note that this is not a structural constraint, since with must appear even if one of the arguments is missing, cf. 8b/8e, but is, rather, dependent on the subcategorization type. Thus, while 3→2 ADVANCEMENT does have differing side effects with regard to chômeur marking, they are not idiosyncratic properties of individual lexical items, but are correlated with subclasses defined by syntactic and semantic properties. The argument against 3→2 ADVANCEMENT based on its purportedly ad hoc nature thus disappears.

No final explanation is advanced here for why just this one subclass should require with, but we may speculate a bit about it. Very little has been done in Relational Grammar in the direction of justifying or explaining why advancements or similar relation-changing processes should take place, but it seems probable that at least a large part of the motivation is pragmatic: advancements make arguments more prominent in the sentence by raising them in the hierarchy, i.e., by putting them into a more important slot in the syntactic structure. (This greater prominence can be a response to diverse syntactic and/or semantic stimuli; thus, for
example, in West Greenlandic (Kalaallisut) -- a highly agglutinative and morphologically-oriented language -- there is no explicit way of marking definiteness; a definite meaning can, however, be imparted to noun phrases in certain environments by having them undergo advancement, and, similarly, noun phrases which are in position to receive a definite interpretation can be made indefinite in certain instances by demoting them in the hierarchy.\(^\text{16}\) Whatever the exact prominence correlate of advancement as a process or of individual advancement rules may be in English, advancement of an indirect object or of a prepositional phrase to direct object will bring it more into the focus of the verbal action, or, in Jakobson's (1936) terms, will make a central argument out of a peripheral one.

In the case of those verbs like sell or buy there is no difficulty in choosing which argument is to be advanced, since they take only one argument from the pair Recipient/Beneficiary, whichever one it may be. Similarly, in the case of verbs like give, which are Recipient-directed, if some argument is to be advanced it would be natural to choose the Recipient; it is more prominent than the Beneficiary in the semantic structure of the verb, and its syntactic promotion would be in keeping with that fact. In the case of verbs like supply, however, which are Beneficiary-directed, the natural choice for being given greater syntactic prominence would be not the Recipient, but the Beneficiary, since it is the Beneficiary which is more prominent in the semantic structure of these verbs. Recall, though, that the Beneficiary can be advanced to 2 only if there is no 3 already present (i.e., if there is no underlying Recipient present); if there is a 3, and if advancement is to take place, then it is the 3 which must be advanced. Thus, the Beneficiary, which is, in some sense, "more deserving" of promotion, is passed over in favor of the Recipient. The price of this syntactic license is that the divergence between the syntactic and the semantic hierarchies of arguments is widened, and it could be that the appearance of with is to signal that, in some sense, the "wrong" argument has been promoted by the system.\(^\text{17}\)

This speculation about the reason for the appearance of with aside, the distribution of with vs. no marker must in any case be accounted for in a linguistic description of English, and this is true regardless of which linguistic theory or analytical position is accepted. The present discussion has been couched in terms of Relational Grammar, which seems to bring these questions into sharper focus than some other theories, and which provides a convenient means of identifying and discussing the problem, but the answer is given in terms of the semantics and the subcategorization of the verbs involved, and so is for the most part independent of the choice of syntactic theory: with occurs as the chômeur marker when 3→2 ADVANCEMENT applies to a Beneficiary-directed verb which may also take a Recipient, passing over the Beneficiary and promoting the underlying Recipient (syntactic 3) to 2.
FOOTNOTES

1 This change in word order is taken as the main feature of the rule in the Transformational analysis, and is fairly clearly what gives rise to the nomenclature "Dative" or "Indirect Object Movement."

2 I do not find this example grammatical without with, though it somehow does not seem to me to be as bad as 1c, or as corresponding examples with some other verbs which pattern like supply, e.g., provide, cf. i-iii.

   i. We provided books to the students.
   ii. We provided the students with books.
   iii. *We provided the students Ø books.

For this reason, I have marked it with the notation '?' instead of just '*'. See also 8c, 8f, and 8l below.

3 Some descriptions of this area of English distinguish between Beneficiary and Recipient arguments, or between Beneficiary phrases and Indirect Objects (or other terminology may be used), while others do not. As will be seen below, such a distinction must be part of an analysis of English.

4 An intermediate argument in a chain of Recipient/Beneficiary arguments by its very nature can not be a Beneficiary; thus, while the final argument can be either a Beneficiary or a Recipient, according to the verb involved, an intermediate argument, of which there can be many, can be only a Recipient.

5 There are, of course, other possible arguments (e.g., Agent, Patient) which may appear with these verbs and verbs of the other types listed below, but they are not relevant to the present investigation and will be ignored here. Phrases like "take only a Recipient" or "take only a Beneficiary" in the following discussion should be taken as meaning "...from the set Recipient/Beneficiary."

6 Another possible way of looking at this situation is that buy underlyingly takes as its initial l a Recipient, and thus, since the Recipient slot is already occupied, there cannot be another argument in that semantic role. Evidence from ergative languages (e.g., West Greenlandic), however, suggests that the underlying l of buy is an Agent. The resolution of this question has no consequences for the topic at hand, and the matter will not be pursued further here. The important fact for our purposes is that, for whatever reason, verbs like buy cannot have a 3.

7 In addition, 3→2 ADVANCEMENT is obligatory with reward.

8 I have in mind here the reading of 6a on which it is taken at face value, describing a completed episode, and not the reading on which Harry merely intends the book to be for Elaine; cf. also i vs. ii.
i. Harry bought the book for Elaine, but he gave it to Betty instead.

ii. Louise gave the blouse to Rick for his wife, but he gave it to Betty instead.

The second clause in i falsifies at least one of the readings of the first clause, but in ii there is no incompatibility between the two clauses.

9 This sentence is ungrammatical on the reading where Rick's wife is taken as a Beneficiary argument. There is, however, a grammatical reading of it, cf. 7h below.

10 This sentence is ungrammatical if Nicaragua is not taken as the Beneficiary, i.e., if it is construed only as the Recipient and another Beneficiary is intended. There is a grammatical reading of it if Nicaragua is construed also as the Beneficiary, cf. 8h and the discussion below.

11 This proposal for advancement of a Beneficiary argument, if adopted, along with the fact that advancement of a Beneficiary to 2 discussed earlier can take place only when there is no 3 present, would suggest that the answer to the question about BENEFICIARY ADVANCEMENT raised previously is that it is a 2-part process, involving first BEN→3 and then 3→2, rather than direct advancement of BEN→2. However, see below.

12 The syntactic relations are arranged, on the basis of several different independent criteria, in a hierarchy, according to which 1s outrank 2s, which outrank 3s; 1s, 2s, and 3s together are classed as terms, which as a group outrank all other arguments, which are non-terms.

13 The sentence is ungrammatical on this reading, with Harry as a Beneficiary. See footnote 9 above, and example 5f below.

14 It is not clear which argument role Harry represents here (or wife in 7h below), but it is not a Beneficiary. Its precise nature is not of importance to the present discussion, and so it is marked simply with '?'.

15 See footnote 2 above. I have no explanation for why these sentences do not seem as bad as the examples with provide.

16 I am indebted to Jerrold Sadock (personal communication) for bringing these facts to my attention.

17 The function of with in these instances, then, may be primarily pragmatic.

REFERENCES

TRANSITIVITY, ERGATIVITY, AND TOPICALITY
IN CHAMORRO NARRATIVE DISCOURSE. 1)
Ann Cooreman
University of Oregon

1. Introduction.
This paper investigates five different syntactic coding devices
for semantically transitive sentences in the ergative Austronesian
language Chamorro, spoken on the Northern Marianas.
The appearance of five such devices in one particular language
is striking and invites the linguist to look for an explanation for
their existence. Since languages tend to be economical systems of
communication one may at least assume that these five constructions
have a different function, i.e. certain restrictions are imposed
which may be syntactic or pragmatic in nature.
Below I will present some evidence that the five syntactic
devices we find in Chamorro differ at least in one important prag-
matic aspect, i.e. different relative degrees of topic continuity
of the Agent and the Object (terms are borrowed from Dixon 1979)
in the clause correspond to the choice of one construction over the
others. We could conclude then that the five different syntactic
deVICES code different segments of the functional domain of topic-
ality in semantically transitive clauses.

2. Constructions coding semantically transitive sentences in
Chamorro.
As indicated above there are basically five different ways in
which a Chamorro speaker may code a semantically transitive sentence.
Below I will present examples from each (see Chung 1981 for a sketch
of basic verb morphology).
2.1. Ergative constructions:

(1) Si  tata-hu  ha-toksa  hulu' i lemmai.
    proper father-1S.POS 3S.E-poke up the breadfruit.
    name mkr.
    "My father poked up at the breadfruit."
(2) Tadza na ha-upus  i banda-ña  si Alu pat si Pän.
    nothing SUB 3S.E-cross the side-3S.POS. P.N. Alu or P.N. Pän
    "Neither Alu nor Pän crossed the other's border."

2.2. Non-ergative _UM_-constructions:
Aside from the active transitive ergative constructions, one
finds another type of transitive clause in Chamorro which appears
less frequent but seems to refer as much to active events as the
ergative exemplified above.

(3) Si Santa Maria h₃-a'atan,  i tano' dzån i tsamorro.
    P.N. saint Mary UM₂-protect₁-RED. the land and the Chamorros
    PROG.
    "The Virgin Mary protected the land and the Chamorros."
(4) \(T_1\)-um\(_2\)-atpangi, \(\text{lahi}-n\) \(\text{Mata}'pang.\)
\(\text{UM}_2\)-baptize\(_1\) \(\text{son-link.part.} \text{Mata}'pang.\)
"He baptized Mata'pang's son."

The infix -\(UM\)- in the transitive sentence, used for both singular and plural subjects in my data, has the same form as the singular agreement marker one finds in intransitive sentences. The plural intransitive agreement marker is MAN-. As of yet I have not seen the latter morpheme in transitive sentences. The relation between the transitive -\(UM\)- and the intransitive singular agreement marker needs to be investigated in more detail.

2.3. Antipassive:

(5) I peskadot mang-onni' gwihan. \(\text{verb root = konni'}\)
the fisherman A.P.-catch fish
"The fisherman catches/caught fish/a fish."

(6) Man-man-nanaitai lisadzu kadda puengi.
PL.-A.P.-pray rosary every night
"They pray the rosary every night."

Just like the previous two constructions the antipassive is active. Even though I will not be concerned directly with clauses which have no Object, this construction also appears with Agents alone and the relation between the two types of antipassive needs to be investigated in detail in the future.

2.4. Passives with -\(IN\)- infix:

(7) Si nana-hu \(ts_1\)-in\(_2\)-atgi, qi\(\text{ds}\) tata-hu.
P.N. mother-1S.POS \(\text{IN}_2\)-smile\(_1\) OBL P.N. father-1S.POS
"My mother was smiled \(\text{at by my father}."

(8) \(T_1\)-in\(_2\)-atti-dzi ni esti i asaqwa-\(\text{na}\) si Mata'pang.
\(\text{IN}_2\)-follow\(_1\)-\(\text{DAT}_3\) OBL this the wife-3S.POS P.N. Mata'pang
"He was followed by Mata'pang's wife."

2.5. Passives with \(\text{MA}\)- prefix:

(9) Ma-tungu ni dzapanis na gaigi gwihi na um-a'atuk.
MA-know OBL Japanese SUB be/have there SUB SING-hide-RED PRO
"It was known by the Japanese that he was there hiding."

(10) Gwahe un amerikanu si George Tweed toatoo Oregon
be/have an American P.N. G. T. man Oregon
ma-na'-atuk ni tsamorro ma-adzuda ni tsamorro.
MA-CAUS-hide OBL Chamorro PAS-help OBL Chamorro
"There was an American, George Tweed, a man from Oregon, who was hidden and helped by the Chamorros."

All the examples above present us with three active semantically transitive sentences and two passive ones. The question arises why a language would need three different ways of coding a clause
in which the main participant is the Agent and two distinct ways of coding a clause in which the Object seems to be highlighted. The fact that the five constructions appear in overlapping syntactic environments (see also Chung 1979) suggests that their distribution cannot be predicted on the basis of syntactic considerations alone. One is thus obliged to look for an explanation for their existence elsewhere.

In the past decade more and more linguists have become interested in finding pragmatic functional grounds for syntactic and morphosyntactic coding devices and a large body of literature has arisen on that topic. (Bolinger 1979; Creider 1979; Duranti and Ochs 1979; Erteschik-Shir 1979; Garcia 1979; Givón 1979, 1980; Hopper 1979; Hopper and Thompson 1980, among others).

There are many indications in recent literature that the syntactic coding of semantically transitive clauses, i.e. those with both an Agent and an Object, is not entirely independent of discourse context, e.g. the topic status of both arguments in the clause.

There are at least two aspects involved in measuring the topic status of any referent in the discourse:

i) the nature of the NP through which reference is made

ii) the status of this referent as given or new information in the discourse register established between interlocutors.

In connection with the first aspect, linguists have observed that certain NP's (e.g. pronouns) tend to appear as topics in the discourse more often than others (e.g. indefinite NP's) and thus they have ranked these NP's on a hierarchy of natural topics (cf. Hawkinson and Hyman 1974, Givón 1976, inter alia). There are several indications in the literature of the importance of this natural topic hierarchy with respect to syntax.

Hopper and Thompson (1980) have related the way transitive clauses are coded syntactically to the properties of both Agent and Object. Two of the parameters involved in their analysis, viz. the degree of "individuation" and "agency", can clearly be correlated to the hierarchy of topicality. Furthermore, they noted that the way transitivity gets marked in the sentence is dependent on the function of the sentence as a whole in the discourse, which they ultimately related back to the distinction between backgrounded and foregrounded information.

In some ergative languages the choice between the ergative and non-ergative markers in a semantically transitive sentence is also dependent on the topic status of the two major arguments. To cite one example: Chung (1981) claimed that in Chamorro a semantic parameter filters out sentences in which the Object is of higher "individuation" than the Agent/Subject. This constraint seems to be rather a discourse-pragmatic restriction as it operates along the same hierarchy of topicality. Chamorro seems to rule out sentences in which Agent NP's rank lower than Object NP's on the hierarchy. According to Chung antipasses and passives will be used instead of the ergative construction in such cases.

The same hierarchy of natural topic seems to be involved in the explanation of split ergativity systems.
Based on the theory of markedness Silverstein (1976) set up a hierarchy of NP's which he called the "hierarchy of features". He observed that in many languages with split ergativity, those NP's which are the most marked in his system tend to be involved in a nominative-accusative coding system for transitive clauses. The least marked NP's on the other hand, are syntactically coded along ergative-absolutive lines. Since Silverstein's hierarchy matches the hierarchy of natural topics, one is led to conclude that the different syntactic coding systems, ergative vs. accusative, are dependent on the discourse context, related to the degree of topicality of the major arguments in the transitive clause. The items which are likely to be marked on a nominative-accusative basis are also more likely to appear as topics in natural discourse.

Similarly, Scott De Lancy's explanation (1981) of split ergativity systems in terms of "attention flow" and "viewpoint" can be brought to terms with the same hierarchy of topicality.

There are two clear examples of languages in which the distinction between given and new information provides a pragmatic discourse based constraint on the syntactic coding of semantically transitive clauses.

Dixon (1972) observes that in Dyirbal the antipassive construction with the pay- marker on the verb is used in sentence coordination and indicates that the second sentence of the coordinated pair has a transitive Agent/Subject NP which is coreferential with either the absolutive intransitive Agent or the absolutive transitive Object of the previous clause. This particular antipassive construction is involved in creating topic chains (Dixon 1972:79-81) and will never be the first clause at the onset of a new discourse.

According to Kalmár (1979, 1980), the converse of this principle holds in Inuktituk (Eskimo). The direct object in antipassive sentences may be definite or indefinite but is always a new item in the discourse register as established between the interlocutors. Text frequency counts result in the observation that the antipassive is constrained to the first few clauses in discourse. Ergative sentence types make up the bulk of the transitive sentences in the body of the stories.

Already Chung's analysis of the choice between the ergative and non-ergative passive or antipassive construction in certain cases can be ultimately traced back to the discourse notion of topicality. A detailed study of the five semantically transitive constructions in Chamorro in terms of topicality of both the Agent and the Object will explain the difference also between the ergative and the non-ergative -UM- construction and the distinction between the two passives.

4. The quantitative method.

The quantitative method was suggested by Givón (1979, 1980). It has since been used for a cross-linguistic study including such languages as colloquial and written English, Biblical Hebrew, Spanish, Ute, Hausa, Japanese, and Amharic (cf. Givón 1983 (ed.)). The quantitative analysis assumes that each NP in the discourse has some degree of topicality and provides an adequate, empirical
method to measure this degree of topicality for any NP in the discourse. Topicality here does not refer to what has been called the subject or theme of the discourse or the paragraph, rather it refers to the degree of referential continuity of a given NP on the clausal level.

In a pilot study of roughly fifty pages of transcribed Chamorro narrative each Agent and Object NP of a semantically transitive sentence was subjected to two different measurements:

i) referential distance

ii) decay.

The parameter of referential distance measures the degree of continuity of the topic NP in terms of how many clauses to the left intervene between the last mention of the topic NP and the new mention in the clause under study. The maximum value is set at twenty since there is reason to believe that a hearer will not normally be able to retrieve referential information prior to roughly 20 clauses to the left of a new clause. Thus all indefinite NP's automatically get the value 20 assigned for referential distance. The parameter of decay involves the persistence of the NP as a topic, i.e. how many clauses to the right of the clause containing the NP will persist in having the same topic as argument of the verb.

One would expect typically that a highly topical NP in the discourse has a low value for referential distance and a high one for decay and that a non-topical NP is characterized by the opposite relation. The inverse relationship which seems to exist between the two measurements should not lead one to believe that the parameters measure basically the same thing. Referential distance roughly measures the ease with which the hearer can identify the referent of a particular argument NP in the clause. Presumably in speech perception the reference of an entity is most easily identified when there is only a small gap between the previous and the new mention of that entity. The parameter of decay is roughly related to the speaker's speech production, i.e. the way he/she plans ahead which entities should be topical in the next piece of discourse. A NP which has a high value for distance does not necessarily have a low value for decay. Indefinite NP's may introduce new elements in the discourse which are highly continuous and keep being mentioned in the rest of the narrative, thus causing a high value for decay.

Below I will present the averages of both measurements for the Agent and the Object in the five different syntactic constructions. The syntactic coding devices of the NP's can also be ordered hierarchically, where at the top are syntactic devices involving higher topicality or continuity and thus presumably ones for which referential identification is easier. Closer to the bottom are syntactic devices involving less continuity, higher surprise and therefore difficulty in assigning referentiality of the topic. Givón (1981a and 1982) proposes the following hierarchy which is in part attested by my own Chamorro data and by the languages studied in Givón ((ed.)198:

(11) zero anaphora > unstressed/bound pronouns or gramm. agreement > stressed/independent pronouns > right dislocated NP's > simple def. NP's > left dislocated NP's > indef. NP's > Y-movement > cleft/focus constructions.
The measures for distance and decay are on the whole lower and higher respectively for the devices at the top of the scale as compared to those at the bottom. For this reason I have computed the measures for Agents and Objects in the five syntactic clause types according to the syntactic device used to code the NP's. Since other types of syntactic devices are underrepresented in the data or simply absent in some clause types, I will present only the results of the comparison between the Agents and the Objects which are coded as definite full NP's or as zero anaphora and/or by subject verb agreement. The overall measurements will be given first. They include all types of syntactically coded Objects and Agents and provide a good presentation of the overall average values for Agent and Object in all five constructions. These overall values are obviously skewed in favor of the most common syntactic device used for Agent and Object NP in the different constructions under study but they provide a valid and important distributional schema for the five syntactic constructions in terms of the average degree of topicality of Agent and Object.

5. Numeric results and graphs.

The average values of the two measurements for both Agent and Object in the five Chamorro constructions are presented below. The number between brackets next to the heading Agent and Object denotes the amount of instances found in the data. No values are given for Objects in the two last columns of the antipassive since all Objects in this construction are indefinite and non-referential NP's.

<table>
<thead>
<tr>
<th>A. Overall Results</th>
<th>B. Def.full NP's</th>
<th>C. Ø An./Verb agr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agent(7)</td>
<td>Object(7)</td>
<td>Agent(1)</td>
</tr>
<tr>
<td>Distance</td>
<td>1.86</td>
<td>20</td>
</tr>
<tr>
<td>Decay</td>
<td>1.29</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 1. Antipassive

<table>
<thead>
<tr>
<th>A. Overall Results</th>
<th>B. Def.full NP's</th>
<th>C. Ø An./Verb agr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agent(150)</td>
<td>Object(150)</td>
<td>Agent(7)</td>
</tr>
<tr>
<td>Distance</td>
<td>1.49</td>
<td>4.35</td>
</tr>
<tr>
<td>Decay</td>
<td>2.45</td>
<td>0.81</td>
</tr>
</tbody>
</table>

Table 2. Ergative
### Table 3. -UM- Construction

<table>
<thead>
<tr>
<th></th>
<th>A. Overall Results</th>
<th>B. Def.full NP's</th>
<th>C. Ø An./Verb agr.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Agent (16)</td>
<td>Object (16)</td>
<td>Agent (4)</td>
</tr>
<tr>
<td>Distance</td>
<td>2.88</td>
<td>3</td>
<td>7.5</td>
</tr>
<tr>
<td>Decay</td>
<td>0.63</td>
<td>0.81</td>
<td>0.25</td>
</tr>
</tbody>
</table>

### Table 4. -IN- Passive

<table>
<thead>
<tr>
<th></th>
<th>A. Overall Results</th>
<th>B. Def.full NP's</th>
<th>C. Ø An./Verb agr.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Agent (16)</td>
<td>Object (16)</td>
<td>Agent (7)</td>
</tr>
<tr>
<td>Distance</td>
<td>4.06</td>
<td>1.38</td>
<td>7</td>
</tr>
<tr>
<td>Decay</td>
<td>1.31</td>
<td>2</td>
<td>0.57</td>
</tr>
</tbody>
</table>

### Table 5. MA- Passive

<table>
<thead>
<tr>
<th></th>
<th>A. Overall Results</th>
<th>B. Def.full NP's</th>
<th>C. Ø An./Verb agr.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Agent (9)</td>
<td>Object (9)</td>
<td>Agent (6)</td>
</tr>
<tr>
<td>Distance</td>
<td>6.33</td>
<td>3.55</td>
<td>5.3</td>
</tr>
<tr>
<td>Decay</td>
<td>0.56</td>
<td>1.44</td>
<td>0.5</td>
</tr>
</tbody>
</table>

### Figure 1. Distance of Object and Agent: Overall Results

- **OBJECT CURVE**
- **AGENT CURVE**

MA- | IN- | UM- | ERGATIVE | ANTIPASSIVE
figure 2. Decay of Object and Agent: Overall Results

figure 3. Distance of Object and Agent: Def. Full NP's
figure 4. Decay of Object and Agent: Def. Full NP's

figure 5. Distance of Object and Agent: Ø An./Verb Agr.
6. Discussion.

The results of this pilot study on a limited amount of data, viz. fifty pages of transcribed Chamorro narrative, are naturally somewhat tentative. However, as the curves show (fig. 1-6) there seems to be a fairly consistent correlation between the syntactic construction chosen by the Chamorro speaker and the values for referential distance and decay of at least the Object NP. With the exception of the MA- passive we get a consistent rising cline for the measurement of referential distance for the Object moving from the passive -IN- construction to the antipassive. The curves for the measurement of decay show the inverse relation where Object NP's have high decay in passive constructions moving to no decay in the antipassive. The two clines suggest that the Object NP's are highly continuous in passive constructions and become less continuous/less topical as one approaches the antipassive on the scale where one finds the indefinite/non-referential Objects. The overall measurements show that those constructions with highly topical Objects have Agent NP's which are less continuous/less topical.

As is the case in most languages (cf. Givón 1979, 1983 (ed.), among others) we may observe that in Chamorro the most continuous/most topical argument in the sentence will tend to be selected as the syntactic subject.

As I shall discuss in more detail below the UM- construction
provides some sort of middle ground where the Agent and Object NP's have a fairly equal degree of topicality. Because of the limited data some of the values presented in the tables 1-5 are not very representative as I will explain below. However, one may expect that the upgrading of the counts by extending the data base will iron out these difficulties and still support the tentative findings presented in this paper.

6.1. The Ergative.

On the basis of frequency - 150 ergative clauses as opposed to 48 instances of the 4 other syntactic types combined - we may conclude that the active ergative is the most basic construction in Chamorro narrative, i.e. the most common way in which the Chamorro speaker presents information about actions and events. The Chamorro speaker is thus more inclined to present the Agent as the NP with highest referential continuity/highest topicality. The measure of referential distance for the Agent is relatively low, the measure of decay relatively high and the reverse is the case for the Objects in this construction.

From a universal point of view it is not surprising that the construction which assigns highest topicality to the Agent is the most frequent in narrative discourse in a particular language since it has been established that such discourse on the whole is universally Agent oriented.

We can make the additional observation (cf. table 2) that the highest topical element in the ergative construction, viz. the Agent, tends to be coded syntactically by verb agreement alone (83% of the instances). The less topical element, viz. the Object, is most often coded as a definite full NP (63.3% of the cases). With the exception of the -UM- construction (cf. 6.3 below) subjects in all other constructions are higher in continuity/topicality than the second argument in the clause. Thus we find that the Agent is more topical than the Object in the antipassive and the ergative whereas the Object is more topical than the Agent in both passive constructions. Frequency counts of the distribution between subjects and the syntactic device by which they are coded in the sentence reveals the following (cf. also tables 1-5):

<table>
<thead>
<tr>
<th>Subject</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>subject/Ø An./Verb Agr.</td>
<td>167</td>
<td>89.78%</td>
</tr>
<tr>
<td>subject/def. full NP</td>
<td>19</td>
<td>10.22%</td>
</tr>
</tbody>
</table>

**Total** 186 100%

**Table 6. Distribution of syntactic devices for subjects**

A similar frequency count for direct objects in transitive clauses in the Chamorro data shows the following percentages:

<table>
<thead>
<tr>
<th>Direct object</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>direct object/Ø An.</td>
<td>43</td>
<td>22.51%</td>
</tr>
<tr>
<td>direct object/pronoun</td>
<td>7</td>
<td>3.66%</td>
</tr>
<tr>
<td>direct object/full def. NP</td>
<td>39</td>
<td>46.6%</td>
</tr>
<tr>
<td>direct object/name or unique NP</td>
<td>33</td>
<td>17.28%</td>
</tr>
<tr>
<td>direct object/indef. NP</td>
<td>19</td>
<td>9.95%</td>
</tr>
</tbody>
</table>

**Total** 191 100%

**Table 7. Distribution of syntactic devices for direct objects**
The direct objects are usually the least topical in the transitive clause. The class of names and uniquely identifiable NP's show roughly the same values for both referential distance and decay as do definite full NP's. They are also used most frequently when a fairly large gap occurs between the new reference and the previous mention of an element in the discourse or when ambiguity may arise. They can thus be grouped together with the definite full NP's and combined provide 63.88% of the cases for direct objects in clauses in Chamorro narrative discourse. Both tables 6 and 7 corroborate in part the hierarchy given in (11). The subjects which tend to be highest in referential continuity/topicality are more likely to be coded as zero anaphora or by verb agreement (89.78% of the cases); direct object in transitive clauses are less topical and are most likely to be coded as definite full NP's or a similar coding device (63.88%).

6.2. The Antipassive.

The antipassive serves a specific pragmatic function in Chamorro when it is used as a semantically transitive sentence. This can be read off of figures 1 and 2 straightforwardly. The Object has the maximum value of 20 for referential distance indicating that it is new in the discourse. The additional fact that the Object has zero decay reflects its non-referentiality, non-specificity. The antipassive in Chamorro goes one step further than the antipassive in Inuktituk (Eskimo) as described by Kalmár (1979, 1980) (see section 3 above). There the antipassive indicated pragmatically that a new not necessarily indefinite item was being introduced in the discourse: Antipassives in Eskimo introduce new possibly topical referents in the Object position whereas the Object of the Chamorro antipassive has the lowest possible degree of topicality. One would thus expect the informational value coded in these constructions to the rest of the discourse to be fairly low. This expectation is borne out by the fact that antipassives have a high tendency to occur in back-grounded clauses, i.e. in general they are not involved in the main line of the thematic development of the narrative. To decide whether a clause is foregrounded or not I relied on two basic principles outlined and exemplified in more detail in Hopper and Thompson (1980).

a) the clause has to give information about main events in the narrative, thus contributing to the "backbone" or "skeleton" of the text;

b) the informational content of the clause has to be presented in sequential order.

It has been established that backgrounded clauses are not ordered with respect to one another and may be moved with respect to the foregrounded sentences in the narrative (cf. Hopper and Thompson 1980, inter alia).

Compare the following:
<table>
<thead>
<tr>
<th></th>
<th>Ergative</th>
<th>Antipassive with Object</th>
</tr>
</thead>
<tbody>
<tr>
<td>foregrounded clauses</td>
<td>78 52%</td>
<td>1 14%</td>
</tr>
<tr>
<td>backgrounded clauses</td>
<td>72 48%</td>
<td>6 86%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>150 100%</strong></td>
<td><strong>7 100%</strong></td>
</tr>
</tbody>
</table>

Table 8. Distribution of Ergative and Antipassive in foregrounded and backgrounded clauses.

The sharp contrast in distribution between the ergative and antipassive in backgrounded and foregrounded clauses may provide an explanation for the relatively lower topicality of Agents in the antipassive as opposed to the ergative. Even though this needs to be checked more carefully, one suspects that the topicality of elements in foregrounded clauses will be higher than that of elements in backgrounded clauses.

The pragmatic function of the antipassive in Chamorro then is to mark those Objects in narrative discourse which are non-referential, have the lowest degree of topicality. This function of antipassives with Objects is in fact compatible with the function of those without. The Objectless antipassive provides the extreme case of introducing non-topical elements. At the same time they provide the majority of antipassive constructions in my data:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>objectless antipassives</td>
<td>16 69.57%</td>
</tr>
<tr>
<td>antipassives with Objects</td>
<td>7 30.43%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>23 100%</strong></td>
</tr>
</tbody>
</table>

Table 9. Distribution of antipassives with and without Objects in narrative discourse.

As we shall see below, there is a converse situation with the MA-passive at the other end of the scale of syntactic constructions, where the prototypical, most frequent MA-passive is Agentless.

6.3. The -UM- construction.

The -UM- construction is the third active clause type I found in the data. According to my informant in all these sentences - when taken in isolation - the -UM- infix can be replaced without difficulty by the appropriate ergative verb agreement marker. This construction like the ergative one occurs with equal frequency in backgrounded and in foregrounded clauses (50% in both cases).

Topping (1973: 243-244) has attempted to explain this construction as an "actor focus construction", similar to the ones we may find in Philippine type languages:

"The actor focus construction in Chamorro is used when the focus (or emphasis) is on the actor. (the actor is the one that performs the action, and is usually the subject of the sentence). The actor focus involves the use of emphatic pronouns and the actor infixes -UM- and MAN-. (...) If the actor of the sentence is expressed by a proper name, the emphatic pronoun may be omitted. (...) The prefix MAN- is used instead of the -UM- when the object is indefinite."[5]

Of the 16 examples of -UM- constructions in my data, none of them were accompanied by an emphatic pronoun and only two had a proper
name referent.  

If the -UM- construction really were a Philippine type actor topic construction, one would expect the Agent to be of markedly higher topicality/continuity than the Object and obviously this is not borne out by the facts (cf. table 3 and figures 1-6). Rather, it seems to be the case that the Agent and the Object in this construction have roughly the same degree of topicality. Compared to the ergative and the two passive constructions (tables 2,4, and 5) where there is a significant difference in the values for referential distance and/or decay of Agent vs. Object, we do not find such a gap between the values of Agent and Object in the -UM- construction. The differences are insignificant and could go either way, slightly in favor of a more topical Agent or slightly in favor of a more topical Object. The seemingly large difference in the values for referential distance between the Agents and the Objects which are syntactically coded as definite full NP’s, is due to the fact that one of the Agents out of four instances in the data has a referential distance of 20, is introduced as a new element in the narrative. This high value for one of the instances is bound to boost the average value up. One may expect that such an infrequent high value will be less significant for the average outcome in a larger data base.  

One may observe that this active construction is markedly less frequent than the ergative in narrative discourse (16 instances as against 150). This is not surprising since Agents on the whole tend to be more topical than Objects in narratives. The instances where this is not the case are rare and are specially marked in Chamorro.  

The observation that the -UM- construction tends to mark pragmatically Agents and Objects which have roughly the same degree of topicality has a semantic correlate in Chamorro. The same construction is used for reciprocals where both arguments in the clause have equally important semantic roles in the event. Example:  

(12) Esti i palao'an um- a - sudda' džän un pobl na hobbin tach this the woman UM-REC-meet and/with one poor link.young man part.  

"This woman met (with) a poor young man."

The -UM- construction marks the third step down on a cline of relative topicality of both Object and Agent. In the antipassive the Agent is the only topical argument, the Object being non-spe-cific/non-referential and hence non-topical. The ergative pragmatically codes highly topical Agents and Objects which are relative-ly low in continuity or topicality. The -UM- construction in turn presents Agents and Objects with equal degree of topicality. As the next step on the cline one expects a construction in which the Object is more topical than the Agent.  

6.4. The passive constructions.  

Both passive constructions code information units in which the Object is more topical than the Agent. A discussion of both will necessarily involve a comparison in order to find the function
in which they differ.

Both constructions appear with equal frequency in foregrounded (-IN- passive: 45%; MA- passive 43%) and in backgrounded clauses so that on the thematic level of the narrative there seems to be no marked difference between the two.

The limited amount of data again are responsible for the skewed outcome of some of the numerical results. For the -IN- passive in column C (table 4), it seems that on the whole the Agent is more topical than the Object since the average values of referential distance and decay are slightly lower and higher respectively for the Agent than for the Object. The close match in low values for distance is expected since both are syntactically coded by zero anaphora. A similar close match for decay is against our expectations. Again, one out of the seven instances of the Agents has an exceptionally high value of 8 for the measurement of decay, which increased the average value by about 70%. Without this one instance the average of the remaining 6 instances would have been remarkably lower, viz. 1.33. The high value for decay for this particular instance indicates a switch reference in the narrative. The speaker abandoned the Object referent of the -IN- passive and continued talking about the Agent referent for the next 8 clauses. Again, one may expect that increasing the data base will level out the exceptionally high average values.

The graphs and column with numeric results do not present all the facts. They give the counts of those passive clauses alone where both an Agent and an Object are present. The overall distribution of passives with and without an Agent in the data is as follows:

<table>
<thead>
<tr>
<th></th>
<th>with Agent</th>
<th>without Agent</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>-IN- passive</td>
<td>16 80%</td>
<td>4 20%</td>
<td>20</td>
</tr>
<tr>
<td>MA- passive</td>
<td>9 15%</td>
<td>53 85%</td>
<td>61</td>
</tr>
</tbody>
</table>

table 10. Distribution of passives with and without Agent.

Moreover, the Agents in the -IN- passive are all singular, previously identified referents. Three of the four 'unexpressed Agents' in this construction referred to particular events which were presented in the discourse immediately prior to the clause with the -IN- passive, stating the effect of the event on the Object participant. All of the Agents expressed in the MA- passive were plural Agents and often, when the Agent was not expressed, it could be interpreted as referring to a group of people mentioned in the narrative such as the Japanese, the Spaniards, or simply the Chamorro people in general. The distribution of -IN- passives and MA- passives according to whether the Agent is singular or plural respectively may provide an explanation for the fact that the overall results seem to suggest that the Agent in the MA- passive, even though consistently less topical than the Object, is on the whole less topical than the Agent of the -IN- passive, since singular referents tend to be more topical than plural referents in narratives (see Givón 1976 among others).

The -IN- passive has been called a Goal focus construction by Topping (1973: 245) where Goal refers to the direct object of a verb.
Unlike the wrongful comparison of the -UM- construction with the Agent topic constructions (cf. 6.3 above), the -IN- passive is very similar to the Patient focus or topic constructions one finds in the Philippine languages.

Givón (1981) identified three universal functions of passives:

i) a non-agent argument assumes clausal topic function instead of the subject/agent,

ii) the identity of the agent is suppressed, creating an impersonal construction,

iii) the clause is detransitivized, becomes more stative, less transitive.

It seems clear that both the -IN- passive and the MA- passive share the first and in part the third function. They both take the plural subject agreement marker MAN- which is the intransitive plural agreement marker in Chamorro. In addition, the MA- passive codes function ii) as well, so that presumably it is the more passive construction of the two.

The prefix MA- of the passive may very well be related to the ergative third person plural marker MA-, so that in fact we have a historical remnant which indicates that the event was or is controlled by a plural Agent, not necessarily, in fact most unlikely present in the discourse. The fact that the passive with plural Agents, rather than the one with singular Agents, should give rise to an impersonal construction is not surprising since - as already mentioned above - singular referents are more topical than plural referents.

7. Conclusion.

The five different constructions in Chamorro for semantically transitive sentences code different points along a continuum which marks the functional domain of relative topicality of both Agent and Object in clauses. The measure for distance in figure 1 for the overall results suggest almost a complete reverse relationship between the topicality of the Agent in relation to the Object as one moves down from the antipassive to the MA- passive. The term antipassive seems to be most appropriate in this context as its function is exactly the opposite of the function of the "most" passive MA-construction: the antipassive totally suppresses the Object, the Object is non-referential or not mentioned at all. The MA- passive prototypically suppresses the Agent, which is less topical than in the -IN- passive or not mentioned at all. The antipassive in addition is syntactically marked as an intransitive sentence, evident from the fact that it takes the prefix MAN-, the plural intransitive agreement marker, as do both passives. Syntactic transitivity involves a cline with two possible extremes, the antipassive and the MA- passive on opposite ends. There are two separable semantic characteristics involved in syntactic transitivity:

i) the presence of an Agent who initiates the event,

ii) the presence of an Object that registers the bulk of the impact.

There seems to be an additional pragmatic condition for syntactical
transitive sentences:
iii) the Agent NP has to be more referentially continuous/
more topical than the Object NP in the clause.
The ergative construction in Chamorro is the best candidate to be
tsyntactically transitive as all the characteristics/conditions apply.
The antipassive is a very active construction but either involves
a non-referential and hence non-identifiable Object or no Object
at all. The -IN- passive involves both an Agent and an Object but the
latter surpasses the former in degree of topicality. Both passives
foreground an Object referent over the Agent, thus concentrating
more on the resulting state than on the action itself. The MA-
passive prototypically includes only the Object and is thus the more
stative of the two. All three constructions then, the antipassive
and both passives do not abide by the three conditions stated
above and are thus marked as being syntactically intransitive.
The -UM- construction violates the third condition but whether
it is syntactically transitive or intransitive needs to be investi-
gated in full detail. There is probably a historical relationship
between the -UM- infix of the semantically transitive clause and the
-UM- singular agreement marker for intransitive sentences. In the
semantically transitive constructions in my data the -UM- is used
for both singular and plural subjects.

Even though one can observe some overlap in the functions of
the five different syntactic constructions - especially in indivi-
dual instances - the tendencies unearthed in this study by the
quantitative analysis are important and may be schematically
presented as follows:

<table>
<thead>
<tr>
<th>Construction Type</th>
<th>Degree of Topicality</th>
</tr>
</thead>
<tbody>
<tr>
<td>antipassive</td>
<td>Agent » Object</td>
</tr>
<tr>
<td>ergative</td>
<td>Agent &gt; Object</td>
</tr>
<tr>
<td>-UM- construction</td>
<td>Agent = Object</td>
</tr>
<tr>
<td>-IN- passive</td>
<td>Agent &lt;&lt; Object</td>
</tr>
<tr>
<td>MA- passive</td>
<td>(the Object gets suppressed completely)</td>
</tr>
<tr>
<td></td>
<td>(the Agent prototypically gets suppressed)</td>
</tr>
</tbody>
</table>

Footnotes:

1) Many thanks to my informant Vicky Manibussan, a native speaker from
the island of Guam, who provided and helped transcribe the nar-
ratives on which this pilot study is based. The reader should be
aware of the limitations involved in working with only one speaker
aside from the limitations of the data itself. The pilot study should
not be seen as a final end product but needs to be enlarged by incorpo-
rating narratives from different native speakers and by looking at
conversations as well to check whether the same pragmatic principles
hold. Many thanks are also due to Tom Givón who was my advisor
throughout the research for this paper.

2) The term Object in this paper should not be considered a syntactic
term. Rather it is a semantic one referring to that argument in
the sentence which registers the bulk of the impact initiated by
the Agent and thus can be the direct object of the active clauses and subject of passive clauses.

3) These transitive clauses include not only the ergative and the -UM-construction but also a set of sentences in which the verb showed possessive agreement with the subject and sentences in which the verb was not marked at all. These two types of construction are not discussed in this paper.

4) The focus constructions in the Philippine languages have also been called topicalization constructions.

5) The MAN-prefix Topping refers to here is the antipassive marker which I discussed earlier.

6) These inaccuracies on Topping's part most likely stem from looking only at example sentences obtained through direct elicitation or looking at sentences in isolation without their proper discourse context.

7) Without the value 20 for referential distance of one of the Agents the average value for the three remaining instances comes out to be 3.33.

Bibliography.


Erteschik-Shir, N. (1979) - "Discourse Constraints and Dative Movement." In: T. Givón (ed.).


Hopper, P.J. (1979) - "Aspect and Foregrounding in Discourse." In: T. Givón (ed.).


_______ (1980) - Ergativity in Samoan Child Language. Ms, University of Southern California.


Semantics and Logical Form

Jeanette S. DeCarrico
Portland State University

In his discussion of quantification and logical form, May (1977) claims that quantifier scope in logical form is determined only by surface syntax. He proposes a rule of quantifier raising, called QR, which (Chomsky)-adjoins a quantifier phrase to S, and which is subject only to certain syntactic restrictions on clause boundedness and binding.1 What I hope to show is that such syntactic analyses are, in themselves, inadequate to characterize the nature of logical form. Rather, the semantics of quantifiers and opaque operators must also be considered.

More specifically, I will argue that scope assignment rules are sensitive to the semantic features of quantifier phrases, namely, to those with the feature [-def], and to a large semantic class of opaque operators, including epistemic modals, adjectives, and want-type verbs. I will show that it is in just these cases that May's QR rule makes the wrong predictions, and further, that once the semantics of quantified phrases and opaque contexts are taken into consideration, these data can be explained in a unified way by a 'scope bounding' restriction on well formedness at logical form, which is simply a special case of general conditions on variable binding.

The first problem with May's syntactic solution is illustrated below.

(1) Mary wants to try a raw egg in her beer.
(2) An earthquake is likely to occur in California.
(3) California might {have \{experience\} an earthquake soon.

In each the result is the same: the opaque operator induces a narrow scope interpretation on the indefinite quantified phrase. For example, in (1) the narrow scope interpretation would be that Mary wants there to be a raw egg such that she try it in her beer. However, May's QR rule predicts narrow scope correctly only for (1), in which QP adjoins to the embedded S (i.e. since the QR rule is clause bounded, it cannot adjoin to the matrix S).

In (2), on the other hand, QR incorrectly predicts straightforward ambiguity. The subject quantifier phrase, an earthquake, may either adjoin to the matrix
S', allowing wide scope, or lower to the embedded S, allowing narrow scope. And in (3), QR incorrectly predicts only a wide scope reading, since the matrix S is the only available adjunction site for the quantifier. The obvious problem is that a wide scope, referential reading for (2) and (3) is impossible: there is no sense in which there exists a particular earthquake such that it is likely to occur, or that it might be experienced in California.

These examples should be compared with the transparent contexts in (4).

(4) a. An earthquake struck last night.
   b. A storm damaged the crops.

In other words, a wide scope reading of indefinite QPs such as these is clearly permitted, just in case they are not in the scope of an opaque operator like those in (1-3). Therefore, in (4) we get the wide scope interpretation that there was an earthquake such that it struck last night, and there was a storm such that it damaged the crops.

A second problem with ignoring these semantic aspects is that, conversely, narrow scope is sometimes predicted when only a wide scope reading is possible. In both (5a) and (5b) below, narrow scope is predicted for the indefinite QP someone, since both sentences have identical, embedded syntactic structures.

(5) a. Bill wanted someone to help him type the paper.
   b. Bill persuaded someone to help him type the paper.

But unlike want, persuade is not an opaque verb, and therefore only wide scope is actually possible in (5b). The same is true for other complement taking verbs like advise, report, and so on, which are not opaque operators. Likewise, the narrow scope reading in (6) gives further evidence that it is the semantic inter-relationship of the opaque operator and the indefinite QP, and not the syntax alone, which accounts for this phenomenon.

(6) John wants a raisin.

The solution I propose has two parts. The first is to revise QR so that it (Chomsky)-adjoins to any major category, and not just to S. That is, so that it may adjoin to an S, a VP, an NP, and so on, as defined within X-bar theory. The second part is to include
a well formedness condition on logical form configurations. This proposal is illustrated in (7) and (8).

(7) a. Adjoin Q to S \hspace{1em} (QR rule, May (1977))
   b. Adjoin Q to \( \Box \) \hspace{1em} (QR rule, revised)

(8) In the (LP) configuration, \([\beta \ldots \Box \ldots]\)
\(\Box\) must be bound in \(\beta\)

Where: \(\Box\) = a variable with the feature [-def]
\(\beta\) = the c-command domain of an opaque operator

(7a) is May's QR rule, and (7b) is the revision I propose. (8) is a scope bounding condition on logical form. In effect, it is an instruction to the interpretive rules to interpret this configuration as anomalous, unless \(\Box\) is bound within \(\beta\).

To illustrate, look again at (1-3). Each sentence contains an opaque operator: want, likely, and might. In (1) the indefinite quantified phrase can only raise and adjoin to the embedded S; if it adjoins to the matrix S, it will not be bound within the c-command domain of the opaque operator, want. Likewise in (2), the indefinite QP an earthquake can only lower and adjoin to the embedded S. And in (3), it can only adjoin to the VP. In each case, then, we get only the correct, narrow scope interpretation.

On the other hand, in (4a) and (4b) there is no opaque operator, the restriction in (8) will not apply, and only the wide scope reading is possible. This is the correct result, and just the one we want. Likewise, in (5) it will apply in (a), but not in (b).

Now consider (6). By the QR rule in (7b), the indefinite QP can adjoin to its own NP category. Adjunction to the VP or to the matrix S is ruled out by (8), and again we get the correct narrow scope interpretation. The same holds for (9), in which the indefinite QP can adjoin to the PP, in California, but not to the S node.

To sum up thus far, this solution gives the right results in all of these cases, regardless of the differences in syntax. It captures the semantic similarities of various opaque operators, a generalization which May's analysis fails to account for.

In effect, it restricts indefinite QPs to narrow scope, since both the QP and the variable it binds must be c-commanded in logical form by an opaque operator, if present. Otherwise, the interpretation results in anomaly. Other QPs, like every, each, and the like,
are not affected, because they do not carry the feature -definite.

With respect to complications in the grammar, my solution amounts to a trade-off. The QR rule is in effect less restricted, but the burden of restriction is shifted to the scope bounding properties of opaque operators.

There is another part of May's claim that needs to be addressed here. He claims that in cases like (1) and (5a) and (5b)—though oddly enough, not in (2), (3), or (6), for example—the narrow scope reading is simply the 'unmarked' reading, and that a later movement rule, QR', can still assign the 'marked' wide scope reading (see May (1977) for detailed discussion). However, not only is this solution wrong for (2), (3), and (6), but data like those in (10) and (11) show that it is wrong for the other cases as well.

(10) Mary wants to try a raw egg in her beer.
   a. ???It is fresh and tender.
   b. She wants it to be fresh and tender.

(11) An earthquake is likely to occur in California.
   a. ???It is a big one.
   b. It is likely to be a big one.

In (10a) and (11a) the problem is that if the marked wide scope reading of the QP were in fact available, there should be nothing to prevent the specific, wide scope reading of a raw egg or of an earthquake, from being chosen, in order to 'match up' with the specific pronoun it in the following transparent context. Yet (10a) and (11a) are decidedly strange. The nonspecific indefinite QP and the specific pronoun are semantically incompatible.

In contrast, (10b) and (11b) show that if the QP/pronoun pairs both occur in opaque contexts, in which both are assigned narrow scope, an anaphoric 'identity of sense' reading is allowed. Therefore, the narrow scope reading is possible, just as predicted by the restriction in (8).

Finally, I would like to discuss briefly those contexts in which a wide scope reading can sometimes be forced. This is illustrated in (12), with the continuations in (12b).
(12) John wants to catch a fish.
   a. ???It is slimy. (???I see it.)
   b. ???I see it) over there under that
         lily pad.

Nevertheless, if we compare the (a) and (b) continuations, it becomes clear that in (b) it is the type
of contextual modifier—not the logical form of the sentence—which allows the inference of the existence
of a particular object, since it is located both spatially and temporally in the immediate situation,
namely, over there under that lily pad. But if we control for this pragmatic inference from context—if
we delete it, as in (12a)—we get the same effect as in the anomalous continuations in (10) and (11) above.

Therefore, the wide scope reading in sentences like (12b) is simply a matter of invited inference,
available by certain discourse level pragmatic principles, and not by sentence level logical forms. In
other words, they are irrelevant, with respect to QR and the scope bounding restriction.

In the analysis I am arguing for here, there is
one further, rather obvious implication for linguistic
theory. Since Quine’s discussion of opaque contexts
in Word and Object (1960), there has been a widely held
assumption in both philosophy and linguistics that
indefinite QPs in opaque contexts are ambiguous with
respect to wide and narrow scope interpretations. But
if my analysis is correct, it indicates that this
assumption is unfounded. Instead, only a single,
narrow scope representation is possible in logical
form, and any wide scope interpretation is simply
a matter of invited inference, based on discourse level
pragmatic principles, and not on interpretive rules
which have access to logical form.

Ultimately, however, such conclusions ought to be
based on data from various languages, and not—as in
the past—on just English. Consider, for instance,
the sets of data in (13-15), which are typical of a wide
variety of languages. The Russian data are from Dahl
(1970). ((13) is Russian, (14) Farsi, (15) Turkish)

(13) a. Ona xočet vyjti zamuž za kogo-nibud.
'She wants to marry someone.' (nonspecific)

b. Ona xočet vyjti zamuž za kogo-to.
'Yeshe wants to marry someone.' (specific)
(14) a. Ali bir avukat arıyor;
   Ali a lawyer is looking for
   onu ben de tanıyorım.
   him I too know

   'Ali is looking for a lawyer (nonspecific);
   I know him too.'

b. Ali bir avukat-i arıyor;
   Ali a lawyer is looking for
   onu ben de tanıyorım.
   him I too know

   'Ali is looking for a lawyer (specific);
   I know him too.'

(15) a. Ma-en mixam ba yek ma-eleke ezdvaj dona-em,
   I want with a queen marriage do
   va-eli ma-eno-o ga-ebul na-edare.
   but I accept she doesn't

   'I want to marry a queen (nonspecific),
   but she won't have me.'

b. Ma-en mixam ba yek ma-eleke-i ezdevaj dona-em,
   I want with a queen marriage do
   va-eli ma-eno-o ga-ebul na-edare.
   but I accept she doesn't

   'I want to marry a queen (specific),
   but she won't have me.'

For one thing, the data in (13-15) show at a glance
that such languages—and there are very many of them—
require explicit grammatical markers for indefinite
NPs. These markers clearly and overtly specify the
features specific and nonspecific on indefinite NPs.
The result is that they preclude even the possibility
of ambiguity in opaque contexts, with respect to wide
and narrow scope readings.

For example, look at (13). In (13a), 'She wants
to marry someone' (nonspecific), the -nibud suffix
marks the QP as nonspecific. It can only mean that
she wants to marry just anyone at all. But in (13b),
'She wants to marry someone' (specific), the -to suffix
marks the QP as specific. It can only mean that there
is some particular person that she wants to marry.

What is especially interesting about these data,
is that the -nibud suffix, the nonspecific one, appears
only in opaque contexts, and does not allow a wide
scope reading. It never appears in transparent contexts.
It is only those QPs with a specific -to suffix which
are interpreted as wide scope in opaque contexts.10  In
other words, they are similar to definite QPs in English, as in a certain NP. For example, in English we have sentences like She wants to marry a certain man, which can only mean that there is a particular individual whom she wants to marry.

Similar remarks apply to the Turkish data in (14) and the Farsi data in (15). Notice also that in (14a) the specific pronoun onu 'him' in Turkish cannot be anaphorically related to bir avukat 'a lawyer', the nonspecific indefinite QP. In short, an anaphoric reading with a specific pronoun is blocked unless the indefinite QP has the specific marker, the -i suffix, as in (14b). The Farsi data are exactly analogous in this respect. Furthermore, Engin Sezer and Shahrzad Mahootian have pointed out to me, for Turkish and Farsi, respectively, that when the indefinite QP is nonspecific, a wide scope reading is impossible (barring contrastive stress), regardless of context. That is, there is no context whatever which can force a wide scope reading.

In sum, the scope bounding restriction in (8) is strongly supported by evidence from other languages, indicating that it is correct, and that it is very likely based on a universal principle.

Footnotes

1. May assumes that QR is clause bounded, and is subject to general binding conditions. One is the Predication Condition: every argument position of a predicate must either be a referring expression or a properly bound variable. (A variable is "properly bound" by a binding phrase if and only if the variable is c-commanded by that phrase. Cf. footnote 5 below for a definition of c-command.) A further condition is that every variable in an argument position of a predicate must be properly bound, and that every quantified phrase must properly bind a variable.

2. This is possible because the subject QP, an earthquake, is not in an argument position. According to his definition, a position in which pleonastic it may occur is not an argument position (as in It is likely that an earthquake will occur in California). Therefore, the variable need not be properly bound, in that it need not be c-commanded by its binding phrase.

3. Incidentally, while considerations of tense are
of course important, they are not the relevant factors here. Compare, for instance, the past tense in Mary wanted to try a raw oyster in her beer, which still receives the narrow scope interpretation.

4. This revision has been suggested recently in Stowell (1981), for entirely independent reasons.

5. Informally, this c-command domain may be defined as everything dominated by the first branching node up from the operator. See Reinhart (1976) for a formal definition of c-command. For detailed discussion of general binding conditions (of which (8) may be considered a special case), see Chomsky (1981) and references cited there.

6. Underlining indicates an anaphoric relationship between the NP and the pronoun, and '????' indicates semantic anomaly.

7. See DeCarrico (1980a) and (1980b) for discussion of restrictions on indefinite anaphora, based on semantic incompatibility.

8. For extensive discussion of discourse level invited inferences and of the pragmatic principles on which they are based, see DeCarrico (1982).

9. I am grateful to Engin Sezer for bringing the Turkish data to my attention, and to Shahrzad Mahootian for providing me with the Farsi data. For further discussion of similar data, see Mahootian (1979) and Sezer (1972).

10. See also Ioup (1977) for discussion of these data, with respect to the specific/nonspecific dichotomy.

11. See Givón (1981) for a description of similar markers of specificity for a wide variety of languages, including, for instance, all Creoles, (street) Hebrew, various Amerindian and Austronesian languages, Mandarin, Sherpa, Hungarian, and so on. In each case, the interpretation options of specific/nonspecific are the same as those discussed above.

References


Passive and Inversion in Kannada

Matthew S. Dryer
University of Alberta

In a number of recent papers, Sridhar (1976a, 1976b, 1979) has described a construction in Kannada, a Dravidian language of south India, involving dative subjects, as in (1) to (4). ¹

(1) aval-i ge ibblee mak-kal i idd-aare.
    she-dat two child-plur,nom be-3pl
    She has two children.

(2) nan-age nin-na dhvani keelis-itu.
    l-dat you-gen voice,nom hear-past,3sg,neut
    I heard your voice.

(3) aval-i ge uttara-gal i gottaaad-avu.
    she-dat answer-plur,nom learn,past-3pl,neut
    She learned the answers.

(4) candra-nige avalii iShTa.
    Chandra-dat she,nom like
    Chandra likes her.

Similar constructions in various other languages have been analysed in Relational Grammar as involving a rule of Inversion, as in (5). ²

(5)

This analysis is proposed for Kannada by Perlmutter (1978b) on the basis of the data in Sridhar (1976a, 1976b). This analysis has also been proposed for similar clauses in the following languages: Georgian (Harris, 1981), Choctaw (Davies, 1981), Italian, Japanese and Quechua (Perlmutter, 1979), and Russian (Perlmutter, 1978b). I will argue here that data from passive sentences provides additional evidence for an inversion analysis of the dative subject construction in Kannada. I will also propose an analysis for the passive versions of dative subject sentences.

Sridhar has shown that the dative nominal in this construction possesses the syntactic properties in (6), which are otherwise associated only with nominative subjects in Kannada.

(6) a. Controller of Reflexivization.
b. Controller of Particippial Equi. ³
c. Victim of Particippial Equi.
d. Occurs in clause-initial position in unmarked word order.

These properties are illustrated by the examples in (7) to (9).

(7) candra-nige tan-na taayii iShTa.
    Chandra-dat refl-gen mother,nom fond
    Chandra is fond of his mother.

(8) [Ø bisili-nalli tirugi] sureeSa-nige baayaarike aay-itu.
    [Ø sun-in wander,ptcpl Suresha-dat thirst happen-3sg,neut
    Having wandered in the sun, Suresha became thirsty.
(9) [Ø heNDati-ya jnaapaka bandu] raama
  0 wife-gen remembrance,nom come,ptcpl Rama,nom
  vihvalanaad-a.
go berserk-3sg.masc
Remembering his wife, Rama went berserk.

Sridhar also claims that the dative nominal can be an Equi victim, citing (10) and (11), with the dative subject sentences corresponding to the subordinate clauses in (10) and (11) given in (12) and (13).

(10) aavl-ige [Ø maduve aaga-lu] iShTa-villa
  she-dat 0 marriage happen-inf desire-not
  She does not want to get married.
(11) avanu [Ø koppa-kke varga-vaag-alu] iShTaDa-uvud-illa.
  he,nom 0 Koppa-dat transfer-happen-inf want-pres-not
  He doesn’t wish to be transferred to Koppa.
(12) aavl-ige maduve aay-itu.
  she-dat marriage become-past,3sg.neut
  She got married.
(13) avan-ige koppa-kke varga-vaay-itu.
  he-dat Koppa-to transfer-happen-past,3sg.neut
  He was transferred to Koppa.

These examples are exceptional in that the dative nominal cannot otherwise be an Equi victim, as in (14) and (15).

(14) *candra-nige [Ø uttara-gaLu gottaag-alu] iShTa-villa.
  Chandra-dat 0 answer-pl,nom learn-inf want-not
  Chandra doesn’t want to learn the answers.
  he,nom 0 Chandra,nom like-become-inf try-past-3sg.masc
  He tried to like Chandra.

Significantly, the Equi clauses in (10) and (11) also allow nominative subjects, as in (16) and (17).

(16) aavl u maduve aad-alu
  she,nom marriage become,past-3sg,fem
  She got married.
(17) avanu koppa-kke vaarga-vaad-anu.
  he,nom Koppa-to transfer-become-3sg.masc
  He got himself transferred to Koppa.

Since the examples in (10) and (11) can be analysed as involving a nominative subject as the Equi victim, the natural conclusion is that the dative nominal cannot be an Equi victim.

Sridhar further argues that the nominative nominal in inversion clauses, e.g. makkalu ‘children’ in (1), behaves as a subject only in its nominative case marking and in controlling verb agreement. Note, for example, the plural verb agreement with makkalu ‘children’ in (1). He argues that the nominative nominal fails to behave as subject in the following ways.

(18) a. Cannot control Participial Equi.
b. Cannot be a victim of Participial Equi.
c. Cannot be a victim of Equi.

These properties are illustrated by the following examples.
(19) *(0 nann-anu cennaagi maataaDisili) nan-age avaLu
    0 l-acc nicely talk,ptcpl l-dat she,nom
    iShTa aad-aLu.
    fond become,past-3sg,fem
    Having talked to me nicely, I liked her.
(20) *(candra-nige 0 keelisi) naanu hood-e.
    Chandra-dat 0 hear,ptcpl 1,nom go,past-1sg
    Chandra having heard me, I left.
(21) *(raama [ava-1ge 0 iShTa aag-alu] prayatnis-id-a.
    Rama,nom she-dat 0 like become-inf try-past-3sg,masc
    Rama tried to be liked by her.

Sridhar also argues that the nominative nominal cannot control Reflexivization, on the basis of the example in (22).

(22) *tan-age soomanu tumba iShTa.
    self-dat Soma,nom much like
    Soma is very fond of himself.

The unacceptability of (22) seems to be due, however, not to the nominative nominal controlling Reflexivization, but rather to the dative nominal being reflexive. * Thus contrast (22) with the acceptable (23).

(23) tan-na taayi-ge soomanu tumba iShTa.
    refl-gen mother-dat Soma,nom much like
    His (=Soma's) mother likes Soma very much.

In (23), the nominative nominal is controlling Reflexivization. Thus both nominals in the dative subject contraction are potential controllers of Reflexivization.

Sridhar's papers are primarily devoted to showing that the dative nominal in the dative subject construction behaves as subject with respect to various rules, and that the nominative nominal does not. His evidence thus shows that the dative nominal is a subject at some level. His evidence does not show at what level the dative nominal is subject. Nor does it show that the nominative nominal is a direct object at some level. Evidence of this sort is provided by passive clauses which correspond to inversion clauses. Observe first normal passivization, illustrated in (24) and (25).

(24) ravi nann-annu nooD-id-a.
    Ravi,nom l-acc see-past-3sg,masc
    Ravi saw me.
(25) naanu ravi-yinda nooD-alpaTT-e.
    1,nom Ravi-instr see-passive,past-1sg
    I was seen by Ravi.

In passive clauses, the initial direct object is the final subject: it occurs in the nominative case and controls verb agreement. As shown below, it also functions as subject with respect to other rules. The subject chomeur in passive clauses occurs in the instrumental case and does not behave as subject with respect to any rules.

Consider now the following examples of inversion sentences.

(26) candra-nige nan-na dhvani keelis-itu.
    Chandra-dat l-poss voice,nom hear-past,3sg,neut
    Chandra heard my voice.
(27) ravi-ge uttara-gaLu gottaad-avu.
Ravi-dat answer-pl,nom learn,past-3pl,neut
Ravi learned the answers.

(28) gurugal-ige pustaka-gaLu beekaag-ittu.
teacher-dat book-pl,nom need-past,3sg,neut
The teacher needed the books.

(29) aval-ige eradu kivi-gaLu i-ve.
she-dat two ear-pl,nom be-3pl,neut
She has two ears.

Corresponding to each of the inversion sentences in (26) to (29) are two passive versions, one with the initial subject in the instrumental case, the other with the initial subject in the dative case. The passive versions of (26) to (29) with the initial subject in the instrumental case are given in (30) to (33).

(30) candra-ninda nan-na dhvani keelis-alpaTT-itu.
Chandra-inst l-gen voice,nom hear-passive,past-3sg,neut
My voice was heard by Chandra.

(31) ravi-yinda uttara-gaLu gottaag-alpaTT-ive.
Ravi-instr answer-pl,nom learn-passive,past-3pl,neut
The answers were learned by Ravi.

(32) gurugal-inda pustaka-gaLu beekaag-alpaTT-avu.
teacher-instr book-plur,nom need-passive,past-3pl,neut
The books are needed by the teacher.

(33) eradu kivi-gaLu aval-inda ir-alpaTT-ive.
two ear-pl,nom she-instr be-passive,past-3pl,neut
Two ears are had by her. (literally)

The passive versions of (26) to (29) with the initial subject in the dative case are given in (34) to (37).

(34) candra-nige nan-na dhvani keelis-alpaTT-itu.
Chandra-dat l-gen voice,nom hear-passive,past-3sg,neut
My voice was heard by Chandra.

(35) ravi-ge uttara-gaLu gottaag-alpaTT-avu.
Ravi-dat answer-pl,nom learn-passive,past-3pl,neut
The answers were learned by Ravi.

(36) gurugal-ige pustaka-gaLu beekaag-alpaTT-ive.
teacher-dat book-plur,nom need-passive,past-3pl,neut
The books are needed by the teacher.

(37) eradu kivi-gaLu aval-ige ir-alpaTT-ive.
two ear-pl,nom she-dat be-passive,past-3pl,neut
Two ears are had by her. (literally)

These examples are important in two ways. First, the version with the initial subject in the instrumental case provides additional evidence for the subjecthood of dative subjects. More specifically, it provides evidence that these nominals are initial subjects, since otherwise only initial subjects can occur in the instrumental case in passive clauses. Second, since the nominative nominal in passive clauses is otherwise always a direct object which has advanced to subject, these examples provide convincing evidence that the nominative nominal in the dative subject construction is a direct object at some level, and hence strong evidence for the inversion analysis of dative subject clauses in Kannada.

In the remainder of this paper, I will focus on two questions about these passive clauses. First, what is the relational structure of these clauses? Second, what are the syntactic properties of the nominals in these clauses?
Consider first how these two kinds of passive clauses might be analysed. In the passive version in (30), the initial subject occurs in the instrumental case, the normal case for subject chomeurs in passive clauses. Such clauses are most naturally analysed as not involving inversion at all; they simply involve Passive and thus have the relational structure in (38).

(38) Relational structure of (30):

\[
\text{candra-ninda nan-na dhvani keelis-alpaTT-itu.} \\
\text{Chandra-instr I-gen voice,nom hear-passive,past-3sg.neut} \\
\text{My voice was heard by Chandra.}
\]

Such examples show that inversion is not obligatory for the verbs that govern it. Rather, most of the verbs that govern inversion exhibit a constraint that the initial subject not be the final subject (or perhaps that the initial direct object be the final subject). This constraint is satisfied by either Inversion or Passive.

Some verbs are not governed by this constraint. For example, *ti/i/yu* 'learn' can occur in any of the forms in (39) to (42).

(39) ravi uttara-gaL-anu tiliy-utt-aane.
Ravi,nom answer-pl-acc learn-fut-3sg,masc
Ravi will learn the answers.

(40) ravi-ge uttara-gaLu tiliy-utt-ave.
Ravi-dat answer-pl,nom learn-fut-3pl,neut
Ravi will learn the answers.

(41) uttara-gaLu ravi-yinda tiliy-alpaD-utt-ave.
answer-pl,nom Ravi-instr learn-passive-fut-3pl,neut
The answers will be learned by Ravi.

(42) uttara-gaLu ravi-ge tiliy-alpaD-utt-ave.
answer-pl,nom Ravi-dat learn-passive-fut-3pl,neut
The answers will be learned by Ravi.

(39) is the active (monostratal) version; (40) involves Inversion; (41) and (42) are the passive versions of (39) and (40) respectively.

Clauses like (34), in which the verb is passive and in which the initial subject occurs in the dative case, apparently involve both Inversion and Passive. Such clauses might be analysed as in (43).

(43) Relational structure of (34):

\[
\text{candra-nige nan-na dhvani keelis-alpaTT-itu.} \\
\text{Chandra-dat I-gen voice,nom hear-passive,past-3sg.neut} \\
\text{My voice was heard by Chandra.}
\]

Johnson and Postal (1980) propose an analogous analysis for similar clauses in Sinhalese. Although this analysis violates the Chomeur Condition of Perlmutter and Postal (1977), Johnson and Postal's arguments are applicable here. Employing a two-level analysis (as in (43)) for (34), but a three-level analysis for (26), provides an account of the presence of passive morphology in (34) but the lack of passive morphology in (26): only in (34) is there a nominal which is accusative (a transitive direct object) on one level and a subject on the succeeding level. Thus
this analysis accounts for both the dative case marking on the initial subject and the passive morphology. Further arguments for analysing these two kinds of passive clauses as suggested here are provided by an examination of the properties of the nominals in these clauses.

Consider first basic passive clauses, i.e. ones corresponding to clauses not involving inversion, like (44).

(44) ravi-yinda naanu nooD-alpaTT-e.
Ravi-instr l,nom see−passive−past,1sg
I was seen by Ravi.

The nominative nominal in such passive clauses behaves as subject with respect to various rules. It controls Reflexivization, as in (45).

(45) candra tan-na taayi−yinda nooD-alpaTT-a.
Chandra,nom refl−gen mother−instr see−passive,past−3sg,masc
Chandra was seen by his mother.

It can be an Equi victim, as in (46).

(46) candra [Ø ravi−yinda nooD−alpaD−alu] iShTapai−uvud−illa.
Chandra,nom Ø Ravi−instr see−passive−inf want−pres−not
Chandra doesn’t want to be seen by Ravi.

And it can be a victim of Participial Equi, as in (47).

(47) [Ø maaya−Linda nooD−alpaTT−u] candra hood−a.
Ø Maya−instr see−passive−ptcpl Chandra,nom go,past−3sg,masc
Having been seen by Maya, Chandra left.

Conversely, the instrumental nominal in passive clauses lacks these various subject properties. This is illustrated for Reflexivization, Equi, and Participial Equi in (48), (49), and (50) respectively.

(48) *naanu ravi−yinda tan−na mane−yalli nooD−alpaTT−e.
l,nom Ravi−instr refl−gen house−in see−passive−past,1sg
I was seen by Ravi in his house.

(49) *nanage [ravi 0 nooD−alpaD−alu] aase.
l,dat Ravi,nom 0 see−passive−inf want
I want Ravi to be seen by 0 (=me).

(50) *[maaya 0 nooD−alpaTT−u] candra hood−a.
Maya,nom 0 see−passive−ptcpl Chandra,nom go−past,1sg
Maya having been seen by him, Chandra left.

How then do the nominals in the passive clauses corresponding to inversion clauses behave with respect to the various subject properties? Regardless of whether the initial subject is in the instrumental case or the dative case, the nominative nominal behaves as subject with respect to both various rules. It occurs in the nominative case and controls verb agreement, as in (30) to (37) above. That it behaves as subject with respect to various syntactic rules is illustrated for Reflexivization in (51), for Equi in (52), and for Participial Equi in (53).

(51) ravi tan−na taayi−yinda / taayi−ge
Ravi,nom refl−gen mother−instr / mother−dat
beekaag−alpaTT−idd−aane.
need−passive−pres−3sg,masc
Ravi is needed by his (=Ravi’s) mother.
(52) ravi [ō aaSa-Lige keelis-alpaD-alu] prayatnis-id-a.  
Ravi,nom 0 Asha-dat hear-passive-inf try-past-3sg,masc  
Ravi tried to be heard by Asha.

(53) [ō aaSa-Linda keelis-alpaTT-u] ravi hood-a.  
0 Asha-instr hear-passive-ptcp! Ravi,nom go-past,3sg  
Having been heard by Asha, Ravi left.

The instrumental nominal in these passive clauses behaves like the 
instrumental nominal in regular passive clauses (i.e., those passive clauses 
corresponding to active clauses that do not involve a dative subject). 
This is illustrated for Reflexivization in (54), for Equi in (55) and for 
Participial Equi in (56).

(54) *ravi-yinda tan-na taayi-ya dhvani keelis-alpaTT-itu.  
Ravi-instr refl-gen mother-gen voice,nom hear-passive-3sg,neut  
His (=Ravi’s) mother’s voice was heard by Ravi.

(55) *manage [ravi 0 keelis-alpaD-alu] aase.  
I,dat Ravi,nom 0 hear-passive-inf want  
I want Ravi to be heard by 0 (=me).

(56) *i'maya [0 keelis-alpaTT-u] candra hood-a.  
Maya,nom 0 hear-passive-ptcp! Chandra,nom go-past-3sg,masc  
Maya having been heard by him, Chandra left.

In short, passive clauses with the initial subject in the instrumental case 
corresponding to active inversion clauses behave like regular passive 
clauses, in that the nominative nominal behaves as subject with respect to 
various rules, while the instrumental nominal does not. This provides 
support for analysing such passive clauses like regular passive clauses, as 
in (38) above.

When the initial subject in passive clauses appears in the dative 
form, however, it does behave as subject at least with respect to 
controlling Reflexivization, as in (57).

(57) ravi-ge tan-na taayi-ya dhvani keelis-alpaTT-itu.  
Ravi-refl-gen mother-gen voice,nom hear-passive-3sg,neut  
His (=Ravi’s) mother’s voice was heard by (literally to) Ravi.

Compare (57) to the ungrammatical (54), with ravi in the instrumental 
case instead of the dative case. The contrast between (57) and (54) 
shows that the difference between the two kinds of passive clauses, 
one with the initial subject in the dative case, the other with the initial 
subject in the instrumental case, differ, not only in the case marking of 
the initial subject, but also in terms of the syntactic properties of the 
initial subject. This provides support for providing distinct syntactic 
analyses for the two kinds of clauses, as proposed here.

The dative nominal in such passive clauses does not seem, 
however, to behave as subject with respect to other rules. In particular, 
it cannot be a victim of either Equi or Participial Equi, as illustrated by 
(55) and (56) above.

In summary, the nominative nominal in passive clauses which 
correspond to inversion clauses always behaves as subject. The initial 
subject in such clauses never behaves as subject if it is in the 
instrumental case; it does, at least with respect to Reflexivization, if it is 
in the dative case.

Passive inversion clauses are significant in that the case marking is 
the same as in the corresponding active inversion clauses, but the 
distribution of syntactic properties is different. Thus, in both (26) and 
(34), repeated below, the initial subject occurs in the dative case while 
the initial direct object occurs in the nominative case.
(26) candra-nige nan-na dhvani keeLis-id-e.
   Chandra-dat l-poss voice,nom hear-past-1sg
   Chandra heard my voice.

(34) candra-nige nan-na dhvani keeLis-alpaTT-itu.
   Chandra-dat l-gen voice,nom hear-passive,past-3sg.neut
   My voice was heard by Chandra.

(26) and (34) differ, however, in at least two ways. First, the nominative nominal can be an Equi victim in (34) but not in (26). Second, the dative nominal can be a victim of Participial Equi in (26) but not in (34). In general, more rules treat the nominative nominal as subject in (34) than in (26), while more rules treat the dative nominal as subject in (26) than in (34). This difference in the distribution of syntactic properties despite the identity in case marking between the two sentences adds to the evidence that case marking is not a reliable guide to syntactic function.

   I proposed above that, while active inversion clauses involve three levels, as in (5), passive inversion clauses involve only two levels, as in (43). From a morphological point of view, these two clauses differ only in that the verb in (43) is passive. As noted above, the proposed analysis would account for this difference, since only in (5) is there an accusative nominal (a transitive direct object) at one level which is a subject at the next level. There are various other facts which the proposed difference would also account for.

   There are a number of instances in which certain rules treat neither nominal in inversion clauses as subject. Although the nominative nominal frequently controls verb agreement, as in (1) to (3), there are two types of inversion clauses in which it fails to control verb agreement. The first type involves a verb not inflected for agreement at all, as in (58) to (60).

(58) nan-age niinu gottu.
    l-dat you,nom know
    I know you.

(59) ravi-ge aVLu. iShtTa.
    Ravi-dat she,nom fond
    Ravi is fond of her.

(60) avan-ige ii pustaka beeku.
    he-dat this book,nom want
    He wants/needs this book.

   The second type involves a verb bearing third singular neuter agreement, despite the fact that the nominative nominal is not third singular neuter, as in (61) and (62). 9

(61) ravi-ge aVLu beek-ittu.
    Ravi-dat she,nom need-past,3sg.neut
    Ravi needed her.

(62) nan-age avanu gott-ittu.
    l-dat he,nom know-past,3sg.neut
    I knew him.

   The failure of the nominative nominal to control agreement in these clauses can be interpreted as indicating that the rule of verb agreement is sometimes sensitive to levels other than the final level. In such clauses the rule is apparently sensitive to the intermediate level at which the dative nominal is a 3 (an indirect object) and the nominative nominal a 2 (a direct object). The verb fails to agree with any nominal since there is no subject at that level. 10 In contrast, in sentences involving both Passive and Inversion, the verb always agrees with the nominative nominal, as in (30) to (37) above.
A similar argument can be given, based on Equi. As described above, Equi is generally constrained as follows: A nominal can be an Equi victim if and only if it is a final subject. Inversion clauses not involving Passive provide apparent exceptions to this constraint. In such clauses, neither nominal can be an Equi victim. For example, given an inversion clause like (63), neither nominal can be an Equi victim, as illustrated in (64) and (65).

(63) candra-nige ravi iShTa.
     Chandra-dat Ravi,nom like
     Chandra likes Ravi.

(64) *candra [0 ravi iShTa-vaag-alu] prayatnis-id-a.
     Chandra,nom 0 Ravi,nom like-become-inf try-past-3sg,masc
     Chandra tried to like Ravi.

(65) *ravi [0 candra-nige iShTa-vaag-alu] prayatnis-id-a.
     Ravi,nom 0 Chandra-dat like-become-inf try-past-3sg,masc
     Ravi tried to be liked by Chandra.

Note that in clauses involving both Passive and Inversion, the nominative nominal can be an Equi victim, as shown in (66) and (67).

(66) aaSa-Lige ravi keeLis-alpaTT-a.
     Asha-dat Ravi,nom hear-passive,past-3sg,masc
     Ravi was heard by Asha.

(67) ravi [0 aaSa-Lige keeLis-alpaD-alu] prayatnis-id-a.
     Ravi,nom 0 Asha-dat hear-passive-inf try-past-3sg,masc
     Ravi tried to be heard by Asha.

The difference in acceptability between (65) and (67) can be accounted for in terms of the intermediate level posited for clauses like (63). For such clauses, Equi is defined on that intermediate level. Since there is no subject at that level, there is no possible Equi victim.

The two arguments just given can be summarized as follows. There are various instances in which a given rule treats neither nominal as subject in active inversion clauses, but there are no instances in which a rules treats neither nominal as subject in passive inversion clauses. The proposed analysis would account for this difference since according to that analysis, active inversion clauses involve a level at which no nominal is subject while passive inversion clauses do not involve such a level. The Kannada data thus provide a new kind of evidence for the intermediate level posited for inversion clauses.

In summary, evidence from passive clauses provides additional evidence for an inversion analysis of dative subject clauses in Kannada. Such clauses provide evidence that the dative nominal is the initial subject and that the nominative nominal is the initial direct object. Kannada also provides evidence that clauses can involve both Passive and Inversion, and that the Chomseur Condition must be weakened somewhat to allow that possibility. In addition, the differences between active inversion clauses and passive inversion clauses provide evidence for the intermediate level postulated for active inversion clauses. Finally, Kannada provides additional evidence for a universal inversion construction and for multiple syntactic levels.

Footnotes

1 /N/, /T/, /D/, and /L/ are retroflex sounds, /S/ is a voiceless alveopalatal fricative, and /C/ is a voiceless alveopalatal affricate.
2 1 is equivalent to subject; 2 is equivalent to direct object; 3 is equivalent to indirect object.
3 Sridhar refers to this rule as Coreferential Subject Deletion. The rule
can be informally characterized nonderivationally as a coreference constraint requiring that the null subject of a participle be coreferential with the matrix subject. I will refer to the null subject of the participle as the victim of Participial Equi, and to the coreferential matrix subject as the controller.

4 Note, however, that the dative nominal can be reflexive when the controller is in a higher clause, as in (i).

(i) tan-age aaSa iShTa-vendu ravi heel-utt-aane. 
    self-dat Asha,nom like-comp Ravi,nom tell-pres-3sg,masc 
    Ravi says that he likes Asha.

5 A number of speakers, including Sridhar (personal communication), do not find the passive sentences in (30) to (37) acceptable. Among those that do, there is some variation as to which inversion clauses passivate. Most of the judgments in this paper are those of a single speaker. The source of the variation in judgments is not clear, but even those that judge them acceptable say that such sentences are rarely used. Passive sentences of any sort are generally not used in speech and are uncommon even in the written language.

6 Perlmutter (1978a) claims that the 1-Advancement Exclusiveness Law predicts that inversion clauses cannot have passives. The possibility excluded by the 1-Advancement Exclusiveness Law is that of the initial subject readvancing to subject, as in (i).

(i)

The existence of passive clauses with the initial subject in the dative case demonstrates that inversion clauses can indeed have passives, in the sense that a clause can involve both Passive and Inversion, with the initial direct object as final subject.

7 It is not clear what is the basic word order in passive clauses. Volunteered passive sentences sometimes have the instrumental nominal first, sometimes the nominative nominal. Both word orders are judged equally natural.

8 As far as I can determine, however, it cannot control Participial Equi, as in (i).

(i) 9[0 koThadi-yya voLage bandu] uma ravi-yinda 
    0 room-gen into come,ptcpl Uma,nom Ravi-instr 
    nooD-alpaTT-aLu. 
    see-passive-past,3sg,fem 
    Having entered the room, Uma was seen by Ravi.

9 Note that (6.1) would also be acceptable with the verb agreeing with the nominative nominal, as in (i).

(i) ravi-ge avalu beek-iddaLu. 
    Ravi-dat she,nom need-past,3sg,fem 
    Ravi needed her.

10 An alternative analysis for such sentences would be to posit a null dummy as final subject as in (i).
There are various arguments against this alternative analysis, among them its inability to handle sentences like (ii).

(ii) 
tan-na taayi-ge soomanu tumba iShTa.
refl-gen mother-dat Soma.nom much like
His (=Soma's) mother likes Soma very much.

The fact that the nominative nominal soomanu controls Reflexivization in (ii) shows that it is the final subject, even though it does not control Verb Agreement. In general, only working subjects (final terms which are subjects at some level) can control Reflexivization.

References


The Past and the Future: Are they coming or going?*
Suzanne Fleischman
University of California, Berkeley

1. Introduction. In this paper I would like to explore further an issue raised briefly in Fleischman 1982 in connection with the development of go-futures in Romance. It has been observed that in many languages the basic verbs of motion come and go have given rise to tense-aspect markers, go in particular being a frequent source of future-prospectives. Futures have also evolved from the come verb, though apparently fewer, while past-retrospectives have evolved from both come and go, though neither is well represented.

These diachronic developments raise a number of related questions. First, and most basic, what is there in the semantics of come and go that makes these verbs prime candidates for extension into the temporal system? Second, does the come-go opposition tend to operate symmetrically in temporal systems, and if not (as the above statements concerning relative frequency imply), how do we explain the asymmetry? Third, assuming that these spatio-temporal correlations are not arbitrary, how do we account for the predominant association of go with Future? Finally, does the answer to this last question (assuming we find one) involve postulating a (symmetrical or asymmetrical) homology of the type go:Future::come:Past?

It must be acknowledged that the problem of come and go is not being addressed for the first time here (cf. Givon 1973, H. Clark 1973, Fillmore 1975, Traugott 1975, 1978); however it has not generally been broken down into the same component issues nor looked at from the same perspective or with the same goals in mind. And while it is not expected, given the complexity of these issues, that the "solutions" proposed here will close discussion of the matter in any definitive sense, it is hoped that some relevant new light will be shed on the issues through the particular combination of investigative parameters we will be using to explore them.

2. The spatial metaphor for time. One of the most widely accepted tenets of the 'localist hypothesis' is the notion that spatial terms often function as structural templates for the expression of temporal relations (cf. Cassirer 1953, Anderson 1973, Lakoff & Johnson 1980). Cassirer (216f.) goes so far as to say that the languages of primitive peoples have no means other than spatial terms to express the temporal idea. While I will not pursue further Cassirer's implication of differences between the linguistic means of "civilized" and "primitive" cultures for encoding temporal relationships -- differences which, moreover, the data on come and go do not bear out--, I will nonetheless assume in this paper the validity of the basic hypothesis that certain domains of the temporal system are predominantly locative in underlying structure.

3. 'Come' and 'go' as tense-aspect markers. In the ordering of events in a discourse, either with respect to the moment of speech (tense) or to each other (sequencing), the motion verbs come and go are frequently pressed into service to express the relationships 'earlier than' and 'later than' or, if these events are anchored to a deictic center, Past and Future.
3.1 Go-futures. Givón (1973:918) observes that go seems to give rise primarily to a variety of futures and prospectives. This has occurred in English, most of Western Romance (Portuguese, Spanish, Catalan, Gascon, Occitan, French), Hebrew, varieties of Arabic, Coptic, possibly Sanskrit, Cuna, Central Sierra Miwok, a large number of African languages (Hausa, Bassa, Igbo, Zulu and Tonga (see n.24), Kishamba, and possibly Swahili), and no doubt elsewhere as well. A few examples:

(1) Eng. I'm going to take care of it tomorrow
(2) Ptg. Vou ver se posso ajudá-la 'I'll see if I can help her'
(3) Sp. Te lo prometo, voy a llamar mañana 'I promise you, I'll call tomorrow'
(4) Cat. Ara anem a veure el segon acte 'now we're going to see the second act' (Badía 1962:1:394n.)
(5) Oc (Provençal): Vau escriure a mi colegas. Saber de què fan 'I'm going to write to my colleagues, find out what they're doing' (Schlieben-Lange 1971:172)
(6) Fr. Il va rentrar dans la quinzaine 'He'll be back within two weeks'
(7) Heb. ani holex laasot et ze maxar 'I'll do it tomorrow (Givón 1973:918)
(8) Palest. Ar. ana ha jib-lik babur 'I'll give you a train' (ibid.)
(9) Cuna: an-takke-nae 'I'm going to see' (Holmer 1946:195)
(10) Igbo: o gâ èrí n'èrí 'he's going to eat' (Welmers 1973:405)
(11) Kishamba: sisi na-ku-enda ku-onaye 'we will see him' (Givón 1973:918)
(12) Krio: wi go tray for pu's di trak 'we'll try to push the truck'
(13) Mauritian creole: to a va malad si to maz sa 'you're going to be sick if you eat that' (Corne 1973:47).

3.2 Come-pasts. If go is mainly a source of futures, come, Givón maintains, seems to give rise chiefly to pasts. As evidence he cites the French recent past construction with venir and the Swahili negative past with ja (which also periphrastically marks future, cf. n.3):

(14) Il vient de partir 'he (has) just left'
(15) ha-wa-ja-enda 'they did not go'

3.3 Givón explains this apparent predilection of Future for go and Past for come as a logical consequence of the semantic presuppositions of the two verbs as verbs of spatial motion: come involves motion toward the speaker's place, go motion away from it. (It will be shown below (§8) that this formulation requires further nuancing.) Translating this presuppositional schema from motion-in-space into progress-in-time, Givón sees Past time as moving toward the speaker's time, while the Future moves away from it. The following diagram represents a composite of Givón's diagrams (918) of these relationships:

```
  come  
    ->
  past       speaker's place ['here']
    
  speaker's time ['now']  
    
  future
```
This representation, however, is but one of two alternative, and seemingly equally valid, models for conceptualizing man's relationship to the physical world or to time. These are conventionally referred to as MOVING-EGO and MOVING-WORLD or MOVING-TIME (cf. Benveniste 1965, H. Clark 1973, Fillmore 1975, Traugott 1975, 1978).7

4. Moving-ego vs. moving-world. Clark (1973:35) defines these two representational models with respect to the 'canonical encounter,' i.e. man's face-to-face interaction with other humans or frontal confrontation with objects in his field of vision. From this perspective either (a) man is seen as standing still and objects/people come into and depart from his field of vision (MOVING-WORLD), or else (b) objects in the world are seen as stationary and man approaches them (MOVING-EGO).

To translate these models for spatial relationships into models for temporal relations we will invoke the common metaphor of time as a highway consisting of a succession of discrete events (H. Clark 1973). According to the moving-time model man's position remains fixed while the highway of time moves past him from front to back (cf. n.9), the impression one has looking out the window of a moving train. At any given moment FUTURE events are coming events, while PAST events have gone by. As the highway moves, that portion of time that has already gone by is leading, i.e. ahead, while that portion of time that has yet to come follows behind. According to the moving-ego model man travels along the highway. He comes from the PAST and goes toward the FUTURE. Events he has experienced lie behind him, while those he has yet to experience lie ahead of him (cf. H. Clark 1973:50, Fillmore 1975:29).

Givón's analysis of come and go (in 16 above) appears to illustrate the moving-ego model.8 An analogous interpretation of these verbs from the perspective of moving-time is given in the following diagram:

\[
\begin{array}{c}
\text{come} \\
\text{future} \\
\end{array} \quad \leftrightarrow \quad \begin{array}{c}
\text{go} \\
\text{past} \\
\end{array} \quad \begin{array}{c}
\text{'here'} \\
\text{now'} \\
\end{array}
\]

Notice that both (16) and (17) preserve the presuppositional schema of come and go provisionally formulated in 3.3. But they reverse the spatio-temporal correlations, including the distribution of come and go, as summarized in the table in (18) below. (S marks the locus of the speaker at time 'now', the short arrows the direction of his "positive" space (cf. H Clark 1973), i.e. his front.)

\[
\begin{array}{c|c}
\text{PAST} & \text{FUTURE} \\
\text{come} & \text{go} \\
\text{behind} & \text{ahead} \\
\text{back} & \text{front} \\
\text{after(?)} & \text{before(?)} \\
\text{following} & \text{preceding} \\
\text{ablative} & \text{allative} \\
\end{array}
\]

\[
\begin{array}{c|c}
\text{PAST} & \text{FUTURE} \\
\text{go} & \text{come} \\
\text{ahead} & \text{behind} \\
\text{front} & \text{back} \\
\text{before} & \text{after} \\
\text{preceding} & \text{following} \\
\text{ablative} & \text{allative} \\
\end{array}
\]
5. Moving-time. The data in (1)-(15) all illustrate a moving-ego perspective. On the other hand, moving-time underlies the Vietnamese expressions 'the week ahead' for 'last week' and 'the week behind' for 'next week' (Fillmore 1975:49). Traugott (1974:292) observes similarly a predominance of moving-time (future=behind, past=ahead) in pidgins and creoles. With respect to come and go, the following examples (a small sample of possibilities) all reflect moving-time:

(19) Eng. in the days to come, in days gone by(bygone days, many years ago; Fr. l'avenir, Sp. el porvenir 'the future', Ger. Vergangenheit 'the past'; Ptg. o que la vai la vai 'what's done is done',

It is clear that languages are not restricted to the use of one model or the other. A given language can use both, even for related expressions:

(20a) Moving-ego: Fr. dorénavant, Sp. de aquí en adelante 'henceforth' (lit. 'from now/here to ahead') (Future = ahead)
(20b) Moving-time: Fr. dans les temps à venir, Sp. en los tiempos venideros 'in time to come' (Future = behind)

or indeed split the perspective of a single sentence, as in:

(21) I am going to do it come Friday (Traugott 1978:383)

The speaker in (21) is seen as moving toward the future, while Friday, being later than the moment of speech, is seen as moving toward the speaker. A number of tense-aspect markers from come and go exemplify moving time:

5.1 Come-futures. Prospective constructions with come are reported for Sicilian, dialects of Rheto-Romance, Swedish — the possible source of come-futures in Finnish and Kamasin Samoyed (Tauli 1966:81, cited in Traugott 1978), and a range of African languages including Ewe (see n.5), Bassa, Swahili, Zulu and Tonga (see n.24), Akan, Bemba, Efik, Kpelle, Wàpà, LuGanda, etc. (see also n.17). Selected examples:

(22) Rheto-Rom. vegn(el) fa/ven far 'he will do'
(23) Swed. Jag lovar dig att du kommer att få se filmen 'I promise that you will see the film' (Platzack 1978:478)
(24) Finn. Minä tulen tekemään sen 'I will do it' (R. Anttila, cited in Givön 1973:918)
(25) Akan: ṭebeďdí (bë < bë 'come') 'he's going to eat'
(26) Kpelle: (kà)a pà̂i kë̃ (pà̂ 'come') 'he's going to do it'
(27) Wàpà: ku ri bi ya 'he's going to go'
(28) Efik: ṭeďdèp mòbrò 'I'm going to buy bananas' (contrastive future probably < -dí- 'come')
(29) LuGanda: aǜjá kükëndà 'he's going to go (sometime)' (indefinite future < jjá 'come')


Comments in various grammars suggest that come-futures originate in progressive, inchoative, even resultative expressions ('start to be', 'get to be', 'come to be') or in sequencing devices for expressing posteriority ('then', 'later') (Traugott 1978:378).

5.2 Go-pasts. The Gallo-Romance and Catalan region offers the best documented case of a go-past. Once widely attested in French (14th...
17th cc.), Occitan, Gascon, and Catalan, go + infin. with past meaning has survived with any vitality only in Catalan, the Oc dialect of Guardia Piemontese (Calabria), and sporadically in the Béarn and Languedoc. Examples:

(30) Cat. me'ls vaig trobar discuint accoloradament 'I found them arguing heatedly' (Badía 1962:II:182)
(31) Guardia: a lu ve vejre 's)he saw him' (Berchem 1973:37)

Elsewhere in this area the construction has developed with a future meaning (see 3.1). Less clear-cut examples of go-pasts are reported for Swahili (see n.3 re kwenda) and Cuna, which exhibits a narrative past with -na (probably < na(a) 'go') + present stem:

(32) takke-na 'he saw (as he went)' (Holmer 1946:192). 
Holmer hypothesizes an original meaning 'went about (doing something).

A not entirely dissimilar explanation is proposed for the Romance go-past, whose function has been compared to that of an historical present. The presence of the auxiliary go may in effect allow for even greater foregrounding of the meaning of the main verb, as in:

(33) ...so I gave it to him. He takes it, and then he goes and SMASHES it to pieces!

It seems clear that a past meaning for the go-construction must have arisen from what was originally a discourse strategy for setting off events within a past-time narrative.

6. At this point in the discussion it will be useful to draw up a balance sheet of our findings. First, it appears that futures far outnumber pasts in selecting a deictic verb of motion, whether come or go. Across language families go seems to be the predominant future strategy, though in African languages our (admittedly limited) sample shows the two verbs to be approximately equal. Our data on pasts are insufficient to indicate a clear preference for one verb over the other. But it is evident that the two equations of the moving-ego homology (go=future, come=past) are not equally weighted. The remainder of our discussion will be an attempt to account for the asymmetry of the homology. Specifically, we will look at come and go from the standpoint of acquisition, markedness, semantic presuppositions, and case relationships, with a view toward elucidating the apparent predominance of go-futures.

7. Acquisition. According to a commonly held view, the relative primacy of concepts or grammatical categories tends to be reflected in the order in which children acquire them, i.e. the earlier something is learned the more basic it is. Clark & Garnica (1974) found that young children grasp the meaning of come earlier than that of go, as they had predicted according to the 'polarity principle': the "positive" term of an opposition --in this case come -- (not to be confused with markedness, discussed in §8, though the values often coincide) will be acquired first. But on the basis of markedness it is expected that go, the unmarked member of the pair (see below), will be learned first. This prediction is borne out by the findings in Tanz 1980 as well as in parallel research on the acquisition of deictic verbs in early child language (cf. Macrae 1976, Richards 1976,

Given that these two hypotheses concerning order of acquisition, positive precedes negative and unmarked precedes marked (both put forth by H. Clark and E. Clark, and usually compatible), make conflicting predictions with respect to come and go—as appears to be the case with deictic verbs in general (Tanz, 125)—, and furthermore, that the findings of experimental studies are similarly discrepant, it would be risky to draw inferences concerning the relative complexity of come vs. go on the basis of the available acquisition data. For the record, go occurs more often than come in adult speech (Jones & Wepman 1966, cited by Tanz), where frequency is presumably a function of contextual restrictions rather than semantic complexity. This suggests that we look once again, more closely, at the factor of markedness.

8. Markedness and the presuppositions of 'come' and 'go'. The two parameters of speaker-addressee deixis (ego vs. non-ego) and direction of movement (defined in terms of source and goal) intersect to create a situation of asymmetry with respect to come and go. Leaving out of consideration idiomatic usage, come is typically goal-oriented, with the deictic center (the speaker's locus, broadly construed, cf. Fillmore 1972, 1975) serving as goal. Go is either source-oriented or neutral with respect to direction of movement and person deixis. These three situations are illustrated in (34)-(36):

(34) He came to campus late today (Goal)
(35) He went to campus late today (Source)
(36) He went from door to door selling encyclopedias (Neutral)

While come presupposes a speaker-oriented goal, go presupposes neither a specified goal nor a specified source, but simply movement away from a deictic center, which may, but need not be associated with the speaker (cf. Fillmore 1975, Chevalier 1978). Go is therefore considered to be the unmarked term of the pair (cf. also E. Clark 1974, Tanz 1980).

9. Ablative and Allative. According to the moving-ego model man comes from the PAST, which is the source or ABLATIVE relationship, and goes toward the FUTURE, which functions as goal or ALLATIVE (Anderson 1973:126, Comrie 1976:106, Coseriu 1976:124, Traugott 1978:176). Thus come as a recent past in French combines with the ablative preposition de, while go-futures in English, Spanish, and Hebrew take the allative preposition 'to' (see the relevant exx. in 3.1). While I am unaware of any universal claims concerning the markedness or polarity of these two case relationships, empirical observation reveals an allative bias. In principle any movement involves a source, a path, and a goal, any one of which could serve as the focus of an utterance. But in practice people tend to talk about goals much more than about sources. From a moving-ego perspective this would perhaps account for the higher frequency of go observed in adult speech. (On the allative bias in early child language, see n.20.)
10. We are now, I believe, in a better position to attempt answers to the remaining questions posed in §1. (The first of these has been dealt with in §4 above.) In §8 it was shown that come and go are not symmetrical as spatial terms. As Traugott (1978:377) points out, this asymmetry is mirrored in tense systems that mobilize these verbs: in such asymmetric systems it is typically the future rather than the past that selects the deictic verb. The data presented here indeed bear this out. Traugott however offers no explanation for why this is so.

Referring to the diagrams in (18), we observe that according to both models the speaker is facing toward the Future, i.e. Future corresponds in both cases to the speaker's positive field. It is therefore perhaps more likely than past to attract the deictic verb. As for why futures tend to select go more often than come, several interrelated factors suggest themselves: First, go, being the unmarked term of the pair, is less subject to contextual restrictions and hence more flexible grammatically. Second, if we apply the polarity principle to case relationships, then according to either model allative comes out positive (man goes toward the future, while future events come toward him). And if it is the case that moving-ego provides the more natural model for encoding tense relationships, then this combination of factors would favor go --the allative term of the moving-ego model (cf. 18a)-- as the preferred deictic verb for futures.

Intuitively moving-ego appears to be the more natural model for tense relationships, which are by definition ego/speaker-oriented, though not necessarily for other temporal relationships (cf. Traugott 1978). The validity of this hypothesis would of course have to be demonstrated on a sounder methodological basis than intuition. According to moving-ego we would also expect pasts to attract come more often than go; however our present data on pasts formed with the deictic verbs is insufficient to confirm or invalidate this prediction. A number of issues thus remain to be explored before settling the matter of whether the tenses are coming or going.

Notes

1 Temporal reference is generally accomplished through a number of grammatical strategies, including tense, which is deictic, aspect, sequencing (ordering of events with respect to each other), and time adverbials. While come and go may play a role in each of these domains, the distribution of the two verbs with respect to Past and Future (or earlier and later, cf. n.9 below) is not the same in all cases (see Traugott 1978). The present inquiry will focus specifically on come and go in the development of tenses. However it should be noted that the forms at issue are likely to have evolved to tenses via an intermediate aspectual stage (see Fleischman forthcoming).

2 In Occitan (including Gascon) anar + infin. still functions as both a past and a future, a situation once characteristic of a much wider area (see n.15), although most dialects have resolved the ambiguity in one direction or the other. Schlieben-Lange (1971) observes an overall preference for the future meaning.
Traugott (1978:377n) reports conflicting analyses of Swahili-
enda 'go': Madan (1903) regards it as a future (beside ja 'come')
and Ashton (1947:274) a continuative, while for Welmers (1973:415)
kwenda + infin. or base expresses recent past. Such discrepancies
in interpretation may not be as surprising as they seem. In the
early Romance texts, particularly those known to have been 'performed
stories'--a form of discourse in which tense-switching (past-present)
and the historical present abound (cf. Wolfson 1979, Schiffrin
1981)-- it is often difficult to decide whether go + infin. should
be read as a past or a future (cf. Berchem 1973, Champion 1978 for
examples).

The Catalan futurate go-construction (vaig a + infin.) is viewed
by purists as a (substandard) Castilianism which has succeeded in be-
coming generalized in speech (cf. Badia 1962:1:394). Less prescrip-
tive investigators (Berchem 1973) see it as an indigenous phenomenon,
with a introduced at a later date (conceivably but not necessarily
on the model of Cast. ir a) to distinguish the construction from the
go-past (vaig + infin.). In normal speech, however, a tends to be
obliterated, leaving context to disambiguate the time-value of the
clause. The question of whether past or future was the earlier meaning
finds no consensus (see Berchem, 10ff.).

The (a)va prospective particle of French creoles (< Fr. va 'go')
has been secondarily linked by some to Ewe (a)va, a future marker re-
lecting the Bantu root bia- meaning not 'go' but 'come' (Faine 1937).

See Fillmore 1972, 1975 for a more detailed set of appropriateness
conditions for use of come and go in English. Not all of these
however apply across languages (for a comparative analysis of such
conditions in French and Spanish, see Chevalier 1978). In certain
languages (not French or English) come is only appropriate for motion
toward the locus of the speaker. Thus in Spanish (also Japanese) the
reply to "Come here" is not "I'm coming" but "I'm going" (Sp. va voy),
while French allows either possibility (je viens 'I come' or j'y vais,
lit. 'I go there'). Notice that Spanish, like English, does not re-
quire specification of the goal for go (see §8 below), whereas French
does.

Note that Fillmore's moving-world = our moving-ego, both contrast-
ing with moving-time.

To be precise, it blends the two by speaking of time as the mo-
ible parameter, but within a moving-ego model, i.e. where come=past,
go= future.

In the movement metaphor for time the front-back axis is set one
way or the other depending on whether man is taken as stable, with
time passing him by, or whether the 'highway' of time is taken as per-
manent as man travels along it. For the purpose of graphic represen-
tation this front-back axis has been replaced by directional arrows
going from left to right for moving-ego and from right to left for
moving-time. Man, however, being a "fronted object," always faces to
the right, i.e. toward the Future, as indicated in the diagram. In
his encounter with time, then, time always goes past man from front
to back (here left to right), whichever parameter is taken to be the mobile one. This "common entailment" leads Lakoff & Johnson (1980:44) to view the two models, moving-time and moving-ego, as simply "sub-cases of the same metaphor." Rather than reveal similarities, however, this conflation serves only to mask certain fundamental differences.

10. Traugott (1975:218) replaces past and future with earlier and later (or +prior and -prior in Traugott 1978) in order to account not only for situations in which reference is directly to the here-and-now of the speaker, but also for situations (supposedly the majority of moving-time expressions) in which reference is to events ordered serially. While granting the usefulness of this decision, in the interest of clarity we shall retain past and future inasmuch as the focus of our discussion is the development of (deictic) tense-aspect markers.

11. Since the originally spatial terms before and after have now come to be used almost exclusively with temporal meaning, they seem to jar with the basic correlations of the moving-ego model in a way that terms which are still spatial do not. Yet various Celtic languages (Irish, Welsh, Scots Gaelic) see no obstacle in forming perfects with after: 'I am after writing' = 'I have written' (Comrie 1976).

12. The salience of go as a future-prospective marker in creoles (cf. exx. 12, 13) runs counter to this view.

13. Certain of these are erroneously given the reverse interpretation in Fleischman 1982:79.

14. He adds that come-futures are distinguished from futures formed with skola 'have to' by a feature of 'present relevance.' See Fleischman forthcoming for a parallel interpretation of go-futures.

15. Among many discussions of the go-past in Romance see Gougenheim 1929, Marquèze-Pouey 1955, Schlieben-Lange 1971, Berchem 1973 (additional references in Fleischman 1982:178). The past meaning is supposedly attested earlier in Occitan than in Catalan (Berchem, 18f.). However many of the Occitan examples cited are temporally ambiguous (cf. n.3), if not still spatial. The question of chronological priority is further skewed insofar as the earliest Occitan texts predate those in Catalan by over a century. Colòn and Berchem see a past meaning already in the oldest Catalan documents (late 13th-early 14th cc.), with grammaticalization by the end of the 14th c.

16. Cf. Colòn 1961:163: "Puisque la périphrase va + infinitif s'emploie pour actualiser l'action et la rapprocher de nous, il est parfaitement compréhensible qu'on recouvre très souvent au présent historique dont la mission est aussi de présenter le récit et lui infuser plus de vivacité. Les deux procédés, la périphrase et le présent historique, se compètrent et unissent leurs forces."

17. Particularly in Niger-Congo come is acknowledged to be more widespread than go as a future auxiliary (Welmers 1973:354). To the Niger-Congo data in §5.1, add the following future markers from come: Bute, Nupe, and W.Dagari ba, Ndogo bva (Greenberg 1955:19).

18. The overall asymmetry of Past and Future (or retrospective and

19. According to one formulation of the 'polarity' principle, anything coming into view of, or moving toward the ego (or toward 'now') is "positive"; movement away from the ego, or an object not in (frontal) view is "negative" (Fillmore 1972, H. Clark 1973, Clark & Garnica 1974; cf. also n.25 below). Thus according to the presuppositions of come and go, come is positive and go negative.

20. Passing comments in the literature on acquisition of deictics suggest that the discrepant results may in large measure reflect difficulties and differences in experimental design. Richards (1976), for example, observed that children performed better on both come and go in production tests than in comprehension tests. Wales (1979: 259f.) argues similarly that the relative priority of come and go is task dependant, though he detects an overall allative bias in young children's speech: "That which moves has direction towards." In Freeman, Sinha & Stedmon (1981) this allative bias is shown to be sensitive to contextual modification, but in only one out of six tests was it effectively neutralized.

21. Throughout our discussion ego is synonymous with speaker. E. Clark (1974) views speaker-addressee deixis as well as various other forms of deixis as extensions of the basic ego/non-ego contrast.

22. Discussed in E. Clark 1974. In brief, come is never used to express departure from, nor go entry into, a "normal state," which is associated with the deictic center.

23. For additional examples of (recent) pasts involving the ablative relationship and of futures involving allative, see Anderson 1973: 28f., 36. The Swedish future with kommer att, albeit a come-future, takes the allative preposition 'to.'

24. In certain African languages future-prospectives are developed from both come and go, e.g. Tonga NYA/UYI kusika, lit. 'he goes/comes arrive,' Zulu ugi YA/ZA ku tanda, lit. 'I go/come to love' (cited in Anderson 1973:37). Symmetrical systems such as French with a go-future and a come-past are the exception rather than the rule.

25. In invoking the polarity principle one must tread with caution. As Tanz points out (158f.), a variety of conceptual relationships are involved; moreover, the polarities may be defined on the basis of different, incompatible, even mutually exclusive criteria. As used here (following H. Clark 1973), polarity is defined solely with respect to the speaker's field of vision: positive = within the field of vision, i.e. in front, negative = not within the field of vision, i.e. behind.

*The present discussion represents an elaboration and a modification of a position argued in Fleischman 1982 in a section (4.3) bearing a title similar to that of this paper. The research was funded by a grant from the John Simon Guggenheim Foundation.


Semantic Perspicuity and The Locative Hypothesis

James Paul Gee
Hampshire College

Judy Anne Kegl
Northeastern University & M.I.T.

The "locative hypothesis" is one of the longest standing hypotheses in linguistics: it states that spatial expressions are more basic, grammatically and semantically, than various kinds of non-spatial expressions. They are more basic in the sense that they serve as "structural templates" for the construction of other grammatical systems and semantic structures (Lyons (1977), Anderson (1972), Traugott (1974, 1975, 1977, 1978), Gruber (1965), Jackendoff (1972, 1978)). Such grammatical systems as tense and aspect, as well as various grammatical and semantic cases, and such semantic domains as possession, state, quality/property, existence, quantification and modality have been shown, in language after language, to be founded on the basic notions of location and change of location. In its strongest versions the locative hypothesis constitutes a profound conjecture about the fundamental nature of human language and, by extension, human cognition.

American Sign Language (ASL), a language made in space, turns out to express the locative base of language in a particularly perspicuous manner, as well as the way other grammatical and semantic systems are built upon it. Given the assumption that the lexical resources of all human languages are built up from a locative base, ASL may also have a crucial contribution to make to our understanding of lexical semantics.

In this paper, we will first present a detailed study of the morphological (and morphophonological) structure of the ASL verbal system, and then turn to a discussion of our claim that this morphological structure is particularly "semantically perspicuous."

1. The ASL Lexicon

The lexicon of ASL contains six basic locative/directional verb stems (IN, ON, AT, WARD, TO, FROM) and a set of Word Formation rules (WFRs) which produce more complex derived verbs from these six simple stems. The lexicon also contains, undoubtedly, a number of frozen forms--forms originally derived by these WFRs, but now no longer seen as combinations of simple stems. For these frozen forms, the WFRs now function as redundancy rules, rendering their morphological form and aspects of their meaning predictable, and their occurrence in the lexicon "less costly" than forms altogether unrelated to the WFRs. This is essentially the conception of the lexicon delineated by Jackendoff (1975) and Aronoff (1976). Further expansion of the ASL lexicon occurs by means of a recursive rule of theme incorporation ("theme" in the Jackendoff/Gruber sense) which inserts a nominal element (a classifier, noun, or nominalization, into the verb stem and by a process of metaphorical extension in which the literal meaning associated with locative/directional verb stems is extended to more abstract domains forming semantically extended verb classes.
such as emotion, perception or cognition verbs. It is our con-
tention that locative/directional verb stems form the basis of
the entire verbal, in fact, the entire grammatical system of ASL.

2. Structural and Functional Properties of Stems

Each simple verb stem is intransitive (having one argument
position) and is listed in the lexicon with information as to
where it takes its argument, either on the right or left. Where a
stem takes its argument corresponds to where its agreement marker
(LOC) will show up. (We use the term LOC here because the agree-
ment process in ASL involves location. Nouns, pronouns and agree-
ment markers are co-indexed with each other by articulating them
at or associating them with a shared location in space.) Right
position or left position corresponds to whether the LOC is
realized prior to the physical realization of the verb (left) or
after it (right). Only FROM takes its argument on the left. It
is this property that ultimately allows FROM to serve in one of
the WFRs as a transitivizer. Furthermore, each simple stem serves
a particular semantic function in one of the WFRs. For convenience,
we list below the stems under names for the functions they serve:

<table>
<thead>
<tr>
<th>TERMINATORS</th>
<th>MOVER</th>
<th>ORIENTER</th>
<th>NEGATOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>IN</td>
<td>TO</td>
<td>WARD</td>
<td>FROM</td>
</tr>
<tr>
<td>ON</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WARD</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Terminators entail pure location or terminal perspective on move-
ment. The Mover entails movement or attraction to a goal. The
Negator can be either static or moving. The moving form gives us
the opposite of attraction to a goal, i.e., "repulsion from a
source." The static form gives us the negative of location, i.e.,
"not at." The Orienter has the unique property of turning the LOC
of its verb into an anchor point defining a direction rather than
functioning as a location, source or goal. Note that WARD
occurs twice. Like IN, ON, AT it is a terminator, but it aTso
serves as the static counterpart of TO (pure attraction without
movement) and plays a role fully analogous to TO in one of our
WFRs (concatenation). In addition, it is the central element of
its own WFR--the Orienter Rule. It is the most versatile basic
stem.

3. WFRs Involving Combinations of Stems

There are two processes by which complex derived verbs are
formed--conjoining and concatenating. Conjoining combines two
simple stems in such a way that they share one argument position
(e.g. V+V__). Thus, it creates complex intransitives. Concatena-
ting combines two verbs in such a way that they each contribute
an independent argument position (__V#V__). This process creates
transitive verbs (all transitive verbs, unless frozen forms, are
derived). It is a consequence of our theory that ASL verbs have at most two arguments. This is in fact true. There are, for example, no three argument verbs in ASL comparable to the English verb give. This limitation in argument structure is fully made up for by the theme incorporation process mentioned above.

3.1 Conjoining

The WFRs of ASL are close to being maximally simple. Each WFR contains a quite simple morphological operation and a semantic specification. The semantic specification indicates the function of the rule.

The most basic combinatory process is a process of "conjoining" simple verb stems to create derived intransitives. There are three conjoining rules, all of which have the same structural morphological operation, but which are differentiated by their semantic function. While these rules can be collapsed as one rule, for expository convenience we will treat them separately for the moment. In any complex intransitive of the form \([V+V]\), we call the rightmost \(V\) the "head." All complex intransitives take their argument on the same side (right or left) as the head is specified for in the lexicon (thus, on the left if the head is FROM (\(\_V+FROM\), on the right if it is anything else (e.g. \(V+ON\)). We call this "The Head Argument Determination Principle" (HADP).

The first conjoining rule we will look at is the "Terminator Rule," a rule that creates complex intransitives that entail a specific terminal perspective on movement:

\[
\text{The Terminator Rule}
\]

\[
\frac{\text{V}}{\text{TO, TERMINATOR } \Rightarrow [TO+V]_v}
\]

Semantics: \(V\) is the terminus of the movement TO

Examples:

\[
\text{TO,IN } \Rightarrow [TO+IN]_v \rightarrow [TO+IN] \quad \text{'into'}
\]

\[
\text{TO,ON } \Rightarrow [TO+ON]_v \rightarrow [TO+ON] \quad \text{'onto'}
\]

\[
\text{TO,WARD } \Rightarrow [TO+WARD]_v \rightarrow [TO+WARD] \quad \text{'orient to'}
\]

\[\text{(TR)} \quad \text{(HADP)}\]

Such combinations as \(*[IN+TO]\) and \(*[ON+TO]\) or \(*[IN+ON]\) are ungrammatical because not derivable by the Terminator Rule or any other WFR. (Notice that ASL \([TO+IN]\) and \([TO+ON]\) correspond to English prepositions whose internal ordering is reversed. This is a fairly common correspondence between the two languages.)

A second conjoining rule is the "Negator Rule," which negates some terminal perspective--note that the Negator Rule is, in form, the mirror image of the Terminator Rule:

\[
\text{The Negator Rule}
\]

\[
\frac{\text{V}}{\text{TERMINATOR, FROM } \Rightarrow [V+FROM]_v}
\]
Semantics: The terminus V is negated (ceases to hold)

Examples:
\[
\begin{align*}
\text{IN, FROM} & \rightarrow [\text{IN+FROM}]_V \rightarrow [\text{IN+FROM}] & \text{'go out, be out of'} \\
\text{ON, FROM} & \rightarrow [\text{ON+FROM}]_V \rightarrow [\text{ON+FROM}] & \text{'get off, be off of'} \\
\text{WARD, FROM} & \rightarrow [\text{WARD+FROM}]_V \rightarrow [\text{WARD+FROM}] & \text{'turn away from,' or} \\
& & \text{'be facing away from'}
\end{align*}
\]

In the Negator Rule, FROM may be interpreted as either moving or static. In the static form movement exists in the physical articulation of the sign, but is reduced. In the first case the terminus is negated by moving away from that position; in the second case the moving away is realized to a reduced extent and the focus is on the state of being away from the terminus.

Finally, there is the "Orienter Rule," which orients a particular verb in terms of some direction:

**The Orienter Rule**
\[
\text{WARD, V} \rightarrow [\text{WARD+V}]_V
\]

Semantics: Oriented in the direction of the argument of V

Examples:
\[
\begin{align*}
\text{WARD, TO} & \rightarrow [\text{WARD+TO}]_V \rightarrow [\text{WARD+TO}] & \text{'move toward'} \\
\text{WARD, IN} & \rightarrow [\text{WARD+IN}]_V \rightarrow [\text{WARD+IN}] & \text{'orient inward'} \\
\text{WARD, ON} & \rightarrow [\text{WARD+ON}]_V \rightarrow [\text{WARD+ON}] & \text{'onward,' 'facing toward the surface of'} \\
\text{WARD, FROM} & \rightarrow [\text{WARD+FROM}]_V \rightarrow [\text{WARD+FROM}] & \text{'to move away from or be away from, while orienting toward'}
\end{align*}
\]

WARD is perhaps the most interesting of the ASL simple verbs. Its LOC or the argument of the verb conjoined with it in a complex intransitive is interpreted as a direction. Thus, the LOCs of WARD LOC, [WARD+TO]LOC, LOC [WARD+FROM], and so forth, are not interpreted as sources, goals, or locations per se, but rather as directions. A similar notion is associated with "-ward" in English. Consider the following diagram:
Notice that in English 'I went to X' can be interpreted as either following the path indicated by the solid line or the one indicated by the broken line. Yet the sentence: 'I went toward X' picks out only the path indicated by the broken line. Furthermore, the first sentence implies reaching X, the goal, whereas the second sentence implies only orienting toward X and moving in that direction. Consider the difference between the following two sentences:

You go to New York and get off at exit 12.
You go toward New York and get off at exit 12.

In the first sentence New York functions as a goal whereas in the second New York is simply a reference point used to define a direction.

WARD in ASL, as in English, occurs most frequently with LOCs which are directions (UP, DOWN, LEFT, RIGHT, etc.) or with locations used as directional reference points. Consider the following ward-type words in English:

<table>
<thead>
<tr>
<th>inward</th>
<th>sideward</th>
<th>southward</th>
</tr>
</thead>
<tbody>
<tr>
<td>outward</td>
<td>leeward</td>
<td>windward</td>
</tr>
<tr>
<td>upward</td>
<td>forward</td>
<td>backward</td>
</tr>
<tr>
<td>downward</td>
<td>onward</td>
<td>westward</td>
</tr>
<tr>
<td>rightward</td>
<td>eastward</td>
<td>heavenward</td>
</tr>
<tr>
<td>leftward</td>
<td>northward</td>
<td>hellward</td>
</tr>
<tr>
<td>wayward</td>
<td>homeward</td>
<td>seaward</td>
</tr>
<tr>
<td>toward</td>
<td>skyward</td>
<td>landward</td>
</tr>
</tbody>
</table>

Notice that all of the above words used with -ward establish directions. WARD marks the LOC of the verb it is in for direction. In ASL a verb like WARD LOC would mean to orient in the direction up. [WARD+TO] LOC_i would be to orient and move in the up direction defined by up. WARD LOC_i would be to orient in the direction of whatever is situated at LOC_i, as in the following examples:

[WARD+TO] LOC_i, 'move and orient upward'

[WARD+TO] LOC_i, 'move in John's direction' where i coindexes the LOC with John

Notice in the first example above that UP is associated to LOC rather than to the index (subscript i). Evidence for this comes from nominalizations and agreement neutralizations where the index is deleted. In these cases UP would remain marked on the neutralized form of the first example, but association with
'John's direction' would be lost in the second. Furthermore, subscript i could be associated with John in the first example yielding an interpretation: 'moving and orienting upward in John's direction.' Therefore, directionalts like UP, DOWN, etc. are to be seen as further specifications on the LOC itself.

Before moving on to a discussion of the interaction of the three conjoining rules, notice how both the Negator Rule and the Orienter Rule produce the output [WARD+FROM], but with different phonetic forms and different meanings. This distinction occurs as the result of the two different functional properties of WARD. In one case (Negator Rule), WARD functions as a Terminator and the physical form of the verb consists of a pivot away from orientation toward the LOC--i.e., negation of orientation. In the second case (Orienter Rule), WARD functions as an Orienter, adding orientation to the LOC of FROM without changing the movement of the verb. Furthermore, we also have the source/direction distinction mentioned earlier.

The three conjoining rules could hardly be simpler. However, they can feed each other to create more complex combinations. Nonetheless, the feeding relations among the rules are quite constrained. Let us say that a complex intransitive [V+V]V has the same functional properties as its head. Thus, if the head is a Terminator, then [V+V]V is also; if the head is the Negator FROM, then the complex verb counts as FROM for the Negator Rule also; and if the head is TO, then the complex verb counts as TO for the Terminator Rule.

It should also be pointed out that the Orienter Rule is strictly limited to conjoining simple stems. The Orienter Rule applies at an earlier level in the lexicon than the other conjoining rules. Therefore it has as its input only simple stems, yet provides complex stems to the input of rules at later levels. The Orienter Rule seems to add a specification to its following V rather than combine two stems to conflate two more distinct locative or directional notions as do the later rules--the Terminator Rule and the Negator Rule. For both semantic and phonetic reasons the three conjoining rules appear to be divided between two levels: level 1 - Orienter Rule, level 2 - Terminator and Negator Rule. No rule is able to feed itself ([WARD+[WARD+ON], (OR), *[TO+[TO+ON]](TR), *[ON+[ON+FROM]](NR)) and, furthermore no two rules occurring on the same level may feed each other (e.g., the output of the Negator Rule cannot feed the Terminator Rule and vice versa--*[TO+ON]+FROM][TR,NR], and *(NR,TR) because NR destroys the structural description for TR). We can account for all of this by putting a constraint on feeding as follows:

Feeding Constraint (FC)

The output of a morphological rule may not serve as the input for any morphological rule at the same level.

There is another possibility and that is to recognize the two levels within the lexicon which determine the ordering of the
Orienter Rule, but then to allow the rules to freely feed themselves and each other subject to an output filter which would throw out all complex verbs which had more than one element from a single functional category. TO and FROM, although opposites of one another would have to be seen as sharing a single category (i.e., Movers) or be excluded as opposites. The filter can be stated as follows:

Conjoining Output Filter (COF)
Only one element from each functional category (Orienter, Terminator, Mover, Negator) can appear in a complex intransitive verb. TO and FROM, being opposites cannot occur in any complex intransitive. (Note that these two principles have a consequence that complex intransitive verbs are limited to at most three simple verb stems.)

Whatever means we choose to reduce the output of the conjoining rules, in conjunction with the limitation of the Orienter Rule to simple stems, will prevent interaction of the Terminator Rule (including TO) and the Negator Rule (including FROM) and will allow only the following ordering: OR may feed either NR or TR.

Examples of Interactions between TR, NR and OR

WARD,ON  \[\text{WARD+ON}_V\] \[\text{TO+[WARD+ON]}_V\]
(OR)(TERMINATOR)(TR) 'move to the state of orienting to the surface of'

WARD,TO  \[\text{WARD+TO}_V\] \[\text{[[WARD+TO]+IN]}_V\]
(OR) (TO-type verb)(TR) 'orient to and move to the inside'

WARD,IN  \[\text{WARD+IN}_V\] \[\text{[[WARD+IN]+FROM]}\]
(OR) (TERMINATOR)(NR) 'turn from or be away from orienting to the inside of'

ASL can get only a finite number of intransitives from the conjoining process (its true recursiveness occurs in the incorporating process). It is only an expository convenience to treat the process as three separate rules. We have in reality only a single process creating complex intransitives. These complex intransitives are interpreted by three separate semantic specifications. If no semantic interpretation can be given to a particular pair, the whole string is out because uninterpretable.

The Conjoining Rule

V,V  \[\text{V+V}_V\]

Semantics: For any \[\text{V+V}_V\], where V may itself be complex, interpret any pair of verbs \[\text{V}_1+\text{V}_2\] in \[\text{V+V}_V\] by one of the following semantic specifications (all such pairs must receive an interpretation):
3.2 Concatenating

A second WFR in the lexicon of ASL, a process which we call "concatenating," forms transitive verbs from intransitives. The concatenation rule applies not to verb stems, but to verbs, simple or complex, plus their agreement slots. Each intransitive verb contributes its own agreement slot. The rule has the following form:

\[ [X+FROM], \{ TO \}_{WARD} +X \] \[ \Rightarrow [[X+FROM]#[ TO \}_{WARD} +X]] \]

Note: We use the symbol "#" to distinguish verbs formed by concatenation from those formed by conjoining ("+"). We chose "#" since concatenation appears to combine independent lexical items (analogous to compounding).

Clearly, concatenating is to be seen as occurring at a level of the lexicon separate from and following the conjoining rules, since it uses their output but never serves as input to a conjoining rule.

Examples of verbs formed by concatenation:

a. \( LOC_i[FROM#TO] LOC_j \)

b. \( LOC_i[FROM#WARD] LOC_j \)

c. \( LOC_i[[ON+FROM]#[TO+IN]] LOC_j \)

d. \( LOC_i[[WARD+TO]] LOC_j \)

e. \( LOC_i[[WARD+FROM]#[TO+[WARD+ON]]] LOC_j \)

(e.g. (e) would correspond to a verb like "to go from looking toward a picture to looking on the table")

The semantic specification of the concatenation rule would be stated as a combination of the semantics of the FROM verb and the [TO+X] verb, in the following form: first, the state of affairs
of the FROM verb obtains, then the state of affairs of the [TO (or WARD) + X] verb obtains, with a connected transition between them (which they must have phono-tetically also, i.e. they form one event, phono-tically and semantically). It seems as if the FROM which combines with WARD is interpreted as static, which hopefully would be a result of the specifications of the complex meanings of concatenations. Note that transitives are simply combinations of two verbs, whose first argument, contributed by a FROM verb, and thus on the left, is an anti-goal or source and whose second argument, contributed by some verb containing TO (or WARD), and thus on the right, is a goal or a terminal perspective on movement to a goal (or orientational/directional interpretation of a location or goal).

There is some interesting evidence that transitive verbs are indeed made up in ASL of FROM followed by TO, and are not morphologically unitary simple forms (e.g. GIVE). The evidence comes from verbs with plural agreement as in the distributive plural "give to each of many":

\[
\text{LOC}_i \left[\text{FROM}\#\text{TO}\right] \text{LOC}_j,k,l[\text{distributive}]
\]

"x gives to each of many"

In signing a form like that in the example above, the FROM portion is articulated only once, but the TO portion distributes to three different points in space (the marking for plural agreement). A morphological and phonological analysis following an analysis of the realization of discontinuous morphemes similar to an autosegmental analysis of vowel infixing in consonantal roots done by McCarthy (1981) for Arabic appears in Kegl (1981), Fowler (to appear), and Barss (1981). In these forms it is clear that both aspect and number marking apply to the separate morphemes within a complex transitive verb. This is because the assignment of locative agreement markers precedes the concatenation rule. Consider the following schema illustrating the distributive plural form of the verb meaning "give":

"to give to each of many"
Phonetic evidence of the lack of participation of FROM in the plural agreement for Goal in [FROM#TO] comes from studies of point light displays used to study movement in morphologically complex signs (Poizner, Bellugi and Lutes-Driscoll (to appear), Bellman, Poizner, and Bellugi (to appear), Poizner (to appear) and Poizner, Newkirk and Bellugi (1980)), studies using electrogoniometers (elgons) to study pronation and supination of the hand and wrist (Battison, Green and Stungis (1979), studies using accelerometers as well as simple observation and videotape analysis (research in progress, Northeastern Univ.). These data show that the gestalt pattern for these verb forms appears to be of the following shape:

**Pattern of Movement in Distributive Plural forms of verbs**

Notice the longer movement corresponding to LOC₁ FROM and the short repetitions corresponding to TO LOCᵢ,j,k₁,dist[FROM#TO]. Just the reverse phenomenon occurs when there is plural agreement on the Source:

"each of many give to x"

\[
\begin{array}{ccc}
\text{i} & \text{LOC₁,j,k₁,dist[FROM#TO]} & \text{general holding classifier} \\
\text{j} & \text{TO} & \\
\text{k} & \text{FROM} & \\
\end{array}
\]

An analysis that treated a transitive verb like "give" as morphologically simple would predict that a form meaning "give to each of many" would have the following form, which it does not:

*"give to each of many" (three separate unitary motions)"

\[
\begin{array}{ccc}
\text{i} & \text{j} & \\
\text{k} & \text{TO} & \\
\text{FROM} & & \\
\end{array}
\]

Thus, we conclude that transitive verbs (not counting their bimorphemic LOCs--LOC + the index) are themselves bimorphemic.

4. **Further Expansions of the Lexicon**

Conjoining and concatenating are processes that create only a finite number of lexical resources. Actually, the ASL lexicon can
be seen as a structurally defined set of verb classes consisting of simple motion and location verbs, and those complex forms derivable by concatenation and conjoining. The classes are internally expanded by a recursive rule of Theme Incorporation—incorporating a simple nominal, or nominalized verb which itself must have an incorporated theme. Furthermore, the classes are proliferated by a systematic metaphorical extension of each of the basic verb classes to handle more abstract domains.

Theme incorporation involves an incorporation into the movement component of a verb, either simple or complex, of a noun, classifier or nominalized verb with its arguments—these arguments have, however, lost their indexes and are therefore not tied to locations in space which would make them coindexed with some noun. This incorporated nominal plays the role of Theme with respect to the verb. The rule is maximally simple. However, since it is recursive, it will allow for an infinite number of lexical items:

The Theme Incorporation Rule

\[
\begin{array}{c}
\ldots V \ldots \\
\triangle
\end{array}
\rightarrow
\begin{array}{c}
\ldots V \ldots \\
\triangle
\{ \text{Classifier} \\
\{ \text{Noun} \\
\text{Nominalized V} \} \}
\end{array}
\]

Semantics: \{ \text{Classifier} \} is the Theme of V.
\{ \text{Noun} \}
\{ \text{Nominalized V} \}

The Theme is realized concurrent with the phonetic realization of the verb. Since the Theme is generally realized as either a hand shape or a projected area of space, whereas the verb is realized as motion or location in space, these two morphemes, though simultaneous can be separately recognized. In Themes which are nominalized there is some internal movement, but again it can be distinguished from the movement of the main verb into which it is incorporated.

Examples of Verbs with Theme Incorporation

a. single embedding

\[
\text{LOC}_i \text{ [FROM#TO] LOC}_j
\]

'S to hit'

\[
\triangle
\text{Classifier}
\text{(round solid object)}
\]
LOC\textsubscript{i} [[WARD+FROM]\#TO] LOC\textsubscript{j}

CONFINEMENT

'b to borrow'

b. multiple embedding

LOC\textsubscript{i} [FROM\#TO] LOC\textsubscript{j}

TO LOC [iterative aspect]

ON LOC

B Classifier (2)
(Flat Surfaces)

(to go from one location; to another location while repeatedly moving to a location while being on the surface of a location realized as some volume of space by means of flat surfaces—in this case the hands)

Most of our examples have, for purposes of clarity, concerned the literal use of locational and directional verbs. However, it is our contention that these locative/directional verb stems form the basis of the entire verbal, in fact the entire grammatical system of ASL. We must address the issue of how more abstract verbs (e.g. emotion, perception, cognition or any other class of verbs) can be derived from the more basic locative system. The means by which this occurs is metaphorical extension, a notion which stands at the heart of arguments in favor of the locative hypothesis.

In ASL for example, thought, sight and sound are represented by the G Classifier (long thin object). They are lines of thought, lines of sight, and lines of sound which project outward from or inward to the body part associated with them. To "look at" something is "to FROM the eyes and orient toward (ward) an object using lines of sight":

LOC\textsubscript{i} [FROM\#WARD] LOC\textsubscript{j}

"look at"

eyes

2 long thin objects
(lines of sight)

To "think" is for "a line of thought to be located at the forehead":

AT LOC\textsubscript{i}

"to think"

forehead

G Classifier
(line of thought)
To "know" is the same verb as above except that it has a plural classifier--many lines of thought.

Interestingly, perception (to perceive sound, sight or thought) involves a vehicle as Theme. This is a metaphorical extension of the same vehicle classifier used to represent vehicles like cars, trucks or trains embedded in a [FROM#TO] verb whose right most LOC, the goal, is associated with the appropriate body part.

These metaphorical extensions become far more complicated. For example, in the same way that one can press a stamp onto the flat surface (of a letter), one can press a thought onto the same classifier, now representing a mental surface (IMPRESS).

And in the same way that one can continually push a rock in order to get it from one place to another, one can continually "push" a person to get them to do something as in the verb ENCOURAGE:

\[
\begin{align*}
\text{LOC}_i \ [\text{FROM#WARD}] \ \text{LOC}_j \\
\text{TO} \ \text{LOC} \\
\text{ON} \ \text{LOC} \\
\text{PBP} \ (\text{space construed with a human body}) \\
\text{B Classifiers} \\
\text{(flat surfaces--hands)}
\end{align*}
\]

"encourage"

(to orient toward someone while pushing their spirit forward in a metaphorical sense)

Compare this example with the verb for "push" given in the examples of Theme Incorporation.

The notion of metaphorical extension of spatial notions within the semantics of natural languages is by no means a new idea. However, because of the isomorphism between ASL's formational (phonetic) component, its morphology and its semantics we have a visually inspectable body of data. This isomorphism in ASL gives us a window onto the semantics of a natural language which affords us insights into the structure of language and meaning previously limited to the realm of speculation.

We argue that ASL is "semantically perspicuous": by this we mean that the morphological representation of ASL (basically also a morphophonological representation, since for our purposes each phoneme is also a morpheme) mediates a virtually isomorphic relationship (one-to-one mapping) between ASL's phonetics (physical realization in space) and its semantics (really an isomorphism between its phonetic and semantic representations). This fact gives us as it were a way to actually inspect the semantic structures of the language by looking at its phonetics and morphophonemics. The basis of the semantic structure of ASL, as is apparent from our
discussion above, turns out to be locative through and through. Assuming that all languages share an important core of lexical semantic representation, the semantic perspicuity of ASL may well throw important light on the nature of lexical semantic representation generally.

As we have seen, the basic structure of the ASL verb is as follows:

\[
(\text{LOC}_j) \triangleright \text{LOC}_i
\]

\[
\text{Theme}
\]

\text{LOC}_i \text{ is composed of two morphemes, LOC and INDEX. Phonetically, LOC}_j \text{ is established by designating (through a pointing gesture) an arbitrary point in space (INDEX) to identify the region around it as a designated place or location, i.e. a LOC. Semantically, LOC refers to locations (e.g. here, there, New York, the center of the field) or entities viewed as occupying or themselves constituting locations (e.g. the boy, Mary). LOC picks up this reference by having its INDEX referentially co-indexed with the INDEX of some NP in the sentence or discourse (this is done by signing the INDEX of LOC}_i \text{ at the same point in space where the INDEX of the NP was previously established). Thus the locative nature of nominals ("arguments") is clearly demonstrated, and referential indexes actually show up phonetically in ASL.}

\text{V in the structure above stands for a small set of locative/directional verbs (or combinations of such verbs) whose phonetics and semantics are a virtual map of each other. TO is phonetically realized by movement to a location (end point), and semantically means movement to a location (goal). Similarly, IN, ON, WARD have phonetic realizations that are isomorphic with their semantic representations. In order to indicate some of the possibilities of formalizing this isomorphism, let us use "F" to designate a force of attraction, a propulsion, or a movement to the location LOC}_i (that is, the location phonetically realized as/semantically designated by LOC}_j, since we want to be neutral as between phonetics and semantics; we might think of F as a force of attraction, propulsion, or movement to the center or INDEX of LOC}_i). Let us use "\text{-F}" to designate some form of resistance to F (a contrary force, an opposed movement). We purposely leave the values of F and \text{-F} vague, so as to abstract away from details of physical relationships in the world, on the one hand, and properties of human movement in the articulation of ASL, on the other. Then TO can be represented by F\text{-F} and FROM as the negative of this, -(F\text{-F}) (if the force attracting an object to LOC}_i \text{ is stronger than any force opposing or resisting F, then the object will move to LOC}_j). We can also take a static perspective on this relationship: F\text{-F}/static perspective. This names a relationship of being WARD LOC}_i, i.e. oriented in the direction of, attracted toward, but not moving to LOC}_i. If we consider the resistance to F to be some surface
(a surface of LOC<sub>i</sub>, so that in this case LOC<sub>i</sub> is taken as 2 or 3 dimensional), then an equilibrium of F and -F (i.e. F = -F) at that surface names the relationship of being ON LOC<sub>i</sub>. If the resistance of the surface of LOC<sub>i</sub> were weaker than F (i.e. F > -F) then the object would (given the laws of physics) move into LOC<sub>i</sub>. If we view this relationship from a static perspective, we get the relationship IN LOC<sub>i</sub> (made in ASL with one hand thrust inside the spatial volume or enclosure realizing LOC<sub>i</sub>). All of these relations can also be negated.

This view of these locative/directional relations yields the following "feature hierarchy," which encapsulates the phonetics and the semantics of these verbs depending upon how we interpret F and -F.

**Feature Hierarchy**

![Diagram of feature hierarchy]

Notice that AT has a special place in the system. AT is simply static location (pure location), and represents a neutralization of WARD, IN, and ON. And note also that AT functions like an identity element in the system: AT+ON, AT+IN=IN, AT+FROM=FROM, AT+WARD=WARD. There are also interesting complications with FROM. Semantically, there is controversy concerning whether the fact that FROM can designate a static or a dynamic relationship (in English for instance) is a matter of ambiguity, vagueness, or neutralization. Interestingly, this same complication appears in the phonetics of FROM in ASL, as we might expect given our claim of a near-isomorphism between ASL's semantics and phonetics. In ASL,
moving FROM is made with a hooked movement away from LOC\textsubscript{i} (as if cancelling that location). Static FROM is made similarly, save that the movement is shorter and the end position is emphasized. It is not yet clear whether these are two verbs or alternations of one. Note, finally, that the whole system in our feature hierarchy is generated, in a sense, from TO by restricting or negating F\rightarrow -F in some way. This does not imply that TO is the unmarked or earliest locative/directional notation (it is not), only that it is the most or prototypical verbal notion (the entrance of TO makes the system a truly verbal system).

We assume that as our morphological rules combine and concatenate various simple verb stems together to form complex verbs, phonetic and semantic rules perform analogous combinations using the sorts of notions encoded in the feature hierarchy above. For example, [TO+IN]LOC\textsubscript{i} would be represented phonetically and semantically by

\[ F\textsubscript{1}(F\textsubscript{2}\rightarrow F\textsubscript{2}/\text{static perspective vis-a-vis the surface of LOC\textsubscript{i}}) \rightarrow -F\textsubscript{1} \]

i.e. "attraction, propulsion, or movement to a state of being inside the surface(s) of LOC\textsubscript{i}." Of course, the details remain to be worked out, and our discussion here is meant merely to be suggestive.

In our grammar of ASL there is only one basic case for a verb argument, namely LOC(ative). The semantic specification of the basic verb stem already specifies any further elaboration of this basic case. The semantic specification of AT specifies that the argument of AT is simple location, while the semantic specifications for IN and ON specify their arguments as "locations" in a more elaborated sense (including surfaces). The semantic specification of TO specifies that its argument is a Goal in the sense that TO represents motion attracted or propelled to LOC\textsubscript{i}. The argument of FROM is still more elaborate. It is the negation (or cancelling) of a location, a non-goal, an anti-goal or, by extension, a Source when in concatenation with TO. The case notions Agent and Theme are also derivative in ASL, though in importantly different ways. Agent is not overtly marked and arises by construing (an interpretive rule) some argument, very often (but not always) the Source LOC (if it rates high on an agency hierarchy) as the Agent. In other cases, a semantically suitable NP not yet holding an argument relation to the verb or some unspecified but implied NP is taken as the Agent. Notice that the Agent is then often a double-order abstraction from a LOC (i.e. a Source LOC) whose own case relation is itself an extension of the simple notion location. Agency is construed in all cases where a plausible Agent can be construed, though Agency construal can be blocked by the use of a special marker consisting of a turning of the head and a quick breaking of eye gaze. Theme involves a process of morphologically incorporating a nominal element into the verb, as well as a set of semantic interpretive rules. ASL literally (phonetically) treats the Theme as "nominal accompaniment of movement or location," extending this notion figuratively to cover a full range of lexical meanings. Accompani-
ment is itself obviously a spatial-locative notion.

Thus, our approach remedies a recurrent redundancy in case theories: if the meaning of the verb already specifies the specific nature of its argument(s), there is no need to specify any "deep" cases but LOC(ative). Even this in fact is not really necessary. Since all our verbs are locative/directional, the notion "argument (of the verb)" is all that need really be specified, all the rest is supplied by the semantic specification of the verb. And so we establish the fundamental equation, for ASL, "argument of verb" = "location (LOC)." In fact, given our earlier remarks on TO (and AT as the identity element), we can say that the basic logical core of the verbal system is [TO+AT]LOC; = "movement to a location". The basis of the language, phonetically and semantically, is location and change of location, i.e. movement, just as the locative hypothesis would lead us to expect.

*The authors are co-equal and simply listed in alphabetical order. Part of the research for this paper was carried out while James Paul Gee was a visiting Research Associate in the Department of Psychology at Northeastern University. The authors would like to gratefully acknowledge that this research was supported in part by a grant from the U. S. Department of Health, Education, and Welfare (NS14923) to the Department of Psychology at Northeastern University. We would also like to thank Ed Klima and the ASL laboratory at the Salk Institute for Biological Studies for feedback in the formative stages of this work; Elizabeth Closs Traugott, whose work helped inspire our approach (though she may regret this); Andy Barss, Kerry Green, and Mark Mandel for helpful discussion and criticism that, whatever its remaining flaws, have much improved this version of the paper; and Emily Dexter, Janie Simmons de Garcia, and Jane Wozniak for being very constructive readers of various drafts of this paper. Finally, we would like to thank the Language and Cognition Group in the Department of Psychology at Northeastern University for their continued support and encouragement. We must concede that the people who helped us aren't responsible for our errors, and probably don't agree with everything we've said.

This paper, which has its roots in work begun by Judy Kegl in 1976, is part of an on-going research project by the authors on the theoretical grammar of ASL. Subsequent papers will discuss Theme Incorporation and construal, Indexing, and a modular approach to the grammar of ASL.

Footnotes

1 There is much question concerning the nature of moving and static FROM. Is FROM to be treated as two separate lexical items or should its moving vs. static quality be considered ambiguous and sensitive to the verb stems with which it combines? FROM and TO are opposites and cannot co-occur in a complex derived intransitive, but the static counterpart does not conflict with the AT-type stems (AT, IN, ON). Furthermore, even when static phonetically,
there is some movement associated with FROM. This supports the non-separate nature of these two forms.

2 For additional sources on verbs of motion and location in ASL see Supalla (1978), Newport and Supalla (1980) and Bernstein (1980). The sources, however, do not extend the locative/directional analysis to the language as a whole. They do contain interesting acquisitional evidence.

Bibliography


HOW TO CAUSE IN MIXTEC

Leanne Hinton

University of California, Berkeley

1.0 Introduction

In recent studies of iconicity in language, attention is being paid to differing degrees of linguistic dependence between semantic units -- that is, is there a predictable semantic difference to be found between items expressed as independent morphemes as opposed to bound morphemes, or morphemes vs. fused items? (By fusion, we mean that the semantic units are represented together in a single morpheme -- as in the word "kill", which can be represented as "cause to die".) Mixtecan languages, spoken in Mexico in the state of Oaxaca, are an excellent set of languages for studying this sort of question, for they have a large set of closely related forms where one version of the form is an independent morpheme and another phonologically related version is an affix. Pike (1944) proposed that Mixtec should be viewed as consisting underlyingly entirely of independent morphemes, with a set of rules of cliticization operating that puts certain words into affix form. This view is probably more representative of the historical facts about Mixtec than of the synchronic facts. Mixtecan appears to have cliticized forms that were originally independent; however, most of these young affixes exist side by side with fully stressed independent forms whose meanings are related, but not identical, to the meanings of the affixes. It is this semantic difference between the full and affixed forms that is most interesting in studies of iconicity. In this paper, I will concentrate on the different forms of the causative.

2.0 The Mixtec Causatives

There are actually four forms of the causative in Mixtec:

(a) There is a fully independent verb, sá?à 2 (to make, cause, fabricate -- a very general predicate of agentive activity). sá?à takes a dependent clause as its object:

1. sá?à hà nà kee
   cause nom. opt. eat (pot.) 3
   "Make him eat."
(b) There is an affixed form s- which precedes verbs (attached directly to the root, as shown in the examples below):

2. a. ndahì to get wet  
b. _sdahì to get someone/something wet  
c. ndé?è to cry  
d. _sdé?è to make someone cry  
e. ndatútú to be in a group  
f. ndastútú to gather

(c) There is an affixed form sá- which prefixes nouns and adjectives:

3. a. ndaa truth  
b. _sândaa to clear up, tell truth  
   (i.e. make truth)  
c. ndoo clean (adj.)  
d. _sândoo to clean (i.e. to make clean, cause to be clean)

(d) In a very few verbs, the causative is actually fused, and other grammatical processes are used to distinguish between the causative and non-causative verbs.

4. a. kuù to die  
   hi?ì he dies  
b. ka?ni to kill  
   hä?nide he kills him  
c. ??skuù (N.C. accepted this as a possible way to say "kill", but said it is better to use ka?ni)

5. a. kundí?u to close (intransitive)  
   pwèrtawá ndí?ù The door is closed.  
b. kasù to close (causative)  
   kasù pwertawá Close the door!  
c. *skundí?u, *sndí?u These forms are unattested and unacceptable to N.C.)

6. a. núña to open (intransitive)  
   pwertá wañ núña. The door opens.  
b. kuña to open (causative)  
   kuña pwertá wañ Open the door!  
c. *snuña, *skuña (unacceptable to N.C.)
2.1 Semantic Differences Between the Forms of the Causative

2.1.1 Differences between sáʔà and the affixes

There is a clear semantic difference between the causative
prefix s and the full verb sáʔà. Observe the difference between
the pairs of sentences in 7, 8 and 9.

7. a. sáʔà hà nà káʔcaʔa Make him dance! (i.e.,
got him up and have him
go out there and dance!)
   cause nom. opt. dance (pot.)
b. skáʔcaʔa Dance him! (e.g., if
   you are riding a horse,
   make him dance by
   manipulating the reins.)

8. a. sáʔà hà nà kee Make him eat; prepare
   things so he may eat.
   cause nom. opt. eat (pot.)
b. skéé Feed him. (implies
   putting food directly
   into his mouth, as when
   you feed a baby.)

9. a. sáʔà hà nà kunu Have him run!
   cause nom. opt. run (pot.)
b. skúνu Run him! (EG run the
   horse you are riding.)

The difference between sáʔà and s- is the same difference
pointed out in causative analysis between two-predicate forms such as
"cause to die" and single-predicate forms such as "kill."
Fodor (1970) pointed out that they might be seen as 2-event con-
structions vs single-event constructions -- thus in "Make him eat"
and "Feed him", the first form can be seen as having two agents:
the causer and the eater, for two events, while the second form
has merely one agent: the feeder -- and a patient: the one being
fed. Thus for "feed" a single event occurs. McCawley extended
this notion of single vs. double events by noting that in the case
of single-event causatives, the patient of the causative does not
function as an agent. By describing these as two-agent vs. single-
agent causatives, he was able to make a formal description of both
types within a generative framework.

Shibatani's approach to the difference was to develop the
concepts of "directive" vs. "manipulative" causation. "Directive"
causation might be seen as telling someone to do something, making
someone do something (where the person doing the caused action is
active); "manipulative" causation involves actually handling the
patient, being in direct contact, forcing the action through
direct manipulation — as in "dancing a horse" as opposed to making someone dance by telling him to.

Both approaches are relevant to the Mixtec causative: Semantically, Shibatani's analysis exactly fits the semantics of Mixtec causatives; and Fodor's and McCawley's double agent vs. single-agent constructions are directly reflected in the form the sa?á vs. s- constructions.

An important grammatical difference between the full verb sa?á and the prefixes s- or sa- is that a sentence containing sa?á will have one subject suffix on sa?á and another on the second verb, while sentences with s- have a single subject.

    past-cause-ls.subj 2s.obj nom. past-eat(act.)-2s.subj

b. ni-s-kee-rí ró?o I fed you.
    past-cause-eat-ls.obj subj 2s.obj

sa- is prefixed onto nouns and adjectives, and thus functions not only as a causative but also as a verbalizer. Semantically, the difference between the sa- prefix and the full form sa?á can be seen to be very similar to that between s- and sa?á. Examples 11 & 12 show this difference.

11. a. ni-sá?á-de hà ní-nduukwá?á-ri He made me get red (blush)
    past-cause-3s.subj nom past-become red-I (masc.)

b. ni-sa-kwá?á-de He made me red. (I.E., he painted me red.)
    past-cause-red-3s.subj (masc.)

12. a. sa?á-ri hà nà ku-čá?á-de bina. I am arranging for him to get dirty today.
    cause-ls.subj nom. opt. future-dirty-3s.subj (masc.) today.

b. sa-čá?á-ri-de bina. I am getting him dirty today. (i.e. I am spreading dirt on him.)
    cause-dirty-ls.obj-3s.obj. (masc.) today.
McCawley's and Shibatani's solutions to the problem of semantic nonidentity between "kill" and "cause to die" allow the two forms to be treated successfully within a generative framework.

In the languages that they and most causative theorists have dealt with, the two kinds of causatives are morphologically unrelated. However, in Mixtec we have an added problem: the forms are clearly related, and must form a derivational set. It is therefore not adequate to say that we have different causatives.

The Mixtecan causative system is a clear example of the tendency being noted by many linguists recently for syntactic form to iconically reflect meaning. It appears that in most languages where causatives can be differentiated, the two-agent or directive causative is lexically independent of the predicate it modifies, and the single-agent or manipulative causative is affixed or fused. As noted by Ross (1981), Lakoff (1980), and Haiman (1980) in separate papers the physical closeness or non-separability of the causative from the lower verb reflects the degree of control the causing agent has over the lower verb and its actor.

2.1.2 Differences between sá- and s-

So far we have treated sá- and s- as variants of the same semantic unit, with the distinction between them merely in their syntactic environment. But why should we get sá- on nouns and adjectives, and s- on verbs?

We might begin by looking at the affixes historically. There is strong evidence that sá?à first shortened to sá-. Some Mixtec dialects retain sá- as the only affixed form. Most dialects of Mixtec have strong canonic restraints against consonant clusters: all syllables are CV. In Chalcatongo Mixtec (and some other dialects), consonant clusters beginning with /s/ are allowed. This fact was probably a precondition for the further shortening of the causative that occurred with verbs. There is no phonological motivation for shortening sá- to s- on the particular lexical items for which the reduction occurred. It is not unreasonable to suggest that the shortening was the result of the particular close overlap of actions illustrated here -- in other words, the historical process of reduction was motivated by a condition of human cognition lately called iconicity. The closer the cognitive distance between two predicates, the more likely it is that the linguistic distance will lessen.

It is possible to argue that in predicates prefixed by sá-, there is not quite such a close overlap of agent action and resulting change by patient. Unlike the verbs prefixed by s-, the patient of sá- changes from one state to another state. This change of state is due to direct manipulative control by the agent, but in contrast to the s- causative, the patient retains the new state even after the agent ceases his manipulations. The
room stays clean after the agent cleans it; if he paints me red, I stay that way even after he stops painting.

Another point worth noting is that the new state depicted by the predicate with sá- does not begin to exist immediately. When the agent cleans the room, it becomes cleaner and cleaner, but the full-fledged state of cleanliness is not achieved until the agent gets in the last lick at it.

Thus, while the semantics are not clear in every case, it is nevertheless obvious that verbs formed with sá- do not represent the proto-typical sort of complete control by agent and complete overlap of activity by agent and patient. And, this fact may form one reason why sá- on nouns and verbs has not shortened to s-.

The result is a set of three semantically contrastive causatives. (As we shall see presently, there are in fact four.) To my knowledge, other languages examined by linguists interested in causation have not divulged more than two types of causation. The three types in Chalcatongo Mixtec can be illustrated by the chart shown below.

```
Duration

<table>
<thead>
<tr>
<th>s-</th>
<th></th>
<th>Agent</th>
<th></th>
</tr>
</thead>
</table>
|    |  ↓ | patient |  \

| sá- |   | Agent |   |
|     |  ↓ | patient | ... |

| sáʔa |   | Agent |   |
|      |  ↓ | patient |    |

Figure 1
```

As shown by this figure, the length of the causative and degree of phonological interaction and syntactic dependence on the verb is symbolically reflective of the degree of overlap between the action of agent or patient, or degree of dependence of the action of the patient on the action of the agent.
2.1.3 Phonological characteristics of s- and sá

The iconicity of s- with totally overlapping action of agent and patient is further enhanced when one realizes that s- is not just a "short" prefix, but instead has characteristics suggesting that s- itself overlaps with the root. The s- causative is unique in the language in its degree of cleavage to the verb root. It is the only Mixtec affix that is not CV, and it is always directly attached to the verb root, with all other affixes to its left.

Furthermore, there is some morphophonological interaction going on between s- and the verb root. For example,

the complex s-yu + si in Chalcatongo, as in

14. sí?ú "Scare him"
    < yú?ú "be afraid".
Also, h + {\Vlength} /s-
    as in
15. si(i)nu "to finish"
    < hinu "to become finished"

There is a general rule in Chalcatongo and a closely related dialect in San Miguel el Grande that s → š / _i_. This rule does not apply in the case of the s- prefix. We could say, then, that the rule is blocked by the presence of a morpheme boundary. However, in San Miguel we have an additional rule:

s → š / _ [+nasal],

and in that situation the s causative does in fact become š. Mixtec canon does not allow many vowel-initial stems, so we cannot see a causative s- preceding an i in any underlying form. Thus we must see the rule changing s to š as an ordered or global rule -- that is s → š if it precedes i in the underlying form.

San Miguel, by the way, treats the 2 examples above [be afraid and finish] differently -- in San Miguel, there is an i inserted after s in these cases

16. siyu?u "Scare him"

17. sihinu

Chalcatongo and San Miguel are very closely related, mutually intelligible dialects spoken only a few kilometers apart; since these morphophonological alternations are different in the 2 dialects, they undoubtedly have very shallow time-depth. (It is possible that the difference between San Miguel and Chalcatongo is due to fact that San Miguel data was collected about twenty years ago and from older, monolingual speakers -- thus it may instead
represent an earlier stage in the development of this phonological interaction between s- and the root.)

No other affix in Chalcatongo (or San Miguel) displays any morphophonological alternation except for extensive tone Sandhi, which pervades the language. Tone Sandhi in the case of the causatives is also very informative.

Looking first at the prefix sá-, we can see that sá- (which bears high tone) does not perturb the following root. It is itself perturbed if it precedes two high tones. This is common in Mixtec; it is a form of disimilation.

S- carries no tone, since it has no syllabic nucleus. However, it does perturb the next vowel. Using tone letters for illustration, if the bisyllabic root has the tones ↓↑, when s- is added it becomes ↓↓. ↓↓ becomes ↓↓ with s-, etc. So s- perturbs, sá- does not. What happens is that the high tone evidenced in sá- transfers over to the next vowel when sá-reduces to s-. An excellent example is the one verb for which N.C. has the two alternatives of either sá- or s-:

sándoo ↓↑↓ (to clean)

vs sándóo ↓↑

So s- is not merely prefixing the root, it is interacting with it strongly. In this sense it can be seen as an "overlapping affix", symbolically representing the overlap of activity of agent and patient.

2.1.4 s- vs. fused forms

On the basis of the tripartite semantic scheme we have devised so far, we would predict that there should exist a semantic difference between the s- causative and the fused causatives as well. In fact, I believe one can make a case for a systematic semantic difference between the s- causatives and the fused causatives. In the cases of "kill", "open" and "close" (with fused causatives), the action is punctual; that is, the action is typically quick, with an immediate resultant change of state in the patient. The verbs with s-, on the other hand, are durative in nature: dancing, eating, running all take place over a period of time. With s-, some sort of volition is typically present in the patient: he opens his mouth to be fed, he moves his legs to dance or run; but there is no volition whatsoever for the patient of "kill", "open" or "close".

The verbs represented with fused causatives may also be replaced by intransitive verbs in a clause with sáʔā where agent and patient are seen to have non-overlapping activities:
18. a. kuña pwertá wāā "Open the door."
   b. sāʔà hà na nuña pwertá wāā "Make it so that the door opens."

Thus there are two cross-cutting parameters of semantic variation for the Mixtec causative, both related to time: (1) degree of overlap of action of agent and patient of causative; (2) punctual vs. durative activities. These are summarized on the chart below.

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Overlap</th>
<th>None</th>
<th>Partial</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Durative</td>
<td>sāʔà</td>
<td>sa-</td>
<td>s-</td>
<td></td>
</tr>
<tr>
<td>Punctual</td>
<td>sāʔà</td>
<td>fused</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The fused causative must be seen as outside the scheme of iconicity posited here for sāʔà and its abbreviated forms. Nevertheless, its contrast with sāʔà can be argued as following the same rule of iconicity as the others, in that the short form (in this case ø), inextricably represents overlap of agent's and patient's activity involved while the long form (sāʔà), separated fully from with the root, the other predicate, represents non-overlap.

We now have a four-way distinction in the causative: sāʔà, where patient's action is catalyzed by but independent of the agent; sa-, where agent's action and patient's change of state are partially overlapping; s-, where agent's and patient's action have duration and are totally overlapping; and the fused causative, where agent's action is punctual and patient's change of state is immediate rather than durational, and completely without volition by the patient. Note that sāʔà and s- are parallel, where in both cases the patient is acting, with the difference that with sāʔà the patient acts under his own power by his own will, whereas with s- the patient is entirely under the control of the agent. Sā- and the fused causative both involve change of states rather than action; in neither case is volition involved. The difference is that sā- is for durational change of state, and the fused causative for a punctual change of state.

2.2 Conclusion: Iconicity and Causatives

I have argued that the three degrees of phonological fusion of sāʔà represent degrees of fusion in a semantic sense, between the activity of the agent and of the patient; and that a fourth type, the ø (fused) causative, contrasts with the other three by...
being "punctual". This state of affairs demonstrates that degrees of phonological fusion can be iconic of relations between components of a sentence on the semantic level. These findings also demonstrate that historical processes within a language may be motivated by iconicity.

Notes

1. This paper has been strongly influenced by discussions with Mariscela Amador, Claudia Brugman, John Haiman, George Lakoff, and of course Nicolas Cortes, the native speaker of Mixtec who is really responsible for it all. My thanks to all.

2. There are three tones in Mixtec: high, represented by an acute accent ('); low, represented by a grave accent (`); and mid, which is unmarked.

3. Abbreviations used in this paper:
   nom. = nominalizer
   opt. = optative
   pot. = potential form
   3s. = 3d person singular
   masc. = masculine
   act. = active form
   n.c. = no change
   N.C. = Nicolas Cortes

References


LEXICOGRAPHIC APPLICATIONS OF LEXICAL FUNCTIONS:
TWO SAMPLE LEXICAL ENTRIES FROM AN EXPLANATORY-
COMBINATORIAL DICTIONARY

Lidija N. Iordanskaja and Nadia Arbatchewsky-Jumarie
Université de Montréal

This paper illustrates the lexicographic application of lexical functions (described in I. Mel'čuk's paper in this volume) in monolingual dictionaries of a new type, Explanatory-Combinatorial Dictionaries (ECD's). For the basic principles and a characterization of an ECD see Žolkovskij - Mel'čuk 1966, Apresyan et al. 1969, Apresjan et al. 1973. Work on an ECD of contemporary Russian started in Moscow in 1966. For preliminary results, lexicographic descriptions of some 250 Russian words, see Materialy 1970-1976; Apresjan et al. 1968; Žolkovskij - Mel'čuk 1972. Since 1978 a small team at the University of Montreal has been conducting similar research on French, aiming at an ECD of contemporary French. Below we present a Russian lexical entry from the Moscow project and a French one from the Montreal project.

We chose a Russian and a French lexeme which are equivalent under translation: Russ. vosziščenie and Fr. admiration, both roughly 'admiration'. This choice of near-synonyms from two different languages allows us to show that a vast class of phraseological collocations in different languages, which at first glance appear unsystematic and idiomatic, can be described in a systematic and universal fashion independent of the language. This is achieved by using LEXICAL FUNCTIONS (LF's), a universal metalanguage for the description of this class of phraseologisms.

The universality of LF's enables them to provide for direct correspondences between phraseological units of different languages. For any given LF $\bar{f}$, if its two arguments $X_1$ and $X_2$ in two different languages $L_1$ and $L_2$ are (roughly) semantically equivalent, then its two values $\bar{f}(X_1)$ and $\bar{f}(X_2)$ are (roughly) semantically equivalent as well.

For example, suppose a French speaker needs to find out how the Russians say

1. [Les Anglais] avaient une grande admiration [pour son talent] 'The British had great admiration [for his talent].'

The problem is that the literal translation (2):

2. *[Anglিčane] imeli bol'šoe vosziščenie [pered ego talantom] is completely ungrammatical. The best target equivalent should be

(3):

The work reported in this paper has been sponsored by the Social Sciences and Humanities Research Council of Canada, under grant No. 410-80-0345-R2.
(3) [Angličane] ispytvali glubokoe vosxiščenie (byli polny
glubokogo vosxiščenija) [pered ego talantom], lit. '...experienced (were full of) profound admiration...'

With the apparatus of LF's, our French speaker can easily find the required equivalent (3). He needs to do the following three things:

1) Find (in the bilingual index) the Russian equivalent of ADMISSION, namely VOSXIŠČENIE.

2) Understand that grande is a value of a particular LF (namely, \text{Mag}(\text{admiration})) and avoir is a value of another particular LF: \text{Oper}_1(\text{admiration}).

3) Look up \text{Mag}(\text{vosxiščenie}) and \text{Oper}_1(\text{vosxiščenie}) in a Russian ECD and, if there are alternative variants, make his choice according to the conditions stated in the corresponding lexical entry.

We invite the reader to carry out this modest exercise himself.

In many cases, however, a particular expression cannot be translated into another language this easily, since the LF \(f\) defined for \(X_1\) in \(L_1\) is not defined at all for \(X_2\) in \(L_2\): \(L_2\) lacks a value of \(f\) for \(X_2\). Thus consider the French sentence (4):

\(4\) \textit{Son admiration pour ce pays durait toujours} 'His admiration for this country lasted forever',

where \textit{durant 'last' is \text{ContFunc}_0(\text{admiration})}. This sentence cannot be rendered in Russian in a structurally similar way: there is no value of \text{ContFunc}_0 for Russ. VOSXIŠČENIE. In this case we invoke the paraphrase system mentioned in Mel'čuk's paper, specifically, the universal equation (5):

\(5\) \text{ContFunc}_0 = \text{not FinFunc}_0.

It happens that the LF \(\text{FinFunc}_0\) does have a value for VOSXIŠČENIE: \text{proxodit}', lit. 'pass'. So the French sentence (4) featuring the LF \text{ContFunc}_0 can be translated by Russian sentence (6) using LF \text{FinFunc}_0 plus negation:

\(6\) \textit{Ego vosxiščenie etozy stranoj ne proxodilo}, lit. 'His admiration for this country did not pass.'

A similar difficulty for a translator arises in the French sentence (7):

\(7\) \textit{L'admiration éclatait dans chaque ligne de sa lettre},

lit. 'Admiration was exploding in every line of his letter'.

Here, \textit{éclater is the value of LF \text{MagManif} (MagManif \(\approx\) 'manifest itself in an intensive way')}). But in Russian, this LF is not
defined for VOSXIŠČENIE: we cannot say anything like (8):

\(8\) \*\text{Vosxiščenie varyvalos' v každoj stroko ego pis'ma.}

However, we have for VOSXIŠČENIE the LF \text{Conv}_2\text{MagManif} (= \text{dyšat}' 'breathe') that provides for a translation equivalent, following the equation (9):

\(9\) \text{key word} \xleftarrow{\text{1}} \text{Manif} \xrightarrow{\text{2}} \text{U} = \text{U} \xleftarrow{\text{1}} \text{Conv}_2\text{Manif} \xrightarrow{\text{2}} \text{key word}.

The Russian translation obtained is (10):

\(10\) \textit{Každaja stroka ego pis'ma dyšala vosxiščeniem}, lit.

'Every line of his letter was breathing with admiration'.

We now take an example of translation in the opposite direction,
from Russian into French. The equation (11):

\[
\text{Labor}_{12} \rightarrow 1 \rightarrow 2 \rightarrow 3 \quad \text{X} \quad \text{Y} \quad \text{key word}
\]

allows us to translate the Russian sentence (12), which contains the LF Labor\text{12}, not defined for Fr. ADMIRATION, with the French sentence (13), using Oper\text{1}:

(12) Друзья относятся к Jure с восхищением,
lit. 'Friends treat Jura with admiration'.

(13) Les amis éprouvent de l'admiration pour Jura, lit.
'Friends experience admiration for Jura'.

We will not dwell on other advantages of using LF's in a monolingual dictionary. Neither can we elaborate on lexicographic definitions and so-called government patterns in our sample entries. We will restrict ourselves to the following four additional clarifications concerning LF's.

1. Since we present here two isolated entries, the bulk of necessary information is given in full in every entry. But it should be emphasized that within a relatively complete ECD duplication of information will be avoided through extensive use of internal cross-references and general rules building up the 'grammar' of the ECD. Thus, e.g., in a full-fledged ECD the entry VOSXISCENIE need not contain ispytyvat' 'experience' as Oper\text{1} since one can ispytyvat' also radost' 'joy', gnev 'anger', etc. Because of that, it is sufficient to indicate ispytyvat' as Oper\text{1} in the entry for ÌUVSTVO 'emotion' and to cross-reference it in the entries for specific emotions.

2. To save space, the head word of an entry is not indicated as an argument with each individual LF. In the entry for X, instead of \( f_1 (X) = Y_1 \), \( f_2 (X) = Y_2 \), ..., we simply write \( f_1 : Y_1 \), \( f_2 : Y_2 \), ... When mention of the head word is necessary, it is abbreviated using only its first letter.

3. In several cases, it proves convenient to write compound LF's using arrows of deep-syntactic relations - actantial (1,2,...) and attributive (ATTR). For instance, the expression \((W \xleftarrow{A_{-}}) \xrightarrow{\text{CausFunc}_{1}}\) in the entry ADMIRATION means 'the fact that W feels admiration causes admiration to affect X' (the value of this compound LF is communiquer 'communicate').

4. To describe expressions denoting a bodily reaction as a symptom of an emotional state (the LF Sympt) we use two partial LF's not explained earlier: Obstr 'impeded functioning of an organ' and Excess 'excessive functioning of an organ'. (The third type of misfunction - Degrad - is described in Mel'cuk's paper.) Notice that the actant subscripts of the LF Sympt do not correspond to the actants of the key word (in our case, 'admiration'),
but to the actants of the new situation 'to be a symptom of' where the reacting organ is taken to be the first deep-syntactic actant, 
the person experiencing an emotion is the second deep-syntactic 
actant, and the emotion itself, the third deep-syntactic actant. 

At this point, we will present our sample entries. Two remarks 
are in order. First, the Fr. ADMIRATION has two senses (the emo-
tion and the object thereof), of which we will consider only the 
first one. This fact is indicated by the numerical index 1 (cf. 
admiration 2 appearing as a value of LF \_S<sub>2</sub>). Second, since our 
aim here is illustrating LF's, we have allowed ourselves several sim-
plications in the presentation (e.g., we have omitted sense-
distinguishing indices, which generally must accompany every poly-
semous word).

**NOTATIONS AND SYMBOLS**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>~</td>
<td>key word</td>
</tr>
<tr>
<td>A</td>
<td>adjective</td>
</tr>
<tr>
<td>A&lt;sub&gt;poss&lt;/sub&gt;</td>
<td>possessive (pronominal) adjective</td>
</tr>
<tr>
<td>ART _</td>
<td>with article</td>
</tr>
</tbody>
</table>
| Ø / ART \_ | the key word without article, with the exception of cases when the key word is modi-
|            | fied by an adjective |
| \_      | without article |
| C<sub>i</sub> | surface-syntactic actant (of the key word) corresponding to the \_i\_th deep-syntactic actant |
| C<sub>i,j</sub> | surface means \_j\_ expressing the \_i\_th surface-syntactic actant |
| CLAUSE  | clause      |
| Conj    | conjunction |
| G(X)    | syntactic governor of X; if X is not indicated, G is the governor of the immediately preceding item |
| N       | noun        |
| \_X     | X is a condition the scope of which includes any expression to the left of \_ up to the first semico-
|         | lon |
| \_A     | empty set (e.g., C<sub>1</sub> = \_A means that C<sub>1</sub> cannot be ex-
|         | pressed at all) |

ADMIRATION, noun, fem.

\_1\_ no plural. *Admiration de X devant Y pour son Z = Emotional at-
titude of X, positive with respect to Y, which is caused by the 
following fact: X believes that actions, state, or properties Z of Y are completely extraordinary; this attitude is such that one 
normally has in such situations.*
### Government

<table>
<thead>
<tr>
<th>1 = X</th>
<th>2 = Y</th>
<th>3 = Z</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. <em>de N</em></td>
<td>1. <em>de N</em></td>
<td>1. <em>pour A_poss N</em></td>
</tr>
<tr>
<td>2. <em>A_poss</em></td>
<td>2. <em>pour N</em></td>
<td></td>
</tr>
<tr>
<td>4. <em>envers N</em></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1) $C_{2.4}$  
2) $C_{3}$ without $C_{2}$ \{ : impossible 
3) $C_{1} + C_{2.1}$ \{ : impossible 
4) $C_{2.2} + C_{3.1}$ \{ : impossible 

L'admiration du public, son admiration, l'admiration nationale;  
son admiration des < pour / devant les > tableaux anciens;  
l'admiration de Pierre devant < envers > Jacques pour son  
courage  
Impossible: *l'admiration envers ces tableaux* (1) \{ = l'admiration pour ces tableaux\}; *l'admiration de Pierre pour le courage  
(2) \{ = l'admiration de Pierre envers Jacques pour son courage\};  
*l'admiration de Pierre de son père* (3) \{ = l'admiration de  
Pierre pour son père\}; *l'admiration pour son père pour son  
courage (4) \{ = l'admiration envers son père pour son courage\} 

---

**Lexical functions**

Syn$_0$ : enthousiasme $I$, ravissement, émerveillement  
Anti$_0$ : aversion  
Gener : sentiment [d'~] \{ $C_1 = \Lambda$ 
V$_0$ : admirer  
S$_1$C : source, objet [de $\emptyset$ / ART ~] // admiration 2  
\{ *Il devint l'admiration de la superbe Ninive* \} 
S$_2$ : plein, rempli [de $\emptyset$ / ART ~], dans [ART ~], en  
\{ ~] // admiratif 1 \{ *Elle est admirable pour  
tout ce qu'il dit* \} 
A$_1$ : sujet, enclin, porté [à ART ~]  
Able$_1$ : dignité [de $\emptyset$ / ART ~] // admirable  
Able$_2$ : admirablement [Une rivière aux eaux admi- 
\{ ralement claires\}  
Adv$_1$: Ade$_2$ : mériter [ART / de ART ~]  
PredAble$_2$ : grande, vive, profonde < immense < sans bornes  
Magn : ne plus connaître de bornes  
PredMagn : excessive, démesurée, exagérée  
AntiVerMagn : commune < générale, universelle  
Magn$_1$ quant
IncepPredPlus refl: grandir, s'accroître, augmenter, se développer
CausPredPlus refl: augmenter, accroître [ART ~]
IncepPredMinus refl: diminuer, faiblir
CausPredMinus refl: diminuer, affaiblir [ART ~]
Ver: justifiée, fondée
AntiVer: injustifiée; de commande
AntiBon: aveugle, irréfléchîe, béate
Adv₁: dans un moment [d'~]; avec [Ø / ART ~] | G = Y
Adv₂: à [1'~] | either C₁ ≠ Δ or A. → Magn₁ quant
[Il remporta la victoire, à l'admiration de ses copains]
Propt: par [~] | no modifier, except for seul and
C₂₂ [par seule admiration]; sous l'effet [de ART ~] | C₁ ≠ Δ
Oper₁: éprouver, ressentir, avoir, nourrir [ART / de 1'~], être [en ~ / dans ART ~] | C₂ ≠ Δ

Magn + Oper₁: brûler [de Ø / ART ~] | C₂ ≠ Δ
Oper₁ + W: Y: partager [1'~ de N = W] | C₂ ≠ Δ
IncepOper₁: tomber [en ~] | C₂ ≠ Δ
ContOper₁: rester [en ~ / dans ART ~]; garder [ART ~] | C₂ ≠ Δ

FinOper₁: perdre [ART ~] | C₂ ≠ Δ
Magn + Caus (2): Oper₁: remplir [N de Ø / ART ~]
IncepOper₂: s'attirer, attirer [ART ~] | C₁ ≠ Δ; inspirer [ART / de 1'~ chez N]

CausFunc₁ or IncepOper₁: causer, provoquer, allumer, susciter,
evéiller, déclencher, exciter [ART / de 1'~ chez N] [Le père a causé une grande admiration chez les enfants pour cet artiste: CausFunc₁; Le père a causé une grande admiration chez les enfants: IncepOper₂]

ContFunc₀: durer
FinFunc₀: s'éteindre, s'évanouir, s'épuiser, cesser, disparaître
LiquFunc: mettre fin [à ART ~], liquider [ART ~]
Perm, Manif or Perm Func₀: céder [à ART ~]
notPerm, Manif or notPerm Func₀: retenir, référencer, réprimer [ART ~]
Magn + Func₁: remplir, transporter [N]
IncepFunc₁: saisir, gagner [N] | preferably in the passive voice; s'emparer [de N], naître [en son âme <cœur>]

(W → A.) CausFunc₁: [N = W] communiquer [1'~ à N = X]
Caus₂ Func₃: gagner, forcer [1'~ par N] | C₁ ≠ Δ, Y = a person
Magn + Labor₂₁: soulever, frapper [N d'~]
Facial expression: se peindre <se refléter> sur le visage
[de N = X]
Conv₂₁ Manif : [N] traduire [ART ~], montrer, exprimer [ART / de l'~]
N = regard, voix, ton, parole, visage, geste, ...

(in spite of X) Conv₂₁ Manif : [N] trahir [ART ~]
A₂ Manif : [N] plein, rempli, empreint [de ∅ / ART ~] / admiratif 2, admirateur 2 [Il pose sur elle un regard admirateur]

MagnManif : éclater [Loc N] [L'admiration éclatait dans chaque ligne de sa lettre]

Caus₁ Manif : manifester, montrer [ART / de l'~], exprimer [ART ~]

orally Caus₁ Manif : crier [Aₚoss ~]; professer [ART / de l'~] |

Caus₁ Manif by talking much about Y : / avoir la bouche pleine [de N = Y]

Adv₁ Caus₁ Manif : avec [∅ / ART ~] / admirativement [Regarder quelqu'un admirativement]

notPerm₁ Manif : cacher, dissimuler [ART ~]

A₂ notPerm₁ Manif : secrète

Degradₘōtōr(body)-Sympt₂₃ : se pâmer [d'~]

Excessfülg(eyes)-Sympt₁₃ : ses yeux brillent, étincellent, brûlent [de ∅ / ART ~]

whistle - Sympt₂₃ : siffler [d'~]

S₀ [whistle - Sympt₂₃] : siflement [d'~]

S₀ [whisper - Sympt₂₃] : murmure [d'~]

Examples

En même temps, il ne pouvait se retenir d'éprouver une secrète admiration pour ce Biturige qui allait la fierté et l'adresse [G. de Sède]. Il me parle avec admiration du docteur de Martel qui vient de sauver sa femme [A. Gide]. Je reste longtemps dans l'admiration de son tronc énorme, de sa ramification puissante et de cet équilibre où le maintient le poids de ses plus importantes branches [A. Gide]. Les Anglais en particulier ont une grande admiration pour son talent. Ce pauvre Sandy a gagné l'admiration des humains. Ce discours improvisé souleva d'admiration l'auditoire. En le voyant sauver l'obstacle, il poussa un long sifflement d'admiration. Elle professe à son égard une admiration qu'il ne mérite pas. Il force l'admiration par son courage. A ces mots, un murmure d'admiration s'éleva de la foule.

VOXIŠČENI|E <VOSXIŠČEN'|E>, ja, noun, neuter, no plural.

Voxsišćenie X-a pered Y-om = Emotional attitude of X, positive with respect to Y, which is caused by the following fact: X believes that Y is extraordinarily good; this attitude is such that one normally has in such situations.
<table>
<thead>
<tr>
<th>1 = X</th>
<th>2 = Y</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. N_{gen}</td>
<td>1. N_{instr}</td>
</tr>
<tr>
<td>2. A_{poss}</td>
<td>2. pered N_{instr}</td>
</tr>
<tr>
<td>3. tem, Conjugation + Clause</td>
<td></td>
</tr>
</tbody>
</table>

vosxiščenie publiki, mož <katino> vosxiščenie; ego vosxiščenie starymi kartinami; vosxiščenie publiki pered artištom; el vosxiščenie tem, skol'ko u nix xoroshix knig

**Lexical functions**

- Syn_{0}: vostorg, entuziazm
- Anti_{0}: otvraščenie
- Gener: čuvstvo [~ja]
- V_{0}: vosxiščat'sja
- S_{1}: poklonnik
- S_{2}: lit predmet, ob"ekt [~ja]
- A_{1}: polnyj, ispolnennyj [~ja] // vosxiščennyj 1
- A_{1} + Magn: preispolnennyj [~ja/~em]
- Able_{2}: dostojnyj [~ja] // vosxitiitel'nyj
- Adv_{1} Able_{2}: // vosxitiitel'no
- PredAble_{2}: byt' dostoin, zasluživat'[~ja]
- Magn: glubokoe < bezmernoe; soveršennoe, polnoe |
- G(V.) = IncepOper_{1} or IncepLabor_{21}
- AntiVerMagn: preuveličennoe
- Magn_{quant}: vseobščee
- IncepPredPlus: rasti
- IncepPredMinus: umen'sat'sja
- CausPredMinus: umen'sat'
- Ver_{1}: iskrennee, nepoddel'noe
- AntiVer_{1}: delannoe, pritvornoee
- Adv_{1}: v [~i] \mid C_{2} = \Lambda ; s [~em] \mid G = Y \quad \text{quant}
- Adv_{2}: k [~ju] \mid \text{either } C_{1} = \Lambda \text{ or } V. \quad \rightarrow \text{Magn_{quant}}
- Oper_{1}:  
  \begin{align*}
  \text{ispityvat' [~e], byt' polon [~ja]; byt' [v ~i (ot N_{gen})]} \quad \mid V. \text{ has no dependent}
  \end{align*}
- Oper_{1} + W \xleftarrow{1} V. \xrightarrow{2} Y: razdeljat' [~e N_{gen} = W] ['have admiration for the same thing as W']
- IncepOper_{1}
- \begin{align*}
  (W \xleftarrow{1} V. ) \xleftarrow{1} \text{CausOper}_{1} : [~e N_{gen} = W \text{ peredažt}sja [N_{dat}]}
  \end{align*}
- IncepOper_{2}
- FinFunc_{0}
- \begin{align*}
  \quad \text{vyzyvat' [u N_{gen}/v N_{prep} ~e], vnušat' [N_{dat} ~e]}
  \end{align*}
- CausFunc_{0}
- Labor_{12}: otnosit'sja [k N_{dat} s ~em]
IncepLabor$\textsubscript{21}$ or CausOper$_1$ : privodit' $[N_{acc} \quad \nu \sim e \ N_{instr} = P(X)]$  

[On privód v voskíščenie svojej zrav-brost'ju]

$\downarrow$ Manif : vyražat'sja na lice $[N_{gen} = X]$

Conv$\textsubscript{21}$ MagnManif : $[\nu]$ dyšit $[\sim em] \quad | \quad C_2 = \Lambda; \ N$ is a message of X $[\text{Ego pis'no dyšit voskíščeniem}]$

A$_2$ Manif : $[\nu]$ polnyj, ispolnennyj $[\sim ja]$ // voskíščen-

nyj 2 $| \quad C_2 = \Lambda; \ N = vugljad, golos, ton, slova, žest, ...$

such a sound of voice in which notMagnManif : notka $[\sim ja]$

Caus$_1$ Manif : vyrazit' $[\text{svoē} \sim e]$

(in spite of X) $\downarrow$ Caus$_1$ Manif : ne moć' sderžat' $[\text{svoego} \sim ja]$

Adv$_1$ Caus$_1$ Manif : s $[\sim em] \quad | \quad C_2(V.) = \Lambda // \text{voskíščenno}$

Perm$_1$ Manif : ne skryvat' $'[\text{(svoego)} \sim ja]$

A$_2$ Perm$_1$ Manif : neskryvаемое

AntiA$_2$ Perm$_1$ Manif : tajnoe

Degrado$\text{moto}(body)-$Sympt$_{23}$ : zameret' $[\text{ot} \sim ja <\text{v} \sim i], \text{zastyt}'$,  

ostanovit'sja $[\text{v} \sim i] \quad | \quad C_2 = \Lambda$

Excess fulg (eyes)-Sympt$_{23}$ : $[u N_{gen}]$ glaza svetjatsja, sijajut  

$[\text{ot} \sim ja / \sim em] \quad | \quad C_2 = \Lambda$

exclaim - Sympt$_{23}$ : axnut' $'[\text{(ot} \sim ja)] \quad | \quad C_2 = \Lambda$

Examples

Pis'no ego dyšalo voskíščeniem i lýbov'ju. On smotrelna učitelja s neskryvаемым voskíščeniem. Krome rúž'ja, ja dal emu nož, ot ko-

torogo on príščel v polnoe voskíščenie. "I ty skazal ěto?" - v ego 
golose poslyšalas' notka voskíščenija.

References

Apresjan, Jurij D., Igor A. Mel'čuk, and Aleksandr K. Žolkovskij.  


Apresjan, Jurij D., Aleksandr K. Žolkovskij, and Igor A. Mel'čuk.  


Apresyan, Yuri D., Igor A. Mel'čuk, and Aleksandr K. Žolkovsky.  

1969. Semantics and Lexicography: Towards a New Type of Uni-


russkogo jazyka. Vypuski NN 2,7,14,17,23,28,29,34,35,37,38,  
42,62,63,80,85,86. Moscow: Institut Russkogo Jazyka AN SSSR.

Žolkovskij, Aleksandr K. and Igor A. Mel'čuk. 1966. O sisteme 

semantičeskogo sinteza. I. Stroenie slovarja. Naučno-tekni-

ceskaja informacija, no.11, 48-55.


IV. Obrazy slovarnych statej. Naučno-tekničeskaja informacija,  

Serija 2, no. 9, 35-47.
VENDLER'S VERB CLASSES AND THE ASPECTUAL CHARACTER OF JAPANESE TE-IRU

Wesley M. Jacobsen
University of Minnesota

The idea of using "time schemata" as a basis for classifying verbs is one which figures centrally in two influential studies undertaken on different sides of the Pacific at almost the same time. The one familiar to linguists of the western tradition is Zeno Vendler's now classic "Verbs and Times" (1957). Seven years previous to Vendler's study, however, there appeared a similar study in Japan authored by Haruhiko Kindaichi entitled "A Classification of Japanese Verbs" (Kokugo Doosi no Itibunrui, 1950). The two studies bear some remarkable similarities.

Vendler bases his classification of verbs on two primary tests. The first is the ability of a verb to appear in the progressive form (e.g., John is running vs. *John is knowing where State Street is). The second is whether a verb fits better into the question frame "For how long did ...?" or into the frame "How long did it take to ...?" (e.g., *For how long did John run a mile? vs. How long did it take for John to run a mile?). These tests together yield two two-way dichotomies among verbs, for a total of four categories, which Vendler labels as follows:

(1) (a) States: love, know, hate, want, have, etc.
(b) Activities: run, walk, play, swim, push a cart, work, etc.
(c) Achievements: reach the summit, recognize a person, find the treasure, win the race, spot a plane, die, etc.
(d) Accomplishments: write a book, draw a circle, read Hamlet, run a mile, etc.

Categories (b) and (d) pair together in their ability to take the progressive form, in contrast to (a) and (c). (a) and (b), on the other hand, pair together in the naturalness they exhibit in the "For how long did ...?" frame. (c) and (d) more naturally fit into the "How long did it take to ...?" frame. Vendler points out that (b) and (d) also pair together in their ability to co-occur with adverbs such as "deliberately" and "carefully," whereas (a) and (c) do not comfortably co-occur with such adverbs.

Vendler attributes the differing behavior of accomplishments and activities to the fact that the former involve a terminal point or climax in a way that the latter do not. The accomplishment of writing a book, for instance, involves a terminal point, most obviously identifiable as the completion of the book, whereas the simple activity of running involves no such terminal point, at least in any conventionally pre-established way. Achievements, being typically instantaneous events, also involve a point in time, although this is not the terminal point of any activity or process, unlike accomplishments. Taking our cue from this distinction between achievements and accomplishments, it is possible to analyze accomplishments as being composed of an activity plus an achievement. The "climax" of accomplishments is thereby identified with the "instant" of achievements. Under this analysis, an accomplishment such as climbing a mountain is made up of an activity of climbing and an achievement of reaching the top.
Vendler notes that states also bear reference to instants of time in the sense that to say a state holds over a certain period of time entails that the state holds at every instant within that period. Thus to say that John loved Mary from time₁ to time₂ entails that at any instant between time₁ and time₂ John loved Mary. The use of the word any here indicates that states refer to instants in a non-unique fashion. Achievements, by contrast, refer to unique instants in time. Thus to say that John won a race between time₁ and time₂ is to say that the instant at which John won the race lies between time₁ and time₂.

 kindaichi's classification of Japanese verbs rests entirely on the behavior of the single affix te-iru. This affix has the characteristic of expressing sometimes progressive, sometimes perfect meaning, depending on the lexical meaning of the verb to which it is attached and other contextual factors. In its progressive meaning, it corresponds to the English be-ing construction. In its perfect meaning, it corresponds to the English have-en construction, although the correspondence here is less perfect. I intentionally use the term "perfect," as opposed to "perfective," which, following Comrie (1976), I will take to refer to the representation of an event as a whole, apart from reference to its internal complexity or parts. The emphasis with the perfect is rather on a state resulting from an event, although reference to the internal complexity of the event will thereby necessarily be excluded.

The two aspectual meanings of te-iru described above conveniently provide kindaichi with two of his verb classes. Two other verb classes are then distinguished which respectively cannot and must take te-iru. The four classes are as follows:

(2) (a) Stative verbs: do not take te-iru
Eigo ga dekiru.
"(I) can speak English."³
(also mieru "can see," kikoeru "can hear," aru "be," and existential and potential verbs in general)

(b) Continuative verbs: take a progressive reading with te-iru
Kodomotati wa kooen de asonde-iru (te-iru form of asonde)
"The children are playing in the park."
(also oyuogu "swim," hasiru "run," kaku "write," etc.)

(c) Instantaneous verbs: take a perfect reading with te-iru
Kare wa sinde-iru (te-iru form of sinu).
"He is dead (in the state of having died)."
(also kimaru "be decided," kireru "be cut," (denki ga) tuku "(the lights) go on," and many intransitive

(d) "Type 4" verbs: must take te-iru and are then stative
Yama ga sobiete-iru.
"The mountain towers above."
Mitī ga magatte-iru.
"The road bends."

"Instantaneous" verbs typically take only a perfect reading—the example given in (2c) cannot mean "He is dying." "Continuative" verbs are not as rigid in their class membership, as we shall see shortly. Verbs in both of these classes have non-past forms which normally take
a future interpretation:

(3) Omae wa sinu.
"You're going to die."

(4) Ima tegami o kaku kara (sizuka ni site-kudasai).
"I'm going to write a letter now (so please be quiet)."

Stative verbs, by contrast, have non-past forms which take a present interpretation (see the example in (2a)). "Type 4" verbs and stative verbs share the property of lacking any opposition in sentence-final position between te-iru forms and non-te-iru forms, since in the one case te-iru forms are obligatory and in the other case disallowed. If, as I shall argue, it is a basic function of te-iru to change a non-stative form into a stative form, the failure of stative verbs to co-occur with te-iru can be explained in terms of the unnecessary redundancy that would otherwise result. The "Type 4" category has a fairly small membership. Some of its members originate in the instantaneous class after their te-iru forms have lost reference to any event giving rise to a state and have come to simply indicate the state itself. Thus, certain uses of magatte-iru (from magaru "bend") do not entail any event of becoming bent (e.g., Mitī ga magatte-iru "The road bends"), while other uses at least allow the possibility of such an event having occurred (e.g., Kugi ga magatte-iru "The nail is bent"). For those verbs which belong exclusively to the "Type 4" class, however, (e.g., sugurete-iru "excel," nite-iru "resemble," sobiete-iru "tower," etc.) it will be sufficient for our purposes to treat these together with stative verbs in an overarching stative category.

Certain similarities, even in terminology, are immediately apparent between the classifications of Vendler and Kindaichi. Kindaichi's stative and Type 4 verbs correspond to Vendler's states. Continuative verbs bear an intuitive resemblance to activities and instantaneous verbs to achievements, reflecting the fact that achievements indeed typically occur instantaneously. The one odd category is the accomplishment category, which straddles the continuative and instantaneous categories, but does not correspond in toto to one or the other. The cross-relationships here can be schematized as in (5):

(5) (K) Stative ———> State (V)
      Type 4 ———> Continuative ———> Activity ———> Accomplishment ———> Achievement
      Instantaneous ———> Achievement

Despite this general correlation in category types, however, it is not the case that a lexical item in one language will necessarily translate into a lexical item of an equivalent category in the other. A classic example of this is Japanese siru, whose closest lexical equivalent in English is know, but which requires the te-iru form sitte-iru to express the stative sense of English know. The reason for this is that although know is a stative verb in English, siru
fits into the instantaneous category in Japanese, literally meaning "come to know." "Knowing" is therefore expressed as "being in the state of having come to know." The same is true for English have and Japanese moto "acquire, hold," which requires the form motte-iru for the stative sense of "have."

Certain expressions which Kindaichi lists in the continuable category are capable of taking a perfect interpretation in certain contexts. Hon o yomu "read a book" and syoosetu o kaku "write a novel" are such examples. In the following sentences (taken from Kindaichi), these expressions appear in a te-iru form with a clearly perfect reading:

(6) Ano hito no hon no yomikata no hayai ni wa odoroita, ima yomihazimeta to omottara moo yonde-iru (from yomu "read") "(I was amazed at the speed of his reading. You think he's just started reading a book and he's already finished."

(7) Ano hito wa takusan no syoosetu o kaite-iru (from kaku "write") "He has written many novels."

Regarding (7), Kindaichi (1955) says, "The continuable meaning of kaku is being ignored in its usage here. In cases like this kaku is being temporarily used as an instantaneous verb." Because of a rigid insistence on a one-to-one correspondence between perfect meaning and the instantaneous feature, Kindaichi was forced to classify verb phrases like syoosetu o kaku "write a novel" and hon o yomu "read a book" sometimes in the continuable and sometimes in the instantaneous category.

Under a literal conception of "instantaneous," Kindaichi's treatment of these verb phrases is grossly counterintuitive. Note that they fit quite comfortably, however, under Vendler's "accomplishment" rubric. Characteristic of accomplishments, reading a book and writing a novel are activities culminating in a terminal point. If, as earlier we identify the terminal point in these cases as itself an achievement, we have a rationale for explaining the parallel behavior of accomplishments and achievements in allowing a perfect reading with te-iru. At the same time, accomplishments include an activity as part of their meaning which is itself capable of a progressive reading with te-iru. For these reasons, accomplishments exhibit an affinity to both continuable (activity) verbs and instantaneous (achievement) verbs.

The line of demarcation between garden-variety activities and accomplishments cannot be drawn on a lexical-item-by-lexical-item basis; there are few activities that cannot, in some context, be associated with a goal of some sort, and correspondingly few progressive te-iru constructions that have no perfect te-iru counterparts. Thus syokuzi o sitte-iru can mean either "be eating dinner" or "have eaten dinner", denki o tukete-iru either "be turning the lights on" or "have turned the lights on" (also "keep the lights turned on"), and so forth. Adverbs and other particles will, of course, sway the balance in favor of one reading or the other---moil "already," sude ni "already," and tokku ni "long ago" will favor the perfect reading, while ima "now," and ...tokoro da "in the process of ..." will favor the progressive reading—but the readings in question are not attributable solely to co-occurring adverbs, as they are distinguishable even in adverbless constructions. Even so non-teleological an activity as okuru "live
(a daily life)" is susceptible of two readings with te-iru, as illustrated in the following two examples:

(8) (a) Siawase na mainiti o okutte-iru.
"(I am) living happily day by day."
(b) Kare wa hukoo na syoonen zidai o okutte-iru.
"He has had/is having an unhappy childhood."

About the only example of a "pure" activity I have been able to find is iki o site-iru "be breathing," for which I have yet to encounter a context requiring a perfect interpretation.

Adverbs were mentioned as one grammatical feature influencing whether a te-iru construction is given a progressive or perfect interpretation where either would otherwise be possible. In the case of motion verbs such as iku "go," kuru "come," kaeru "return," and noboru "climb," the choice of locative marker is another such grammatical feature. With the goal locative marker ni, the te-iru form of these verbs can only be given a perfect interpretation whereby the subject has reached the indicated goal:

(9) (a) Kare wa Tookyoo ni itte-iru.
"He has gone to (is in) Tokyo."
(b) Kare wa yama ni nobotte-iru.
"He has climbed (is on) the mountain."

Since the vast majority of te-iru usages of these verbs involves this perfect reading, one may be tempted to assign the accomplishment "reach" meaning to the lexical content of the verbs themselves. This would be unwarranted, however, since progressive readings do become possible with the same verbs if the path locative o (homophonous with the direct object marker) is used instead of ni:

(10) (a) Kare wa kono miti o itte-iru (kara hasireba oituku desyoo)
"He is going along this road (so if you run you should catch up to him)."
(b) Yama o nobotte-iru (uti ni pikkeru o otosite-simatta).
"While climbing the mountain (I dropped my pickax)."

A class of examples where the accomplishment sense does not arise from any isolatible grammatical feature, but is part of the semantics of the construction as a whole, are activities which give rise to some change in the subject. Okuda (1978) goes so far as to say that change in the subject is the primary lexical feature responsible for a perfect aspectual interpretation of te-iru. Clothing verbs are a particularly clear examples of this, involving as they do a change in the physical appearance of the subject. The te-iru forms of kiru "put on (the body)," haku "put on (the feet or legs)," kaburu "put on (the head)," and tukeru "attach" can thus be used to express either the meaning "be in the process of putting something on" or "have put something on," normally rendered in English as "is wearing":
(11) (a) Taroo wa yoohuku o kite-iru. "Taroo is wearing a suit."
(b) Taroo wa tonari no heya de yoohuku o kite-iru. "Taroo is putting on a suit in the next room."
(c) Boosi ni hane o tukete-iru (ano hito wa dare desu ka) "(Who is that person) with a feather in his hat (lit. who has stuck a feather in his hat)?"

The change does not necessarily have to be one in physical appearance alone. Drinking alcohol, for instance, produces a change in one's mental state, which accounts for the perfect interpretation given to the te-iru form of sake o nomu "drink sake" in the following example:

(13) Sake o nonde-iru hito ni karamareta. "I got tangled up with a drunk (a person who had drunk sake)."

The following example likewise involves a change in mental state, without any necessary accompanying change in physical appearance:

(14) Yoku zyunbi-site-iru hito ni totte wa (kanari yasasii sikatte). "For those who had prepared well (it was quite an easy task)."

The examples considered in the last paragraph are accomplishments where the culminating point--i.e., the achievement--corresponds to a change of some kind. We would then expect there to be "pure" achievements where a change is expressed without reference to any activity leading up to the change. Many intransitive verbs in Japanese seem to have exactly this aspectual character. Kindaichi (1950) was the first to point out that in morphological transitive/intransitive pairs, the transitive member is often given a progressive reading with te-i while the intransitive member is given a perfect reading:

(15) (a) Denkikoo wa densen o kitte-iru (transitive). "The electrician is cutting the wires."
(b) Densen ga kirete-iru (intransitive). "The wires are cut (have been cut)."

This is not, of course, a property of intransitives in general--only of those not involving agentive activity, which I have in an earlier paper (1979) referred to as "nondynamic intransitives." The subject of a nondynamic intransitive construction is a patient undergoing a change of some sort, but having no control over the event bringing about the change. Nondynamic constructions thereby omit reference to any activity leading up to the achievement (i.e., the change), leaving only a "pure" achievement interpretation.

We have so far uncritically accepted the identification of achievements with instants of time, a viewpoint explicitly espoused by Vendler and implicitly accepted in Kindaichi's "instantaneous" nomenclature. Yet a number of verbs fitting into Kindaichi's "instantaneous" category due to their behavior with te-iru turn out, upon
closer inspection, not to be truly instantaneous. Fujii (1966) points out that while expressions such as hutotte-iru "be fat," tukarete-iru "be tired," and sinde-iru "be dead" have the resultative perfect meaning characteristic of instantaneous verbs, the corresponding bare forms hutoru "become fat," tukareru "become tired," and sinu "die" hardly represent instantaneous events. Yoshikawa (1973), in defense of Kindaichi, argues that while an event may not itself be instantaneous, it may nevertheless include an imaginary instant previous to which a certain state exists and subsequent to which a different state exists. Thus, while otiru "fall" is not itself an instantaneous event, there is an instant previous to which an object is not on the ground and subsequent to which it is, providing the instantaneous feature necessary to the perfect interpretation of otite-iru "be on the ground." Yet even this explanation will not do for cases like hutoru "become fat" and tukareru "become tired," which contain no unique instant marking the change from one state to another.

The same difficulty arises in attempting to pinpoint the achievement that differentiates an activity from an accomplishment in examples such as (13) and (14). Although some change is necessary to distinguish the simple activity of drinking from the result that that drinking brings about, it would be arbitrary to assign that change to any single instant in the drinking process, since the result is brought about gradually. Even with such clear-cut accomplishments as writing a book, where it may be possible to identify an instant corresponding to the completion of the book, it is not clear that the result associated with the accomplishment should be attributed to any single instant at which the book changes from a state of non-existence to existence.

Considerations such as these suggest that our conception of achievement should be broadened to include intervals larger than instants. This entails adopting a notion of interval of change such as that found in recent literature on "interval semantics." Dowty (1979), for instance, formalizes this notion in terms of the semantic operator BECOME: BECOME(Q) is true for some state Q and some interval I if and only if (a) Q is false at the lower bound of I, (b) Q is true at the upper bound of I, and (c) there is no smaller interval for which (a) and (b) are true. The final clause of this definition insures that the interval at which BECOME(Q) is true is a unique interval. Depending on the particular type of change involved, this unique interval could become indefinitely small, approaching true instants in the limiting case.

Taking the presence of this semantic BECOME operator to be the defining feature of achievements and, by extension of our compositional analysis, of accomplishments still leaves certain difficulties. In the case of "degree-achievements" such as hutoru "become fat" and tukareru "become tired," it may be as difficult to determine a unique interval of change as it would be to pinpoint a unique instant of change. In the case of accomplishments, it is difficult to neatly distinguish the activity from the achievement-interval. In writing a book, for instance, the interval over which the book comes into existence encompasses the entire period of activity. This is a problem, however, only if we insist on strictly segregating the activity from the achievement in time—the problem vanishes if we admit the possibility of the two occurring concurrently. The problem posed by degree-
chievements, on the other hand, is inherent in either the instant approach or the interval approach and provides no grounds for choosing between the two. See Dowty (1979) for a treatment of change with vague" predicates such as **cool** (applicable also to **fat** and **tired**) here the vagueness is successively resolved in the direction of increasingly higher thresholds defining the property in question.

I turn now to the question of why languages such as Japanese would give unified morphological expression to the aspectual categories progressive and perfect. To native speakers of English and other standard European languages, this may appear to be a puzzling combination, but Japanese speakers are often equally puzzled that anyone should see more than one meaning in the various uses of **te-iru** considered in this paper. Consider first those uses of **te-iru** which Kindaichi explicitly labeled as "stative"—in particular, expressions of the "Type 4" category and expressions originating in the "instantaneous" category that have shifted from a perfect to a simple stative meaning. It is a general characteristic of states that they can be predicated of instants of time or intervals of time:

(16) (a) Sono toki ano mise wa aite-ita (past **te-iru** form of aku) "open"

"The store was open at that time."

(b) Ano mise wa 8-zi kara 12-zi made aite-iru.

"The store is open from 8:00 until noon."

Regarding cases where a state is predicated of an interval, Vendler and others have pointed out that the state must also be true of every (any) instant constituting that interval. Thus (16b) entails that at any particular instant between 8:00 and noon the store is open.

Suppose now that for the sake of greater generality we speak not of instants constituting an interval but of subintervals contained within an interval (subintervals which nevertheless approach instants in size as they become smaller and smaller). Suppose also that we make the truth condition for **te-iru** that any event or state of affairs represented by a predicate in **te-iru** form be true for a (specified or non-specified) interval just in case the event or state of affairs is true for every (any) subinterval contained within that interval (hereafter the "**te-iru** interval"). This truth condition admits not only states, but also activities, since activities are likewise true over an interval just in case they are true over every (any) subinterval within that interval. (17), for example, entails that for every (any) subinterval between 4:00 and 5:00, Taroo swam during that subinterval:

(17) Taroo wa kinoo 4-zi kara 5-zi made puuru de oyoide-ita,

"Taroo was swimming yesterday between 4:00 and 5:00."

Strictly speaking, this observation holds only for idealized homogeneous activities which are rare, if they exist at all, in the real world. Most real-world activities cannot be predicated of intervals smaller than that required to go through a minimal sequence of motions necessary to define the activity (e.g., the time required to lift one foot off the ground and set it down again in walking). Limitations of
space, however, do not allow a discussion of real-world complications here, and I must limit my observations to ideal activities.

In contrast to activities, achievements radically fail to meet our truth condition for te-iru: an achievement by definition cannot hold over every subinterval of a given interval. It in fact holds over at most one interval—the unique BECOME interval defined earlier. When te-iru is attached to an achievement verb, therefore, the only alternative is for the achievement to hold at some interval or instant outside of the te-iru interval. Whether this is prior to or posterior to the te-iru interval depends on whether or not there is an activity associated with the achievement that is itself capable of receiving a progressive interpretation with te-iru. Where there is such an activity, and where that activity receives the progressive interpretation, the achievement will necessarily take place after the progressive te-iru interval. This accounts for one reading—the progressive reading—of accomplishments such as hon o kaite-iru "be writing a book." The achievement, corresponding to the book's coming into existence, has yet to occur at some unspecified point in the future. The other reading ("have written a book") is the reading accomplishments share with "pure" achievements. "Pure" achievements can only receive the interpretation whereby the achievement occurs prior to the te-iru interval—i.e., the perfect interpretation—because they are not associated with any activity capable of a progressive interpretation. This is the case with the te-iru form of non-dynamic intransitive verbs, such as Densen ga kirete-iru "The lines are (have been) cut." In the absence of any possibility of the te-iru interval here representing a progressive interval, it represents rather a stative interval resulting from the achievement-event.

Since activities and states both lack reference to any change of state, they have ended up looking very much alike in our analysis. Nevertheless, there are some important features distinguishing them, of which I will mention two in conclusion.

One difference is that while states can be said to hold for single instants of time, activities seem to require reference to more than one instant of time. The sentence John was running yesterday at 3:15, while on the surface predicating an activity of a single instant, implies that there was a larger stretch of time encompassing the instant referred to during which John ran. (The facts here are essentially the same for Japanese). It is not clear to me whether this means that an activity literally cannot be asserted of an instant or simply that it requires knowledge of instants of time outside any given instant to be able to assert that an activity holds at that instant. Insofar as te-iru is concerned, we are able to avoid this problem by dealing not with instants per se, but with intervals of time approaching instants in size.

A second difference lies in the observation made by Vendler that activities can, and states cannot, co-occur with volitional predicates such as "carefully" and "deliberately." Activities, in other words, require an element of volition or self-control on the part of the subject in a way that states do not. I have argued elsewhere (1979) that for Japanese verbs to take a progressive reading, they must belong
to a class of "dynamic" predicates which includes self-controllable human activities as well as natural phenomena seen as acting under their own power. The observed difference in behavior between transitive and intransitive verbs with te-iru can be attributed to this dynamic feature: transitive expressions typically involve volitional activity on the part of the subject, whereas most intransitive expressions represent a change in the subject brought about independently of any volition on the part of the subject. Transitive expressions therefore allow, and intransitive expressions often do not allow, progressive readings with te-iru. The "dynamic" requirement for progressive meaning is a more severe one for Japanese than English. English allows simple non-volitional processes to take progressive form, as in The laundry is drying, whereas in Japanese such simple processes cannot take progressive form: the formal te-iru counterpart to The laundry is drying (Sentakumono ga kawaite-iru) can only mean "The laundry has dried."

Without denying that such differences do exist between states and activities, however, I hope to have shown that states and activities exhibit aspectual similarities in their interaction with the affix te-iru. More basically, I hope to have contributed toward an integrated account of the progressive, perfect, and stative uses of te-iru by clarifying the aspectual categories required to properly classify verb constructions in Japanese and illustrating the semantic interaction between these categories and a semantically unified te-iru.

FOOTNOTES

1. The te part of te-iru represents the gerund (te-form) of the verb, to which the auxiliary iru is attached.

2. The Japanese names Kindaichi gives to the four classes are zyootai doosi, keizoku doosi, syunkan doosi, and daiyonsyu doosi.

3. Due to considerations of space, I have been forced to omit literal glosses of Japanese example sentences in this paper. While I regret any inconvenience this may cause to the reader, the task of comprehension should be somewhat alleviated for the reader unfamiliar with Japanese by underlines and other notational devices I have used to focus attention on the particular verb form I am concerned with in each example.

4. Wallace Chafe has brought it to my attention that northern Iroquois possesses a verb affix which, like Japanese te-iru, alternates expresses perfect and progressive meaning. In Chafe (1980) he sets up a lexical feature of "consequentiality" to which he attributes perfective (my perfect) meaning with this affix. The choice of this feature seems to reflect an intuition consonant with the Vendlerian accomplishment analysis I have pursued in this paper.

5. Japanese progressive forms, like their English counterparts, imply (conversationally implicate?) that the activity encompasses an interval larger than the interval specified by the tense of the verb and/or co-occurring adverbs. My analysis of "te-iru intervals" applies pari passu to these larger encompassing intervals.
BIBLIOGRAPHY


Basque Copulative Compounds: A Problem in Irreversible Binomials

William H. Jacobsen, Jr.
University of Nevada, Reno

0. Yakov Malkiel's writings have continually been concerned with the manifold forces acting on linguistic forms, emphasizing the many minor factors that are at play in controlling the historical development of words and phrases, in addition to the well-recognized major ones. These characteristics are well illustrated by his memorable article "Studies in Irreversible Binomials" (1959), a work which perhaps finds its closest relatives in the Malkielian oeuvre in studies of lexical polarization (1951) and diachronic hypercharacterization (1957–58).

Irreversible binomials are phrases such as English bread and butter, pins and needles, law and order, that always occur with a fixed ordering of their parts. After examining many characteristics of such formations in a goodly sampling of European languages, Malkiel addresses the reasons for their specific ordering, and manages to isolate six broad forces of semantic, phonological, and historical nature, whose interplay he goes on to elucidate. Most of the phonological and semantic factors will come into account in what follows.

There is a limited amount of additional literature on these questions, of which I would mention especially Richard D. Abraham's "Fixed Order of Coordinates: A Study in Comparative Lexicography" (1950) and the more recent searching study of William E. Cooper and John Robert Ross entitled "World Order" (1975), which is largely restricted to English materials illustrating fixed orderings that they label "freezes".1

1. I wish to consider evidence of a somewhat different sort from that primarily treated by these sources, in that it comes from the copulative compounds of Basque, and thus concerns the ordering of the parts within single words. I hasten to add that the irreversible binomials of Malkiel were defined as being limited to phrases, although their close relationship to copulative compounds such as English composer-critic, teacher-scholar, and bittersweet was pointed out (1959:139). Cooper and Ross's "freezes" subsume both phrasal and intra-word phenomena.

Basque exhibits a moderately productive pattern of copulative (or dvandva) compounds, made by combining two nouns, or occasionally other parts of speech, adjectives, verbs, or adverbs. In any case the resulting word is a substantive—noun or adjective. Its meaning is that of a group consisting of one or more of each of the two entities, the indication of the number of each part being neutralized.2 Most of these words count as plurals, and usually take a plural case ending, such as the absolutive-ergative -ak seen on most of my examples. Compounds where the parts are words for liquids or substances such as metals, and sometimes verbs, count as singular and may take the definite singular absolutive
ending -a. In accordance with patterns of Basque syntax, such suffixes are, however, not always present.

2. Many of these words are completely frozen formations, shared by the speakers of the language, while others are more ephemeral nonce-forms. The informants disagree considerably as to whether certain collocations are appropriately compounds rather than phrases formed with the conjunction eta, ta 'and', but there is less disagreement about the orderings of the parts. In any case the entities labeled by the two members of the compound must belong to the same semantic category from some point of view.

The collocations are seemingly best established when they involve persons, categorized either as to age and sex:

neska-mutifak 'girls and boys'
jaun-andreak 'gentlemen and ladies'

or by kinship relationships:
anai-afebak 'brothers and sisters'
seme-alabak 'sons and daughters'.

Other representative categories for which these compounds occur may be illustrated:

roles: arotz-dendariak 'carpenters and storekeepers'
ikusle-jokalarlak 'spectators and players'
body parts: begi-belařik 'eyes and ears'
oin-eskuak 'feet and hands'
animals: ari-ardiar 'rams and ewes'
ardi-bildotsak 'ewes and lambs'
foodstuffs: sagar-udareak 'apples and pears'
jan-edanak 'food and drinks'
liquids: ur-ardaoa 'water and wine'
kafesnea 'coffee with milk'
metals: ufe-zilara 'gold and silver'
artifacts: ate-leioak 'doors and windows'
luma-lapitzak 'pens and pencils'
natural objects: eguzkiñargiak 'sun and moon'
ibai-efekak 'rivers and streams'
places: mendie-zelaia 'mountains and plains'
zeru-lurak 'heaven and earth'
transactions: sal-erosi (saldu-erosietan, sal-erosketa) 'selling and buying'
ar-eman (ar-emanak, artu-emonak, artu-emonetan) 'taking and giving'
motions: joan-etorria (joan-jin, fan-txin) 'going and coming'
speech: galderrantzunak 'questions and answers'
izen-deiturak 'name and surname'
time: gaur-biañetan 'today and tomorrow'
goiz-aratsaldetan 'mornings and afternoons'
colors: txuri-gori 'white and red'.
My English translations show the literal meanings of the parts in the order in which they occur, which may or may not correspond to that of the corresponding natural English binomial. The meanings of a few of these words are somewhat specialized or idiomatic:

andra-gizonak 'married couple', lit. 'woman and man'
gora-berak 'problems', lit. 'ups and downs'
begi-belañak 'attentive', lit. 'eyes and ears'
ar-emanak 'relationships', lit. 'taking and giving'
biñuz-goñi 'nude', lit. 'undressed and red'
luze-labur 'size', lit. 'long and short'
ori-baltzak 'cakes from Guernica', lit. 'yellow and blacks'
txuri-urdinak 'soccer team from San Sebastián', lit. 'the white and blues'.

3. Most synchronic explanations for the orderings of irreversible binomials fall into two categories, phonological and semantic, of which we will first consider the former. Malkiel notes, in connection with his category of "patterns of formal preferences", that "Modern English displays a very marked partiality to short plus long" (1959:149). Other workers including Abraham (1950:279–283) and predecessors such as Jespersen (1905:233) and Behaghel (1909) have also noted this strong rhythmic tendency. Cooper and Ross (1975:78) point out that this principle was adduced already by Pāñini in his treatment of Sanskrit dvandva compounds, who states (2.2.34) that, after a few other grammatical factors are excluded, "[in a dvandva] a stem with fewer syllables [goes first]" (Böhtlingk 1887:55). This factor clearly applies strongly to our Basque copulative compounds also, although here it seems clear that the inflectional suffix usually present enters into the accounting to the extent of at least one syllable.

4. Unlike the situation regarding the phrasal irreversible binomials of English or other languages, when considering an explanation in terms of rhythmic ordering, it does not suffice to merely specify the relative lengths, such as shorter before longer, for here one must consider carefully what the alternative would be. That is, the reverse ordering of a Basque copulative compound, due to the action of certain morphophonemic rules, will sometimes yield a word with a different number of syllables, and will not necessarily yield the opposite ordering of the length of the parts.

There are two main reasons for differing word lengths. When the most common definite absolutive or ergative suffixes, such as plural -ak, are added to stems with final a, no additional syllable is added to the word, as one is with other stem finals. Thus the following compound, with its second part an a-stem, has five syllables, whereas its potential reversed counterpart would have six, with an additional syllable contributed by the suffix:

seme-alabak (5) 'sons and daughters': *alaba-semeak (6).

The other morphophonemic rule accounting for differing lengths of
corresponding words with alternative orderings is one of the contraction of two identical vowels into a single vowel when they come together at the junction of the two parts. This contraction is not always indicated in the orthography, which may write the two separate vowels with an intervening hyphen, but it is usual in ordinary speech. In these examples such coalesced vowels are indicated by a circumflex accent, as the -â- in:

nebâñebak (4) 'brothers and sisters': *aðebea-nebak (5).

Since the potential alternative order here would not bring together two identical vowels, this would have an additional syllable, five as opposed to four. In counting the number of syllables in each part of a word, it seems appropriate to assign syllables containing such contracted vowels to the second part. Comparable to this phenomenon, although not so clearly a morphophonemic change, is the development of diphthongs ai, ei, oi as these vowels are brought together in a compound. A hyphen would usually be written in this case, but I will also write the circumflex accent over the first part of the diphthong (-â-, etc.) as a reminder of the reduced syllable count, and will correspondingly assign these diphthongs to the second part of the word:

osâñizebak (5) 'uncles and aunts': *izeba-osabak (6).

5. We may also illustrate typical cases wherein the lengths of the individual parts of words do or do not vary when the parts are reversed. These words are of medium length, wherein, in at least one of the potential orderings, each part is of two or three syllables, as indicated by the numerals preceding each example. In this example both parts are a-stems, so that their lengths would not change with reordering:

22:22 gorâ-berak 'ups and downs' (= 'problems'): *bera-gorak.

Our next example illustrates the common case wherein the second part would be longer with either ordering, as it bears the added inflectional suffix:

23:23 andre-gizonak 'women and men' (= 'married couples'): *gizon-andreak.

Another example shows this same effect as counterbalancing shortening of a-stems and vowel contraction cancel each other out:

23:23 anai-aðebeak 'brothers and sisters': *aðebeânaïak.

In our next examples the preferred arrangement has an unequal number of syllables, the second part being longer, whereas in the alternative both parts would be of equal length. In these two the a-final stems enter into this equalizing, in one or the other di-
rection:

23:33 seme-alabak 'sons and daughters': *alaba-semeak
23:22 aita-semeak 'father and sons': *seme-aitak.

In these others, it is merely the final suffix that accounts for the difference:

13:22 jaun-andreak 'gentlemen and ladies': *andre-jaunak
24:33 senar-emazteak 'husband and wife': *emazte-senafak.

In a final case the parts in the preferred arrangement are of equal length, but would be unequal in the rearrangement; here again it is the added suffix that makes the difference:

22:13 zeru-luřak 'heaven and earth': *lur-zeruak.

6. The next data that we will examine addresses directly our hypothesis that a predominant factor is a rhythmic one, encouraging the arrangement in which the parts will contain an unequal number of syllables, and the longer part will come last. Our first examples include the majority of cases, in which the two parts indeed differ in this way, but whether and to what extent they support this hypothesis depends on what the alternative would be.

There are only a few isolated counter-examples in which the alternative version would have a greater differentiation of length. In the following it is because of vowel contraction:

23:13 ogi-ardoak 'bread and wine': *ardōgiak.

In this it is because of the presence of an a-stem in the second part:

23:24 izekōiōbak 'aunts and nephews': *iōbāizekoak.

And in this last example, in addition to vowel contraction, the greater differentiation depends on the allomorphs of the locative suffix that it contains, which contributes an extra syllable when after a consonant-final stem:

23:14 īun-argitan 'in the dark and the light': *argīīunetan.

Such a difference in the length of the suffix beyond one added syllable seems never to be relevant.

Examples of the next type are fairly numerous, in which the word would have the same shape and length under either ordering of the parts, so that the rhythmic factor alone cannot be controlling their ordering:

12:12 aitāmak 'father and mother': *amāitak
on-gaitzak 'advantages and disadvantages': *gaitz-onak
23:23 anai-áfèbak 'brothers and sisters': *áfèbānaiak
24:23 aitonāmonak 'grandfather and grandmother': *amonātonak
24:34 ari-ardiak 'rams and ewes': *ardi-ariak
25:34 ardi-bildotsak 'ewes and lambs': *bildots-ardiak
ata-leioak 'name and surname': *deitūraizena
izena-deiturāak 'doors and windows': *leio-ateak.

Examples like the following, wherein the alternative would have a lesser differentiation of length, are neither numerous nor strongly supportive:

14:23 gaur-biafetan 'today and tomorrow': *biar-gauetan
13:23 kafesnea 'coffee with milk': *esne-kafea
24:34 ezker-eskumara 'to the left and right': *eskum-ezkera
24:34 osabāizekoak 'uncle and aunt': *izekōsabak
25:34 ikaslērakasleak 'students and teacher': *irakasleikas-leak
35:34 ikusle-jokalarīak 'spectators and players': *jokalarī-kusleak.

They will be seen to depend on factors of differential stem length, vowel contraction, and allomorphs -ra/-era of the allative suffix.

Our next examples show the preferred differentiation of length of their parts, whereas the alternative ordering would present parts of equal length. The preponderance of the examples noted belong to some of these patterns, which supports our hypothesis:

13:22 amālabak 'mother and daughters': *alabāmak
23:22 jaun-andreak 'gentlemen and ladies': *andre-jaunak
jan-edanak 'food and drink': *edan-jaanak
ur-aradaoa 'water and wine': *ardao-ura
24:33 gau-egunak 'night and day': *egun-gauak

23:22 aita-semeak 'father and sons': *seme-aitak
24:33 andra-gizonak 'women and men': *gizon-andrak
neska-mutilak 'girls and boys': *mutil-neskak
luma-lapitzak 'pens and pencils': *lapitz-lumak
14:33 galdērantzunak 'questions and answers': *erantzun-galeak

24:33 senar-emazteak 'husband and wife': *emazte-senafak
sagar-udareak 'apples and pears': *udare-sagarak
begi-belatīak 'eyes and ears': *belatī-begiak
lapitz-liburuak 'pencils and books': *liburu-lapitzak
24:33 arotz-dendariak 'carpenters and storekeepers':
*dendari-aroztak

23:33 seme-alabak 'sons and daughters': *alaba-semeak
23:33 osabāizebak 'uncle and aunt': *izeba-osabak
kriau-kriadak 'manservants and maidservants': *kria-kriaauk
34:33 koľara-tenedorak 'spoon and fork': *tenedor-koľar
24:44 efegēreğiñaak 'king and queen': *e-regiña-egeak
35:44 mediku-abogaduak 'doctors and lawyers': *abogadu-
medikuak
askazi-adiskideak 'relatives and friends': *adiskide-
askaziak.

And finally, in the following, the alternative would have its first part as the longer one; such examples are not very numerous:

13:32 nebâfebak 'brothers and sisters': *afeba-nebak
23:32 ezker-eskuma 'left and right': *eskuma-ezker
24:43 mutil-neskatiāak 'boys and girls': *neskatiā-mutilāak
15:43 goiz-afatsaldetan 'mornings and afternoons':
*afatsalde-goizetan
25:43 gizon-emakumeak 'men and women': *emakume-gizonak.

In the next groups of examples, the compound in the preferred arrangement has parts of equal length. In the following the alternative arrangement would give a word with a shorter first part, so that these are counter-examples to our hypothesis:

22:13 zeru-lufak 'heaven and earth': *lur-zeruak
ori-baltzak 'yellow and blacks' (= cakes from Guernica):
*baltz-oriak
22:23 eske-opak 'petitions and offerings': *opa-eskeak
33:15 atzazar-ortzekin 'with claws and teeth': *ortz-
atzapañekin
44:34 ugasaba-langileak 'bosses and workers': *langile-
ugasabak.

Such examples are also not numerous, and most of them correspond to semantic tendencies that will be discussed. A few additional ones have occurred as alternatives that were not preferred by most informants; these are discussed below (sec. 10). Examples where the two parts would be of equal length with either ordering are few:

22:22 gora-berak (gora-beerak, gora-beherak) 'ups and downs'
 (= 'problems'): *bera-gorak.

(It will be seen that the parts are not equal here in all dialects). And there are none noted where the alternative would have its first part longer.

There are hardly any examples wherein the first part is the longer one; the following, where the alternative would have the first part shorter, is also explainable on semantic grounds:

43:24 ugasaba-otseñak 'master and servant': *otsein-ugazabak.

Thus the statistical preponderance of the examples strongly favors our rhythmic hypothesis.

7. We may next consider the question of whether there might
be a tendency toward economy or its reverse entering into the choice of the preferred order, in examples that are in conformity with the rhythmic hypothesis. As explained in sec. 4, alternative orderings may yield different lengths of the word in terms of number of syllables; these lengths are indicated here by the numerals preceding the examples. In the following the preferred arrangement gives a shorter word:

4:5 nebārebak 'brothers and sisters': *afeba-nebak kafēsnea 'coffee with milk': *esne-kafea
5:6 seme-alabak 'sons and daughters': *alaba-semek osabāilobak 'uncles and nephews': *īloba-osabak
6:7 mutīl-neskatīlak 'boys and girls': *neskatīl-a-mutīlak
6:8 efegērēgiālak 'king and queen': *efegīnā-efegeak;

in these the length would be the same either way:

3:3 aitāmak 'father and mother': *amāitak
4:4 jaun-andreak 'gentlemen and ladies': *andre-jaunak amālabak 'mother and daughters': *alabāmak
5:5 anai-afebak 'brothers and sisters': *afebānaiaik
6:6 senar-emazeæk 'husband and wife': *emazte-senāfak
7:7 gizon-emakumeak 'men and women': *emakume-gizōnak
8:8 mediku-abogaduak 'doctors and lawyers': *abogadu-medikuak;

and in this final group the preferred version is actually longer:

5:4 neska-mutīlak 'girls and boys': *mutīl-nesak lumā-lapitzak 'pens and pencils': *lapitz-lumak
5:3 uda-neguak 'summer and winter': *negūdak
6:5 osabāizekoa 'uncle and aunt': *izekōsabak
7:6 kolāra-tenedorak 'spoon and fork': *tenedor-kolāarak.

These latter examples, especially, demonstrate that the tendency towards rhythmic differentiation overrides any towards mere economy.

8. We turn now to the consideration of some semantic factors which may either reinforce or counteract the rhythmic tendency. The first several categories displayed fall under Malkiel's category of "priorities inherent in the structure of a society" (1959: 145-147).

Our first examples are concerned with ordering in terms of the sexes of the persons or animals that are combined. Here we see the predominant type, in which the male precedes the female (cf. Abraham's [1950:284] "masculine and feminine" category, Cooper and Ross's [1975:65] "male"): 

jaun-andreak 'gentlemen and ladies'
senar-emazeæk 'husband and wife'
seme-alabak 'sons and daughters'
nebārebak 'brothers and sisters'
sui-erainak 'son-in-law and daughter-in-law'
aitamak 'father and mother'
anai-arebak 'brothers and sisters'
ari-ardiak 'rams and ewes'.

All the orderings here are either in accord with the rhythmic principle or (the last three) neutral with respect to it. The following are the limited number of exceptional cases noted in which female precedes male. They are clearly encouraged by the rhythmic tendency, which overrides this semantic one:

neska-mutilak 'girls and boys'
andragizonak (andre-gizonak) 'women and men' (= 'married couples')

There is an apparently exceptionless tendency, when dealing with kinship relationships of persons or animals, to have the term for the member of the older generation come first (cf. Cooper and Ross's [1975:65] "adult", partly Abraham's [1950:284] "the more important—the less important"): 

aita-semeak 'father and sons'
amalabak 'mother and daughters'
osebagilobak 'uncle and nephews'
ardi-bildotsak 'ewes and lambs'
izekgilobak 'aunt and nephews'.

Again most examples are compatible with or neutral to the rhythmic principle, although the last example (a Vizcayan dialect form) goes against it. This tendency will override that of ordering with male first, as in:

ama-semeak 'mother and sons'.

There is also a strong tendency to place the term for a social superior before that of his inferior (cf. Abraham's "the more important—the less important"): 

ugazaba-otsenak 'master and servant'
ugazaba-langileak 'bosses and workers'.

These examples go against the rhythmic tendency, whereas in the following the latter takes precedence:

ikaslaerakasleak 'students and teachers'.

Our remaining categories would largely fall under Malkiel's broader category of "precedence of the stronger of two polarized traits" (1959:147-149) (cf. again Abraham's "the more important—the less important", overlapping with his "light and dark" [284]). Here we see stronger before weaker as applied to two rhythmically
neutral forms:

eguzkiargiak 'sun and moon'
ufe-zila\fa 'gold and silver'.

The strong spatial semantic tendency to order higher before lower is seen in the following:

gora-berak 'ups and downs' (= 'problems')
zeru-lufak 'heaven and earth'.

In the latter this overrides the rhythmic tendency. Cooper and Ross (1975:82-84) also note this as a powerful tendency that overrides other factors. The former would overlap with Abraham's (1950:285) "positive-negative" category, to which also belongs:

on-gaitzak 'advantages and disadvantages'.

Finally, these examples show an ordering of time categories in correspondence with chronological sequence (Abraham's [1950:285] "temporal sequence" category):

gaur-biafetan 'today and tomorrow'
goiz-afatsaldeitan 'mornings and afternoons'
biar-etzietan 'tomorrow and the day after tomorrow'
atzo-gaufetan 'yesterday and today'.

These vary in their fit with the rhythmic principle; the last is weakly contrary to it. The following works backwards in time while being rhythmically appropriate (it still fits within Cooper and Ross's [1975:65] "now" type):

atzo-eranegunetan 'yesterday and the day before yesterday'.

Iconic modeling of sequential relationship is also seen in:

izen-deiturak 'name and surname'.

9. We may also illustrate another factor, on the borderline between grammar and semantics, that probably enters into the ordering of these copulative compounds. Basque also has very productive patterns of non-copulative compounds, wherein one member is subordinate to or governed by the other, especially with the first member modifying the second, as in (Ormaechea "Qrixe" and Oyarzabal 1963:15):

esne-bei 'milk cow'
bei-esne 'cow's milk'.

Thus the ordering of the parts of a copulative compound may be such as to avoid this alternative interpretation as a governing compound:
ate-leioak 'doors and windows': leio-ateak 'doors with windows
ur-ardaoa 'water and wine': ardao-ura 'wine-water, watery wine
gizon-emakumek 'men and women': emakume-gizonak 'ladies' men'

Correspondingly, it seems likely that rhythm is part of the evidence for semantic interpretation of compounds. That is, if they are arranged in violation of the rhythmic principle, this will encourage an interpretation as a governing, rather than copulative, compound.

10. An examination of the few cases where alternative orderings have been observed will also be instructive. For the following the ordering putting the social superior first was noted in an explanatory passage in a textbook (Altuna 1972:7), whereas the alternative ordering in accordance with the rhythmic principle was favored by several informants:

ikaslä-eirakasleak 'students and teacher': irakaslä-ikasleak
'teacher and students'

For this next, informants differed as between the former (also in Uhlenbeck 1911:6), which favors the rhythmic principle, and the latter, which embodies the strong semantic tendency toward higher before lower:

oin-eskuak 'feet and hands': esku-oinäak 'hands and feet'.

The latter of the following pair is explicitly discussed in an older source (Azkue 1920:165, fn. 1; 1923-25:397, fn. 1) as a semantic minority type; informants understandably favored the former on both rhythmic and semantic grounds:

mofoi-neskameak 'manservants and maidservants': neskame-mofoiak 'maidservants and manservants'.

And for this last, some informants preferred the former version, while another felt either ordering to be possible. Here the rhythmic principle is neutral. One, however, felt the latter would have a different meaning, 'mountains which are flat':

mendi-zelaiak 'mountains and plains': zelai-mendiak 'plains and mountains'.

11. Thus this examination of a class of compounds the ordering of whose parts is not grammatically prescribed adds to previous discussion of irreversible binomials or "freezes" data of a popular type not generally available in European languages. Irreversible compounds were only briefly mentioned by Malkiel (1959) and were not studied by Cooper and Ross (1975) because of their rarity in English. But this confirms the relevance and strength of several phonological and semantic factors noted by earlier workers, especially the rhythmic tendency or Pāṇini's principle. Cooper and Ross (1975:78) find this to be the most powerful of several phono-
logical factors that they isolate, but it is clearly operative in English (phrasal) freezes only when the first element is monosyllabic. In these compounds, however, we see it operating as a differential between stretches, the shorter of which may contain as many as three syllables. On the other hand, this seems to support Cooper and Ross's (1975:93) hierarchy that finds stronger restrictions on the order of morphemes within a word than on the order of conjuncts within a phrasal coordinate structure. It may also be the case as regards the relative prominence of phonological and semantic factors, that the former become relatively stronger when the parts of a single word are in question.

12. To summarize with cheek in tongue, I have tried to weigh the cons and pros and the outs and ins of this matter, while minding my q's and p's; the theory has its downs and ups, although it is hardly a matter of death and life, not a swim or sink proposition.

NOTES

1See Abraham (1950:279-283) for a good summary of older suggestions of phonological reasons for ordering. Note also Hetzron's (1972:254-255) brief treatment, with reference to Behaghel (1909) and successors (including Malkiel). Recently Ashley (1982) has discussed the fact that such pairs in English often combine words coming from different sources (Latin and French, French and English, French and Old Norse, Old Norse and English, etc.).

2As pointed out, e.g., by Zamarripa 1931:199.

3My sources are rather eclectic, but emphasis has been put on the widely shared and contemporaneous examples. There are probably a handful of obsolescent or non-recurrent forms present, but the sources show much overlap in the examples offered. The most useful compilations, including extracts from older literature, are Uhlenbeck 1911:6-7, Azkue 1920:165-166, largely repeated in 1923-25:396-399 and 1945:349-351, and Villasante 1974:9, 11, 14, 17-18. More fragmentary sources include Zamarripa 1931:198-199, Uhlenbeck 1947:70, Lafitte 1962:38-40, Peña 1963:85, and Ormaechea "Orixe" and Oyarzabal 1963:15. Most of my data from informants represents dialects in the vicinity of the Vizcayan-Guijuzcoan boundary, and the spellings adopted for cited forms are, with a few exceptions, representative of western (Spanish) varieties of Basque. Other dialects are sporadically represented. The symbol ñe represents the apical trill often spelled rr, and the ñe represents the palatal lateral often spelled 11 (or, since largely predictable, just 1). I follow a common convention in writing r for ñe stem- and syllable-finallly. The tonal accents that many of these dialects have on compound words seem not to be relevant to the ordering of their parts and are, as is customary, not indicated. I am indebted to Joseba Zulaika, Juan Oñatibia, Miren Azkarate, Txomin Arratibel, and especially Gorka Aulestia for sharing their Sprachgefühl with me. I am also indebted to Miren Azkarate and Kathryn Klingebiel for bibliographic suggestions.
There is hardly any discussion of the ordering of these compounds in the Basque descriptive sources, but there is awareness indicated of this male-before-female pattern. Thus Azkue (1920:165, fn. 1; 1923-25:397, fn. 1) comments that the formation andre-jaunak 'ladies and gentlemen' used by speakers on a certain public occasion reflected an excess of politesse, and he goes on to exemplify the pattern along with two exceptions to it (one of them discussed in sec. 10). Similarly, Zamarripa (1931:199) mentions that the two exceptions shown here might be found surprising.

From Hatcher's (1951) admirably thorough study of dvandva compounds in western Europe we learn (1-2) that Old English documents still attest a few survivals of the Indo-European pattern, especially with kinship terms. Hatcher isolates two later "waves" of translations or adaptations of foreign patterns. She mentions (13, fn. 4) the occurrence of such compounds in Basque (after Uhlenbeck 1947:70), as well as in Finno-Ugric (after Lewy 1911); the latter is also attested to by Collinder 1965:49. There are few survivals of the Indo-European pattern in Greek or Latin (Hatcher 1951:2-3), but examples are reported for Old Irish (Thurneysen 1946:164). They are said to be very rare in Welsh (Jones 1931:25).

Cooper and Ross (1975:73-77) use perforce for evidence of constraints within words in English examples such as wig-wag, zig-zag, riff-raff, mish-mash (with vowel change), and wing-ding, rum-dum, hob-nob (with initial consonant change), where the parts have a dubious independent existence. Parallel cases with onomatopoetic flavor also exist in Basque, such as fristi-frasta 'any old way', kifiz-kaşaz 'noise of shoes in walking', tiki-taka 'walking step by step', dinbi-danba 'hitting with blows', zirti-zarta 'helter-skelter', kili-kolo 'insecure, indecisive' (with vowel change), and aikomaiko 'indecisive', zağa-mağa 'rubbish', ziri-miri 'drizzle', zuřu-muřu 'rumble' (with initial consonant change, usually to m). The latter pattern also occurs applied to morphemes and with a plural ending, making them more like the copulative compounds: azur-mazuřak 'remains of a meal' (azur 'bone'), kako-makoak 'schemes' (kako 'hook'). Cf. Azkue 1920:167-170; 1923-25:401-405; Lafitte 1962:40; Peña 1963:85; Villasante 1974:26-27.

This summary is highly indebted to Anon. 1981, outlining the program of the Pepper and Salt Association, which wants to turn the language outside in, changing phrases kaboodle and kit.

REFERENCES


Affectiveness and the Voice System of Japanese:
Satisfaction Guaranteed or Your Money Back*

M.H. Klaiman
Tucson, Arizona

O. An adequate analysis of Japanese voice depends upon a coherent general approach to voice systems. Therefore I begin with early Indo-European (IE). In languages like Sanskrit and early Greek, all finite and some nonfinite verb forms are marked for a distinction ACTIVE/MIDDLE. Although most work on this system concerns its formal properties, it is standard knowledge that the system is complex, i.e., it has a semantic basis. The ACTIVE/MIDDLE category opposition signals an opposition in possible views of the action. Whereas ACTIVE indicates that the formal Subject relates to the denoted action as doer, MIDDLE indicates generally "that the action is performed with special reference to the subject" (Smyth 1974:390)—specifically, "that the 'action' or 'state' affects the subject of the verb or his interests" (Lyons 1968:373. All emphases mine.)

To illustrate: if a situation consists of X bathing Y, then the Subject X is doer with respect to the action. But if X bathes X, then the doer Subject is also affected. This second situation, called reflexive, is one of several for which early IE languages typically choose middle voice endings over active. Like the reflexive, these functions all cover situations in which the Subject is viewed as affected by the action. The MIDDLE category, then, subsumes several semantically affective functions, while the ACTIVE category is defined by a single function: Subject is not affected by the action, but is simply doer.

In early IE languages most verbs admit both active and middle inflections. Nevertheless no one has proposed that ACTIVE and MIDDLE be treated as derivationally related—i.e., in semantic terms, doer Subjects and affected Subjects are analyzed on an equal footing. (Not so in current work on ACTIVE/PASSIVE systems, which I will get into momentarily.) Early IE is not an ACTIVE/PASSIVE system—in fact, it proves that in natural voice systems a PASSIVE is not the only possible counterpart to an ACTIVE voice category. It can be said, though, that in early IE there is a Plain Passive voice function. This function covers situations in which the Subject is not doer of any action, but is purely affected. In the original IE voice system, the Plain Passive function was subsumed under the MIDDLE voice category. In time, the old MIDDLE category was lost; the Plain Passive function became the basis for a new voice category, the PASSIVE; and many of the other voice functions of the old MIDDLE category reorganized under the opposing category, the ACTIVE. This sequence of changes is said to have yielded the voice system of modern English.

Currently the formal PASSIVE of English and other languages is treated as a rule derived variant of the ACTIVE. The passive is regarded as a process for moving NPs out of (and oftentimes into
subject position. It is also claimed that the NPs that can move into subject position are limited to direct objects (original or derived). The process itself is said to be language universal. I shall refer to it henceforth as the pure syntactic passive.

It was pointed out as early as 1971 by R. Lakoff that theories of pure syntactic passive fail to account for some formally passive constructions of English. Davison 1980 has labeled such constructions (oddly, not the linguists whose theories fail to account for them) as 'peculiar', i.e., 'peculiar passives'. Among them are sentences whose formal subjects correspond to oblique objects in the nearest active.

Several instances are shown in (1):

(1) a. This bed was once slept in by George Washington.
   b. This needle hasn't been sewn with so far.
   c. Dinner was sat through by all in stony silence.
   (Davison 1980:46)

Also peculiar, according to Lakoff, is the so called get-passive, illustrated in (2):

(2) a. Miss Nova Scotia got (herself) disqualified from the competition.
   b. Prof. Schlemiel's new theory got, so to speak, peed all over at the ZIS conference.

Barber 1975 tantalizingly suggests that the get-passive signals a restructuring of the modern English ACTIVE/PASSIVE voice system in the direction of the incipient ACTIVE/MIDDLE system. Unfortunately her work is sketchy in describing the semantic properties of get-passives, and the role semantic factors may play in diachronic change. The semantics of the get-passive are more fully investigated by Chappell 1980. R. Lakoff earlier theorized that get-passives are akin to middles. Chappell claims that get-passives express that the subject is affected in consequence of the denoted action, often adversely so—a function not incommensurate with the functions of the IE MIDDLE. Davison notes that some 'peculiar passives' express a property or attribute of the subject (see e.g. 1a). Both functions, the affective and the attributive, are exemplified in a certain class of constructions (called 'passive') in Japanese. This is to say that the functions of Japanese 'passives' are similar to the functions of precisely those passivelike English constructions which go unaccounted for under the theory of pure syntactic passive.

The pure syntactic passive is not an idea of recent provenance. In 1924, Jespersen treated English passives and actives as formal variants—though he took care to point out that the English system is not a voice system (pp. 164ff.). Modern writers are not always as circumspect. They sometimes label the pure syntactic passive a voice, indifferent to the fact that grammatical voice has a semantic basis. They construct 'universal' theories of voice which assume that ACTIVE and PASSIVE are rule governed variants, leaving out of discussion alternative systems like IE ACTIVE/MIDDLE. There is presently
no comprehensive complex theory of grammatical voice, and linguists sometimes treat as passives constructions which do not conform to the properties of the pure syntactic passive at all. This especially occurs when the construction in question merely fails to conform to the Western ethnolinguistic attitude that sentential Subject represents per excellence the doer of the denoted action. Among other things, this view implies that constructions with non-doer Subjects should be treated as less basic or more marked than constructions in which Subject is doer. I believe that this and this alone motivates the current view that -(r)are- constructions in Japanese are passives. In this paper I suggest three grounds for not treating them as passive. The first argument is syntactic or formal; the second semantic; and the last, comparative or cross-linguistic.

1. Writers on Japanese refer to as 'passive' constructions in which the verb is marked with the stem formant -(r)are-. Over the past decade a lot has been written on these constructions. The nonspecialist perusing this material cannot fail to be impressed with the inconsistencies and differences of opinion therein. For instance, many writers assume a distinction between two types of -(r)are- constructions which for convenience can be called type one and type two. They are illustrated respectively in (3a,b):

(3) a. senkyoosi wa hitokui ni taberaretat
missionary top cannibal IO eat-(r)are-past
'The missionary was eaten by cannibals'

b. haha wa kodomo ni okasi o taberaretta
mother top child IO sweet obj eat-(r)are-past
'The mother was subjected to the child eating the sweet'

It is said that type one superficially resembles the English passive and type two does not. Supposedly, in type two constructions, the formal subject is an 'extra' NP, absent from the nearest active sentential counterpart. There has long been a raging controversy as to whether types one and two have underlying structures which are the same (uniform) or different (nonuniform). To my knowledge this controversy is still unresolved. I shall return to the matter of types one and two below.

Against this background of contention it is interesting that Japanese specialists have no disagreement at all about labeling the -(r)are- construction a 'passive'. All, further, assume that an active counterpart figures somewhere in the derivation of 'passives'. Nowhere have I seen this assumption questioned or justified

In itself it is an arbitrary decision to label -(r)are- constructions as 'Tom', 'Dick', 'Harry' or 'passive'. On the other hand, pace Shibatani 1977:796, nothing is more alarming than a theoretical claim advanced on the basis of an arbitrary terminology Shibatani illustrates that -(r)are- constructions have 'real' subjects--subjects that conform to the formal behavior typical of Japanese subjects. This and the arbitrary choice of the label
'passive' lead the same writer (1975, 1977) into a substantive claim that subjects of -(r)are- constructions are derived rather than basic, and more generally, that -(r)are- constructions are rule-derived variants of non-(r)are- counterparts. Essentially the same claim is made by Shimizu 1975 in a different framework (relational grammar).

Shimizu points out, however, that Japanese presents one special problem. In the pure syntactic passive, by definition, subjects are derived only from underlying direct objects. Japanese is exceptional. Its 'passive' subjects seem to correspond not only to direct objects but also to various oblique objects in the nearest 'actives'. According to Shimizu's examples these include indirect objects, possessor NPs, and objects of the ablative postposition kara 'from'. My data also includes examples with the postpositional phrase ni tai site 'against'. Examples (the first two from Shimizu, pp. 530-531, 534) are given in (4)-(7). The a examples represent actives and the b examples represent putative corresponding passives.

(4) a. taroo ga hanako ni kozutumi o okuru
   Taroo nom Hanako IO package obj sends
   'Taroo sends a package to Hanako'

b. hanako ga taroo ni kozutumi o okurareru
   Hanako nom Taroo IO package obj sends-(r)are-pres
   'Hanako is sent a package by Taroo'

(5) a. taroo wa hanako no kodomo kara omotya o totta
   Taroo top Hanako gen child from toy obj took
   'Taroo took a toy from Hanako's child'

b. hanako wa taroo ni kodomo kara omotya o torareta
   Hanako top Taroo IO child from toy obj take-(r)are-past
   'Hanako was subjected to Taroo taking a toy from her child'

(6) a. taroo ga hanako kara omotya o nusunda
   Taroo nom Hanako from toy obj stole
   'Taroo stole a toy from Hanako'

b. hanako ga taroo ni omotya o nusumareta
   Hanako nom Taroo IO toy obj steal-(r)are-past
   'Hanako was subjected to Taroo stealing a toy from her'

(7) a. kumiai wa sono kaisya ni tai site sutoraiki o
   union top that company against strike obj
   okosita 'The union struck against that company' started

b. sono kaisya wa kumiai ni sutoraiki o okosareta
   that company top union IO strike obj start-(r)are-past
   'That company was subjected to the union striking'

Judging by the examples, Japanese violates the universal claim that direct objects and only direct objects can become subjects of formal passives. This does not prompt Shimizu, however, to propose a separate account of -(r)are-. Instead, she argues that -(r)are- should be handled within the universal
theory, but that this theory should be revised in order to accommodate Japanese.

But why? Of what use or interest to universal grammar would be a definition of passive so weakened as to account for instances like (4)-(7)?

This is not to say the universal theory, the pure syntactic passive, is right or wrong. This is to say it should not be capriciously made over. It is senseless to tamper with an account that many find useful and insightful, merely to satisfy one special case. But that is just what Shimizu demands. She demands in effect that the view of passive as a syntactic universal be watered down so as to permit a passive subject to be derived from virtually any oblique NP whatsoever in corresponding active structure.

Let's turn to a somewhat different claim about the derivation of -(r)are- constructions. Both sides in the uniform vs. nonuniform controversy derive type two constructions, such as (3b), from an underlying structure roughly like (8b), below. The two sides disagree on the derivation of type one constructions like (3a). Uniformists posit an underlying structure similar to (8b) and a similar derivation. Nonuniformists posit a simplified structure something like (8a), similar to the usual underlying structure assigned to English passives.

(8a) is immaterial to our purpose. We are interested in (8b), a structure posited by uniformists and nonuniformists alike. (8b) presents no problem of determining where the 'passive' subject comes from (what kind of NP it corresponds to in the putative active counterpart).18 This is because node NP1, which represents the passive subject, does not belong to the active sentential counterpart in underlying structure. The active counterpart is represented by the embedded complement S2. It is assumed that this S2 has a sentential subject (node NP2) which ceases to be a sentential subject at some point in the derivation. Optional nodes such as NP3 and possible additional nodes (NP4, NP5, etc.) retain their status throughout the derivation.

There is a problem in that for some -(r)are- sentences there is no obvious filler for the NP2 node—the subject node within the putative embedded active structure S2. Consider (9a). The nearest non-(r)are- counterparts are shown in (9b) and (9c):

(9) a. taroo wa asi o erebeetaa ni hasamareta
    Taroo top leg obj elevator 10 catch-(r)are-past
    'Taroo was subjected to his foot catching in the
    elevator'

b. *erebeetaa wa (taroo no) asi o hasanda
    elevator top Taroo gen leg obj caught
    'The elevator caught Taroo's foot'
c. taroo wa asi o erebeetaa ni hasanda
   Taroo top leg obj elevator IO caught
   'Taroo caught his foot in the elevator'

In (9a) taroo corresponds to the main sentential subject node labeled NP₁ in (8b). Asi 'leg' corresponds to node NP₃. Erebeetaa 'elevator' looks as though it might correspond to node NP₂—the node representing the subject of the embedded active structure S₂. But this is impossible, because the active structure (9b) is unacceptable. The nearest non-(r)are- counterpart to (9a) is (9c). The formal subjects of the two are identical. (This should be suspect, since no one has proposed a passive under which surface subjects derive from underlying subjects.) For the analysis illustrated in (8b) the crucial problem is that the filler for node NP₂ is not apparent. On the one hand, if nothing occupies the NP₂ slot, then it cannot be said that an underlying active subject is displaced in the course of derivation. This would eliminate any theoretical motivation for treating -(r)are- constructions as rule derived variants of 'actives' (i.e., as 'passives'). On the other hand, to save the analysis one could posit a dummy to occupy node NP₂ in the underlying structure of (9a). For instance, one could treat (9a) in the way in which uniformists treat type one constructions—even though (9a) is a type two—by positing a copy of taroo to occupy the NP₂ node. This solution would violate a semantic constraint, discussed in the next section, that a -(r)are- Subject can have no role in the denoted action other than that of victim; but let us accept the solution for the sake of argument. The solution is, essentially, that (9c) comprises the active structure underlying (9a).

Unfortunately, problematic examples are not always amenable to this solution. Consider (10):

(10) a. taroo wa denwa ni zyuuen torareta
   Taroo top telephone IO 10-yen take-(r)are-past
   'Taroo was subjected to his ten yen (coin) being taken by the (pay) phone (without rendering service)'

b. *denwa wa taroo kara/no/ni zyuuen totta
   telephone top Taroo from/gen/IO 10-yen took
   'The telephone took Taroo's ten yen'

(10a) has no obvious 'active' counterpart at all. (10b) is unacceptable, and it is impossible to construe taroo as a subject of any corresponding 'active' S. Speakers say nevertheless that (9a) and (10a) are rather natural expressions—they are typical ways of expressing everyday mechanical aggravations. Further -(r)are- constructions that lack non-(r)are- counterparts can be cited. See (11)-(16):

(11) taroo wa tokai no hito gomi ni momareta
   Taroo top city gen people trash IO rub-(r)are-past
   'Taroo has been rubbed (shoulders) with by city folk (i.e., Taroo is world-wise)'
(12) kare wa sono hon ni kokoro o ubawareta
he top that book IO heart obj steal-(r)are-past
'He was enthralled (heart-stolen) by that book'

(13) itinitizyuu watasi wa kanzya ni sibarete
all-day I top patient IO tie-(r)are-ptcpl
ita (Doctor speaking:)
was 'I was tied up all day with patients'
(Active only occurs in literal sense: 'Patients tied me up—e.g., with rope—all day')

(14) kare wa kanozyo no utukusisa ni miserareta
he top she gen beauty IO charm-(r)are-past
'He was charmed by her beauty'

(15) kare wa hukoo ni utihisigareta
he top misfortune IO crush-(r)are-past
'He was crushed by his misfortunes'

(16) sono ikka wa kono aida no kazi de ie
that family top this interval gen fire with house
obj burn-out-(r)are-past
'yakedasareta
That family was burned out of their home in the
recent conflagration'

I am told that the verbs in the last three examples (14-16),
practically speaking, have no non-(r)are-counterparts. That is,
Japanese speakers express an inability to construct concrete ex-
amples using the hypothetical active verbs misuru, utihisigu or
yakedasu.21 Obviously examples like (9)-(16) are troublesome
to any analysis under which -(r)are- constructions are treated
as rule derived variants of non-(r)are-constructions. One could
force them into the structure in (8b) only by positing some ad
hoc filler to occupy node NP2, dummy style. This is all right—
unless one happens to object to ad hoc, dummy style analysis.

To summarize this section, the formal properties of -(r)are-
constructions are not consistent with those of the pure syntac-
tic passive. Any definition of the latter so weakened as to
accommodate the behavior of -(r)are- constructions would be of
no use or interest to universal grammar. Furthermore, certain
-(r)are- constructions are difficult to reconcile with the ana-
lysis represented in (8b), an analysis in which the active
counterpart S is embedded in the passive matrix. This concludes
the formal grounds for suggesting that -(r)are-constructions
might best be analyzed other than as passives. The next section
offers further grounds, the premise for which is semantic.

2. In this section only a few of the semantic properties of
-(r)are-constructions are very briefly outlined. It is then
suggested that no existing account of -(r)are- in terms of the
pure syntactic passive predicts any of these properties.

Semantically there are two kinds of -(r)are-constructions,
affective and nonaffective. In affective -(r)are-constructions
the Subject's participation in the action is limited to his af-
fectedness—he can play no other or additional role. This semi-
tantic condition explains why there are no such examples as (17):
(17) "taroo wa zibun ni teppoo de utareta
Taroo top self IO gun with shoot-(r)are-past
'Taroo was subjected to being shot by himself
with a gun.'

From a Japanese standpoint the act expressed in (17) is
schizophrenic—the victim is also doer. The same explanation
applies to (18) (taken from N. McCawley 1972:263):
(18) a. hirosi wa mitiko to kekkon sita 'H. married
Hiroshi top Mitiko with married M.'
b. "mitiko wa hirosi ni kekkon sareta
Mitiko top Hiroshi IO marry-(r)are-past
'M. was subjected to being married by H.'

The starring of the b example is due to the fact that the
Subject is not just affected but also does something. X can-
not marry Y if Y fails to participate. But in Japanese, Sub-
jects of -(r)are- constructions do nothing. This is true of
affective -(r)are- constructions; it also holds of nonaffective
-(r)are- constructions.

Let me explain what a nonaffective -(r)are- construction
is. Contrary to a common view of -(r)are- constructions, there
is no correlation of the nonaffective/affective semantic dis-
tinction with the type one/type two formal distinction.22 Thus
the Howards 1976 point out that there are type one constructions
which are semantically affective, even adversative. (3a) is an
instance. It does not report an objective event but connotes
what is a misfortune from the Subject's viewpoint. By the same
token there are type two constructions which are not semantically
affective; (19) illustrates:
(19) sono e wa hiroku na o sirarete iru
that picture top widely name obj know-(r)are- ptcpl is
'The name of that picture is widely known.'

Affectiveness, then, is not determined by the form of a
-(r)are- construction (in terms of type one/type two). It is
determined by semantic conditions, discussed in detail in Klaiman
(in preparation). The conditions are summarized in (20):
(20) a. Subject affectability condition: The sentential
Subject must be animate and must be conscious,
or have a potential for (faculty of) consciousness.
b. Performer effectability condition: The performer
(source) of the denoted action must be animate or,
if inanimate, must be viewed as inherently capable
of initiating and carrying out the action; an in-
ert entity cannot be a performer.

An affective -(r)are- construction is one which is unaccept-
able if it fails to meet one or both conditions.23 An acceptable
construction which can violate one or both conditions is seman-
tically nonaffective. (19) is a nonaffective construction that
violates only condition (20a). (21) violates both:
(21) ikutuka no zyuuyoo na kizi ga/wa sono hon
several gen importance adj article nom/top that book
ni24 hukumarete iru
IO include-(r)are-ptcpl is
'Several important articles are included in that book.'
Affective and nonaffective -(r)are- constructions differ somewhat as regards the kinds of actions they express. Affective -(r)are- constructions generally express action which the performer does, thereby entailing Subject's affectedness. Nonaffective -(r)are- constructions tend to express process-type actions which can be viewed as attributes of Subject. The contrast is illustrated in (22):

(22) a. haha wa kodomo ni okasi o taberareta (=3b) mother top child IO sweet obj eat-(r)are-past 'The mother was subjected to the child eating the sweet'

b. *okasi wa kodomo ni taberareta sweet top child IO eat-(r)are-past 'The sweet was eaten by the child'

c. sono ki wa siroari ni (yotte) hidoku taberareta that wood top termite IO due-to badly eat-(r)are-past 'That wood has been badly eaten up by termites'

(22a) expresses a specific act of eating (a deed) entailing the affectedness of the formal Subject haha 'mother'. (22b) is odd as a literal translation of its English gloss—it requires the affectedness of some unmentioned party to be read into it in order to make sense. This is because its Subject, okasi 'sweet', is semantically nonaffective (cf. 20a). However, (22c), whose Subject is equally nonaffective, is acceptable. This is because the action of eating is viewed differently—not as a specific deed or event of eating but as a process whose effects are attributed to the Subject.25

This section has been an extremely brief summary of some semantic properties of -(r)are- constructions. These properties are: the pure non-doer character of Subject; the affectability and effectability conditions (20) which distinguish affective and nonaffective uses of -(r)are-; and the difference which these uses reflect in speakers' views of the action (deed vs. attribute). These properties and others are further discussed in Klaiman (in preparation). The point of the present discussion is that it is hard to see how the theory of pure syntactic passive entails any of these semantic properties. Thus e.g., in English, just those formal passives which share with -(r)are- the characteristic of expressing attributive and affective semantic functions fail to be accounted for by standard theories of passivization (see again section 0). Clearly, leaving semantic properties out of account means omitting the most crucial information which the user of Japanese has to know about the construction. This is a second ground for not treating -(r)are- constructions within an account of pure syntactic passive.

3. The -(r)are- construction can and should be evaluated in light of features it shares with concrete phenomena in other natural languages. In early IE languages, voice is based on a semantic distinction between situations in which the Subject's role is purely doer vs. situations in which Subject is affected. Affectedness does not exclude the possibility that the Subject
also plays a doer role (e.g., in the reflexive \textit{--X} does action to \textit{X}). The ACTIVE is appropriate only when the Subject is doer and not affected.

In Japanese it is the reverse—only the Subject which is in no way doer is a potential \textit{-(r)are-} Subject. The voice systems of Japanese and early IE are clearly not the same. But they are strictly comparable. They can and should be handled by one comprehensive theory of grammatical voice.

A comprehensive theory is also needed to relate these to similar systems in other languages. I shall not comment on the similarity of \textit{-(r)are-} to phenomena in languages of the general Southeast Asian area; these are remarked on elsewhere. However, one strikingly similar system not previously noted as such occurs in Tamil, a Dravidian language of South India. In Tamil, all finite and some nonfinite verbal stems are marked for a formal opposition known as Weak/Strong. Paramasivam 1979 reveals that Weak/Strong is correlated with a semantic opposition he calls affective/effective. An affective verb is said to denote an action whose affect bears primarily on the Subject. An effective verb denotes an action which does not primarily affect the Subject but which—to borrow Paramasivam's words (p. 95)—is "affected by the subject" (vis-a-vis some nonSubject party). This theory is designed to account, among other things, for the formal and semantic differences between (23a,b):

(23) a. kuzantai kālaiuitar-atu (Paramasivam 1979:95)
   child-nom leg-acc kick-pres\textit{Weak-agreement}
   'The child is kicking its legs (in the air)'

   b. kuzantai engaituitar-kkīr-atu (ibid.)
   child-nom me-acc kick-pres\textit{Strong-agreement}
   'The child is kicking me'

In (23a) the entity primarily affected by the action of kicking is the Subject itself, while in (23b) the primarily affected entity is other than the Subject.

Paramasivam (pp. 106ff.) points out that the Tamil AFFECTIVE/EFFECTIVE system is neither synchronically nor diachronically related to the ACTIVE/MIDDLE voice system of Sanskrit, an early IE language. It is true that the conceptual bases of the two systems differ. This does not mean both are not voice systems. The Japanese system, too, differs in precise conceptual makeup from both the IE and Tamil systems, but again this does not mean it must be treated as other than a voice system. On the contrary, the fundamental similarity of the phenomena in early IE, Tamil and especially Japanese cry out for a comprehensive general account. (Klaiman in preparation is a first approximation.) Such an account must substantially concern itself with the complex character of grammatical voice—the fact that natural voice systems have a common semantic basis. A theory of pure syntactic passive—whatever its usefulness in natural language analysis—is not designed to meet this need. This is the third of three grounds for the position that Japanese \textit{-(r)are-} should be accounted for other than under the rubric of pure syntactic passive.
Footnotes

*I am indebted to three Japanese speakers for data: Takako Tomoda, Atsuko Fuji and Hiromi Yamaguchi. I am especially indebted to a Japanese specialist and friend whose graciousness one finds all too infrequently emulated: my unlimited thanks to Hiroko Nishio. Errors are not their responsibility. This research was performed without office space, funding, secretarial assistance or other accoutrements of scholarly endeavor. Hence the subtitle.

1The term Subject (as opposed to subject) refers to the referent of any formal sentential subject.

2Functions of the category MIDDLE can be summarized and illustrated as follows (from Klaiman in preparation):
   a. Plain Middle: results of action accrue to Subject
      Gr. politeu-omai 'I carry out civic rights for myself' (Barber 1975:18)
   b. Reciprocal Middle: referents of plural Subject do action to one another
      Gr. lou-ometha 'We wash each other' (ibid., p. 19)
   c. Reflexive Middle: Subject performs action to self
      Gr. lou-omai 'I wash myself' (ibid.)
   d. Deponent Middle: action denotes physical/mental disposition of Subject
      Skt. ās-te 'sits', ē-te 'lies'
   e. Nucleonic Middle: object of action belongs to, moves into, or moves from sphere of Subject
      Skt. ādat-te 'takes (for oneself)', vikrīṇī-te 'sells (gives for profit)'
   f. Plain Passive: Subject does nothing, is affected in consequence of action
      Skt. katabh kriyate 'The mat is made'

3The IE voice system can be schematized as follows (after Barber 1975). See preceding footnote for explanations of MIDDLE voice functions.

<table>
<thead>
<tr>
<th>ACTIVE</th>
<th>MIDDLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plain Active</td>
<td>Plain Middle</td>
</tr>
<tr>
<td>Reciprocal Middle</td>
<td>Nucleonic Middle</td>
</tr>
</tbody>
</table>

4Early IE languages also have "a certain number of verbs that possess only one series of endings; some are only active, others only middle... activa tantum and media tantum..." (Benveniste 1971:147). Verbs of the media tantum class are sometimes referred to as deponent middles (see outline of corresponding function in footnote 2, d). Japanese, like early IE, has some verbs which never take the 'passive' stem formant -(r)are- (e.g., wakaru 'understand'); other verbs which invariably take -(r)are- (see text, exes. 14-16); and verbs which may or may not take -(r)are-. As in IE, the last class comprises most of the verbs of the language.

5This is mentioned in Lyons 1968:373 and Barber 1975:21.

6The sequence of changes can be inferred by comparing the voice schemata of modern English below (based on Barber 1975)
with the IE voice schemata given in footnote 3.

ACTIVE
Plain Active Reciprocal Middle Plain Passive
Plain Middle Reflexive Middle

Referring to unpublished research by David Perlmutter and Paul Postal, Barber 1975:16 expresses a view of passive as follows: 'The passive has been argued to be fundamentally a strategy to move NP's in and out of subject position.' A later view (Comrie 1977) is that passive universally moves NPs out of but not necessarily into subject position. It is assumed that the reader is familiar with these views.

Thus Davison 1980:50 remarks, 'I will assume that promotion of indirect objects by Passive occurs only via the intermediate step of promotion to direct object by Dative Movement (Johnson [1979] . . . ).'

For a formal proposal on a universal characterization of the process, see Perlmutter and Postal 1977. I assume that the pure syntactic passive as a language universal is model-independent. The substantive claims of transformationalists, relational grammarians, arc-pair proponents and so on tend to be the same as regards passive, even though the models differ in outer trappings. In short, it is the pure syntactic passive as a view of passive which is under consideration here— not any particular model.

For instance, Delancey 1981:627, footnote three, refers to passives as well as their intellectual bedfellows, ergatives, in terms of 'voice'. Processes whereby NPs of various functional roles are moved into subject position are typical of Malayo-Polynesian languages; and one such language (Malagasy) has been said to possess a 'voice' system (Keenan 1976b). The rationale for the use of the term 'voice' is specifically stated by neither of these writers.

In 'Towards a universal definition of subject', it is claimed, as a component of the universal definition of subject, that 'b[asic]-subjects normally express the agent of the action, if there is one' (Keenan 1976a:321). This heroic (dare I say: masculine?) characterization of subject expresses nothing more than an ethnolinguistic prejudice. It ignores the perfectly valid view (grammaticalized in many non-European languages) of Subject as victim. For elaboration, see Klaiman in preparation.

For instance, Howard and Niyeitaka-Howard claim that 'inanimate nouns are not normally appropriate subjects of passive sentences' (1976:215), while Kuroda lists conditions under which 'an inanimate noun phrase may be the subject of a ni passive sentence' (1977:27). Also, Evans and Kameyama claim (p. 2) that the following Japanese sentence is acceptable, while Wierzbicka 1979:156 labels an equivalent sentence as impossible:

boku ga ie ni yakerareta
I nom house 10 burn-(r)are-pest
'I was subjected to my house burning down'

Japanese speakers to whom I have put the above example judge it unacceptable.
The terms applied to the two types vary greatly from writer to writer. N. McCawley 1972 refers to types one and two respectively as 'plain' and 'affective'; Kuno 1973 as 'pure' and 'adversity'; the Howards 1976 as 'direct' and 'indirect'; Clark 1974 as 'pure' and 'inflactive'.

In Japanese, the nominative marker ga deletes before the topic marker wa. I have labeled ni as 'IO' (indirect object) for typographical convenience, although ni marks various functions in addition to the indirect object.

The controversy is reviewed by Kuno 1978. It is pointed out by him that both sides have strong and weak points and the conclusion is offered that 'the controversy . . . has not yet been resolved . . . and will be continued for many years to come' (p. 273).

'Passive' is a terminological convenience. What should one call the construction if not 'passive'? It is suggested (Klaiman in preparation) that an adequate terminology presupposes a comprehensive new theory of grammatical voice, no less. If so, it is not surprising if many writers opt for the familiar if inappropriate term 'passive', especially since its use is consistent with the assumption spoken of in footnote eleven. The consistency lies in the fact (also pointed out in the main text, below) that Subjects of -(r)are- constructions are never doers in a semantic sense.

Possibly one could still claim this of Japanese by positing intermediate structures in which the underlying oblique objects occupy derived direct object status, later to be promoted to subject by passive. I am unaware of any concrete proposal along these lines. (I wouldn't put it past some linguist to propose something of the sort, however.)

The analysis represented in (8b) conveniently, but unfortunately, also skirts the issue of the Subject's permissible relationship to the denoted action. Some discussion is given in the main text, below. Also see Klaiman in preparation.

Sentences (9a) and (9c) are not equivalent semantically. (9c) would most likely express a situation in which the Subject (Taroo) does something--most possibly out of intention, but also possibly without intention--as a result of which the elevator catches his foot. (9a) most likely expresses a situation in which the Subject does nothing--perhaps the elevator door closes automatically; perhaps a sloppy operator accidentally closes it on Taroo's foot. (If someone else closes the door deliberately on Taroo's foot, it may be more appropriate to use erebeetaa de rather than erebeetaa ni.) Note, however, that Taroo may be viewed as in some way responsible for his accident, even if he overtly does nothing, and that this situation may be expressed by (9a). In this connection see Nishio 1980.

In -(r)are- constructions in which the Subject's affectedness is expressed, the performer or source of the action is agentive in the sense given in Cruse 1973. Roughly, this means that the performer is animate and conscious, or relates to the
activity as if it were. Expressions like (9a) and (10a) conjure up an almost Chaplinesque universe wherein man is inexorably thwarted by perverse contraptions with seeming minds of their own. My data sample includes other such instances. They are commented on in Klaiman in preparation.

Such verbs can be thought to belong to the Japanese version of the media tantum class. See again footnote four.

The assumption that type one constructions are semantically nonaffective and type two's affective shows up in Kuno 1973:24, N. McCawley 1972:259, and Wierzbicka 1979:118, inter alia. Klaiman in preparation shows on several grounds that the putative correlation is descriptively inaccurate.

A construction may casually meet both conditions, without either being essential to its acceptability. Consider:

watasi wa senseitati ni (yotte) manaa o osierareta
I top teachers IO due-to manners obj teach-(r)are-past
'I was taught manners by my teachers'

This is not an expression of a deed on someone's part nor of the Subject's affectedness. It is an expression of a process which has brought about a certain attribute of the Subject. A tipoff to this is the optional admissibility of yotte (ni yotte means 'due to, on the part of'). Yotte is a participle of yoru 'lean on, rely on, depend on, owe to'. Its meaning suggests attribution. It is well known, moreover, that ni yotte cannot mark the performer NP in -(r)are- constructions which are semantically affective. The distribution of ni yotte is consistent with the deed/attribute account of speakers' view of action in -(r)are-constructions. See details in Klaiman in preparation.

Kuroda 1977:6-7 cites a claim attributed to K. Inoue to the effect that ni is a variant of de (said to be an instrumental marker) when it marks inanimate NPs in -(r)are- constructions. Ex. (21) is a counterexample. Here ni cannot be replaced by de.

The optional admissibility of yotte in (22c) suggests this. See again footnote 23.

25 See inter alia Clark 1974. Further references are provided in Klaiman in preparation.

It simply means they cannot be the same voice system. The Tamil voice system can be represented schematically as follows. (Compare with the IE schemata in footnote three. For exegesis, see Klaiman in preparation.)

**AFFECTIVE**

Plain Affective
Subject performs action and is affected in consequence of acting

**EFFECTIVE**

Plain Effective
Subject performs action which primarily affects nonSubject entity

Reflexical Effective
Subject performs action and action affects Subject, but Subject not affected purely in consequence of acting

Affectless Effective
action entails no affect; affectless action; action viewed as mere attribute of Subject
The Japanese voice system may be represented schematically as follows (from Klaiman in preparation, which see).

UNMARKED (-$-$)

Plain Unmarked
Subject relates to action as doer

MARKED (-($r$)are-)

Affective Marked
affectable Subject is affected in consequence of deed performed by effectable entity; Subject does not otherwise participate in action

Attributive (Nonaffective) Marked
Subject does nothing; nonaffective action is viewed as attribute of Subject and may be attributable to a performer or source

References


Lyons, J. 1968. Introduction to theoretical linguistics.
CLS 8, 259-270.
LSA winter meeting, San Antonio.
Perlmutter, D., and Postal, P. 1977. Toward a universal
characterization of passivization. BLS 3, 394-417.
Shibatani, M. 1975. Pre-lexical versus post-lexical raising
in Japanese. CLS 11, 514-528.
Shibatani, M. 1977. Grammatical relations and surface cases.
Lg. 53 (4), 789-809.
Shimizu, M. 1975. Relational grammar and promotion rules in
Japanese. CLS 11, 529-535.
Press.
Wierzbicka, A. 1979. Are grammatical categories vague or
polysemous? The Japanese 'adversative' passive in a
typological context. Papers in Linguistics 12 (1-2), 111-
162.
Verbs of Motion and Arrival in Mixtec

Monica Macaulay
University of California, Berkeley

1. Introduction

Verbs of motion and arrival in the Diuxi dialect of the Otomanguean language Mixtec have been described in Kuiper and Merrifield, 1975. To my knowledge Diuxi is the only dialect of Mixtec for which this semantic domain has been analyzed. I assume, however, that related systems exist in all dialects of the language. This paper will describe the verbs as they exist in a dialect spoken in the town of Chalcatongo. This dialect encodes the same elements in its set of motion and arrival verbs as Diuxi Mixtec does, but with significant differences. I will claim that the Diuxi data and the data to be presented here represent only particular instantiations of a more general system of options for verbs in this domain in Mixtec, for which a unified characterization is possible.

Kuiper and Merrifield give a basic definition of the verbs of motion as follows: "motion of an Agent through space and time to a Goal" (p. 32), and of the verbs of arrival as "arrival of an Agent at a Goal" (p. 33). They propose an analysis of the verbs in both categories which claims that they are differentiated with respect to the following three criteria: (a) the place of the locutionary act (PLA); (b) the location of the Goal; and (c) the location of the Agent's Base. ("Agent's Base" refers to any place to which a person often returns, usually his or her home. This topic will be discussed further in section 6). While these factors are certainly present in the Chalcatongo dialect, in general individual verbs are not as highly specified in terms of those elements as they are in the Diuxi dialect, as will be shown below.

2. Graphs

Kuiper and Merrifield introduce a system of diagrams to facilitate description of individual verbs in this domain in Diuxi Mixtec. I will follow their model for ease of comparison (and because it is an ingenious way of describing the facts), but with certain modifications. Their diagrams (see Figure 1) consist of two horizontal time lines, a vertical line representing TLA, and one or two diagonal lines representing motion. A dot at the end of a diagonal line represents arrival at a Goal, and a dotted diagonal line indicates implied motion. Figure 1, then, would represent some hypothetical verb encoding motion away from the place where we are speaking, and arrival at a Goal at some unspecified other place. Additionally, it would represent that verb in the future tense, as evidenced by the diagonal line being to the right of TLA.

In Kuiper and Merrifield's system the lower of the two lines
is by convention time at PLA. The implication of this is, of course, that PLA is constant as a reference point across the entire set of motion and arrival verbs in the Dijuix dialect. In Chalcatongo Mixtec, however, the much more general notions of Source and Goal are the only constants, with PLA (and Base) being only occasionally specified. To accommodate this fact, I will present both sets of data with an altered version of Kuiper and Merrifield's diagrams, in which the lower line is designated as Source and the upper as Goal. (See Figure 2). PLA is then a 'roving' factor which may appear on either the upper or the lower line (or be unspecified).

![Fig. 1](image1) ![Fig. 2](image2)

3. Chalcatongo Mixtec

Listed below are the verbs of motion and arrival in Chalcatongo Mixtec, with examples following each verb. Data for Dijuix Mixtec will be presented in section 4, and discussion in section 5.

3.1. Verbs of Motion

3.1.1. /kii/ - Move toward PLA (and return away from PLA) (Past and Potential)

1. pedrů nikii bejeyo
   Pedro pastcomeR house-lpl, poss
   Pedro came to our house and left again

2. pedrů kii yá?á
   Pedro comeP here
   Pedro will come here and leave again

3.1.2. /čaà/ - Move toward PLA (Past and Potential)

3. pedrů ničàa yá?a łu
   Pedro pastcomeR here yesterday
   Pedro came here yesterday
4. pedrú càa yála sìá
   Pedro comeP here tomorrow
   Pedro will come here tomorrow

/bèi/ - Move toward PLA (Present)

5. pedrú bèi yála
   Pedro come here
   Pedro is coming here

/ñaʔà/ - Move toward PLA (Imperative)

(Imperative)

6. ñaʔà híiri
    come with-lsg
    Come with me

3.1.3. /kʷáʔà/ (Imperative), /kʷaʔà/ (Past) - Move away from PLA

(Imperative)

7. kʷáʔà skʷeɬá
   goR school
   He went to school

8. kʷáʔà nuu hoan
   goIMP face Juan
   Go to Juan

/kíʔi/ - Move away from PLA (Potential)

9. kíʔi skʷela
    goP school
    He will go to school
/čoʔo/ - Move away from PLA with speaker (Hortative)

10. čoʔo  kée sta
    let's-go eat tortillas
    Let's (go) eat

11. čoʔo  biko béʔeří
    let's-go party house-1sg, poss
    Let's go to the party at my house

3.1.4. /noʔo/ (Potential), /noʔo/ (Realized) - Move toward Base from PLA

12. noʔo beʔeřo
    goP house-2sg, poss
    Go back to your house

13. ninóʔo
    pastgoR
    He went home

3.1.5. /nášukʷín/ (Potential), /nášukʷín/ (Realized) - Move back to starting point

14. šia⁸ nášukʷín
    tomorrow returnP
    Tomorrow she'll come back

15. šia⁸ nášukʷinří nǔu záʔu
    tomorrow returnP-1sg face market
    Tomorrow I will go back to the market
16. ninaŋukwin béte
   pastreturnR house
   He went home

17. ūlan noʔo beše te naŋukwin nakununù
    Leanne returnR house and returnP later
    Leanne is going to go home and will return (here) later

3.1.6. /háʔa/ - Move past some point (Past and Potential)

18. ruʔu a nihaʔarí
    lsg already pastpassR-1sg
    I already went

19. haʔaró uni bëte té haaró
    passP-2sg three house and arriveP-2sg
    You will pass three houses and then you'll be there

(The diagrams for this verb are somewhat different from the others. The verb occurs in all tenses, and so to avoid repetition TLA has been left out. Instead, the diagrams show that the Agent of a sentence using this verb can either pass a specified point on his or her way to another point (as in (19)), or can pass a point which is the endpoint of a journey, and then return (as in (18)). In this case the verb is used with a round-trip sense).

/háʔa/ is a verb which is used in a wide range of situations:

20. wàa hínalà káhaʔa n żuʔa
    that pl pl-passR one river
    They are crossing a river

21. saa wà nihaʔa iči núurí
    bird that pastpassR road face-lsg
    The bird flew in front of me

22. kwaʔasáa náziu nikaḥaʔa biko
    many people pastpl-passR party
    Many people came to the party

3.1.7. /kenda/ (Potential), /kénda/ (Realized) - Move out of

23. ná ʔo ni kendaró
    what month pastmoveoutR-2sg
    When did you leave?
24. tànirí kënda bekàa šíà
brother-1sg moveoutP jail tomorrow
My brother gets out of jail tomorrow

25. këndà ிஃ ya yàa bë²e
moveoutP road this house
Come/go outside

26. saà wà nikëndà nuu žënu wà
bird that pastmoveoutR face tree that
The bird flew out of the tree

3.2. Verbs of Arrival

3.2.1. /haà/ - Arrive away from PLA (Past and Potential)

27. rùú nihàarí bëeró ikú
1sg pastarriveR-1sg house-2sg yesterday
I arrived at your house yesterday

28. šíà haa tâùari bëeró
tomorrow arriveP father-1sg house-2sg
Tomorrow my father will arrive at your house

3.2.2. /nañaa/ - Arrive at Base away from PLA (Past and Potential)

29. ikú ninahàaña
yesterday pastarriveR-3sg, fem
She arrived home yesterday

30. šíà nàhaana
 tomorrow arriveP-1sg, polite
Tomorrow I'll be home

4. Dioxì Mixtec

The data on the Dioxì dialect presented by Kuiper and Merrifield can be summarized as follows:

4.1. Verbs of Motion

/kìši/ - Move to non-Base toward PLA and return away from PLA
/vàši/ - Move to non-Base toward PLA
/ndìši/ - Move to Base toward PLA
/sešì/ - Move to non-Base away from PLA and return toward PLA
/hwala/, /hipi/ - Move to non-Base away from PLA
/nulu/ - Move to Base away from PLA

4.2. Verbs of Arrival
   /kišee/ - Arrive at non-Base toward PLA
   /nše/ - Arrive at Base toward PLA
   /še/ - Arrive at non-Base away from PLA
   /naše/ - Arrive at Base away from PLA

5. Comparison of the Two Dialects

5.1. General
   Diumix and a dialect very close to Chalcatongo Mixtec
   (that spoken in San Miguel el Grande) were among the twenty-eight
dialects discussed by Mak and Longacre (1960) in their work on
Proto-Mixtec. In trying to determine that some of these verbs are
in fact cognate, however, I have found that in the interests of
brevity the authors greatly abbreviated their cognate sets, and
that Diumix is one dialect which is left out quite often.
As a result, proof of relatedness relies on the assumption that
Diumix could have developed along the lines of certain dialects
spoken in the periphery of the Mixtec-speaking area. Since San
Juan Diumix is actually located in the center of this area, and
other dialects spoken near it developed differently, demonstration
that certain verbs are cognate has to be regarded as tentative at
this point.

Bearing the above in mind, it can be shown that there is a
plausible relationship between certain pairs of verbs, as shown in
Table 1'. While only two of the six groups have exactly the same
meaning, there are also no contradictions to be seen. Rather, the
pairs have the same 'layout,' but with the Diumix verbs showing
a tendency towards higher specificity. For example, Goal is
always specified as Base or non-Base in that dialect, whereas in
Chalcatongo Mixtec if it is not specified as Base it can be either
Base or non-Base.

At this point a note on the usual form of verbs in Mixtec is in
order. Most verbs in Chalcatongo Mixtec are quite regular, and
have two forms - the potential and the realized. The former
appears in all uses of the verb that are yet to occur: futures,
imperatives, cases corresponding to English modals, etc. The lat-
ter is used for present and past tenses. The verbs of motion and
arrival, however, are very irregular. Diumix Mixtec shows similar
exceptional behavior, but with a much more regular pattern of ir-
regularity. As can be seen from the diagrams below (Table 1),
this group of verbs only occurs in potential and "completive" (i.e. past)
forms. Motion and arrival verbs in the Diumix dialect are "momem-
tary" verbs: the activity is regarded as already having taken
place or as not yet begun. There can be no continuative or pre-
sent action described. (Kuiper and Merrifield ascribe this to a
focus on the initiation of the action - once it is initiated it is
spoken of in the past tense). This distinction is not as clear- cut in the Chalcatongo dialect, however. There is a tendency for the verbs to be missing a present or continuative form, but some of them clearly do have such a form. Tense distribution will be dis- cussed below.

5.2. Individual Verbs

/kii/ (3.1.1.) is an example of a Chalcatongo Mixtec momentary verb. It patterns just as its semantic near-equivalent in Diuxi Mixtec (/kiši/) does. It is slightly unusual in that its potential form can not be used as an imperative. (This is normally one of the many uses of the potential). Instead, /maša/ (3.1.2.) is used, cancelling out the return portion of the motion. Irregularities

<table>
<thead>
<tr>
<th>CHALCATEGON MIXTEC</th>
<th>DIUXI MIXTEC</th>
</tr>
</thead>
<tbody>
<tr>
<td>/kii/</td>
<td>/kiši/</td>
</tr>
<tr>
<td>PLA</td>
<td>PLA, Non-Base</td>
</tr>
<tr>
<td>PLA</td>
<td></td>
</tr>
<tr>
<td>PLA</td>
<td></td>
</tr>
<tr>
<td>PLA</td>
<td></td>
</tr>
<tr>
<td>PLA</td>
<td></td>
</tr>
<tr>
<td>PLA</td>
<td></td>
</tr>
<tr>
<td>/caà/</td>
<td>/vaši/</td>
</tr>
<tr>
<td>PLA</td>
<td>PLA, Non-Base</td>
</tr>
<tr>
<td>PLA</td>
<td></td>
</tr>
<tr>
<td>/bēì/</td>
<td>/hiši/</td>
</tr>
<tr>
<td>PLA</td>
<td>PLA, Non-Base</td>
</tr>
<tr>
<td>PLA</td>
<td></td>
</tr>
<tr>
<td>/kwaší/</td>
<td>/hwaša/</td>
</tr>
<tr>
<td>PLA</td>
<td>Non-Base</td>
</tr>
<tr>
<td>/kaší/</td>
<td>/kiší/</td>
</tr>
<tr>
<td>PLA</td>
<td>Non-Base</td>
</tr>
<tr>
<td>/nošo/</td>
<td>/nušu/</td>
</tr>
<tr>
<td>Base</td>
<td>Base</td>
</tr>
<tr>
<td>PLA</td>
<td>PLA</td>
</tr>
<tr>
<td>PLA</td>
<td>PLA</td>
</tr>
<tr>
<td>/haa/</td>
<td>/šeč/</td>
</tr>
<tr>
<td>PLA</td>
<td>Non-Base</td>
</tr>
<tr>
<td>PLA</td>
<td>PLA</td>
</tr>
<tr>
<td>/nahaà/</td>
<td>/našeč/</td>
</tr>
<tr>
<td>Base</td>
<td>Base</td>
</tr>
<tr>
<td>PLA</td>
<td>PLA</td>
</tr>
</tbody>
</table>

**TABLE 1**
in the imperative forms are seen in many of these verbs. Kuiper and Merrifield do not address themselves to the issue of imperatives, so it is not clear if Dixui Mixtec shows similar behavior in this area.

/çaã/ (3.1.2.) is one of the most interesting verbs in the set because of its three distinct forms. /çaã/ itself is used for past and potential (minus imperative) only, /baã/ is exclusively present tense, and /naãã/ is an imperative form. Its correspondent in Dixui Mixtec, /vaã/, is also irregular, but not in a parallel fashion. In that dialect, /vaã/ occurs only in the past tense, being replaced by /kiã/ in cases where one would expect a potential form. An interesting comparison is to be made between /vaã/ and its cognate /baã/. The former, as Kuiper and Merrifield state, is paradigmatically defective. The latter is the most unusual motion verb in the domain, existing only in the present tense. Furthermore, there appears to be no cognate in Dixui Mixtec to the verb /çaã/, which appears with the normal momentary verb tense distribution.

The next verb in section 3, /kwaã/ (3.1.3.), also shows a proliferation of forms, but with a different configuration of those forms. In this case, the past and the imperative are phonologically alike, with a distinct form for the potential. Also noteworthy is the fact that the past tense is distinguished from the imperative purely by tone. It is the only past tense form in the language which I have come across which does not (and cannot) have the past morpheme /ni-/ prefixed to it.

There is also a third form, the hortative /doã/. It can be used alone, meaning "let's go," used with another verb (as in (10)), or used with a noun (as in (11)).

/noã/ (3.1.4.) is a momentary verb corresponding to the Dixui Mixtec verb /niã/. It is the only verb in the Chacatongo dialect for which Base is specified as Source or Goal. /naãuk in/ (3.1.5.) is another return verb, but a more general one. As is illustrated by examples (14) and (15), PLA can be either the Source or the Goal of the movement. Sentences (16) and (17) show that when Base is a factor in a sentence using /naãuk in/, its location is not fixed either. Base, like PLA, can be the Source or the Goal of the journey.

/háiã/ (3.1.6.) and /kënda/ (3.1.7.) are two verbs for which equivalents were not described by Kuiper and Merrifield. It could be argued that the latter is not a verb of motion, but should more properly be described as a verb of "exit" or "departure," contrasting with the arrival verbs. Nicolás (my source for this data) claims that it is a motion verb, however, and some of its uses do seem to fit that description. Others, however, do not, and I will leave it an open question at present.

/háiã/ seems to be the most general motion verb in the language. As is shown in (20)-(22) it is used under quite varied circumstances. In my data it is translated variously as: walk, pass over, pass by, fly, climb over, go, come, and return. In the
same way that /nasâ'uk'â'ìwən/ allows the speaker to not specify any of the parameters of return motion, /hâ'φa/ allows the speaker to be vague about simple motion.

/haâ/ (3.2.1.) and /nahaâ/ (3.2.2.) are the only clear cases of verbs of arrival in Chalcatongo Mixtec. (/çàâ/ apparently can be used to describe arrival at PLA as well as motion toward PLA, but its status as an arrival verb is unclear at this point). In the case of /nahaâ/, the conditions on Base are not the normal ones. Instead of the Agent's Base as Goal being the only determining factor (as one would expect), in this case both the addressee and the Agent of the action must have the same Base for appropriate usage of the verb. That is, if there is a first person Agent, then the speaker and the addressee must have the same Base. But if the speaker is using /nahaâ/ in remarking to someone that a third person will arrive at his or her own home, then for appropriate usage the addressee and the person being discussed are the ones who must have identical Bases. In this case, the speaker's Base is irrelevant. This requirement is unique in the system, and is not described for the Diuxí dialect.

6. Base

Kuiper and Merrifield point out that the notion "Base" is probably related to the more general idea of repetition of action in Mixtec. The language has a particle /na-/ , which, when prefixed to certain verb stems, indicates such repetition, or an extension of the idea of repetition. Illustrative data from the Chalcatongo dialect are:

31a. sâ'ìa - Do it!
   b. nasâ'ìa - Do it again!
32a. ru'ù katarìf - I sing
   b. ru'ù nakatarì - I sing again
33a. kîku - to sew
   b. nakîku - to mend
34a. skâ'ìa - to unfold
   b. naskâa - to stretch

The data which I have on Chalcatongo Mixtec would seem to support the conclusion that the phenomena are related, especially in light of the fact that Base (following the trend in all aspects of this domain) seems to be a more generalized notion than in Diuxí Mixtec. On the subject of Base, Kuiper and Merrifield say:

... it is sufficient to think of 'Base' as the place to which the Agent of an action returns at the end of the day or at the end of a trip - his home, his hometown, his home district, etc. - the size and precise location in space of the Base being a function of the order of magnitude of the trip in question (p. 42).

The notion "Base" in Chalcatongo Mixtec is in fact usually just as defined above, but there are some instances in which a broader
definition is needed. For example:

35. seʔerí = noʔo skʷela inʔka semáná
son-lsg, poss goP school next week
My son will go back to school next week

The explanation for this use of /noʔo/ was not that the son lives at school, but that he spends most of his time there, and so /noʔo/ is appropriate.

This more general use of the concept Base supports the hypothesis that it is an extension of the idea of repetition of action. This is especially clearly seen in the pair /haʔa/ - /nahaa/, in which the verb involving Base actually has the repetitive element prefixed to it. One has to posit some amount of sound change to account for the form of the only other verb obligatorily involving Base in the Chalcatongo dialect (/noʔo/), but the semantic facts remain convincing.

7. Conclusion

Verbs of motion and arrival have been presented and compared in two dialects of Mixtec. In almost all aspects of analysis the Chalcatongo Mixtec system is seen to be more general, with fewer restrictions on the use of individual verbs. Chalcatongo Mixtec also has widely varying tense patterns across the domain, unlike Diuxi Mixtec, which shows a fairly consistent momentary verb tense distribution.

The reasons for these differences are far from clear. Certainly some of them could be due to a difference in age between Nicolás and the Mixtec speaker interviewed by Kuiper and Merrifield. Nicolás is young and strongly bilingual, and it seems highly likely that the existence of present tense verbs of motion in his dialect could be due to the influence of Spanish, which has the full range of tenses in its verbs in the domain under consideration. This putative influence would not, however, explain quite as easily the Chalcatongo dialect's tendency towards lesser specificity.

Leaving explanation aside, I would like to discuss the outcome of comparison of these two dialects. In order to arrive at an analysis which is sufficiently general to encompass the facts from both dialects (and presumably from related dialects as they are investigated), Kuiper and Merrifield's analysis of these verbs has to be changed somewhat. A more general characterization of verbs in this domain would be as follows:

I. Source and Goal may be specified as any (or none) of the following:
   A. PLA
   B. Base
   C. Non-Base

II. Verbs must be specified as either "one-way" or "round trip."
Different dialects, then, can "choose" the degree of detail for which verbs of motion and arrival are specified, just as we have seen. A dialect can stipulate that Goal must be designated as Base or non-Base, as Diuxi Mixtec does, or can tolerate ambiguity in all cases except the few in which Goal must be Base, as Chalcatongo Mixtec does. There are also special cases, such as the requirements for shared Base in the use of /nahaà/ in the Chalcatongo dialect, which would have to be specified individually. Other contrasts and degrees of specificity are certainly imaginable and will have to be taken into account as verbs of motion and arrival in other dialects of Mixtec are analyzed.

Footnotes
1. The data on Chalcatongo Mixtec presented in this paper were provided by Nicolás Cortés, a native of Chalcatongo, Oaxaca. I would like to thank him for all of his help and patience over this past year. I would also like to thank Dr. Leanne Hinton, Mariscela Amador, Claudia Brugman, Amy Dahlstrom, Mark Gawron, Martha Macri, and Catherine O'Connor for their suggestions and ever-so-constructive criticisms of earlier versions of this paper. Any folly found in the present version is of course my own.
2. My work on Mixtec has been supported by a Graduate Fellowship from the National Science Foundation.
5. "P" after a verb's gloss indicates potential form, "R" after a gloss indicates realized form.
6. /niśuk\textsuperscript{w}in/ can be analyzed into two morphemes; repetitive /na-/ (see section 6) plus the verb /śuk\textsuperscript{w}in/, "to turn over or around":
   a. niśuk\textsuperscript{w}in\textsubscript{staa} wām
      pastturnover tortilla that
      She turned the tortilla over
   b. niśuk\textsuperscript{w}in\textsubscript{i_fmt} nu\textsuperscript{u}ri
      pastturnover road face-lsg, poss
      He turned over towards me
   Sometimes /śuk\textsuperscript{w}in/ is used as a verb of motion, translated as "return," but I think its basic sense is "turn around (and move)."
   To avoid further confusion I will not consider it as a verb of motion.
7. Mak and Longacre demonstrate that Proto-Mixtec (PM) *hi becomes /hi/ or /i/ in San Miguel el Grande Mixtec, and /śi/ in the dialects spoken in Tonahuixtla and Chigmecatitlan, both to the north in the state of Puebla. PM *kihi, then, would have the reflex
/kiι/ in San Miguel (and Chalcatongo) Mixtec, and /kiši/ in other dialects. PM *va viên would have become /vaši/ in Diuxi Mixtec, and according to this rule, /vai/ in the San Miguel dialect. This is exactly what is found in the Vocabulario Mixteco de San Miguel el Grande (Dyk and Stoudt, 1973), and is one of the points of difference between that dialect and the Chalcatongo dialect. Finally, PM *ha becomes /ha/ in San Miguel Mixtec, /ša/ in dialects spoken in the north (Chigmecatitlán), the west (Metlatonoc), and the southwest (Atoyac), and /še/ in the dialect spoken in San Juan Coatzospan, a town in the northeastern part of the state. /haə/ and /šeə/, then, can reasonably be claimed to have derived from PM *haa.

8. Iterative uses of these verbs are being omitted, for the sake of brevity.

References


LEXICAL FUNCTIONS IN LEXICOGRAPHIC DESCRIPTION

Igor A. Mel'čuk
Université de Montréal

I

Introduction

This paper attempts to state and illustrate, in a very preliminary manner, the important linguistic notion of LEXICAL FUNCTION (introduced in Zolokovskij – Mel'čuk 1966 and 1967 and developed, at some length, in Mel'čuk 1974: 78-109). Lexical functions were devised to describe a certain type of lexical collocation, italicized in (1) – a dozen sentences collected in ten minutes from one newspaper page:

(1) a. The President clamped (= imposed) an overnight curfew on three areas... to stamp out (= put down) violence.
b. The panel issued a report to the Secretary of State.
c. President Reagan rejected pleas to open talks with striking US controllers.
d. Pope released from hospital [headline]. The Pope left the hospital yesterday, three months and one day after he was struck by two bullets. He said a brief prayer...
e. The heaviest prison terms in Kentucky history (more than 1,600 years each) have been handed down against two men.
f. South African troops have spread a dragnet across the country in a search for three heavily armed black guerillas. The ANC has claimed responsibility for the attack launched last Tuesday in which four rockets were fired at an army camp.
g. We are looking for senior consultants of proven competence to satisfy the demands of our growing business.

Texts – from colloquial to artistic to technological – swarm with expressions of this type.

To save space, I will impose the following three restrictions on my paper:

(i) Although lexical functions are crucial for the linguistic theory, I shun all theoretical discussion and cut short many explanations, even some necessary ones. ("Explanations take such a dreadful time!" – as Lewis Carroll's Gryphon said once.) I place all my hope in the examples and in both the intelligence and good will of my readers.

The work reported in this paper has been sponsored over the past three years by the Social Sciences and Humanities Research Council of Canada, under grant No. 410-80-0345-R2.
(ii) Although lexical functions are universal, I exemplify them only from Russian. (Some French examples and a comparison with Russian are found in Iordanskaja et al.'s paper published in this volume.)


II

Definition of Lexical Function

A lexical function (henceforth, LF) \( f \) is, like any mathematical function, a dependency that associates with a given "quantity" – its argument – a variable "quantity" – its value, the latter being controlled by the former. More precisely, an LF \( f \) associates with a lexical unit \( W \) (a word or a phrase) a set \( W^f \) of (more or less synonymous) lexical units that express – contingent on \( W \) – a specific idea (such as 'very', 'begin', 'implement') represented by \( f \). For example, the LF Magn, which for the present can be glossed roughly as 'very', in conjunction with the Russian words naprjaženie 'voltage' or temperatura 'temperature' is expressed by the adjective vysokij 'high'; in conjunction with vysota 'height', however, the same function is expressed by značitel'nyj 'considerable', bol'soj 'great' or ogromnyj 'enormous'; and in conjunction with vibracija 'vibration', by sil'nyj 'strong' or intensivnyj 'intense'. Thus we get vysokoe naprjaženie 'high voltage', vysokaja temperatura 'high temperature', značitel'naja (bol'saja, ogromnaja) vysota 'considerable (great, enormous) height', and sil'naja (intensivnaja) vibracija 'strong (intense) vibration'; but we do not get *sil'noe (značitel'noe) naprjaženie, *bol'saja (ogromnaja, intensivnaja, sil'naja) temperatura, *intensivnaja (sil'naja) vysota, *vysokaja (bol'saja) vibracija, etc.

The importance of LF's consists in the discovery of the following fact: in all natural languages there is only a limited number (about several dozens) of meanings that resemble 'very' in that they also each determine an LF.

The exact meaning of the last statement will become clearer upon subsequent reading.

And now, a formal definition of lexical function.

A dependency \( f \) is called lexical function if and only if it associates with a lexical unit \( W \) – the argument of \( f \) – a set \( f(W) \) of lexical units – the value of \( f \) – such that the following two conditions are simultaneously met:
For any two different $W^1$ and $W^2$, if $f(W^1)$ and $f(W^2)$ both exist, then:

1. Both $f(W^1)$ and $f(W^2)$ bear an identical relationship with respect to meaning and deep-syntactic role to $W^1$ and $W^2$, respectively. [This condition is language-independent.]

2. At least, in some cases, $f(W^1) \neq f(W^2)$. [This condition is completely language-dependent; it means that in the given language, the value of $f$ is phraseologically bound by its argument.]

An important proviso: A lexical function is not a genuine semantic unit, let alone a semantic primitive. LF's are introduced to describe restricted lexical cooccurrence and derivation, but by no means semantics. First, there are LF's that are semantically empty, their values being limited to purely syntactic roles (cf. Oper, Func, Lab orth j below). Second, the expressions making up the value of a given LF $f$ for a given argument need not be perfectly synonymous; it suffices for them to share a rather general and abstract meaning '$f'$ while differing in other components.

We will be interested in a particular type of LF, namely standard lexical functions, which form a proper subset of all lexical functions. A standard LF satisfies simultaneously two additional conditions:

3. $f$ is defined for a relatively large number of arguments. In other words, $f$ has a relatively large semantic cooccurrence: its meaning '$f$' is sufficiently abstract to be compatible with a large number of other meanings. [This condition is language-independent.]

4. $f$ has a relatively large number of linguistic expressions as its possible values. In other words, the set of all $f(W_i)$, for a vast variety of $W_i$, is relatively rich. [This condition is completely language-dependent.]

Let me illustrate my point with two examples. The meaning 'manufactured from very dark rye flour' in Russian has three expressions: Čēmyj 'black', ržanoj 'rye[Adj]' and is ržanoj muki 'from rye flour', and these expressions are phraseologically bound:

- Only xleb 'bread' or suxar 'rusk' can be called Čēmyj, while very dark rye buloška 'bun', publiki 'bagel', blin 'pancake', korš(ik) '(a kind of) flat dense dry bread', lepěška 'a flat cake' etc. cannot: *Čēmaja buloška 'black bun', e.g., is readily understandable but ungrammatical.

- Only xleb 'bread' and lepěška 'flat cake' but nothing else can be called ržanoj. (Notice that Čēmyj xleb is always ržanoj xleb, but ržanoj xleb can be světlyj 'light', as well as Čēmyj.)

- Speaking of buloški, publiki, blinči and koršči, Russian uses is ržanoj muki (but not with reference to suxari 'rusks' and hardly with reference to xleb): *Čēmyj/ržanoj publiki, etc.
As we see, this meaning satisfies Conditions 1 and 2 ($čěrnyj$ xleb = iz ržanoj muki: publik = ržanaja: lepěška = ...; $čěrnyj$ xleb vs. $*čěrnyj$ publik, ržanaja lepěška vs. $*ržanaja buločka$, ...) and therefore specifies a lexical function. However, this meaning violates Conditions 3 and 4: it is conceivable only with the names of bread-like baked products made from dough (so that it is semantically too specific) and it has only three expressions. So it is not a standard LF.

The meaning 'it is necessary to P this X' has in Russian a phraseologically bound expression nuždat'sja 'need' that is possible with some P's while impossible with others: $Etaj stat'ja nuždaetsja v ispravlenii (v dorabotke) $'This paper needs to be corrected (more work)' but not $*Etaj stat'ja nuždaetsja v soxranenii (v otpravke autoru)$ 'This paper needs to be saved (to be sent to the author)'. This meaning satisfies - in addition to Conditions 1 and 2 - Condition 3 (it is extremely abstract) but it still violates Condition 4: there are no numerous synonymous expressions (in fact, there is only one other expression for the meaning in question satisfying Condition 1: trebovat' 'require', which is in free variation with nuždat'sja).

Both above-mentioned meanings - 'manufactured from very dark rye flour' and 'it is necessary to P this X' - are non-standard lexical functions in Russian. In what follows, only standard LF's are considered.

Since both defining conditions for standard LF's include the vague expression 'relatively large number', there is no sharp borderline between standard and non-standard LF's, that is, there are no formal criteria to tell them apart. This fact reflects the graduality so typical of natural languages. The concept of standard LF is fuzzy, as are most linguistic concepts.

Within the class of standard lexical functions, we will distinguish simple LF's and compound LF's, the latter being built out of the former. Notice that simple in this context by no means implies 'elementary' or 'further unanalyzable': some of our simple LF's could be represented in terms of other simple LF's (and thus could be treated as compound). Nevertheless, for purely linguistic reasons (primarily, frequency of occurrence) we consider a particular set of LF's as simple and take this set to be the basis of lexicographic descriptions.

Thus only simple standard lexical functions are included in the main body of my systematic survey. (This allows me to omit the adjectives simple standard everywhere, since the omission cannot lead to a confusion.)

III
Lexical Functions and Deep Syntax

Lexical functions are crucially linked to what is known as Deep Syntax in the Meaning-Text Model approach (cf., e.g., Mel'čuk 1981). LF's appear only in deep-syntactic structures of sentences; they are used to state paraphrase relations that hold between
sentences at the deep-syntactic level; the value of an LF is linked to its argument by a particular deep-syntactic relation; etc. Therefore, for a full explanation of LF's, a complete description of the deep-syntactic component of the Meaning-Text Model is a prerequisite; but such an undertaking is out of the question here. As a consequence, many important things cannot be explained at all, and again I appeal to the reader's good will and tolerance.

I will introduce only the most central notion of deep syntax, namely deep-syntactic actant. A situation, or a state of affairs, is a lexical reflection, by a particular language, of some chunk of the universe: an event; a state or a change of state; a process; a property or a relationship; etc. A situation is identified by its key word \( W \): honest, red, like \([= \text{be like}]\), spread \([= X \text{ spreads (somewhere)}]\), speak, destroy, etc. denote the situations 'somebody is honest', 'something is red', 'something is like something in some respect', etc. A situation can have several key words, which are then (exact or approximate) synonyms, converses, or syntactic derivatives of one another: honest - honestly - honesty; like - similar - similarity - as [red as blood]; destroy - be destroyed - destruction.

Now, a situation has a number of participants: 'being honest/red' is a one-participant situation, 'love' is a two-participant one, and 'similarity' involves three participants [English is like Chinese in its morphology]. An actant of the lexeme \( W \) is a linguistic entity that corresponds to one of the participants of the situation identified by \( W \). For any situation-identifying lexeme its semantic, deep-syntactic and surface-syntactic actants must be distinguished. The semantic actants of \( W \) are determined by the lexicographic definition of \( W \) and are (roughly) the variables we have to use in this definition. The surface-syntactic actants of \( W \) are actual phrases denoting its semantic actants and filling such surface-syntactic roles as (grammatical) subject, objects and complements. The deep-syntactic actants of \( W \) are generalized representations of its surface-syntactic actants that ignore all the details of the observable surface behavior of the latter. The deep syntactic actants are geared rather to meaning and can be construed as 'places', or arguments, of the predicate expressed by \( W \). All the more so that the different deep-syntactic actants of the same lexeme are numbered: the first deep-syntactic actant of \( W \), the second deep-syntactic actant of \( W \), etc.

Now, the first deep-syntactic actant corresponds to the grammatical (surface) subject or to any of its transforms (John writes, John's writing, writings of John), the second to the surface direct object or to a strongly governed indirect object of an intransitive verb, etc. To take a simple example, include, contain or inclusion have as their first deep-syntactic actant the name of the including set, and as their second deep-syntactic actant, the name of the included subset or element: Chapter 3 includes a section on fruit flies; opinion has three deep-syntactic actants:
his opinion of Joan as a brilliant researcher (because of He thinks of Joan that she is a brilliant researcher); etc.

The deep-syntactic actants of the same lexeme are distinguished by Arabic numerical subscripts. Therefore, it is important to constantly keep in mind that numerical subscripts accompanying the names of LF's in what follows ALWAYS REFER TO DEEP-SYNTACTIC ACTANTS of the corresponding lexeme (i.e., in the final account, to participants of the situation denoted; but remember that the same participant of a given situation can match any deep-syntactic actant depending on the lexeme in question. So with include, the including set is the first deep-syntactic actant, while with belong the including set will be the second actant.)

IV

List of Lexical Functions

A lexical function, notated by a boldfaced Latin abbreviation, is written before the parentheses enclosing its argument (a familiar mathematical functional notation). For example:

<table>
<thead>
<tr>
<th>Function</th>
<th>Argument</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magn</td>
<td>shave</td>
<td>close, clean</td>
</tr>
<tr>
<td>Magn</td>
<td>easy</td>
<td>very, extremely, ..., as pie</td>
</tr>
<tr>
<td>Magn</td>
<td>sooundrel</td>
<td>unmitigated, of the first water</td>
</tr>
<tr>
<td>Magn</td>
<td>condemn</td>
<td>strongly, in strongest terms</td>
</tr>
<tr>
<td>Magn</td>
<td>cold</td>
<td>very, terribly, ..., enough to freeze balls of a brass monkey</td>
</tr>
</tbody>
</table>

[Magn is from Lat. magnus 'great, big'.

As stated above, LF's are one of the central notions to a new type of dictionary, the Explanatory-Combinatorial Dictionary. The simple standard lexical functions will be listed below in the order in which they appear in a lexical entry in such a dictionary.

1. Syn - synonym; Syn>, Syn<, and Syn\ designate, respectively, synonyms with broader, with narrower, and with intersecting meanings. (Symbols >, < and \ have the same meaning when used with Conv, Anti and other LF's.) Examples: Syn(streljit' 'shoot') = palit' 'fire'; Syn< (streljit' 'shoot') = obstrelitivat' 'fire upon; shell; machine-gun'; etc.

2. Convij - conversive, i.e., a lexical item with the same meaning as the key word b but with deep-syntactic actants i and j permuted: Conv21 (vključit' 'include') = prinadležat' 'belong to [a set]; Conv231c (mnenje 'opinion') = reputacija 'reputation'. ['Reputation', in contrast to 'opinion', is necessarily held by several people: this is why it is a narrower conversive.]

3. Anti - antonym: Anti(pobeda 'victory') = poraženje 'defeat'. 
4. Gener - generic concept such that 'Gener + W' = 'W' (where W is the key word): Gener(gaz 'gas') = večestvo 'substance' [cf. gaseobrazno večestvo 'gaslike substance' = gaz 'gas'].

5. Figur - standard metaphor for W: Figur(blokada 'blockade') = kol'co, lit. 'ring' [kol'co blokady 'the grip of a blockade; a siege']; Figur(tuman 'fog') = pelena 'curtain' [pelena tumana 'curtain of fog'].

6-9. S0, A0, Adv0, V0 - syntactic derivatives of W, that is, noun (= substantival), adjective, adverb, and verb, respectively, which have the same meaning as W. Examples: S0(streljat 'shoot') = strel'ba 'shooting'; A0(streljat 'shoot') = strelkovyj 'shooting [attrib.]; etc.

10. S1 - standard name of the 1-th participant in the situation described by W: S1(učit' 'teach') = učitel' 'teacher'; S2(učit' 'teach') = učenik 'pupil'; S3(učit' 'teach') = (učebnyj predmet 'subject') matter [as in high school].

11-15. S instr, S med, S mod, S loc, S res - standard name of instrument, means, mode, location, and result of the situation described by W: S instr(streljat 'shoot') = ognostrel'noe oružie 'firearm'; S med(streljat 'shoot') = boepripasy 'ammunition'; S mod(rassmatrivat' 'consider') = vsgljad [na što-l.] 'a view [of something]; podvod [k šemi-l.] 'approach [to something]; S loc(eražat'sja 'fight [as of two armies]') = pole bitvy/boja 'battlefield'; S res(učit'sja 'learn') = navyki 'skills', znanija 'knowledge'.

16. Sing - 'one instance/unit of': Sing(gorox 'peas') = gorošina 'pea'; Sing(celovat 'to kiss') = pcelovat 'give a kiss'.

17. Mult - 'aggregate of': Mult(korabl' 'ship') = flot 'fleet'; Mult(student 'student') = studentestvo 'student body'.

18. Cap - 'head of': Cap(universitet 'university') = rektor 'president'; Cap(fakul'tet 'faculty, school') = dekan 'dean'.

19. Equip - 'staff/crew of': Equip(teatr 'theatre') = truppa 'troupe'; Equip(bol'nica 'hospital') = personal 'personnel'; Equip(brakl 'marriage') = suprugi 'spouses'.

20. Centr - 'center/culmination of': Centr(les 'forest') = čašča [lesa] 'the thick [of the forest]; Centr(slava 'glory') = veršina [slavy] 'summit [of glory]; Centr(bor'ba 'struggle') = apogej [bor'by] 'climax [of struggle]. Centr is current in combination with Loc in (see below): Loc in Centr(pustynja 'desert') = v serdce [pustyni] 'in the heart [of the desert]; Loc in Centr(doroga 'road') = posredi [dorogi] 'in the middle [of the road].

21. A1 - determining property of the 1-th participant of a situation characterizing him according to his role in the situation: A1(gnev 'anger') = v [gneve] 'in [anger], rasgnevannyj 'angry'; A1(sležy 'tears') = v [sležax] 'in [tears]; A1(skorost' 'speed') = so [skorost'ju...]' with a speed of...'[compare spusk s
takoj skorost'ju 'the descent with such a speed'; A₂(streljat' 'shoot') = pod obstrelom 'under fire'.

22. Able₁ - determining property of the i-th potential participant of a situation ('such that it can... easily'/'such that it can be... easily'): Able₁(plakat' 'cry') = slezlivyj 'tearful'; Able₂(somnevats'ja 'doubt') = somnitel'nyj 'doubtful'.

23. Magn - 'very', 'to a (very) high degree': Magn(temperatura 'temperature') = vysokaja 'high'; Magn(nasmatrivat' 'examine') = vnimatel'no 'attentively', pristal'no 'fixedly, intently'.

24-25. Plus, Minus - respectively, 'more' or 'less' (or 'to a greater/lesser extent') [than something else].

26-27. Plus refl, Minus refl - indicate that the comparison is made with a former state of the same object:

IncepPredPlus(refl(temperature) = povyšat'sja 'rise, increase' [for the LP's Incep and Pred, see below].

28. Ver - 'as it should be' [meeting intended requirements]: Ver(udivlenie 'surprise') = iskrennee 'sincere', nepoddel'noe 'unfeigned'; Ver(osud 'container') = celyj 'whole', germ etičnyj 'hermetical', leak-proof'; Ver(pribor 'instrument') = točnyj 'precise'.

29. Bon - 'good' [a standard praise for W]: Bon(rezat' 'cut') = akkuratno 'neatly, cleanly'; Bon(sudno 'ship') = komfortabel'noe 'comfortable'.

30. Pos₂ - a standard praise of one of the participants of the situation denoted by W [but not of the situation itself]: Pos₂(recezija 'review') = poľožitel'naja 'positive', while Bon(recezija 'review') = xorosaja 'good', samečatel'naja 'excellent', ..., bljestjočaja 'brilliant'; however, a bljestjočaja recezija 'a brilliant (ly written) review may well be poľožitel'naja 'positive' or otricatel'naja 'negative', that is, Pos₂ or AntiPos₂.

NB: The LP's Magn, Ver, Bon and Pos₂ are often combined with Anti. Thus, for instance, Magn(temperature) = vysokaja 'high', and AntiMagn(temperature) = niskaja 'low'; Pos₂(menie 'opinion') = poľožitel'noe 'positive', and AntiPos₂ (menie 'opinion') = otricatel'noe 'negative'.

31. Adv₁ - determining property of an action by the i-th participant of a situation according to his role in the situation: Adv₁(slězy 'tears') = so [slezami] 'with [tears]; Adv₁(skorost' 'speed') = so skorost'ju... 'at a speed of... ' [cf. měat'sja so skorost'ju... 'tear along at a ... speed']; Adv₂(somnevats'ja 'doubt') = vrijad li 'hardly'.

32-34. Loc₁in, Loc₁ab, Loc₂cad - preposition governing W [= the name of the situation] and designating a type of localization in space with the respective meaning - position, moving away, moving toward. Examples: Loc₂in(vysota 'height') = na [vysote] 'at [a height]; Loc₁ab(vysota 'height') = na [vysotu] 'to [a height]; Loc₂cad(vysota 'height') = s [vysoty] 'from [a height].
35. **Loc temp** - a preposition [analogous to Loc] with the meaning of temporal location: \( \text{Loc temp}(\text{arest 'arrest'}) = \text{pri [aresto]} \) 'while being [arrested]'; \( \text{Loc temp}(\text{analiz 'analysis'}) = \nu xode [analiza] \) 'in the course of [analysis]').

36. **Instr** - a preposition [analogous to Loc] with the meaning of instrumentality: \( \text{Instr(pistolet 'pistol') = iz [pistolet]l, lit. 'with [a pistol]'} \); \( \text{Instr(masineka 'typewriter') = na [masinek] on [a typewriter]'} \).

37. **Propt** - a preposition with the meaning 'because of', 'as the result of': \( \text{Propt(strax 'fear') = ot [straxo], so [straxu]} \) 'from [fear]'; \( \text{Propt(ljubov 'love') = iz [ljubvi k...]} \) 'because of [one's love of...]' ; \( \text{Propt(opyt I.I 'experience') = na [svoem opyte]} \) 'from [one's own experience]'.

38. **Copul** - a copula: \( \text{Copul(učitel 'teacher') = byt', rabotat' [učitel'm] 'be, work as [a teacher]'} \); \( \text{Copul(primer 'example') = byt', javljat'sja, slušit' [primerom] 'be, represent, serve as [an example]'} \).

39. **Pred** - a verb meaning 'be W', i.e. semantically covering the syntactic combination of a \( \text{Copul(W) with W. Thus Pred is nothing but a 'fused' expression of Copul(W) + W (on 'fused' expressions see below) needed for the convenience of some synonymic transformations. For example, Pred(pjanica 'drunkard') = pjanstvovat' 'drink', Pred(rjadom 'next to') = sosestvovat' 'to (to) neighbor' \).

The next three LF's are verbs which are semantically empty in the context of the entry lexeme (= their key word) and which serve to link, on the syntactic level, the name of a participant of a situation to \( \_W \) - the name of the situation itself. They play important semantico-syntactic roles and can be loosely called semi-auxiliaries.

40. **Oper** - the first deep actant (and the surface subject) of this verb is the i-th participant of the situation, and the second deep actant (or the first surface object) is \( \_W \) (further actants, if any, designate further participants of the situation): \( \text{Oper1(slězy 'tears') = lit', prolivat' 'shed'; Oper1(arest 'arrest') = proizvodit' 'make [an arrest]'; Oper2(arest 'arrest') = popadat' [pod arest'] 'fall [under arrest]', podvergat'sja [arestu] 'undergo [arrest]', Oper1(soprotivlenie 'resistance') = okasyvat' 'show, put up'; Oper2(soprotivlenie 'resistance') = vstrečat' 'meet', natalkvat'sja [na soprotivlenie] 'run [into resistance]').

41. **Func** - the first deep actant (and the surface subject) of this verb is \( \_W \) - the name of the situation, and the second deep actant (and the first surface object), the i-th participant of the situation: \( \text{Func1(udivlenie 'surprise, astonishment') = ovratyvat', lit. 'seize' [i.e. the person is overcome by surprise, astonishment], Func2(temperatura 'temperature') = ravnjat'sja 'be equal to'; Func1(predloženie 'proposal') = isxodit' [ot kogo-1.] 'stem from, come from [someone]', Func2(predloženie 'proposal') = kaat-l-sja [če-1.] 'concern [something]'}. If there is no complement at
all, i.e. Func is an intransitive verb, the subscript 0 is used: Func_0(dos'd 'rain') = itdi, lit. 'walk' [cf. Engl. fall].

42. Labor_{ij} - the first deep actant (and the surface subject) of the verb is the i-th participant of the situation, the second deep actant, the j-th participant of the situation, and the third deep actant (implemented by the second surface object) is W itself. Examples: Labor_{12}(dopros 'interrogation') = podvergat' [kogo-1. doprosu] 'subject [someone to an interrogation]'; Labor_{32}(arenda 'lease') = sdavat' [eto-1. v arendu] 'grant [something on lease].

Oper, Func, and Labor can be paired in converse relations, that is, Oper_{1} = Conv_{21}(Func_{1}); Labor_{12} = Conv_{132}(Oper_{1}), and so on.

These relationships may be diagrammed as follows:

Here, a two-participant situation designated by key word W is presented. Arrows represent semi-auxiliary verbs; the arrow's tail indicates the surface (grammatical) subject, the head pointing toward the first surface object.

A different way to express the same idea is by using a matrix:

<table>
<thead>
<tr>
<th>Surface syntactic roles</th>
<th>Surface subject</th>
<th>First surface object</th>
<th>Second surface object</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oper_{1/2}</td>
<td>1st/2nd deep actant</td>
<td>W</td>
<td>—</td>
</tr>
<tr>
<td>Func_{0/1/2}</td>
<td>W</td>
<td>none/1st/2nd deep actant</td>
<td>—</td>
</tr>
<tr>
<td>Labor_{12/21}</td>
<td>1st/2nd deep actant</td>
<td>2nd/1st deep actant</td>
<td>W</td>
</tr>
</tbody>
</table>
E.g., for 'A changes B':

Now we return to the survey of LF's.

43. Involv - a verb that links a non-participant of a situation with the name of the situation acting on him:

\text{Conv}_1 \text{ Involv} (veter 'wind') = stojat [na vetru] 'stand [in the wind]'; \text{Incep Involv} (metel 'snowstorm') = zastrigat 'catch';

\text{A}_2 \text{ Involv} (metel 'snowstorm') = v [meteli] 'in [a snowstorm]'.

44-46. The following three LF's represent the meanings of what are often called phasal verbs: \text{Incep} - 'begin'; \text{Cont} - 'continue'; \text{Fin} - 'end, cease'. They are connected by obvious semantic relationships: \text{Fin} (P) = \text{Incep} (\text{nonP}); \text{Cont} (P) = \text{nonFin} (P) = \text{nonIncep} (\text{nonP}). \text{Incep}, \text{Cont} and \text{Fin} are used (at least in Russian) in combination with other LF's. Examples: \text{Oper}_2 (vlast 'power') = nazvodit'sja [pod vlast'ju... ] 'be [under the power of]',

\text{IncepOper}_2 (vlast') = popadal' [pod vlast'... ] 'fall [under the power of]', \text{FinOper}_2 (vlast') = vyvodit' [iz-pod vlasti] 'get out [from under the power of]'; \text{ContOper}_1 (vlijanie 'influence') = soxranat'sja 'maintain', \text{ContOper}_2 (vlijanie) = ostavat'sja [pod vlijанием...] 'remain [under the influence of]'; \text{ContFunc}_0 (zapax' odor') = derjat'sja 'linger'.

47. Caus - 'cause', 'do something so that a situation occurs'. Caus is often used in combination with other verbal LF's. Examples: \text{CausOper}_1 (menie 'opinion') = privodit' [kogo-1. k mneniju] 'lead [someone to an opinion]'; \text{CausFunc}_1 (nadežda 'hope') = veseljat', vdoxnut' [nadeždu v kogo-1.] 'raise [hope in someone], inspire [someone with hope]'; \text{CausOper}_2 (obed 'dinner') = gotovit' [stö-1. na obed] 'prepare [something for dinner]'; \text{CausFunc}_0 (obed) = gotovit', strjapat' [obed] 'make, cook [the dinner]'.

With the LF Caus, the LF's Perm and Ligu are naturally associated: \text{Ligu} (P) = Caus (\text{nonP}), Perm (P) = \text{nonLigu} (P) = \text{nonCaus} (\text{nonP}). Both Perm and Ligu are usually used in combination with other verbal LF's.

48. Perm - 'permit', 'allow': \text{nonPermOper}_2 (kritika 'criticism') = ogranadat' [kogo-1. ot kritiki] 'protect [someone from criticism]'; \text{PermOper}_2 (eksamen 'exam') = dopuskat' [kogo-1. k eksamenu] 'allow [someone to (take) an exam]'.


49. *Ligu* - 'liquidate', 'do something so that a situation does not occur or stops occurring': *Ligu* = *pokonit* [s negramotnost' 'illiteracy'] = *potušit* [kostyer 'campfire'], *Ligu* = *potušit* [kostyer 'extinguish [a campfire]'.

50–52. Now let us look at another triple of interrelated LF's: *Real*, *Fact* and *Labreal*. The LF's *Real*, *Fact* and *Labreal* are syntactically analogous to the functions *Oper*, *Func* and *Labor* respectively. This means that the names of the situation and of its i-th participant fulfill with respect, e.g., to *Real* the same syntactic roles as they do with respect to *Oper*; etc. However, unlike the 'empty' LF's *Oper*, *Func* and *Labor*, the lexical functions which we are now concerned with correspond to a specific meaning - 'fulfill a demand or requirement of...'. The demands can differ for different W's. For example, the fulfillment, or realization, of a hypothesis is its confirmation; therefore, *Real* = *podtvrdit* 'confirm' [Fakty podtvrdit giptose 'The facts confirm the hypothesis'], and *Fact* = *sootvetstvovat* 'be in accordance with' [Giptose sootvetstvует faktam 'The hypothesis is in accordance with the facts']. Realization of an artifact is its utilization according to its intended function; therefore, *Fact* = *rezat* 'cut' [Biot noz rezet xoro-xo 'This knife cuts well']. Further examples:

*Real* (obvinienie 'accusation') = *dokazvat* [obvinienie] 'prove [an accusation]'; *Real* (učebno zavedenie 'educational institution') = *prepodavat* [v učebnom zavedenii] 'teach [in an educational institution]'.

*Real* (obvinienie 'accusation') = *soglat'sja [s obvinieniem] 'agree [with an accusation]'; *Real* (učebno zavedenie) = *isuvat'sja, prepodavat'sja [v učebnom zavedenii] 'be studied, be taught [in an educational institution]' (while *Real* (učebno zavedenie) = *udit'sja [v učebnom zavedenii] 'study [in an educational institution]'); *Real* (soblan 'temptation') = *poddavat'sja [soblanu] 'yield [to temptation]'.

*Fact* (somnenie 'doubt') = *podtvrdit'sja 'be corroborated', opravdyvat'sja 'prove justified'; *Fact* (nadežda 'hope') = *byvat'sja 'come true'; *Fact* (sudno 'ship') = *plyt 'sail'.

*Fact* (ocered 'turn') = *byt' [za kem-1. 'be [someone's (turn)]' [Ocered' za vami 'It's your turn']; *Fact* (eksperiment 'experiment') = *udat'sja [komo-1. 'work out [for someone]'.

*Fact* (sudno 'ship') = *vesti, perevorot*' [grusy, passazhirov] 'convey, transport [cargo, passengers]'; *Fact* (sosud 'container') = *soderžat' [čto-1. 'contain [something]'.

*Labreal* (viselica 'gallows') = *uvsermut' [kogo-1. na viseliku] 'string up [someone on a gallows]'; *Labreal* (obed 'dinner') = *est' [čto-1. na obed] 'eat [something for dinner]'.

The LF's *Real*, *Fact* and *Labreal* are superscripted with Roman numerals to indicate the degree of the realization or fulfillment: the superscript I means fulfillment only at the psychological level, with the superscript II meaning fulfillment at the
physical level, cf. Real_{I} (priglašenje 'invitation') = prinijmat'
'accept', while Real_{II} (priglašenje) = sledovat' 'follow'; or
Fact_{I} (Glústo 'emotion') = govoriti', podskazyvat' 'tell', while
Fact_{II} (Gústo 'emotion') = zastavljat' 'force'.

53. Manif - 'manifest itself', 'become apparent':
Manif (vina 'guilt', 'fault') = obnaruzivat'sja 'become apparent';
Manif (udílenie 'amazement', glaza 'eyes') = [U nego] glaza na lob polezli '[His] eyes started
from his face';
Sympt (udílenie 'amazement', rot 'mouth') = razi-
nut' rot 'open [one's] mouth wide';
Sympt (strax 'fear', volosy 'hair') = [U nego] volosy vstali dybom '[His] hair stood on end'.

54. Sympt - 'symptom', i.e. a verbal expression denoting a
bodily reaction that is the symptom of an emotional or physical
state; in contrast to all other LF's, Sympt is a two-argument lexici-

55. Prepar - 'prepare', 'get (something) ready for normal
use or functioning': Prepar_{I} (revolver 'gun') = sarfjakat'
'load'; Prepar_{II} (revolver) = vasvodi'st 'kurok 'raise the cock'.

56. Prox - 'be about to / on the verge of': ProxOper_{I} (otká-
janie 'despair') = byt' na grani [otkájaniya] 'be on the edge of
[despair]'; ProxFunc_{I} (groza 'thunderstorm') = šibirat'sja 'gather,
brew'.

57. Degrad - 'degrade', 'become worse or bad':
Degrad (mo-
loko 'milk') = skisnut' 'go sour';
Degrad (mjaso 'meat') = ispor-
tit'sja, protwnut' 'go bad';
Degrad (disciplina 'discipline') = rásátat'sja 'decay'.

58. Son - 'emit characteristic sound':
Son (sóka 'dog') = lajat' 'bark'; Son (banknoty 'banknotes') = xrustet' 'rustle';
Son (sneg 'snow') = skripet' 'crunch';
Son (vodop 'waterfall') = revet' 'roar'.

59. Imper - 'do it!':
Imper (streljat' 'shoot') = ogon'
'fire!';
Imper (brat' oružie 'seize arms') = v ruž' 'take up
arms!';
Imper (govorit' tixo 'speak lowly') = te-š-s', tê-š-š'
'sh-h-h!';
Imper (brat' 'take') = na(te)! 'take it!', 'here!'.

60. Perf - 'perfective', i.e. 'have the process carried
through to its natural limit':
Perf (vstavat' 'be standing up') =
vstát 'have stood up';
Perf (rešat' 'be solving [a problem]) =
rešit' 'have [it] solved'.

61. Imperf - 'imperfective', i.e. 'be carrying out the pro-
cess':
Imperf (vstát') = vstavat';
Imperf (rešat') = rešat'.

62. Result - 'resultative', i.e. 'the state of affairs that
normally results from the completion of the process':
Result (po-
kupat' 'buy') = imet' 'have';
Result (ložit'sja 'lay down') =
Along with the LF's listed, two further types of LF's are extensively used in the Explanatory Combinatorial Dictionary: non-standard and compound LF's.

A non-standard LF is a meaning that is idiomatically expressed depending on a key word but has either a strongly limited semantic combinability or a fairly limited range of expressions, or both. In other words, it is too specific, too particular to be granted the status of a standard LF. Non-standard LF's are written in standardized natural language. Some examples:

Such that Y is confined to his home(arest 'arrest') = domašnij 'house-' [arest];

Such that it is the result of a loss at cards that was not immediately paid(dolg 'debt') = kartočnyj 'card' [dolg], obsolete [dolg] česti '[debt] of honor';

During a short time and/or non-intensively (with the purpose of knowing Y somewhat better)(učit'sja 'learn') = // podučit'sja 'learn a bit (of something)'.

A compound LF is a combination of syntactically related simple LF's that has a unique lexical expression covering the meaning of the combination as a whole. I have presented numerous examples of compound LF's above; let me give some more illustrations, with the key word printed in boldface:

AntiMagn: židkie aplodismenty 'thin (lit. 'liquid') applause', slabe dovolj 'weak arguments', niskaja temperatura 'low temperature', nežnachitel'nye poteri 'negligible losses',...

AntiVer: ložnyj stvd 'false shame', lživo obeskanie 'false (lit. 'lying') promise', osibočnoe predstavlenie 'a wrong conception', bezosnovatel'nye opasenija 'unfounded misgivings/fears',...

IncepOper1: priobretat' populjarnost' 'acquire popularity', vpdat' v otčajanie 'sink into despair', vstavat' na put' predatel'stva 'take the path of treason', perexodit' v plike 'go into a dive [as of an aircraft]',...

CausOper2: sdavat' v ekspluataцию 'put into operation', vvergat' v rabstvo 'plunge into slavery', stavit' pod kontrol' 'put under control',...

AntiReal2: provalit'sja na eksamene 'fail an examination', ošvergat' sovet 'reject a piece of advice', otklonjit' xođajstvo 'turn down an application'.
The following four remarks bearing on all LF's are in order:

1) An LF may have a fused expression, i.e. a lexical unit that does not include the key word but covers both the meaning of the function itself and that of its argument (= key word). The fusion is shown by the symbol // separating all the fused values (on its right) from all the non-fused ones. For example:

\[ \text{Magn}(\text{dob}d \ 'rain') = \text{proli}mnoj \ 'heavy' // \text{liven} \ 'shower' \ [i.e. liven = \text{proli}mnoj \text{ dob}d]; \text{ cf. Engl. downpour = heavy rain}. \]

\[ \text{Magn}(\text{vkusno} \ 'delicious') = \text{den} \ 'very' // \text{palički obližek}, \text{ lit. 'You'll lick your fingers'} \ [\text{palički obližek} = \text{den} \text{ vkusno}]; \text{ and the like.} \]

2) Several LF's having simultaneously the same key word but syntactically not related one to another may be expressed by one lexical unit covering the meanings of all the LF's involved. This is what we call a configuration of LF's (as opposed to compound LF's, in which all the constituent simple LF's are syntactically related). In a configuration of LF's, the '+' sign is used to separate the constituents. For example, in the entry SUD'BA I 'fate, destiny' the notation

\[ \text{Fact}^\text{II} + \text{Antibon}^2: \text{ presledovat'} \ 'persecute' \]

means that fate really affects [= Fact^\text{II}] the person in question (the defendant, so to speak) and its verdict is bad [= Antibon^2].

Two further examples:

\[ \text{A}_1(\text{voslisčenie} \ 'delight') + \text{Magn}(\text{voslisčenie}) = \text{preispolnennyj} \ [\text{voslisčenija}] \ 'full' [of delight]'; \]

\[ \text{Otčajanie} \ 'despair') + \text{Magn}(\text{otčajanie}) = \text{byt' vo vlasti} \ [\text{otčajanija}] \ 'be completely in [despair]'. \]

3) Some LF's (most often, Magn or Real, with the latter's relatives, Fact and Labreal) may be subscripted with a semantic component of the key-word's definition (in square brackets) to indicate that the meaning of this LF interacts with exactly this component of the key-word's meaning. Thus:

\[ \text{Labreal}^12[ \text{xranit'} \ 'keep'](\text{pamjat'} \ 'computer memory') = \text{xranit'} \ [v \text{ pamjati}] \ 'store [in memory]'; \]

\[ \text{Labreal}^12[ \text{vydavat'} \ 'output'](\text{pamjat'}) = \text{izvlekat'} \ [\text{iz pamjati}] \ 'extract [from the memory]'; \]

\[ \text{Magn} \ [ \text{bojat' se'} \ 'be afraid'](\text{strax}^1 \ 'fear') = \text{dikij} \ 'wild', \ Žužkij \ 'terrible'; \]

\[ \text{Magn} \ [ \text{terjet' samokontrol'... lose... self-control']}(\text{strax}^1) \]

\[ = \text{paniceštkij} \ 'panic [adj.]', \text{ životnji} \ 'animal'; \]

\[ \text{Antiver} \ [ \text{porazat'} \ 'hit'](\text{streljat'}^1 \ 'shoot') = \text{plowo} \ 'badly', \]

\[ \text{skverno} \ 'poorly', \ldots; \]
AntiVer[ 'cel' 'target' ](streļjat') = v vosuđux 'into the air'.

4) Furthermore, some LF's may be superscripted with semantic labels, like 'usual', 'loc(ation)', 'temp(oral)', 'quant(itative)', to make their meaning more precise:

\[ \text{Magn}_{\text{temp}}(\text{opyt 'experience'}) = \text{dlitel'nyj 'long'}; \]
\[ \text{Magn}_{\text{quant}}(\text{opyt 'experience'}) = \text{bol'šoj 'considerable'}. \]

In concluding this survey of LF's, I would like once again to call attention to the fact that they are used for two main purposes:

- for the description of idiomatic or restricted lexical cooccurrence or derivation relations;
- and for specifying universal synonymic transformations of utterances on the deep-syntactic level. It is clear, for example, that, in any language, (1) holds:

\[(1) \ W = \text{Oper}_1 \xrightarrow{2} S_2(W) = \text{Oper}_2 \xrightarrow{2} S_2(W) = \text{Func}_1 \xrightarrow{1} S_2(W) = \text{Func}_2 \xrightarrow{1} S_2(W) = \text{Labor}_{12} \xrightarrow{3} S_2(W); \text{ and so on.}\]

[Numbers on the arrows stand for deep-syntactic actants: e.g., the key word of an Oper is its second deep actant, etc.]

The transformations presented in (1) can be exemplified as follows:

\[(2) \ vlijat' '(to) influence' = \text{okazyvat'} [= \text{Oper}_1] vlijanie [\text{S}_2] 'have influence' = byt', \text{naxodit'sja} [= \text{Oper}_2] pod vlijaniem 'be under influence', etc.\]

Compare (3):

\[(3) \ Ivan \ durno vlijael na Petra 'Ivan influences Peter in a bad manner' = Ivan okazyvaet na Petra durnoe vlijanie 'Ivan has a bad influence on Peter' = Pëtr naxoditsja pod durnym vlijaniem Ivana 'Peter is under the bad influence of Ivan.\]

Rules of type (1) allow one to establish a paraphrasing system for synonymic transformations of sentences and/or discourses. Such a system can automatically produce, for any given text, a set of its synonymous or nearly-synonymous paraphrases. It also can automatically derive, for a set of synonymous texts, a canonical invariant. This indicates yet another promising direction for the practical use of LF's, namely in the domain of automatic text processing. (For more details about paraphrasing systems using LF's as a main tool see e.g., Žolkovskij – Mel'čuk 1967, Mel'čuk – Žolkovskij 1970, or Mel'čuk 1974: 190–206.)
Acknowledgments

I owe so much to Alec Zholkovsky and Jurij Apresjan, with whom I have been working on lexical functions in the Explanatory Combinatorial Dictionary of Contemporary Russian for more than ten years, that it is difficult to properly express my indebtedness to them. But speaking only of people whose participation has been decisive for the present text, I must express my heartfelt gratitude to (in alphabetical order) Cliff Goddard, Joe Grimes, Lidija Iordanskaja and Johanna Nichols. Nobody but myself is to blame for shortcomings and bugs that have managed to survive their scrutiny.

Notes

1. If there is no explicit indication to the contrary. In some cases, mentioned in Iordanskaja et al.'s article, this volume, actantial subscripts may refer to deep-syntactic actants of a new situation, rather than directly to deep-syntactic actants of the key word.

2. Interesting examples of values of the LF Mult in English can be found, most unexpectedly, in The Book of Lists, by D. Wallechinsky, I. Wallace and A. Wallace, New York: W. Morrow, 1977, page 135:

<table>
<thead>
<tr>
<th>A murder of crows</th>
<th>A rag of colts</th>
</tr>
</thead>
<tbody>
<tr>
<td>clowder</td>
<td>drift</td>
</tr>
<tr>
<td>leap</td>
<td>charm</td>
</tr>
<tr>
<td>sloth</td>
<td>trip</td>
</tr>
<tr>
<td>raffer</td>
<td>knot</td>
</tr>
<tr>
<td>smack</td>
<td>parliament</td>
</tr>
<tr>
<td>skulk</td>
<td>troop</td>
</tr>
<tr>
<td>labor</td>
<td>gaggle</td>
</tr>
<tr>
<td>crash</td>
<td>pride</td>
</tr>
<tr>
<td>siege</td>
<td>muster</td>
</tr>
<tr>
<td>cats</td>
<td>hogs</td>
</tr>
<tr>
<td>leopards</td>
<td>finches</td>
</tr>
<tr>
<td>bears</td>
<td>goats</td>
</tr>
<tr>
<td>turkey</td>
<td>toads</td>
</tr>
<tr>
<td>jellyfish</td>
<td>owls</td>
</tr>
<tr>
<td>foxes</td>
<td>kangaroos</td>
</tr>
<tr>
<td>moles</td>
<td>geese</td>
</tr>
<tr>
<td>rhinoceros</td>
<td>lions</td>
</tr>
<tr>
<td>herons</td>
<td>peacocks</td>
</tr>
</tbody>
</table>

"Although not frequently heard in conversation, these terms are fully correct and appropriate ways of describing the animal listed" (ibidem).

References


Ingush Transitivity and Detransitivity

Johanna Nichols
University of California, Berkeley

This paper has three goals: to shed some light on Caucasian linguistic prehistory; to advance a new typological metric applicable to syntactic reconstruction; and to identify and emulate some recurrent trends in Yakov Malkiel's teaching and writing. One such trend is attention to what I will call language-specific typology (and what the interwar Prague school called characterology; see Mathesius 1928), the attempt to capture the 'genius' and fundamental characteristics of a single language. Another such trend is the use of generalizations about systems and types in historical argumentation. A third is preservation of tradition through reassessment and updating of classic statements. Specifically, this paper presents a detailed grammar of causatives and other verbal derivations in one North Caucasian language; proposes a new typological metric based on generalizations over that grammar; and uses the grammar and the generalizations to reexamine a universal of passivization proposed by Kuryłowicz. 1

The Caucasian language is Ingush, spoken by some 150,000 people in the north-central Caucasus. Standard typological parameters classify it as OV, ergative, and straddling the boundary between agglutinative and inflectional. Together with closely related Chechen and less closely related Batsbi it comprises the Nakh, or North-Central Caucasian, linguistic family (which may or may not be a branch of Northeast Caucasian, and may or may not be related to Northwest Caucasian).

Henceforth subject refers to S/A in the terms of Dixon 1979, and also includes the dative experiencer with inverse verbs; i.e. it corresponds to the English subject in translations. Criteria for subjecthood in Ingush include word order, control of reflexivization, control of cross-clause coreferential deletion, thematicization, translations, and explicit statements of speakers. (Actually, the isomorphy between semantic roles and morphological cases is so nearly complete that it is difficult to construct arguments for the independent status of syntactic relations.) Object is Dixon's O, i.e. the nominative noun with a transitive verb. (I use nominative rather than absolutive on the grounds that this case, zero-marked, is indeed the citation form.) There are also oblique objects. Valence is the surface array of arguments governed by the verb, viewed as either syntactic relations or morphological cases.

Ingush utterly lacks syntactic rules which change or create syntactic relations. Put differently, it has no inflectional categories like voice that change or create syntactic relations. It has no voice oppositions whatsoever. It does, however, have two other kinds of rules which do affect valence: lexical rules for the formation of transitivizing and detransitivizing verbal derivations; and morphological rules determining the form of certain compound tense-
aspect forms. These rules accomplish conversion of arguments, just as syntactic rules of voice do in other languages. Therefore they can provisionally be regarded as functional analogs to voice, and universal claims about voice categories can also be applied to them.

Valence patterns. That Ingush can be called an ergative language does not entail that every two-place verb has an ergative subject and a nominative object. Ingush displays some half-dozen well-defined morphological valence patterns, more or less predictable from the lexical semantics of the verb and the semantic roles of argument. These valence patterns are the input to the lexical and morphological rules to be examined here, so they must be completely accounted for at the outset. A valence pattern is intransitive if it has a nominative subject, inverse if it has a dative subject, and transitive if it has an ergative subject.

One-place intransitives: NOM.2) These include verbs denoting states (laza 'hurt'), change of state (talxa 'spoil'), motion, and position.

(1) talxa 'spoil': sixa talx yz
fast spoils it-NOM
'It spoils (is spoiling) fast'

(2) laza 'hurt': sy kuo:rtaz laz
my head-NOM hurts
'My head aches'

Two-place intransitives: NOM OBL. A small, miscellaneous group of verbs. 3)

(3) b"arh"aža 'look at': suona b"arh"ez yz
me-DAT looks he-NOM
'He looks at me'

(4) qie:ra 'fear': suona qie:r cu:nax
I-NOM fear him-COM
'I'm afraid of him'

Inverse verbs: DAT NOM. Verbs of emotion, judgment, modality.

(5) vie:za 'like, love' suona yz vie:z
I-DAT him-NOM like
'I like him'

(6) xie:ta 'think' suona xie:t, [S]
I-DAT think
'I think (that S)'

Oblique transitives: ERG OBL. A rare valence type.

(7) laduo:ya 'listen': cuo: suona ladie:yar
he-ERG me-ALL listened
'He listened to me'

Two-place transitives: ERG NOM. A large, productive group. Typically, subjects are agents.
(8) die:ša 'read':
cuo: yz kinaška die:ša
he-ERG this book reads
'He reads this book'

(9) vie: 'kill':
cuo: yz vu:
he-ERG him-NOM kills
'He kills him'

Three-place transitive: ERG DAT/ALL NOM. There are two subtypes: the verbs 'give', 'say', etc., which variously take an allative or dative indirect object:

(10) dala 'give':
da:s wo"a: kita:b d"a-1u
Fa-ERG So-DAT book-NOM preverb-gives
'Father gives son a book'

and verbs of contact, which take a nominative object where Indo- European would have an instrument and a dative corresponding to the Indo-European direct object:

(11) tuo:xa 'hit':
cuo: cunna urs tuo:xa
he-ERG him-DAT knife-NOM hits
'He stabs him'

(12) t'aju:xa 'dress, put on'
na:nas biera: kuoč t'aju:xa
Mo-ERG kid-DAT shirt-NOM dress
'Mother puts shirt on child', 'Mother dresses child in shirt'

Crosscutting this series of valence types is the distinction of what is labeled labile vs. non-labile (or stable) in Caucasian grammar. Labile verbs can be used either as intransitives (with nominative subjects) or as transitive or inverse verbs (where the ergative or dative is the subject and the nominative is the object), with no formal marking of derived transitivity or intransitivity. In other words, these are verbs like English open, cover, fill, surround. The verb of (12) is labile: in (12) it is used transitively, with ergative subject, while in (13) it is intransitive:

(13) kuoč t'aju:xa biera:
shirt-NOM dress child-DAT
'The child is wearing a shirt', 'The shirt is on the child'

Labile verbs will not be considered separately here.

Derivation types. The verbal derivations described here are shown, with their case frames and case changes, in Table 1. Included at the bottom of Table 1 are two selected Indo-European derivations, for comparison. 4) Notice that the entries in the last two columns of the table — those showing added and removed arguments — are in complementary distribution: Ingush has entries in the Added argument column, Indo-European in the Removed argument column. The Indo- European entries are chosen to schematically illustrate a basic tendency in that family's verbal derivations: although Proto-Indo-European may have had productive transitivizing derivations, these are in the minority; most Indo-European derivations detransitivize, removing the input subject. These last two columns show at a glance
<table>
<thead>
<tr>
<th>Derivation</th>
<th>Suffix</th>
<th>Restrictions</th>
<th>Resultant valence</th>
<th>Case change</th>
<th>Added argument</th>
<th>Removed argument</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inceptive</td>
<td>'go/emerse'</td>
<td></td>
<td>intransitive</td>
<td>ERG ⇒ NOM</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Potential</td>
<td>'give'</td>
<td>some lexical restrictions</td>
<td>inverse(^5) (from transitive); intransitive (others)</td>
<td>ERG ⇒ DAT/ALL</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Causative</td>
<td>'let' (?)</td>
<td></td>
<td>transitive(^5)</td>
<td>ERG ⇒ ALL</td>
<td>+ ERG</td>
<td>---</td>
</tr>
<tr>
<td>Transitive</td>
<td>'make'</td>
<td>intransitive input</td>
<td>transitive</td>
<td>ERG ⇒ DAT</td>
<td>+ ERG</td>
<td>---</td>
</tr>
<tr>
<td>Transitive</td>
<td>'take'</td>
<td>intransitive input; rare</td>
<td>transitive</td>
<td></td>
<td>+ ERG</td>
<td>---</td>
</tr>
<tr>
<td>Double causative</td>
<td>'make' + 'let'</td>
<td></td>
<td>transitive</td>
<td>ERG ⇒ DAT</td>
<td>+ ERG + ALL</td>
<td>---</td>
</tr>
<tr>
<td>Double causative</td>
<td>'take' + 'let' rare</td>
<td></td>
<td>transitive</td>
<td></td>
<td>+ ERG (+ ?)</td>
<td>---</td>
</tr>
</tbody>
</table>

Two Indo-European forms, for contrast: 4

<p>| | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>archaic passive</td>
<td></td>
<td>intransitive</td>
<td>ACC ⇒ NOM</td>
<td>---</td>
<td>- NOM</td>
<td></td>
</tr>
<tr>
<td>one Russian reflexive</td>
<td></td>
<td>intransitive</td>
<td>ACC ⇒ NOM</td>
<td>---</td>
<td>- NOM</td>
<td></td>
</tr>
</tbody>
</table>

Table 1. Ingush derivation types

Legend:

ERG ⇒ NOM Ergative subject of input verb is replaced by nominative in the derived valence.
+ ERG Ergative subject is added to the valence of the input verb to produce the derived verb.
two principal conclusions of this paper: Ingush has no derivations which remove arguments, while Indo-European does have such derivations; and this contrast is typologically significant.

Examples of each derivation follow, by input valence type.

**Inceptive.** The suffix is a verb meaning 'go (in, out)', 'emerge', 'cross threshold'. The basic meaning is inception of action, with variants determined by the tense and aspect of root and suffix. In the present tense, with an imperfective stem, it means 'begin', 'wants to', 'is about to'; in the past with a perfective stem, 'began', 'finished'; in the past with an imperfective stem, once-and-for-all change of state with lasting result. Multiple action is a possible reading where context and verbal meaning permit it. An oblique subject becomes nominative in the potential. Such nominatives are underlined in the examples.

From one-place intransitive:

(14) sy kuo:rta  laza-bH:lar
    my head-NOM  hurt-INC-past
    'My head started to ache' (U menja zaboleta golova)

(15) sy kuo:rta  laza-boal
    INC-pres
    '(Every time) my head starts aching'

From two-place intransitive:

(16) t'aqq  yz  qie:ra-vH:lar
    then he-NOM  fear  INC-past
    'Ever since then he's been afraid'

From inverse verb:

(17) t'aqq  suo  dika  xie:ta-jH:lar  yz
    then me-NOM  well  seem  INC-past  she-NOM
    'Then she started to like me'

From oblique transitive:

(18) yz  suo:ga  laducya-vH:lar
    he-NOM  me-ALL  listen  INC-past
    '(He used to be spoiled and not pay attention, then he got smart and) he began to listen to me (and still does)'

From two-place transitive:

(19) t'aqq  yz  xabar  du:ca-vH:lar  yz
    then this talk-NOM  tell  INC-past  he-NOM
    '(He hadn't talked before, but something happened and) then he began to relate this conversation'

From three-place transitive:

(20) yz  txow  t'aq'ejla:-vH:lar
    he-NOM  roof-NOM  cover-perf  INC-past
    'He's already finished putting on the roof'

**Potential.** The suffix is a verb meaning 'give'. The present tense means ability or tendency, and can often be translated with an
English patient-subject construction. 6) The perfective past is usually 'manage to', with a presupposition that there was some obstacle or difficulty. An ergative subject becomes dative or allative in the potential. Such datives and allatives are underlined in the examples.

From one-place intransitive:

(21) sixa talxa-lu yz
    fast spoil POT-pres it-NOM
    'It spoils (tends to spoil) fast'

From two-place intransitive:

(22) yz sixa qie:ra-lu
    he-NOM fast fear POT-pres
    'He scares easily'

(23) suo:na b"arh"aža-valar yz
    me-DAT look POT-past he-NOM
    '(There was something in the way, but) he managed to look at me'

From inverse verb:

(24) yz massanie:na vie:za-lu
    him-NOM all-DAT like POT-pres
    'He's one of those people that everyone likes right off'
    (Srazu že ego ljubjat) 7)

(25) suo:na vie:za-valar [yz]
    me-DAT like POT-past he-NOM
    'I fell in love [with him]'

From oblique transitive:

(26) cu:nna suo:ga laduo:j'a-dalar
    him-DAT me-ALL listen POT-past
    'He managed to listen to me', 'He managed to hear me out'

From two-place transitive:

(27) suo:na yz kinaška dika die:ša-lu
    me-DAT this book-NOM well read POT-pres
    'I can read this book well', 'This book is easy for me to read'

(28) suo:ga yz kinaška dika die:ša-lu
    me-ALL id.

(29) yz kinaška dika die:ša-lu
    this book-NOM well read POT-pres
    'This book reads well/easily'

From three-place transitive:

(30) yz urs dika tuo:xa-lu ni"arax
    this knife-NOM well hit POT-pres door-COM
    'This knife throws at/sticks in the door well'
(31) suogayz tuoxa-lu
me-ALL it-NOM hit POT-pres
'I can fire it (stab with it, etc.)'

Causative. The suffix -i:t, -Vit may be cognate to d-ita 'leave'. This is a typical causative: X lets, makes, or has Y do V. X causes the entire situation, and does not act directly on Y; in particular, there is no physical contact of X with Y. When the ergative subject is absent (see again note 5), the meaning is usually 'let Y do V'. A former ergative subject becomes allative and a new ergative subject is added. These cases are underlined in the examples.

From one-place intransitive:

(32) sy kuo:rtalaz-i:t, ...
my head-NOM ache-CAUS
'So let my head ache (I'm going out anyway)'

(33) a:zie: kuo:rtalaaz-i:t
I-ERG his head-NOM hurt-CAUS
'I'm making his head ache' (I'm doing something to make his head ache -- making noise, annoying him, etc.) (cf. (38))

From two-place intransitive:

(34) a:ziyz qie:r-i:t
I-ERG him-NOM fear CAUS
'I make him be afraid' (cf. (39))

From inverse verb:

(35) cuo:šie: cunna duqa vie:z-i:t
he-ERG self-NOM her-DAT lots like CAUS
'He can make her like him', 'He can please her'

From two-place transitive:

(36) cuo: cunga niza'ka kinaška dieš-i:t
he-ERG her-ALL by force book-NOM read CAUS
'He forces her to read the book'

From three-place transitive:

(37) a:zh"ama tuox-i:t cunga?
I-ERG thing-NOM hit CAUS him-ALL
'Shall I have him hit (him)?' 'Shall I tell him to hit (him)'

Transitive in 'make'. This is a prototypical transitive: there is direct physical action of the (added, ergative) agent on the (input subject, nominative) patient. This form could also be called a causative; but while the true causative (above) has to do with causation of an entire situation, this form indicates that the agent acts directly on an argument in order to cause a change. With few exceptions, this transitive is formed from intransitives only. An ergative is added; this ergative is underlined in the examples.

From one-place intransitive:
(38) cuo: sy kuo:rrta loza-bu
    he-ERG my head-NOM hurt-MAKE
    'He's hurting my head (hitting it, etc.)'
    (cf. (33))

(38) forms a near-minimal pair with (33) above: in (33) there is no
    physical contact; in (38), however, there is: the agent acts direct-
    ly on the speaker's head.

From two-place intransitive:

(39) a:z yz qie:ra-vu
    T-ERG him-NOM fear- MAKE
    'I scare him'
    (cf. (34))

(39) forms a minimal pair with (34), showing that in the transitive
    (39) but not in the causative (34) the agent acts directly on the
    patient to produce a change, rather than simply causing a situation.

The exceptional transitives which can take this transitive deri-
    vation include 'eat' and 'drink' (Jakovlev 1940:83 also lists 'bite'
    and 'inflate bellows' for Chechen). (40)-(41) show that the ergative
    subject of an input transitive becomes dative in the transitive.

(40) (underived) a:z q'araq' muol
    T-ERG vodka-NOM drink
    'I drink vodka'

(41) (derived) cuo: cunna q'araq' muola-du
    he-ERG him-DAT vodka-NOM drink MAKE
    'He buys his drinks' (On poit ego [vodka])

Transitive in 'take'. This form is so infrequent that it is
    difficult to establish its valence and case changes with certainty.
    It seems to apply only to intransitives. It seems not to denote di-
    rect physical action of the agent on the patient. The meaning seems
    to include reference to inception or multiple action (for imperfec-
    tives) or completed action (for perfectives); a tentative generaliza-
    tion is that, in contrast to either causative or 'make' transitive,
    the 'take' transitive implies discreteness of action(s). An ergative
    subject is added, and has been underlined in the examples.

(42) cuo: sy kuo:rrta laza-boaqq
    he-ERG my head-NOM hurt TAKE
    'He always does things to make my head hurt'

(43) a:z cun kuo:rrta laza-boaqq
    T-ERG his head-NOM hurt-TAKE
    'His head is starting to ache because of me', 'He's getting
    a headache from me' (U nego načinaet bolet' golova ot
    menja)

(44) a:z cun kuo:rrta laza-bHqar
    TAKE-past
    'His head already aches [because of me]

The 'take' suffix has a separate form for plural S/O and/or
    multiple actions:
(45) cuo: sy kuo:rt a laza-boax
    he-ERG my head-NOM hurt TAKE
    [Same as (42), with more emphasis on 'always']

In summary, this form seems to impose an aspectual distinction on a
valence-changing operation.

Double causatives. Either of the two transitive derivations may
add the causative ending to form a double causative. Double causa-
tives appear to be unrestricted: any derived transitive may become a
double causative. The meaning is 'X makes Y make Z do V'. The double
causatives will not be completely illustrated here. They add an erga-
tive subject and a dative or allative causee, underlined in the
examples.

'Make' double causative from one-place intransitive:
(46) cuo: sy kuo:rt a luoza-bejt
    he-ERG my head-NOM hurt MAKE-CAUS
    'He makes (someone) hurt my head'

From two-place intransitive:
(47) a:z cunga qie:ra-vejt-ar yz
    T-ERG her-ALL fear MAKE-CAUS-past him-NOM
    'I made her scare him'

The transitives 'eat' and 'drink' can form the 'make' causative
and can thus form the double causative. They show us that the erga-
tive subject of the 'make' causative verb becomes allative in the
double causative, and the subject of the original verb -- the person
who does the eating or drinking -- appears in the dative:
(48) da:s wo"a:g ši: doatta\'ačua: q'araq' muola-de-jt
    Fa-ERG son-ALL refl neighbor-DAT vodka-NOM drink-MAKE-CAUS
    'The father has his son serve his (=father's) neighbor drinks'

There are some transitive verbs which appear to be formally de-
duced transitives but which lack corresponding underived forms. An
example is ja:z-die: 'write', whose root *ja:z is never used as an
intransitive. For such verbs the formal double causative has the mean-
ing of a plain causative of the input transitive.
(49) (underived) [cuo: yz kinaška ja:z-du] 8
    he-ERG this book-NOM write-MAKE
    'He writes this book'

(50) (double
    causative)
yz kinaška ja:z-dejt cuo:
    this book-NOM write-MAKE-CAUS he-ERG
    'He allows this book to be written', lit. 'He
    allows \emptyset unspecified
to write this book'

The potential, however, is derived directly from the root: ja:z-lu
'can write', not *ja:z-die:lu or *ja:z-du- lu.

(51) (potential) joazanxuóčuna ši:j kinaška a:tt a
    ja:z-dalar
    author-DAT refl book-NOM successfully write-POT
    'The author wrote his book successfully', 'To the
    author, his own book was easy to write'
Compound tenses. The compound tense forms are composed of a participial form of the main verb, plus 'be' as an auxiliary. (52)-(53) illustrate two forms of the simple tense of 'go out', and (54)-(55) show the compound tense. (52)-(53) are given in two variants to illustrate gender agreement in Ingush, which will be important to subsequent examples. As (52)-(53) show, gender is not overtly marked on nouns or pronouns. It causes agreement in the verb, which takes the form of substitution of root-initial consonants, the masculine marker being ν- and the feminine marker й-.

(52) yz a:ra-voal
    he-NOM out goes-M
    'He goes out'

(53) yz a:ra-joal
    she goes-F
    'She goes out'

(54) yz a:ra-voalaž wa
    he out going is-M
    'He goes out' (habitual), 'He is going out'

(55) yz a:ra-joalaž ja
    she out going is-F
    'She goes out' (habitual), 'She is going out'

((16)-(17) above also illustrate gender agreement.) These examples show that, with intransitives, the verb and the auxiliary both agree in gender with the subject. Inverse and transitive verbs, however, have two compound tense forms: a plain compound tense, in which the subject is in its usual ergative or dative case and both the verb and the auxiliary agree in gender with the nominative object, as in (57) and (60); and an antipassive tense, in which the subject is nominative, the auxiliary agrees in gender with that subject, and the verb agrees in gender with the (still-nominative) object, as in (58) and (61).

From inverse verb (agreement markers are underlined):

(56) simple: suon[a yz  vle:z
    I-DAT him-NOM like
    'I like him'

(57) plain compound: suon[a yz vle:zaž va
    liking-M is-M

(58) antipassive: suon yz vle:zaž ja
    I-NOM liking-M is-F
    id., specifically: 'I (fem.) like him'

From transitive:

(59) simple: cun: cunna bij biett
    he-ERG him-DAT fist-NOM hits-N
    'He hits him'
(60) plain compound: cuo: cunna bij biettaq ba -q
he-ERG him-DAT fist-NOM hitting-N is-N ptc
'He hits him'

(61) antipassive: yz cunna bij biettaq ya
he-NOM id. is-M

To account for the plain-antipassive opposition is beyond the scope of this paper. Suffice it to note that the tense-aspect meaning appears to be identical, but the subject of the antipassive is more thematic than that of the plain tense, and consequently the antipassive is favored in chain-final or paragraph-final position or as an independent utterance, while the plain compound tense is favored where another clause follows it. The simple tense appears to be marked, restricted to narrative.

Conclusions. The examples above bear the following generalizations.

(1) Ingush verbal derivations affect only subjects. The de-transitivizing derivations and the antipassive change non-nominative subjects into nominatives. The transitivizing ones add ergative subjects. The potential adds a dative or nominative subject. Those derivations adding ergative subjects also change the ergative subject of an input transitive verb into the allative or dative. But no derivation, and no syntactic rule, of Ingush adds or converts objects. This is in contrast to Indo-European languages, which abound in pairs like load hay onto the truck: load the truck with hay, possessor promotion (hit his head: hit him on the head), etc.

(2) Ingush verbal derivations either add arguments or change the cases of existing arguments. There are no processes that remove arguments. We have seen that the inceptive and the antipassive tense change oblique subject cases to nominative; but the full array of arguments can remain in the sentence, as is shown by (17)-(20) and (56)-(61). We may call the inceptive and the antipassive de-transitivized, since the subject is now nominative, which means (by the definition given above) that the verb form is intransitive. But de-transitivization does not remove arguments. In addition, it affects only cases and does not affect subject properties such as control and word order: the newly nominative noun remains subject. This is in sharp contrast to Indo-European, where de-transitivization refers primarily to removal of subjects and consequent promotion of a non-subject to subject.

(Indo-European languages also exhibit de-transitivizing derivations where the subject is unaffected and an object is removed, e.g. Russian:

(62) sobaka kusaet menja
dog-NOM bites me-ACC
'The dog bites (is biting) me'

(63) sobaka kusaetsja
dog-NOM bites-REFL
'The dog bites', 'The dog is biting'
Ingush has no such derivations, which further illustrates generalization (1) above, to the effect that Ingush derivations affect subjects, not objects.

(3) There are two places in Ingush grammar where we find regular pairings that might be seen as valence-decreasing processes. One of them concerns the labile verbs, those which can be either transitive or intransitive without formal change. Labile verbs cannot be regarded as representing a valence-lowering derivation, for two reasons. First, there is no way to decide which form -- transitive or intransitive -- of a labile verb is basic and which derived. Second, there is no formal marker. There is no reason to describe the intransitive as a zero derivation: zero derivations can be posited only when there is a regular paradigmatic relationship to other, overtly marked, forms; and there are no verbs in Ingush which are just like labile verbs except that the intransitive member of the pair is formally marked.

The second such place in the grammar concerns zero objects. Now, zero objects in Ingush do not automatically trigger antipassivization: any tense form, simple or compound, plain or antipassive, may be used with an anaphoric zero object. Unspecified zero objects favor the antipassive tense: a request to translate 'he writes' or 'he's writing' will almost invariably produce (64):

(64)  
\[ \text{yz} \quad \text{ja:z-dież va} \]  
\[ \text{he-NOM write-MAKEing is} \]  
'He's writing', 'He writes'

But the simple tense can also be objectless, the most plausible situation for such a construction being stage directions:

(65)  
\[ \text{cuo:} \quad \text{ja:z-du} \]  
\[ \text{he-ERG write-MAKE} \]  
'He writes'

I could not elicit the plain compound tense with a zero object, although I suspect its unacceptability is semantic and pragmatic rather than morphological or syntactic: the antipassive is associated with thematicization of the subject, and in 'He's writing' the subject is highly thematized, hence the antipassive is appropriate, hence the simple compound tense sounds less good. All three tenses may have overt objects. These facts show that the antipassive, despite its frequent association with zero objects, is not a device for signaling object removal and hence not a valence-lowering device.

Typological implications. Kuryłowicz 1946 offers an implica
tional universal of voice: if a language has a passive or an antipas
sive that demotes the agent or patient respectively, then it also has one that deletes it. That is, agentless passives and patientless anti
passives head an implicative hierarchy. If a language has any voice oppositions at all, it will have a valence-reducing voice. 9)

If we take this principle in its more abstract form -- voice oppositions imply valence-reducing processes -- and approach the Ingush derivations as a functional equivalent to voice oppositions, we see that Ingush presents a counterexample to Kuryłowicz's claim: Ingush has valence-increasing processes and case-changing processes, but no valence-reducing processes. The rest of this paper will argue
that the Ingush phenomena only superficially contradict Kuryłowicz's claim, and that on a more abstract view they actually support it.

First, however, we need some background on the general question of morphosyntactic typology in and adjacent to the Caucasus. Three language stocks come into play: Indo-European, North Caucasian, and South Caucasian. (South Caucasian, which includes most prominently Georgian, is more often known as Kartvelian; I use South Caucasian to remind non-specialists of the geographical distribution.) On the standard view of the proto-homelands, Indo-European was spoken north of, and probably adjacent to, some North Caucasian, and was separated from South Caucasian by North Caucasian. Schematically, the distribution relative to the mountains was:

Proto-Indo-European

North Caucasian

(Caucasus mountains)

South Caucasian

Standard criteria for morphosyntactic typology lump all three stocks under the same headings: all are OV, all are ergative (or, in the case of Indo-European, have been ergative), and all have similar blends of inflection (especially ablaut) and agglutination. I suggest that the morphology of valence-changing processes reflects a typological distinction that will allow us to split these OV, ergative, agglutinating-inflecting languages into two types. That typological distinction, incidentally, formalizes the intuitive conviction of some specialists that Indo-European and South Caucasian are at least impressionistically similar, while North Caucasian is somehow a very different kind of language.

Recall from Table 1 that Ingush has no valence-decreasing processes, while Indo-European does. South Caucasian, like Indo-European, has lexical and inflectional valence-decreasing processes. These are not isolated facts but point to a fundamental typological distinction in the status of transitivity or intransitivity in the verbal lexicon of a language. I will speak of the fundamental transitivity or intransitivity of whole languages, with the advance caution that this is an abstraction which does not make specific claims about the formal or semantic markedness either of any individual verb in the lexicon of a given language or of the entire set of intransitive or transitive verbs of any language.

Ingush is a fundamentally intransitive language. It lacks valence-decreasing processes (as we have seen); predictably, then, its intransitives are mostly ancient, etymologically simple verbs, and they are morphosyntactically regular. I call the entire language fundamentally intransitive because, impressionistically speaking, the verbal morphosyntax appears to be geared for accepting intransitives as input rather than for producing them as output. (As a corollary of this impressionistic generalization, recall that Ingush has derivations -- the two transitives -- which can apply only to
intransitives. It does not, however, have derivations which apply only to transitives. This is another respect in which transitives look more like output than like input.) 10) Put differently, transitivity in Ingush is, again impressionistically speaking, a derived state of affairs. This is consistent with the fact that we have what may be called 'stranded' transitives, in the form of words like ja:z- du 'write' ((49)-(51) above), formally a derived transitive but lacking an underyed intransitive counterpart *ja:z. However, there are no 'stranded' intransitives. Finally, even the underived transitives of Ingush include many -- the labile verbs -- which can also function as intransitives.

Indo-European and South Caucasian, on the other hand, are fundamentally transitive languages. They have valence-decreasing processes of voice and derived intransitivity. Consequently, their intransitives include many derived verbs and (especially in South Caucasian) many irregular verbs. The lexicon of basic agent-patient verbal notions in these languages includes many simple root transitives. There are stranded intransitives: e.g. Russian bojat' 'be afraid' is reflexive, thus formally a derived intransitive, and it fits into a regular detransitivizing process -- but there is no corresponding transitive *bojat'. In other words, Indo-European and South Caucasian give the impression of on the whole being prepared to accept transitives as input and intransitives as output.

I repeat that fundamentally intransitive does not mean that every verbal lexeme in the language is ultimately -- etymologically or underlyingly -- intransitive; fundamentally transitive does not entail that every verbal lexeme is ultimately transitive. These terms are simply generalizations about the preferred direction of valence-changing processes, and about the prototypical input and output verbs for such processes. Languages of both types have in their lexicons etymologically opaque, monomorphic intransitive roots and etymologically opaque, monomorphic transitive roots.

Kuryłłowicz's claim applies to fundamentally transitive languages. If a fundamentally transitive language has any valence-affecting processes, it will have valence-reducing ones. It may, but need not, also exhibit valence-permuting and valence-increasing processes (Indo-European and South Caucasian do happen to have both of these additional process types).

The Ingush patterns suggest that the converse of Kuryłłowicz's claim is true for fundamentally intransitive languages: they will have at least valence-increasing processes, and may have valence-permuting processes. (Ingush has both.) Presumably they may also have valence-decreasing processes, although -- as shown by the absence of such devices in Ingush -- those will stand at the very end of the implicational hierarchy, implying the presence of valence-increasing and valence-permuting devices in the given language.

Presumably orthogonal to this distinction is the question of whether valence in such formulations applies to syntactic relations or to morphological marking. Georgian and Indo-European happen to have relation-changing syntactic processes; valence for them refers to syntactic relations, so that e.g. passives in the languages affect subjeckhood and objecthood. Ingush happens to lack relation-changing
rules; valence for Ingush refers only to morphological cases, so that e.g. the antipassive changes cases but does not alter subjecthood.

Above I claimed that Ingush derivations are functionally analogous, thus typologically comparable, to Indo-European voice inflection. The notion of fundamental transitivity and intransitivity of languages allows us to motivate this difference of inflection vs. derivation. Adding arguments is inherently the domain of the lexicon: while an argument can be removed from a sentence -- under non-referentiality, unspecificity, non-prominence, etc. -- without altering lexical content, an argument cannot simply be added to a sentence without adding lexical content and endangering the original choice of verb. In other words, valence-increasing processes should naturally be lexical, not inflectional. Therefore fundamentally intransitive languages -- in which we expect to find valence-increasing devices -- should have lexical, rather than inflectional or syntactic, valence-changing processes. But since fundamentally transitive languages are likely to display valence-decreasing devices, they may well have inflectional voice oppositions. In summary, then, the question of inflectional vs. derivational, or syntactic vs. lexical, processes is immaterial to the typological status of valence-changing processes. (In fact, the entire question may be misdirected, since the inflectional or syntactic status of even the canonical Indo-European passive can be questioned. For instance, Babby and Brecht (1975) argue that the Russian passive -- traditionally regarded as inflectional -- is not transformational but lexical.)

Conclusions. Kuryłowicz's claim is still valid. Fundamental transitivity or intransitivity provides a new typological metric which crosscuts existing classifications. Generalizations about systems and types -- buttressed by detailed language-specific inquiry -- were an important part of this paper's argumentation. We are left with the question of whether that argumentation is (as promised in the first paragraph) specifically historical, and whether transitivity as a typological metric has value for charting language history. I suggest (as an empirical hypothesis) that fundamental transitivity or intransitivity of languages is a conservative, thus deep-seated trait, one potentially diagnostic of ancient genetic and/or areal affinity. There are two arguments that it is conservative and thus deep-seated: first, Indo-European appears to have remained fundamentally transitive for thousands of years (at least if we restrict our survey to the languages which retain inflection, like Russian), despite radical typological changes of other sorts; second, North and South Caucasian differ on this point, despite considerable areal interaction. There is one argument for the diagnostic value of fundamental (in)transitivity in establishing areal affinity: the North Caucasus displays intensive areal convergence, and all North Caucasian stocks are fundamentally intransitive; the convergence between the North and South Caucasus is less intensive and does not affect fundamental (in)transitivity. These three arguments suggest that languages abide by their fundamental (in)transitivity with great tenacity, yielding it only in the most extreme instances of convergence.

If these arguments hold, we may have a criterion which will allow us to go further back in time than the comparative method does,
and which will allow us to separate genetic underpinnings from later overlays of borrowing in languages without attested history. And — arguing from affinity to areal connection to physical adjacency — it mandates reconsideration of the relation of the Proto-Indo-European homeland to the Caucasus, since it suggests ancient, close links between Indo-European and South Caucasian while placing North Caucasian distinctly apart.

Footnotes

1 This paper is based on field work done in Tbilisi, Georgia, USSR in late 1981, supported by the International Research and Exchanges Board and a Fulbright-Hays Research Abroad grant from the U.S. Department of Education. For hospitality and assistance I am grateful to Tbilisi State University, particularly the Division for Scientific Relations Abroad; to the staff of the Institute of Linguistics, Georgian Academy of Sciences; and especially to Thomas Gamkrelidze. Preparation of copy was facilitated by a grant from the Committee on Research, University of California, Berkeley. Deepest thanks go to my Ingush consultants, students of the Rustaveli Theater Institute in Tbilisi, for their time, their patience, their insights. This paper is dedicated to Yakov Malkiel and bears his intellectual imprint. It was undertaken out of respect for the ancestors of the Chechen-Ingush nation, the men and women who created this language.

2 Transcription symbols include ɬ, a high nonfront unrounded vowel; iːː, uːː, long diphthongs ([iːː], [uːː]); ʰ, pharyngeal stop or pharyngealization of the preceding consonant (so that e.g. hʰ is the voiceless pharyngeal fricative); ʼ, glottal stop or glottalization of the preceding consonant. Case abbreviations: NOMinative, ERGative, DATive, ALLative, COMPLETE; OBLique is a cover term for non-nominative cases. Abbreviations for verbal derivations should be straightforward, and are always identified by the section heading.

I have called Ingush an OV language on the evidence of word order in non-main clauses (rigidly SOV) and overall left-branching syntax. Word order in main clauses, however, is fairly free; sentence-final position is associated with thematicization, thus subjects are often final. The word order in the example sentences, all of which represent main clauses, reflects pragmatics, thematicization, and preferred sentence rhythm. Translations given are context-specific. The translations, contexts, and word order are due to my elicitation procedure, which was to make up verb forms and ask whether they existed and how they might be used. Translations are occasionally given in the original Russian, where English loses information.

Readers may observe that many of the derivational suffixes, and the roots for 'like', 'read', 'kill', and 'give', show gender agreement in the form of substitution of the initial consonant: masculine ɬ-, feminine ʃ-, neuter b-, d-. Agreement is always with a nominative. It is discussed further in connection with (52)ff.
3 It is difficult to generalize over the semantics of two-place intransitives. This formal class is also found throughout Northeast Caucasian, where it comprises some of the same verb meanings as in Ingush (Klimov and Alekseev 1980:81). In general, the valence types and the verbs they include are all more or less pan-Caucasian. For some remarks on the semantics of two-place intransitives vs. transitives see Catford 1975.

4 The archaic passive is the agentless passive of e.g. older Latin, where, instead of being demoted, the original subject was deleted. The Russian reflexive in question is the derived intransitive of verbs such as 'close', 'open', 'cover', 'fill', 'surround':

transitive
Mat' otkryla dver'
Mother opened door-ACC
'Mother opened the door'

derived intransitive
Dver' otkrylas'
door-NOM opened-REFL
'The door opened'

5 These two derivations may well be labile. (29) below shows the potential from a transitive verb, with no dative; cf. (27)-(28) with dative. (32) shows an agentless causative; (33) has the agent.

6 This is the term proposed by Van Oosten 1977 for English constructions like this book reads easily and he scares fast.

7 Also translated on srazu vlijubljaetsja 'he falls in love right away'. This supports Jakovlev's observation (1940:76, for Chechen) that roots in the potential can be interpreted either transitively or intransitively: the root in this form can mean either '(fall in) love' or 'please', i.e. 'get (people) to love'.

8 This example is my own.

9 These claims were made independently, with less emphasis on history, in Jacobsen 1969.

10 At first glance the double causatives may appear to be counterexamples: they are causatives of transitives, so we might speak of a special causative derivation applying only to transitives. But on that analysis they would have to be regarded as just special instances of the plain causative derivation, which applies to any type of verb. In reality, I think the double causatives are best regarded as unit derivations, adding the double-causative marker to all kinds of input verbs; that they contain the transitive morpheme followed by the causative morpheme is a statement of etymology, not of synchronic derivation.

References

Jakovlev, N. F. 1940. Sintaksis čečenskogo literaturnogo jazyka. Moscow-Leningrad: AN.


PROMOTION AND TOPICALITY OF NEZ PERCE OBJECTS

Noel Rude
University of Oregon

The Nez Perce are indigenous to the plateau lands of the northwestern United States. They are famous for the Appaloosa horse, and for Chief Joseph, the "Red Napoleon" who gained international attention in the 1880s for his astonishing victories and escapes from several United States armies. Army strategists still study his tactics. In final defeat Chief Joseph was not bitter. His surrender speech lives on as a classic in American literature.

The Nez Perce language belongs to the Sahaptian language family, which has been linked with Penutian. Both Yakima and Umatilla are Sahaptian languages. Penutian is the most widespread language phylum in the Western Hemisphere, embracing, if valid, not only various languages in the western United States, but even Mayan in Central America and Araucanian in Chile. Today Nez Perce survives among a rapidly dwindling number of older people scattered on several reservations in the states of Idaho, Oregon and Washington. There are, fortunately, two fine collections of texts: Phinney (1934) and Aoki (1979). These as well as the insights of my informant Zelma Minthorn have provided the data for this paper.

Although this paper proposes to deal with the Nez Perce direct object, it will be necessary to comment on the subject as well. This is because the nature of the direct object is reflected in the coding strategies of the subject. The first section of the paper looks at the structural properties of both subject and object. Next follows a structural description of various promotional and demotional strategies, and then in the conclusion are some comments on the function of the direct object.

1. Syntactic constructions.

1.1. Subject.

1.1.1. General characteristics. Subjects in Nez Perce have obligatory number agreement on the verb in certain aspectual suffixes, as the following examples show. Person has nothing to do with the selection of the morphemes that index subject number agreement. Note that subject-verb agreement for number is with a nominative subject; a transitive verb agrees with the semantic agent, not the patient.

1) Intransitive verb, first person subject

<table>
<thead>
<tr>
<th>Singular</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>kúuse</td>
<td>kúsíx</td>
</tr>
<tr>
<td>'I am going'</td>
<td>'We are going'</td>
</tr>
</tbody>
</table>

2) Intransitive verb, third person subject

<table>
<thead>
<tr>
<th>Singular</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>hikúse</td>
<td>hikúsíx</td>
</tr>
<tr>
<td>'He is going'</td>
<td>'They are going'</td>
</tr>
</tbody>
</table>


3) Transitive verb, first person subject

<table>
<thead>
<tr>
<th>Singular</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>?ēkeʔnīpīse</td>
<td>?ēkeʔnīpsīx</td>
</tr>
<tr>
<td>'I am biting it'</td>
<td>'We are biting it'</td>
</tr>
</tbody>
</table>

4) Transitive verb, third person subject

<table>
<thead>
<tr>
<th>Singular</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>pēēkeʔnīpse</td>
<td>pēēkeʔnīpsīx</td>
</tr>
<tr>
<td>'He is biting it'</td>
<td>'They are biting it'</td>
</tr>
</tbody>
</table>

There are several aspectual suffixes that do not inflect for number. Whenever they occur, a prefix pe- is optionally available to mark the plurality of the subject. Once again agreement is with a nominative subject. For the following examples deletion of pe- would be necessary if the subjects were singular.

5) Intransitive verb

<table>
<thead>
<tr>
<th>First person</th>
<th>Third person</th>
</tr>
</thead>
<tbody>
<tr>
<td>pekūuyee</td>
<td>hipekūuyee</td>
</tr>
<tr>
<td>'We went'</td>
<td>'They went'</td>
</tr>
</tbody>
</table>

6) Transitive verb

<table>
<thead>
<tr>
<th>First person</th>
<th>Third person</th>
</tr>
</thead>
<tbody>
<tr>
<td>?ēpekeʔnīpē</td>
<td>pēēpekeʔnīpē</td>
</tr>
<tr>
<td>'We bit it'</td>
<td>'They bit it'</td>
</tr>
</tbody>
</table>

The syntactic subject in Nez Perce is that argument that obligatorily triggers number agreement in the verb via the suffixes -se/-siix, etc., as well as optional plural agreement with the prefix pe- in just those situations where the aspectual suffix does not encode number.

1.1.2. Intransitive clauses.

1.1.2.1. Subject-verb agreement. Every finite verb in Nez Perce obligatorily indexes the person of its subject. Different morphology is involved, however, depending on whether the verb is transitive or intransitive. In the intransitive clause third person subjects trigger verbal agreement via the prefix hi-, first and second person via zero marking. The following four examples are given to illustrate subject-verb agreement for person in intransitive clauses.

<table>
<thead>
<tr>
<th>First person</th>
<th>Third person</th>
</tr>
</thead>
<tbody>
<tr>
<td>ñ-kūuyee</td>
<td>ñ-kūuyee</td>
</tr>
<tr>
<td>1NOM-went</td>
<td>QUESTION 2NOM-went</td>
</tr>
<tr>
<td>'I went'</td>
<td>'Did you go?'</td>
</tr>
</tbody>
</table>

9) hikūuyee

<table>
<thead>
<tr>
<th>First person</th>
<th>Third person</th>
</tr>
</thead>
<tbody>
<tr>
<td>hikūuyee</td>
<td>QUESTION 3NOM-be going</td>
</tr>
<tr>
<td>3NOM-went</td>
<td>'Is he going?'</td>
</tr>
</tbody>
</table>

1.1.2.2. NP case marking for subject. Nez Perce marks the case roles of NPs via a set of about 20 different suffixes, the subject of an intransitive verb being the unmarked case. Although it will not be dealt with in this paper, it is worth noting that word order is extremely variable in Nez Perce; all possible word orders are
encountered in the texts. Independent pronouns such as occur in the examples below are optional (the conditions on their use will not be dealt with in this paper). They are included here as examples of the non-case marked NP subjects of intransitive verbs.

11) ?fin-∅ ø-páyxnə tətisx
I 1NOM-arrived yesterday
'I arrived yesterday'

12) Aoki 3:34
kaa hi?1waaxwagca ?ipə
and 3NOM-be screaming she
'And she is screaming'

13) Phinney 12:16-17
kii waawa-∅ hiwéwtelume ńaxcipx hiwáypx
here mosquito 3NOM-dipped head one-into pail-into
'Here mosquito dipped his head into a pail'

1.1.3. Transitive clauses.

1.1.3.1. Subject-verb agreement. Subject-verb agreement for person is obligatory for every finite verb in Nez Perce. The same agreement prefixes discussed in 1.1.2.1. above sometimes index the subject in a transitive verb, other times a different set of prefixes are used: pée- for third person, and ?e- for first and second person.5 The factors that determine this choice will be dealt with later. Suffice it to note that it is entirely the nature of the object and not the subject that conditions the special subject-verb agreement prefixes of transitive verbs.

Subject-verb agreement for number, as discussed in section 1.1.1., treats the semantic agent of a transitive clause the same as the subject of an intransitive clause. The prefixes pée- and ?e-, however, agree only with agentive/experienter subjects in certain transitive clauses. In view of this I shall refer to them as ergative (or ERG). They are not strictly semantic markers. Their occurrence is conditioned by the syntactic and/or pragmatic nature of the direct object (to be discussed later), and hence ergative is a more accurate term than agent. But I use this term at the risk of confusing the reader. It must be realized that Nez Perce has no corresponding "absolutive" case. Nez Perce is not an ergative language in the classical sense, where the ergative case stands in counterdistinction to an absolutive case in which the semantic accusative of a transitive verb is encoded the same as the subject of an intransitive verb. Nez Perce, rather, has a nominative subject that links the semantic agent of a transitive verb with the subject of an intransitive verb. And then, in addition, the subject of a transitive verb often triggers ergative agreement via pée-/?e-. Although the subjects of transitive and intransitive verbs are in this way distinguished in Nez Perce, the accusative object of a transitive verb and the subject of an intransitive verb are not linked by an absolutive case in the language. Since the morphemes hi-/?- (discussed in 1.1.2.1. above) must be prefixed to a transitive verb when pée-/?e- are not, they will therefore be designated as nominative (or NOM) in this paper.
1st/2nd person  \( \varnothing - \)  \(?e-\)
3rd person  hi-  \( \text{pée}-\)

Table 1. Subject-verb agreement prefixes for person.

In the following examples, subject-verb agreement for person is contrasted in intransitive and transitive clauses.

14) First person
   Intransitive  Transitive
   \( \varnothing - \text{kúuye} \)  \( ?e\text{péeexwiye} \)
   1NOM-went  1ERG-stole
   'I went'  'I stole it'

15) Third person
   Intransitive  Transitive
   híkúuye  \( \text{péepeexwiye} \)
   3NOM-went  3ERG-stole
   'He went'  'He stole it'

1.1.3.2. NP case marking for subject. A subject NP that has ergative agreement in a transitive verb is also itself case marked with the ergative suffix -nim/-nm. In example 16 \( \text{xáxaac} \) 'grizzly bear' is the unmarked subject of an intransitive verb in contrast with 17 where the same noun is the subject of a transitive verb and is consequently case marked ergative. There is concord in case marking between adjectives and a head noun in Nez Perce, as is observable in the ergative NP in 17.

16) kaa híxíicemne  \( \text{xáxaac} \)
and 3NOM-became angry grizzly
'And Grizzly Bear became angry'

17) \( \text{péeexme} \)  \( \text{himeqíisnim} \)  \( \text{cikawíisnim} \)  \( \text{xáxaasnim} \)
   3ERG-saw big-ERG horrible-ERG grizzly-ERG
'The big horrible grizzly bear saw him'

The ergative case is limited to third person subject NPS in Nez Perce. Independent pronouns for first or second person never inflect for the ergative case. Compare the following: in 18 there is no distinction between núun 'we' in the intransitive and the transitive clause, but in 19 ?ipí 'he/she/it' is the subject in the intransitive clause, while the ergative ?ipníst is the subject in the transitive clause.

18) First person
   Intransitive  Transitive
   núun  \( \varnothing - \text{pektúuye} \)  núun  \( ?\text{epeexwiye} \)
   we  1NOM-PL-went  we  1ERG-PL-stole
   'We went'  'We stole it'

19) Third person
   Intransitive  Transitive
   ?ipí  híkúuye  ?ipníst  \( \text{péepeexwiye} \)
   he  3NOM-went  he-ERG 3ERG-stole
   'He went'  'He stole it'
The Nez Perce case suffix –nim, in accord with many ergative languages, is also the genitive marker. Below are two examples of genitive constructions. Note that, although first and second person pronouns never inflect for the ergative case, they do for the genitive, as in 20.

20) núunim wétès
   we-GEN land
   'our land'

21) háamanm ciqáamqal
    man-GEN dog
    'the man's dog'

In a genitive construction the head (or possessed) noun is never itself case marked ergative, as, for example, píke 'mother' is not in 22 below.

22) háamanm píke pêexne
    man-GEN mother 3ERG-saw
    'The man's mother saw him'

1.2. Direct object. We have already noted two peculiarities of the Nez Perce direct object: the fact that it is the grammaticalization of the direct object (not the subject) that determines ergative subject-verb agreement and also ergative NP case marking. There are three other grammatical characteristics of the direct object to consider: NP case marking for direct object, the peculiar treatment of first and second person direct objects, and plural object-verb agreement.

1.2.1. NP case marking for direct object. Direct object NPs are case marked with the suffix –ne. Unlike ergative NP case marking, this includes all independent pronouns, even first and second person. The next three examples exhibit overt direct object NPs case marked with –ne. Examples 24 and 25 illustrate case concord between adjective and noun.

23) Phinney 145:11-12
    kii peetwenwem qiiwne ?iceyéeyenm
    now 3ERG-talked with old man-OBJ coyote-ERG
    'Now Coyote talked with the old man'

24) Aoki 3:2-3
    ?ipnim pôopciyawnax ?inekíix titlíune ?iméesne
    he-ERG 3ERG-would kill even big-OBJ deer-OBJ
    'He would kill even a big deer'

25) Aoki 3:45
    ?ee ?awyáæxno'qa ku?sphé wexwéqéne titlíune
    you 2ERG-can find places-in frog-OBJ big-OBJ
    'You can find a big frog in these places'

1.2.2. First/second person direct objects. One peculiarity of the high topicality of first and second person is manifested by both subject and direct object in Nez Perce: both deflect ergative marking. While first and second person NPs are never marked ergative, first and second person direct objects prohibit ergative subject-verb agreement. In example 26 below the nominative pronoun ?in 'I' has ergative agreement in the verb with ?a-, while the nominative subject agreement with ə- in the transitive verb in example 27 is due to there
being a second person direct object. The nominative subject-verb agreement with hi- in 28 is due to a first person direct object. Note that the independent pronoun is case marked as a direct object with -ne in 28, and that in 29, even though having nominative agreement in the verb, the subject NP is marked ergative with -nim. This combination of nominative subject-verb agreement and ergative case marking on the NP can only be caused by a first or second person direct object. It is interesting to observe in comparing 26, 27 and 29 that the existence of a grammatical direct object is marked, but only once in the clause, either by NP case marking or by ergative subject-verb agreement.

1.2.3. Plural direct object agreement in verb. The verb in Nez Perce optionally agrees with a plural direct object by prefixing nées-. Just as with plural subject-verb agreement (section 1.1.1. above), plural direct object agreement in the verb is also indifferent to person. For example, compare the following.

In 30 above náas- agrees with a plural third person direct object, and in 31 the same morpheme agrees with a plural second person direct object. In 31 the second person direct object has deflected ergative subject-verb agreement, in accordance with the principles outlined in 1.2.2. above. Table 3 below gives in paradigm form all the subject/direct object verbal agreement prefixes discussed so far. Subject-verb agreement for person is represented horizontally and verbal agreement for plural subject/direct object is shown vertically. The prefix pée-, as is observable in table 3, does not co-occur with
nées-. Plural direct object verbal agreement with nées- causes demotion of ergative subject-verb agreement when the subject is third person; it does not when the subject is first or second person. This demotion, however, never carries over to the subject NP, as can be seen in example 33 below. Example 32 illustrates the absence of ergative marking on non-third person NPs (see also examples 18 and 19 as well as section 1.2.2. above), but its occurrence in the form of the subject-verb agreement prefix ?e-. Example 34 has ergative marking on both the subject NP and the verb, both subject and direct object being third person (in contrast to 33 where nées- precludes the co-existence of the third person ergative subject-verb agreement prefix pée-.

32) ?iín ?enéeshexne wálása
   I 1ERG-PL-saw knife-OBJ
   'I saw the knives'

33) ?ipínim hinéeshexne wálása
    he-ERG 3NOM-PL-saw knife-OBJ
    'He saw the knives'

34) ?ipínim péexne wálása
    he-ERG 3ERG-saw knife-OBJ
    'He saw the knife'

2.0. Promotion to direct object. In this section I am going to describe the structural devices by which a non-patient object can be promoted to direct object. It is clear that this is controlled, in some cases at least, by discourse considerations. Comment, however, on any discourse motivations for the optional promotions will, for the most part, have to be deferred till the concluding section of this paper.

2.1. Dative promotion. The human (conscious) participant object of a bitransitive verb must obligatorily appear as the direct object. The semantic patient is therefore demoted from the direct object; if it occurs as a surface NP it is never case marked. In examples 35, 36, 37 and 39 below the semantic patient is a surface argument, and in none of these examples is it case marked as a direct object. In 37, 38 and 39 the semantic dative is a surface NP and in each case
is marked as a direct object. The ergative subject-verb agreement in 35, 37 and 38 co-occurs with third person direct objects, which in each case is the recoverable or surface semantic dative. Note that in 39 it is the first person dative object ?íine 'me' that demotes the ergative subject-verb agreement to the nominative hi-. In 36 náč- agrees with a plural dative object (keléemet could be either singular or plural). In 40 náas- agrees with titooqana 'the Indians', the animate source from which the horses were stolen.

35) Aoki 18:61
   ?awýáhímta?ko?qa méexsem
   1ERG-could show mountain
   'I could show him the mountain'

36) Aoki 13:38
   weétu hínáác'niqana keléemet
   not 3NOM-PL-gave pipe
   'He did not give the pipe to them'

37) Phinney 145:7-8
   kaa ?ee weétu 'ca?a? yiyewísne ?éwnísé páhap
   and you not rightly poor one-OBJ 2ERG-give daughters
   'And it is not right for you to give your daughters to such a
   poor one'

38) Phinney 31:2
   kawó? háamanm péene ?áatwayna
   then man-ERG 3ERG-said old woman-OBJ
   'Then the man told the old woman, "..."

   hi?nïye ?íine le'éptit wax náaqc wa?wáalám
   3NOM-gave I-OBJ twenty and one trout
   'He gave me twenty-one trout'

40) Aoki 17:9
   síkem titooqana hináaspaxwiqana
   horse Indian-OBJ 3NOM-PL-stole
   'He stole horses from the Indians'

2.2. Benefactive promotion. When the dative/benefactive status of an object is not implicit in the semantics of the verb, then a special verbal suffix is required and this animate participant is promoted to direct object. In the texts benefactive promotion is just as obligatory as dative promotion. There is a benefactive NP suffix in Nez Perce, however. But in texts it only occurs in such verbless environments as in 42 below, or with abstract NPs as in 41.10

41) Phinney 115:6
   heénekú? Ò?iniké’níim watíiski?ayn
   again 2NOM-put-BEN-IMP11 tomorrow-for
   'Put it for me again for tomorrow'

42) Aoki 14:5
   ... čalawí tá’c sikáamayn
   if good horse-for
   '... if good for the horses'
The benefactive verbal suffix -éni in 41 above does not promote 'tomorrow' to direct object. Rather, it marks the promotion to direct object of the conscious participant 'me', whose first person status is the reason for the nominative subject-verb agreement. In each of the following 5 examples -- all of which have the benefactive verbal suffix -- the semantic patient is a surface NP, and in none of them is it the direct object of the verb. The plural direct object agreement prefix need- in 46 agrees with the benefactive (even though the semantic patient is also plural). In 47 a first person benefactive direct object has demoted ergative subject-verb agreement from ?a- to Ø- (as in 41 above), just as a first or second person direct object would do to a normal transitive verb.

43) Phinney 142:13-14
qáaca?cpim12 páanyakya timúuni ?iméesnim tupé?snim
grandmother-ERG 3ERG-make-BEN-ASP bow deer-GEN rib-GEN
'The grandmother made him a bow of deer's rib'

44) Phinney 137:14
waqit kix ?ewí?enis yú?sne tuyé
therefore let me 1ERG-shoot-BEN-ASP poor one-OBJ pheasant
'Therefore, let me shoot a pheasant for the poor one'

45) Phinney 315:13-14
?epéytenu?13 sámx piťińine
1ERG-get-BEN-go-ASP clothing girl-OBJ
'I will go get clothing for the girl'

46) Phinney 325:15
?enéecinpeńiy kúsx kaa sóox
2ERG-PL-get-BEN-IMP bowl and spoon
'Get for them the bowl and spoon'

47) Phinney 151:14
?iniit ñó? himéeqis Ø-hányá?nim
lodge very large 2NOM-make-BEN-IMP
'Make a very large lodge for me'

2.3. Genitive promotion. The same verbal suffix used for benefactive promotion also serves for genitive promotion. Genitive promotion is at least partially optional (as will be seen later in the discussion of the antipassive). It applies to either alienable or inalienable possession. In both 51 and 52 nées- agrees with a plural genitive of alienable possession.

48) Aoki 20 (1, 2) 1
?ecuukweněyse ?ipné timíne
1ERG-know-GEN-ASP he-OBJ heart
'I know his heart'

49) Aoki 17:138
kímet kaa póopciyawna?ysana kúsxne miya?c
then and 3ERG-kill-GEN-ASP Cook-OBJ child
'Then they killed Cook's son'
50) Aoki 4:29
    kaa núusnu peetqe?npe?nye x'áxaasna
    and nose 3ERG-grab-GEN-ASP grizzly-OBJ
    'And he grabbed grizzly bear's nose'

51) Phinney 96:13
    ku?ús hineeskiye?nye 7óypaaxat talátat
    thus 3NOM-PL-do-GEN-ASP all five cedar sticks
    'Thus he did to all five of their cedar sticks'

52) Phinney 323:7
    xaláp hineeskiye?nye14
    open 3NOM-PL-do-GEN-ASP
    'She opened theirs (the door)'

The suffix -nim does mark a genitive noun in a demoted object NP. For example, in 53 below genitive promotion has occurred. But ?imeesnim 'the deer's' has not been promoted to direct object, it being marked with -nim instead of -ne. The plural (there is verb agreement with náas-) direct object recoverable from context is 'the wolves'.

53) Phinney 267:6-7
    ku?ski hínáasyogopnáysa ?imeesnim píips teqepénixt
    thus 3NOM-PL-eat heartily-GEN-ASP deer-GEN bone leftover
    'Thus he eats their (the wolves') leftover bones of the deer with much gusto'

2.4. Locative promotions.

2.4.1. Directional dative promotion. A directional dative is promoted to direct object by the verbal suffix -yuu/-nuu, as in 55 below, where the verb has been transitivized by it. The same verb with intransitive morphology is contrasted in 54.

54) Aoki 1:7
    w̓zaqí kaa hiixíicemne x'áxaac
    now and 3NOM-be angry-ASP grizzly
    'Now Grizzly Bear got angry'

55) Phinney 113:9
    kaa ?aatwaynim kómáč peexícemnúuye téxte xe
    and old woman-ERG terribly 3ERG-be angry-DIR-ASP locust-OBJ
    'And the old woman became terribly angry at Locust'

Directional dative promotion with the verb kuu- 'go' is often idiomatic for 'to marry', as in 57 below. In 56 there is no promotion; the clause is intransitive.

56) Aoki 18:3
    sooyáapoo kawá go? mexséemx hípekúye
    whiteman then quite mountain-to 3NOM-PL-go-ASP
    'The whitemen had gone to the mountains'

57) Aoki 11:1 (title of a "true" tale)
    ?awínim péekiyuusse wexpúusne
    widow-ERG 3ERG-go-DIR-ASP rattlesnake-OBJ
    'Widow marries a rattlesnake'
Genitive promotion takes over directional dative promotion, as can be seen in 58 below. The morpheme for benefactive/genitive promotion is suffixed to the verb after the locative suffix -yúu/-núu.

58) Phinney 229:4
   kaa wáaqo? weptéesne simés péexyuu?ey'sene wexwegénnm
   and now eagle-OBJ bed 3ERG-go-DIR-BEN-ASP frog-ERG
   'And now the frog went to Eagle's bed'

Directional dative promotion is optional (its motivation will be speculated on later). The promotion of directional datives has not occurred in 60, 61 and 62 below.

59) Aoki 9:106
   kawó? hickilíine yú?c
   then 3NOM-went home poor
   'Then the poor thing went home'

60) Phinney 151:2-3
   kawó? hickilíine pisítx
   then 3NOM-went home father-to
   'Then she went home to her father's'

61) Phinney 82:3
   métu kawó? híkuuyee ḋáxáacpx
   but then 3NOM-went grizzly-to
   'Nevertheless she went to Grizzly Bear's (lodge)'

62) Phinney 270:13-14
   kii híkuuyee pisítx
   now 3NOM-went father-to
   'Now she went to her father's'

In example 63 there are two clauses; in the first the directional marking is on the independent pronoun ?íméémx 'to you all', in the second clause the same referent has been promoted to direct object by the suffix -nóó and consequently there is plural direct object verbal agreement via nas-.

63) Aoki 13:19-20
   čalawí lemtúus haʔácsana ?íméémx
   if enemy 3NOM-enter-ASP of you all-to
   hinaspaynoosana ?imemlemtúusnim ...
   3NOM-PL-arrive-DIR-ASP your-enemy-ERG
   'If an enemy comes in to you, your enemy comes to you, ...'

2.4.2. Allative promotion. Inanimate allative objects can also be optionally promoted to direct object. The following two examples contrast the allative case of the noun (example 64) with promotion to direct object of an allative object (in 65), both with the same verb kuu- 'go'.

64) Aoki 17:43-44
   kála ḧ-kusiix yáwwínmax
   just 1NOM-go-ASP Rapid River-to
   'We are just going to Rapid River'
65) Phinney 103:11-12
metú wee?u? ʔalaana tamawín qatát péexyusínm
but not fire-OBJ too near 3ERG-go-DIR-ASP
'But they are not coming too close to the fire'

The following two examples make the same contrast with the verb
páy- 'arrive'.

66) Aoki 2:2
kiímet hipapáyna himeqílispe hilqípe
then 3MOM-PL-arrive-ASP big-LOC bench-LOC
'Then they arrived at a big bench (of the river)'

67) Aoki 12:21
kiímet papaynóoma kínu? texpe?émne
then 3ERG-arrive-DIR-ASP here prairie-OBJ
'Then he came here to the prairie'

In example 68 there are two locative objects, one of which has been
promoted to direct object. In 69 the promoted direct object is
evidently the 'whiteman' who is in the house, since ?iniłtx 'to the
house' has not been promoted.

68) Phinney 78:2-3
kiímet kona petqep?niyuuye téekinpe ?iniłne
then there 3ERG-suddenly come-DIR-ASP meadow-LOC lodge-OBJ
'Then he suddenly came upon a lodge in a little meadow'

69) Aoki 17:48-49
kií kíye ?iniłtx ?ekiyúusix
now we house-to 1ERG-go-DIR-ASP
'Now we are going to the house to him'

It is not entirely clear at this preliminary stage exactly what the
motivation for locative promotion is. Any perusal of the texts,
however, reveals that unpromoted animates are very rare and that
promoted inanimates are also somewhat rare. As we have seen, on
occasion even the highly topical first and second person independent
pronouns are not promoted to direct object. Here is another example.

70) Phinney 79:6-7
kaňa kinku? ?inímox himamúotosxsíix
just always my-to 3MOM-consider superior-ASP
'Just always they are considering themselves superior to me'

2.4.3. Ablative promotion. Aoki (1970, page 97) lists a verbal suffix,
-(n)áapiik, and an example sentence in which it has marked the promotion
of an ablative argument to direct object.

71) Aoki (1970) 97
kálo? 'ameítqaaswisiga kaa hinawakaʔyáapiiksa
just 1ERG-disobey-ASP and 3MOM-PL-fly-ABL-ASP
'We just disobeyed her (our mother) then she flew away from us'

Aoki contrasts wek?eʔkse 'I am flying' as an example of the same
verb without ablative promotion. The following two examples have
unpromoted ablative nouns, which in Nez Perce suffix -(p)kínix.
Note that the unpromoted NP in 72 below is highly animate.

72) Aoki 13:19

keléemet miyóoxatopkinix hisepéélkiliicine
pipe chief-ABLATIVE 3NOM-pass around-ASP
'Starting from the chief they passed the pipe around'

73) Phinney 41:6

hipawspáyxtogaméqséemknix
3NOM-PL-move back-ASP mountains-ABLATIVE
'They moved back from the mountains'

2.4.4. Additional locative promotions. Among the verbal suffixes listed on pages 93-103 of Aoki 1970 are those that we have just discussed involving the various promotions to direct object. Aoki also lists there several suffixes that we have not yet discussed that concern the semantics of the direct object. These include -(n)áatk 'as the direct object passes by', -ča 'over the direct object', -éece 'on/upon the direct object', -so? 'against the direct object', and -(n)úukini 'as the direct object approaches'. Often these suffixes merely add semantic detail to the direct object of an already transitive verb. Sometimes, however, they are involved in transitivizing an intransitive verb. The following examples that involve promotions to direct object are from Aoki 1970, unless otherwise noted. The verbs hi- 'say, tell' in 74 and wehí- 'bark' in 77 can also take dative direct objects without these promotional suffixes. I have not yet found a clear example of promotion involving -éece.

74) -(n)áatk promotion

a. ku’stiit koná híhiné hénéneku?
same there 3NOM-say-ASP again
'She said the same thing again'

b. Phinney 53:8-9

ku’stiit koná páa-∅-natka hénéneku?
same there 3ERG-say-PASSING-ASP again
'She said the same thing to him as he passed again'

75) -ča promotion

a. huuxelece
3NOM-roll-ASP
'It is rolling'

b. páhoxalčasa
3ERG-roll-ÖVER-ASP
'It is rolling over him'

76) -so? promotion

a. ∅-wistokáhsasa
1NOM-shoot upward-ASP
'I shoot upward'

b. ?awstokáhsosasa
1ERG-shoot upward-AGAINST-ASP
'I shoot upward against someone'

77) -(n)úukini promotion

a. hiwehne ciqáamqal
3NOM-bark-ASP dog
'The dog barked'
b. Phinney 480:3

kaa ciqáamqalk waágo? peewehnu'ukiniye
and dog-ERG now 3ERG-bark-APPROACH-ASP
'And now the dog barked at him as he approached'

Some of these locative suffixes can co-occur with simple directional promotion via -yúu/-núu. In 78 the verb níkeex- 'draw back a bow' occurs with simple directional promotion, and in 79 this already transitivized verb (nikeexnúu- 'draw back a bow at') has the additional suffix -'aatka 'as the direct object passes by'.

78) Phinney 37:13

hinkeexnúuse
3NOM-draw-DIR-ASP
'He draws back his bow at me'

79) Phinney 37:11

kaa waágo? céepeki paankaaxnóo-'aatka
and now arrow-INST 3ERG-draw-DIR-PASSING-ASP
'And now with an arrow he drew back his bow at her as she went past'

2.5. Associative promotion. Nez Perce has an associative case that is distinct from the instrumental. A noun in the associative case suffixes -(n)ín, as in 80 below, while in the instrumental case -ki is suffixed, as in 81.

80) Phinney 45:12

métu konó? hiwgsu?úce icieyéeye sooxíín
but there 3NOM-sit-SG.ASP coyote spoon-ASSOC
'But there Coyote sits with the spoon'

81) Phinney 21:7

walácki pëetqesewayne
knife-INSTR 3ERG-quickly cut-ASP
'He cut it quickly with the knife'

In the texts most examples of the associative case involve animates. When an inanimate is in the associative case, as in 80 above, subject-verb agreement is singular, while with an animate there is plural subject-verb agreement, as in the following two examples.15

82) Phinney 261:13

kála qaaca?ciín hitéemeksix
just grandmother-ASSOC 3NOM-barbecue-PL.ASP
'He is just barbecuing it with his grandmother'

83) Phinney 10:2

hitééwycéni qaaca?ciín wáawa
3NOM-dwell-PL.ASP grandmother-ASSOC mosquito
'Mosquito was living there with his grandmother'

The associative case is optionally promoted to direct object in Nez Perce via the verbal suffix -twé, as in 84 below. Example 85 contrasts the same verb without a promotion to direct object of an associative NP.

84) Phinney 154:6

kaa waágo? pehétimp peewyéewtene kála
and now sister-ERG 3ERG-move-ASSOC-ASP just
'And now her sister just went with her'
85) Phinney 480:11
   ?iy, kāla ku? ?ituú híwáyaga
   oh just something 3NOM-move-ASP
   'Oh, just something was moving'

3.0. Constructions involving adjustments in both subject and direct object.

3.1. The antipassive. The antipassive in ergative languages has been described as the reverse mechanism of the passive. While the passive promotes a direct object to subject, the antipassive promotes the ergative to absolutive case. In both mechanisms there is demotion -- in the passive it is the agent that gets demoted and in the antipassive it is the patient. Also, there is in both mechanisms a detransitivization of the verb. Now, since there is no absolutive case in Nez Perce, the Nez Perce antipassive cannot involve a promotion to it. But it does involve the loss of all ergative marking in the clause. The ergative subject becomes a nominative subject (with nominative subject agreement) and the direct object is demoted in the sense that it no longer controls ergative marking in the clause, nor is it ever case marked as a direct object NP. The antipassive clause resembles an intransitive clause in that its verb has the same kind of subject agreement, and also in that the subject NP is not case marked. This antipassive, instead of being the Nez Perce answer to the passive in European languages, is really the reverse or undoing of the Nez Perce object promotion strategies.

As we have seen (section 1), it is the existence of (or promotion to) direct object that controls ergative marking in the clause in Nez Perce. It is not the nature of the subject. Conversely, the antipassive must be viewed as the demotion of the direct object. It is the nature of the direct object (whether semantic or pragmatic) that triggers antipassive in Nez Perce. It is never the nature of the subject.

Aoki (1970, page 106) describes one of the functions of the constructions that I am calling the antipassive. He contrasts the following.

86) ?ameciisa miya’ásna
    1ERG-hear-ASP child-OBJ
    'I hear a child'

87) ñ-miçiisa miya’c
    1NOM-hear-ASP child
    'I hear my child'

The following examples show the possessor of the direct object as coreferential with the subject by use of the antipassive construction.

88) Phinney 306:6-7
    kawd? hiteméetéqelike ?ilp’ílp cíickan ?iceyéeye
    then 3NOM-spread out-ASP red blanket coyote
    'Then Coyote spread out his red blanket'

89) Phinney 137:4
    xaxaaxc wáaqo? súu’um hitwíixne
    grizzly now master 3NOM-follow-ASP
    'The grizzly now followed his master'
90) Phinney 83:12
hiwéwlukse  cółákstint  căxăac
3NOM-want-ASP hand-drum  grizzly
'Grizzly wants his hand-drum'

A genitive pronoun coreferential with the subject may show up in the object NP, as in 91 below. Since this necessitates the antipassive construction, the genitive is therefore not promoted to direct object (example 48 is repeated again from above as 92 below for comparison).

91) Aoki 10:14
lamlamatki pít₁in'  hiʔcesuíʔpe  ?ipním  sałáb
quickly  girl  3NOM-cut-ASP she-GEN shirt
'Quickly the girl cut her shirt'

92) Aoki 20 (1, 2) 1
?ecúukweneyse  ?ipné  timé
1ERG-know-GEN-ASP he-OBJ heart
'I know his heart'

The Nez Perce antipassive also seems to serve the function of coding a non-specific or generic direct object. The criterion seems not to be the semantic specificity of the referent, but the relevance to the discourse of its specificity (see Givón 1982). The following examples of antipassive constructions appear to involve just such situations. Although in both cases there actually is a logical referent, in neither does this fact have any pragmatic relevance.

93) Aoki 5:96-97
sóox  hiwéyeʔnipxeneʰ  himéeqis
spoon 3NOM-leaving pick up-ASP big
'As she left, she picked up a big spoon'

94) Phinney 145:1-2
kii ḥénekʔu?  céep  hiʔnpe  háacwal
now again  arrow 3NOM-take-ASP boy
'Now the boy again took an arrow'

When any antipassive clause contains a genitive noun in the direct object, the genitive noun will not be promoted, but will have the genitive suffix -nim/-nm/-m. The following is an example (but I am not sure why 'the woman's advice' should have been demoted).

95) Phinney 30:7
híttoolaya  tátayotim  tiwíyext
3NOM-forget-ASP woman-GEN advice
'He forgot the woman's advice'

The mechanisms of promotion to direct object must be viewed as feeders to the antipassive. The following two examples of the antipassive involve, respectively, dative promotion and directional dative promotion. Dative promotion requires no verbal suffix, it being obligatory in all cases.
96) Phinney 17:6
ka’la ᖕiyee’ne sáqsin ᕙiyigana
just wife pitch 3NOM-give-ASP
’He would just give his wife pitch gum’

97) Phinney 327:16-17
k’aat piist ᕭiyaxpaykóoya s’iteq̓s
and father 3NOM-bring-DIR-ASP liver
’And she brought her father the liver’

3.2. The passive. Nez Perce has a passive construction that totally
denotes the ergative case and promotes the direct object to subject.
The copulas wee- ‘be’ or wicéé- ‘become’ are introduced in the
passive clause to code tense/aspect and subject-verb agreement, and
the main verb suffixes -(n)iin/-yiin. Compare the following.

98) Phinney 173:7-8
waliinmeepki pe’wiye
arrow-INST 3ERG-shoot-ASP
’He shot her with an arrow’

99) Phinney 175:6
’ewyiin híiwes
shoot-STATIVE 3NOM-be-ASP
’She is shot’

The mechanisms of direct object promotion must also be viewed as
feeders to the passive construction. Numerous examples exist in the
texts of the promotion to subject of a dative direct object. But it
has been extremely difficult to find examples of other semantic cases
being so promoted by the passive. I am awaiting the opportunity to
check out this prediction with an informant. Previous checks with
my informant have revealed the unacceptability of the semantic
patient in a ditransitive clause ever being promoted to subject, this
being predictable due to the obligatory status of dative promotion
in Nez Perce. The following are examples from texts of dative
promotion feeding the passive rule.

100) Aoki 12:2-3
ke yo’ma híwsííne we’nikín matápoon
which those 3NOM-be-PL.ASP name-STATIVE
’... those which were named Matápoon’

101) Aoki 15:30
k’aat konímyawa híwu’a’níqa temcúwkenin
and of that reason 3NOM-become-PL.ASP teach-STATIVE
’And for that reason they used to be taught it’

102) Aoki 19:2-3
kíne ʔéetx ʔ-pewcée’euʔ wiisepínwenín wéetes
here you all 2NOM-PL-become-ASP allot-STATIVE land
’Here you all will be allotted land’

3.3. The impersonal passive. A non-referential subject can still
have ergative agreement in the verb if there is a direct object. In
such cases number agreement is singular although the English
impersonal ‘they’ often occurs as the translation in the texts. The
following two examples contrast subject demotion; in the first example (103) via the impersonal passive, in the second (104) via the passive.

103) Phinney 153:16-17
   wáaqo? ku? míne peetulelpıyksene háacwala
   already somewhere 3ERG-trample under-SG.ASP boy-OBJ
   'Already somewhere they have trampled the boy under'

104) Phinney 154:2-3
   ku? míne ʔée kala háama tuléelpiykiin ʔ-wées³
   somewhere you just husband trample under-STATATIVE 2NOM-be-ASP
   'Somewhere your husband is just trampled under'

4.0. Concluding remarks. The broad range of semantic roles that can be promoted to direct object in Nez Perce suggests a strong correlation between syntactic form and pragmatic function. The frequent promotion of animates over inanimates, and of highly specific over non-specific participants argues for the high topicality status of the Nez Perce direct object (see Givón 1976 and Silverstein 1976). The obligatory promotions all involve conscious participants: datives, benefactives, genitives. This phenomenon that allows for the promotion to direct object of a wide variety of semantic cases has been observed in several distinct languages and language groups (for references see chapter 4 of Givón 1979 and chapter 5 of Dik 1980).

Heath (1976) considers seven functions of antipassive constructions. Among these are the constructions in Australian languages that promote the ergative case to absolutive so as to permit coreferentiality with the absolutive subject of a preceding clause, "category-linked" antipasses which apply only to specific tense, aspect, and/or modal categories, and antipasses that function to demote "indefinite, obvious, or insignificant" direct objects. Category-linked antipasses seem to be an areal feature of the diverse ergative languages found from the Pyrenees to the Himalayas. The Sumerian antipassive, for example, is believed to have marked the imperfective aspect, the ergative construction having been reserved for the perfective (Michalowski 1980). The Nez Perce antipassive functions as a demotion of the direct object, similar to Heath's characterization of antipassive constructions in English, Uto-Aztecan, and Eskimo. The antipassive serves the opposite function in Nez Perce to that of the direct object promotions. Pragmatically irrelevant (see Givón 1982) direct objects are demoted.

Nez Perce thus presents a clear case where the ergative construction is entirely dependent on the (discourse) status of the direct object, not the subject. The "impersonal passive" (see section 3.3), which encodes non-referential subjects, employs ergative subject-verb agreement when the direct object is pragmatically relevant. At the very least this shows that transitivity marking must consider the relative weights of subject and direct object (see Hopper and Thompson 1980, and Givón 1981). Further comment on the pragmatics of subject and direct object in Nez Perce must await a more detailed analysis of the available texts.
FOOTNOTES


2 For the examples cited in this paper I have normalized the orthographies of Pinney and Aoki, using Aoki's system except for indicating vowel length by writing the vowel letter twice.

3 Nez Perce has no grammatical gender, but to simplify matters I translate 'he' rather than 'he/she/it'. In examples cited from texts the translation will be determined by context.

4 The conditioning factors in the optionality of the plural markers pe- and nées- will not be dealt with in this paper. But it is to be expected that discourse factors such as those discussed in the conclusion to this paper are involved.

5 The vowel e [æ] alternates with a, and u with o, in accordance with the much discussed Nez Perce vowel harmony. For a description see Aoki (1970). It should also be noted that pée- prefixed to a stem with initial we(e) results in púu, and pée- + wa(a) similarly results in póó. A phonological rule regularly converts ewe into uu and awa into oo.

6 See Silverstein (1976) for a universal hierarchy that predicts this split ergative system.

7 See Givón (1980) where the ergative case is shown to arise either from genitive marking or agent marking in passive constructions.

8 A subject NP that contains a genitive has subject-verb agreement with that genitive, rather than with the head noun. Subject-verb agreement for person, however, is in accordance with the following paradigm, as opposed to that in table 1 of this paper (cf. also Aoki 1970, page 106).

<table>
<thead>
<tr>
<th>Person</th>
<th>Nominative</th>
<th>Ergative</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st/2nd person</td>
<td>ø-</td>
<td>hi-</td>
</tr>
<tr>
<td>3rd person</td>
<td>?e-</td>
<td>pée-</td>
</tr>
</tbody>
</table>

9 The usual allomorph of the benefactive suffix, -(e)?(e)n(i), is evidently the historical result of a serialization with the simple verb stem ?eni- 'give'. Thus ?ewí- 'shoot' + ?eni- 'give' becomes ?ewí?eni- (as in example 44) and means 'shoot it for someone'.

10 My informant, a relatively young speaker, will permit ?aýn to mark the promoted benefactive object NP in a clause such as the following. Whether this is an innovation under the influence of English or merely some peculiarity that has yet to surface in the texts is not now apparent.

walc páanyahya háama?aýn
knife 3ERG-make-BEN-ASP man-for
'He made the knife for the man'

11 In this paper, whenever a suffix is underlined such that the final aspectual or imperative suffix of the verb is left dangling, I will merely note the left-over suffix as ASP or IMP without further refinement.
The ergative suffix -pim, in contrast to -nim, has the added value of an honorific.

The morpheme -te 'go in order to do something' is suffixed after the benefactive suffix. It is not itself a promotional suffix. It always refers to the subject of the clause, be the verb transitive or intransitive.

A restricted class of punctual verbs occur with auxiliary kúu- 'do, go'; for example: xaláp 'open', yekép 'close', likíp 'touch', kúpíp 'break', etc.

The distinction between animates and inanimates being made by number agreement in the verb also applies to reciprocals. Compare Aoki (1970), page 90.

See the index to Dixon (1980) for the Australian antipassive, and Kalmár (1979) for the Eskimo version.

REFERENCES

Aoki, Haruo

Dik, Simon

Dixon, R. M. W.

Givón, T.
1980 'The drift away from ergativity: diachronic potentials in Sherpa' Folia Linguistica 1, 11-60.
1982 'Logic vs. pragmatics, with human language as the referee: toward an empirically viable epistemology' Journal of Pragmatics 6/1.

'Direct object and dative shifting: semantic and pragmatic case' to appear in Objects, ed. by Frans Plank.
Heath, Jeffrey

Hopper, Paul J. and Sandra A. Thompson
1980 'Transitivity in grammar and discourse' Language 56, 251-299.

Kalmár, Ivan

Michalowski, Piotr

Phinney, Archie

Silverstein, Michael

Voegelin, Charles F. and Florence M. R. Voegelin
Root and Epistemic Modals: Causality in Two Worlds

Eve E. Sweetser
University of California, Berkeley

0. Introduction. Modality has always been a tantalizingly elusive area for linguistic analysis, but perhaps its most elusive aspect is the connection between the "root" (or deontic) and "epistemic" senses of modal expressions. Linguists have characterized as root those meanings which denote real-world obligation, permission, or ability (as in example 1); and as epistemic those which denote necessity, probability, or possibility in reasoning (as in 2).

(1) John must be home by ten: Mother won't let him stay out later.

(2) John must be home already: I see his coat.

So far, however, no plausible manner of unifying or linking the two senses of modal verbs like must has been proposed, despite a number of attempts which I shall discuss later. Indeed, much recent linguistic work seems to treat English modal verbs as essentially cases of homonymy rather than ambiguity, tacitly assuming that epistemic and root modality are unrelated. (cf. Lyons 1977, R. Lakoff 1972a) Root modal meanings are often treated as lexical predicates involving force or obligation, while epistemic readings are treated as combinations of logical operators. But if English root modals share lexical form with their epistemic counterparts by (historical) chance, this chance homonymy is widespread. There is a strong crosslinguistic tendency for lexical items to be ambiguous between these two semantic domains; many unrelated languages are alike in having some set of predicates (often including a relatively small morphosyntactically distinct set) which carry both the root and epistemic modal readings, as English modal verbs do.

The present study will argue for a unified semantic analysis of root and epistemic modality. I shall suggest that root modal meanings are extended to the epistemic domain precisely because we view our reasoning processes as being subject to compulsions, obligations, and other modalities, just as our real-world actions are subject to modalities of the same sort. Nor is modality the only area where we treat the epistemic world as analogous to the sociophysical world: the root-epistemic modal contrast is only one example of our linguistic treatment of the causality of reasoning processes in terms of the causality of events and actions. An examination of our use of speech-
act verbs, of adverbial elements such as *anyway*, and especially of causal conjunctions, shows that all of these can be applied to the epistemic world as well as to the real world.

There is strong historical, sociolinguistic, and psycholinguistic evidence for viewing the epistemic use of the modals as an extension of the root meaning (rather than root as extension of epistemic, or both as subsets of some superordinate). Historically, the English modals developed from non-modal meanings (such as physical strength or force) to "deontic" modal meanings, and later still broadened to include the epistemic readings as well. (cf. Shepherd 1981, Ehrman 1966). Shepherd's work on Antiguan Creole gives some evidence that creoles first develop their expression of root modality before going on to extend that expression fully to the epistemic domain. And studies of child language (Kuczaj 1979, Shepherd 1981) have revealed that children acquire the deontic senses of modal verbs earlier than the epistemic senses.

I shall begin, therefore, by putting forward an analysis of root modality which I have chosen because it is readily extendable from the sociophysical to the epistemic domain. Given our understanding of mental "forces" in terms of real-world forces, this analysis of modal semantics can apply unmodified to the epistemic world. And finally, I shall expand the analysis from the area of modality to propose a single semantics of causality for the sociophysical and epistemic worlds.

I. The Root Modals in English

One of the main obstacles to the evolution of a unified understanding of modality has been the fact that semantic analyses of root modality were not systematically relatable to logical necessity or probability. So we must choose our root modal analysis with care, if we hope to make it mesh with epistemic modality. Talmyn (1982) has suggested that the semantics of root modality is best understood in terms of force dynamics, that is in terms of our linguistic treatment of forces and barriers in general. Thus, for example, permitting (e.g. *may*, *let*, and *allow*) is an instance of taking away (or keeping away) a potential barrier of some kind. With *let* or *allow*, that barrier may be a physical one (as in 3) or a social one (as in 4); *may* seems more restricted to social permission.

(3) The crack in the stone *let* the water flow through.

(4) I begged Mary to *let* me have another cookie.

Adopting Talmyn's basic idea of viewing modality in terms of forces and barriers, I shall offer tentative force-dynamic analyses of all the root modals. My primary
object will be to subsequently demonstrate that such analyses are possible and readily extendable to the epistemic domain, rather than to argue strongly for this specific set of analyses as they stand. It should be understood that I do not explicitly take my analyses from Talmy, except in the case of may, nor does he necessarily agree with my unification of root and epistemic modality. Further, he takes the purely physical level of force dynamics (e.g. a stone resisting water) as the most basic of all, while I prefer to view modality as basically referring to intentional, directed forces and barriers. Within the domain of intentional causality, I do feel (as Talmy does) that direct physical manipulation of the environment is more prototypical causality (and hence more prototypical modality) than is indirect or purely social manipulation (cf. Talmy 1976). But this paper will not attempt to deal with the relative basicness of different kinds of real-world forces in our understanding of causation; rather, I shall simply propose a force-dynamic analysis of modality, with the understanding that I am referring to generalized sociophysical concepts of forces and barriers.

May and must are perhaps the most clearly force-dynamic of the modals. Talmy's understanding of may in terms of a potential but absent barrier seems to me very reasonable, and can be viewed as a restatement of the standard analysis (e.g. "not require not") in terms of the more general concepts of forces and barriers. Must is equally readily understood as a compelling force directing the subject towards an act. Talmy would like to view must as a barrier restricting one's domain of action to a certain single act; and the physical result of force or constraint would be the same. But must has the force of an order to do something, a positive compulsion rather than a negative restriction. When I say "You must be home by ten," I indeed restrict my interlocutor's actions (or try to do so); but I do so by compelling the choice of some specific alternative. My intention is fixed not on the excluded alternatives but on the realization of the chosen alternative.

Can is far more difficult to pin down than may or must. Talmy analyzes it as parallel to may in structure, but with less tendency for the absent barrier to return to its position. This solution would of course explain the frequent overlap of can and may's semantic territories, but I think the overlap is equally explicable in terms of a more intuitively satisfying definition of can. Can denotes positive ability on the part of the doer; may denotes lack of restriction on the part of someone else. The closest physical analogy to can would be potential force or energy (note the Latin potential, referring to ability) - and perhaps the best force-dynamic definition I can give for
ability is to say that it is the human physical and social modality in terms of which we view potential energy in physics.

If we can permit ourselves an excursion into the simple physical domain for a moment, perhaps it will become clearer why can and may have such a tendency towards overlap. Let us view can as being the equivalent of a full gas-tank in a car, and may as the equivalent of an open garage-door. These two factors will exert certain similar influences on the situation: neither factor forces the car (or the driver) to travel a given path, and yet if either factor were reversed, then travel would be correspondingly restricted. The full tank is a positive enablement, while the open door is a negated restriction; yet the results are similar enough to allow a good deal of overlap in the larger force-dynamic schemata surrounding the two modalities. Thus it is not surprising to find can used to give permission: the remover of a barrier may even feel that in some sense this removal counts as an act of enablement. And of course, it is also politer to (cooperatively) enable than to invoke your restrictive powers by overtly refraining from exercising them.

We now come to ought, have to, and need to, which resemble must in denoting obligation or necessity: the difference is largely in the kind of obligation. Ought seems to be less strong than the others, and to have moral overtones, or at least to indicate that the obligation is one socially agreed upon between the imposer and the doer. Have to (as Talmy observes) has more of a meaning of being obliged by extrinsically imposed authority. And need implies that the obligation is imposed by something internal to the doer:

(5) I have to stay home, or Mom will get mad at me.
(6) You have to stay home, because I say so.
(7) I need to stay home tonight to study for the test.

Either need or have to can be used in (7) because the obligation to study is an externally imposed one in one sense, and an internally imposed one in another (the student is free to neglect studying, though at the risk of failing the test). Talmy would prefer to analyze have to, need to, and ought as barriers; I have once again some doubts about this viewpoint. Ought especially seems to me to indicate a positive compulsion; but need also refers to the necessity for some specific action or object, rather than to restrictions on other possible actions. My own analysis of
must, ought, have to, and need to is that they are different kinds of forces. Must has connotations of a directly applied and irresistible force, while have to, ought and need are resistible forces different with respect to their domains (social, moral) and/or sources of imposition (internal/external), as discussed above. Regarding the question of resistibility, note the contrasts in (8).

(8) ?? I must get this paper in, but I guess I'll have to go to the movies instead. I need to I ought to

The basic point here is that within the limits of the meaning of each modal, anything that counts as a force can impose the relevant modality. Thus any internally rooted desire, lack, or compulsion can impose the modality need; and any social force which the subject participates in can count as conferring the obligation expressed in ought.

Finally, we come to the borderline modals will and shall (their distal forms, should and would, are highly modal). Shall and will can express simple futurity; but (as Palmer remarks with some surprise, after examining a large corpus) they don't usually do so in usage, despite grammar books. R. Lakoff (1972a) prefers to regard them as the strongest modals, on the grounds that the very strongest obligation or necessity is certainty of future action. Certainly the will in examples such as (9)-(10) seems volitional rather than future pure and simple.

(9) All right, I'll do it; shake, mister. (10) See if John will help you out. (=is he willing?)

Shall in my dialect (also in many of Palmer's examples) indicates the speaker or imposer (rather than the subject of the action) making him/herself responsible for the carrying out of the action. Thus (11)-(12) have a sense that the speaker undertakes to see to it or to command that the action be done; while in (13) the law is viewed as doing this.

(11) You shall go, I insist on it. (12) If Mr. Jones wants tickets for our concert, he shall have them.

(13) (The law decrees that) all citizens shall constantly carry violet parasols from 3/9/83 on.

The forces involved in (9)-(13) are those of volition and responsibility.

The purely future reading of will (shall has none
in my dialect) seems to indicate not some force or barrier, but a completed path to an action or intention. How this fits into a force-dynamic analysis (if at all) is a difficult question. The one mistake which I can clearly identify in some past analyses is the idea that future will is always epistemic, and concerns future truth-value. Like all the modals except present-tense shall, will has both a root and an epistemic reading - contrast the real futurity in (14a) with the epistemic futurity of knowledge in (14b).

(14a) He will be home in three hours.  
   b) He will be home by now; I just saw the lights go on.

In (14b) the person is or is not at home, in the present; the will is of future discovery or verification - "If we check, we will find out that he is home." When an action is in the future, of course its occurrence is automatically only knowable or verifiable in the future. But the epistemic use of will is an extension from the will of actual futurity to purely epistemic futurity: the actual event is not in the future, but only its verification. Note that so long as verification is future, the event can be past as easily as present - "future perfect" forms are thus ambiguous between a root will (perfectivity in the future) and an epistemic will (future verification of perfectivity):

(15a) He will have completed his requirements by the end of this term.  
   b) He will have completed his requirements long ago, of course - I don't know why I'm bothering to check the records.

The distal\textsuperscript{6} forms of the root modals express past or conditional modality; distance in either a temporal or a causal sequence is thus marked identically. Could expresses past or conditional ability, and might (in those dialects where it has a root sense) a past or conditional absence of a barrier. Ought to and must have no morphologically distinct past forms: both of them can act as either present or past with respect to tense-sequencing in dependent clauses (e.g. He thinks he can/ought to vs He thought he could/ought to), but neither of them has an independent past or conditional form. Should has filled part of the distal slot for ought to; since shall is relatively rare, its distal form was perhaps freed to shift as needed within the modal system. It was a natural choice for this slot, since whatever a speaker is willing to assume responsibility for (should) is also something the speaker might conditionally agree was morally appropriate or obligatory.
(ought). The pure past of ought, however, is usually represented by the periphrastic "be supposed to" form. Must is so specifically an expression of direct force that it seems natural for it to lack a distal form; when a past form is required, had to is used, but its meaning is not quite a distal must. Have to and need to have past forms; but like all conjugated English verbs, their past forms are not conditionals in main clauses - would have to and would need to are the conditionals, except in if-clauses. Finally, would expresses the distal form of both the future will and volitional-force will. In general, whatever modal forces or barriers the present form of a modal verb expresses, the distal form of the verb will express those forces conditionally or in the past.

II. Epistemic modality as an extension of root modality.

A. Past unified analyses of modality. Given the tentative beginnings of a general analysis of root modality in terms of sociophysical forces, barriers, and paths of different kinds, let us now explore the results of transferring this view to the epistemic domain. We would like to achieve a unified analysis of modality. One direction taken by past "unified" analyses (e.g. Kratzer 1977) has been essentially to subsume the root meanings of the modals under very general epistemic readings; thus root can comes to refer to logical compatibility between a person's (or the world's) state and some event, while root must refers to logical necessity of the occurrence of some event, given the state of the world. Even if analyses such as Kratzer's did not have the drawback of ignoring intentionality entirely, they would still have the problem of explaining why the historical and developmental progression is from root to epistemic, rather than the other direction. A slightly more promising direction is that suggested in passing by Lyons (1977), namely that epistemic uses of the modals result from our understanding the logical necessity of a proposition in terms of the forces which give rise to the sociophysical necessity of the corresponding event in the real world. But this too falls down when closely examined: when (16) is uttered, the speaker does not really mean that somehow the proposition must be true because some real-world causes have brought about the relevant state of affairs, but rather that (s)he must conclude that it is true because the available informational premises cause him or her to reason thus.

(16) (looks at nametag) "You must be Seth Sweetser's sister."

Nonetheless, Lyons' idea is a more useful starting point than any of the analyses which assume the existence of
a superordinate modality that has deontic and epistemic subclasses. Ehrman's (1966) attempt to find superordinate "core meanings" for the modals resulted in some hopelessly vague analyses, and still left her with two separate meanings for may.

Boyd and Thorne (1969) and Tregidgo (1982) in different ways propose analyses which allow epistemic modals to get readings referring to the necessity or permissibility of the act of stating, while root modals refer to necessity or possibility of the event described in the statement. This is getting warmer, but is still not quite correct, since in fact epistemic modals don't apply to our acts of stating, but to our acts of induction or deduction. Thus (16) does not express the speaker's compulsion to state that the addressee has a certain identity, but his compulsion to conclude that this is the case. Phrases like "I must say" or "I must tell you," which genuinely express modality applied to the act of speaking, have a completely different meaning from epistemic modals.

Finally, Antinucci and Parisi (1971) have suggested that belief figures in the semantics of epistemic modals. Thus they propose that must has two readings analyzable as in (17)-(18):

(17) You must come home. (deontic)
    CAUSE (X {Speaker}) (BIND (YOU COME HOME))

(18) You must have been home last night. (epistemic)
    CAUSE (X) (BIND (BELIEVE (SPEAKER)(YOU BE HOME)))

Restated in English, this analysis proposes that epistemic modality binds the speaker to believe the proposition, while deontic modality binds the subject to do the action expressed in the proposition. Antinucci and Parisi are clearly on the right track. I would prefer to talk about conclusions rather than beliefs, since conclusions are precisely that class of beliefs which we are bound to adopt or not to adopt by our reasoning processes. Also, we shall see (in the next two sections of this paper) that an analysis of modality need not have separate semantic structures for root and epistemic modals; we need not view must as semantically ambiguous between CAUSE (BIND()) and CAUSE(BIND(BELIEVE())). Nor is it necessary for the imposer and impos-ee of the modality to be present in the semantic structure. (If they are present in semantics, then modals are ambiguous between potentially infinite numbers of structures; but in fact, these participants are pragmatically identified - see the end of this section.)

But the important gap in Antinucci and Parisi's argu-
ment is precisely the semantics of the general predicate bind; what does it mean (other than must), and why should it happen to apply equally well to real events and to reasoning processes? (There is some tacit assumption here that events and conclusions can be treated alike.) I trust that the rudimentary analysis of root modality in the preceding section has given some idea of the elements of my proposed general analysis of modality; in the next section, I shall attempt to explore and then motivate the link-up between real-world modality and epistemic modality.

B. Root modality applied to the epistemic world. If I view root modality as referring specifically to permission-giving or to social duty, for example, I would appear to have no hope of extending such an analysis to epistemic modality. The may of permission-granting and the may of possibility seem unconnected, since there is no permission-granter in the world of reasoning. But given that the epistemic world is understood in terms of the sociophysical world, we can see why permission should be the sociophysical modality chosen as analogous to possibility in the world of reasoning. May is an absent potential barrier in the sociophysical world, and the epistemic may is the force-dynamically parallel case in the world of reasoning. The meaning of epistemic may would thus be that there is no barrier to the speaker's process of reasoning from the available premises to the conclusion expressed in the sentence qualified by may. My claim, then, is that an epistemic modality is metaphorically viewed as the real-world modality which is its closest parallel in force-dynamic structure.

Let us set forth some similar analyses for the other modals' epistemic uses, attempting to apply our root modal analyses from section I to the speaker's reasoning process rather than to the subject's actions. We must now recast forces and barriers as premises in the mental world, since no other kinds of obstruction/force exist in that world. As we shall see, this will make some of the modals look rather more similar than in their real-world readings. The majority of the root modals refer to various forces, which is reasonable since we recognize many different varieties of force in the sociophysical world. In the epistemic domain, we have no contrast between internal forces (as in real-world need) and external forces (as in have to). Nor can we differentiate between kinds of authority or obligation; should and ought cannot refer to moral force (as opposed to threats, for example) in a world where no morality exists. In all of the following examples, I shall contrast the use of a modal in its real-world sense (a) with its corresponding usage in the epistemic domain (b).
May (19a) John may go.  
"John is not barred by (my or some other) authority from going."

b) That may be true.  
"I am not barred by my premises from the conclusion that that is true."

Must (20a) You must come home by ten. (Mom said so.)  
"The direct force (of Mom's authority) compels you to come home by ten."

b) You must have been home last night.  
"The available (direct) evidence compels me to the conclusion that you were home."

This epistemic analysis takes the premises in the speaker's mind as parallel to the force of authority in (20a). Note that the usual reluctance which is assumed to exist in the compelled person in (20a) has no counterpart in (20b). Such a contrast is a natural consequence of the differences between the sociophysical world and the epistemic world. In the real world, we don't usually use force unless we need to overcome reluctance on the part of the person we are forcing. But we do not view our mental processes as being affected by such reluctance, or by anything other than the available premises. Furthermore, in the real world force is usually resented by the victim because freedom is valued. But in the world of reasoning, we wish to have our conclusions forced or restricted because this gives us more certainties within our belief system, and knowledge is valued.

Can (21a) I can lift fifty pounds.  
"Some potentiality enables me to lift 50 lbs."

b) You can't have lifted fifty pounds.  
"Some set of premises dis-enables me from concluding that you lifted 50 lbs."

Positive can is almost unusable in an epistemic sense. But its negative and interrogative forms are quite acceptable (cf. Can that be true?) and have the reading of questioned or negated epistemic enablement on the part of the speaker.

Ought to (22a) You ought to go.  
"Certain forces (of moral obligation) influence you towards going."

b) That ought to be the right answer.  
"The available set of premises (mental obligations or forces) influence me to conclude that that is the right answer."
Have to (23a) He has to be home by ten.
"Some force of authority compels him to be home by ten."

b) He has to be a New Yorker, with that accent.
"The available premises, including his accent, compel me to conclude he's from NY."

Need to (24a) He needs to go to the grocery store.
"Some internal forces (e.g. wanting to eat tonight) compel him to go to the store."

b) No, he needn't be a New Yorker - he could just have lived there a long time, or imitate accents well.
"The available premises do not force me to conclude that he's a New Yorker - they could also lead to other conclusions."

Once again, these analyses show the parallelism between the root and epistemic uses of modals. Sociophysical forces acting on the subject are taken as analogous to the logical "force" of premises acting on the speaker's reasoning processes. Note that need (like can) is epistemic only in its negative and interrogative forms.

Will (shall is not epistemic9)

(25a) John will come.
"The present state of affairs will proceed to the future event of John's arrival."

b) (hearing phone ring) That will be John.
"My present theory that that is John will proceed to future verification/confirmation."

Distal forms used epistemically (cf. discussion of root distals, sect. 1)

These distal forms express past or conditional epistemic modalities.

Might (26) He might go. (conditional)
"If some conditions were fulfilled, then my premises would not bar me from concluding that he will go."

(27) I thought he might go. (past or conditional)
The past (deontic) reading is simply the past of root may; the conditional (epistemic) reading is as above(26))

Note that conditionals with no expressed if-clause often have conditions so general as to become simply dubitatives; but this is a general crosslinguistic fact about conditional forms.
Would (28) The folks you saw with John would be his parents. (conditional)
"If some conditions (like having full data) were fulfilled, my theory that those folks were his parents would proceed to future verification."

(29) I knew it would be John. (past)
(past tense of the epistemic will in (25)

Could (30) That could be the right choice for the living-room curtains. (conditional)
"If some unspecified conditions were fulfilled, then the available data would enable me to conclude that that's the right choice for the curtains."

(31) I was dumbfounded: it simply couldn't be true. (past tense of epistemic can as in (21))

Should (32) John should be easy to talk to.

As previously mentioned, should is an odd distal form. Perhaps because of its dissociation from its rare present form shall, it has become only minimally conditional (there is no contrast with a non-conditional form any more). The relevant condition appears to be something very general like "if all goes right" or "if all goes as expected." Thus the epistemic should in (32) is a barely conditional expression of epistemic obligation, verging on synonymy with ought. Since shall has no epistemic reading, it may only be by association with ought that should has developed such an interpretation.

Non-auxiliary (conjugated) modals like have to, need to, as previously mentioned, have past but no independent conditional forms. Their (regular) past tense epistemic uses do not require discussion here.

The preceding description of epistemic modality has been nothing but a transfer of my proposed root-modal semantic analyses to the epistemic domain. I do not propose that epistemic modals have complex generative-semantic predicate structures to differentiate them from their root counterparts. Rather I propose that the root modal meanings can apply in two worlds, the "real" (sociophysical) world and the epistemic world. In the real world, the must in a sentence such as "John must go to all the department parties" is taken as indicating a real-world force imposed by the speaker(and/or by some other agent) which compels the subject of the sentence(or someone else) to do the action(or bring about its doing) expressed in the sentence. In the epistemic world the same sentence could be read as meaning "I must conclude that it is John's habit to go to the department parties,(because I see his
name on the signup sheet every time, and he's always out on those nights." Here must is taken as indicating an epistemic force applied by some body of premises (the only thing that can apply epistemic force), which compels the speaker (or folks in general) to reach the conclusion embodied in the sentence.

Pragmatic factors will determine which world the modal is taken as operating in: for example, I swayed the interpretation of "John must go to all the department parties" towards an epistemic reading by adding a clause expressing a reason for reaching a conclusion. If instead I had added a clause expressing a real-world cause (such as "because he agreed to be bar-tender"), then the weight would have been towards a root reading. Past-tense sentences are strongly weighted towards an epistemic reading because real-world causality or modality can no longer influence frozen past events - I cannot inform you (except jokingly) that you are hereby put under an obligation, or given permission, to have done something yesterday. Conversely, modals in sentences concerning future actions are weighted towards a root reading, although an epistemic reading is not excluded.

Any sentence can be viewed under two aspects: as a description of a real-world situation or event, and as a self-contained part of our belief system (e.g. a conclusion or a premise). As descriptions, sentences describe real-world events and the causal forces leading up to those events; as conclusions, they are themselves understood as being the result of the epistemic forces which cause the train of reasoning leading to a conclusion. Modality is a specification of the force-dynamic environment of a sentence in either of these two worlds.

C. Pragmatic interpretation of modal semantics in two worlds.

If a modal verb simply expresses the application of some particular modality towards the event or action described in a sentence, pragmatic factors will determine what appropriate entity is understood as imposing the modality, and upon what entity it is imposed. Thus root modals have a reading in which the speaker is taken as imposing the modality by stating it, and another reading in which some other entity (which may be elsewhere specified in the discourse) is the source of the modality. This contrast has interesting parallels with Searle's (1979) assertion/declaration distinction; modals are an area of language where speakers can either simply describe or actually mold by describing. However (as pointed out in Lakoff 1972a), there is a tendency for the describer or reporter of modality to be taken as sympathetic to the imposer, especially with the monomorphemic modals such as must (as opposed to have to).
Likewise, the deep subject of the sentence is frequently taken as the modal imposee – the person carrying the obligation or receiving the permission expressed in root modals. This is natural, since obligations and permissions tend to be placed on the person viewed as responsible for doing the relevant action – often the agent, which in turn is often the subject in an active sentence. However, this interpretation of the subject of the clause as subject of the modality is only a pragmatic tendency (due to our general feelings about who is responsible) and not a fact about semantic structure. In fact, as Lakoff (1972a) has pointed out, with a few pushes from the context we can see the modality imposed as being incumbent on almost any entity in the sentence. Modals are not simply "voice-neutral"; they are semantically neutral towards the choice of the imposee from among the sentence's NPs (or even from the context). Compare the following examples (from Lakoff):

(32) The witch must be kissed by every man in the room,

a) or the leader of the coven will demote her to leprechaun.

b) or they'll all be turned into star-nosed moles.

c) because that's the law.

In (a) the obligation to get kissed rests primarily with the witch, in (b) the men are the ones responsible, and in (c) the obligation rests on all the participants, or even on the world at large. Another possible interpretation of the first clause of (32) in isolation would be that the hearer is to see to it that the kissing occurs – hence the obligation would devolve on the hearer. In short, any pragmatically reasonable interpretation of the identities of the modal imposer and imposee is possible. Pragmatically unreasonable ones, such as the identification of hearer with modality-imposer, would take a great deal of context, if indeed they are possible at all.

For epistemic modality, the story is simpler than for root modality. In the epistemic world, only premises count as forces or barriers. The only kind of event is a logical conclusion (or the verification of a theory); and it even has to be the speaker's own conclusion, because the force-dynamic structure of other people's reasoning processes is not readily accessible to us. Sometimes there seems to be a feeling that our reasoning process is a rather general one, which our interlocutor may share – but the speaker's own reasoning process is always the primary subject of epistemic modality.

Pragmatic factors explain why modals can be used either to impose or to describe real-world modality, while only description of epistemic modalities is possible. Socio-physical modalities can be imposed by speakers – epistemic obligations and forces cannot be imposed by anything but premises. Thus a performative use of sociophysical modal-
ity (doing by describing) is natural, while it is impossible for the epistemic modalities. Epistemic modal sentences thus lack the multiple ambiguities inherent in the pragmatic interpretation of real-world modality: there is no possible doubt as to the nature of the mental modality's imposer and imposee.

This section has presented an analysis of epistemic modality not as a semantically distinct kind of modality, but as an essentially metaphorical application of our sociophysical modal concepts to the epistemic world. We have seen that such a unified viewpoint is possible if we analyze modality in terms of general forces and barriers evidently these are the basic sociophysical concepts in terms of which we understand our mental processes. In fact, I have argued that with the proper appeal to our pragmatic interpretation processes, there is no need to differentiate the semantic structure of root and epistemic modals at all. The next section will further motivate the application of the same linguistic modalities to the real and epistemic worlds, by setting modality in the larger context of a unified model of linguistic causality.

III. Causality.

I have argued that our reason for applying the same modal verbs to the real world and the epistemic world is that we view the epistemic world as having a force-dynamic structure parallel to that of the sociophysical world (allowing for differences in the actual nature of the forces and barriers involved). If this is so, one might expect other parts of the English lexicon to manifest a similar tendency towards ambiguity between real-world force and epistemic force. And indeed several classes of lexical items can be applied to causal forces equally well in both worlds. Although all of these classes have been recognized as ambiguous, so far as I know they have not been analyzed as parallel to the modal case before (except for Tregidgo's brief mention of the insist/suggest verb-class). Together they constitute a very solid argument in favor of the kind of unified analysis of force and causality which would have to underlie my proposed unified modality.

A. Verbs. The root/epistemic "ambiguity" of modal verbs is paralleled by the two possible uses of a number of other English verbs, mostly speech-act verbs. Some of the following examples are in fact ambiguous, but there is a possible deontic/epistemic contrast between the (a) and (b) sentences:

(33a) I insist[that you go to London.  
    on your going to London.

b) I insist that you did go to London. (though you may deny it.)
(34a) I suggest that you leave the room now.
    b) I suggest that you left the room to avoid being seen.

(35a) I expect him to be there. (ambiguous)
    b) I expect that he's there.

Tregidgo, who does not actually analyze these verbs but cites them as an example of some broader deontic/epistemic contrast, mentions that even the verb agree is ambiguous between agreement to (do something) and agreement that (something is true). Given the understanding that any sentence can be treated as an expression of some state of affairs in the real world, or as a conclusion in our world of reasoning, it is reasonable that a verb such as insist could express insistence on either the real-world doing of the action expressed in its complement, or the epistemic concluding of the proposition constituted by the complement.

These verbs are, then, not merely an argument for forces (such as insistence) being generalized over both the real and epistemic worlds, but also for our taking a sentence as an entity which exists in both those worlds simultaneously.

B. Causal conjunction. Ross (1970) has observed the ambiguity of English causal conjunction. Reasons for concluding something are generally treated like causes in the real world. Since we frequently reason from real-world effect to real-world cause, this can produce apparent inversions of causality such as (36)-(37):

(36a) He heard me screaming, so he came.
    b) He came because he heard me screaming.

(In both of these examples, the real-world hearing caused the real-world arrival.)

(37a) (You say he's deaf, but-) He came, so he heard me screaming.
    b) (" " " " " ) He heard me screaming, because he came.

(In both of these examples, the knowledge of the arrival (a premise) causes the conclusion that he heard. The causality is in the epistemic world.)

Linguistically, reasons are treated as a subclass of causes. Although logical necessity itself is not a kind of causality, we view logical premises as causing us to draw conclusions. Causal conjunction refers to these (metaphorically viewed) epistemic forces, just as it refers to the more basic kinds of sociophysical causal forces. Only pragmatic factors will allow the hearer to decide
whether the causal connection expressed is between the two real-world events expressed in the clauses, or between the premise (expressed in one clause) and the conclusion which it causes in the speaker's mind (expressed in the other clause). In fact, (37a-b) are ambiguous between these two readings if we remove the suggested discourse-context. Just as certain propositional contents and pragmatic contexts tend to force either a root or an epistemic reading of modal verbs, the same is true of causal expressions. Thus (38) has almost inevitably an epistemic reading, while (39) is strongly weighted towards the root reading.

(38) He loves me, because he wouldn't have proofread my thesis if he didn't.

(39) He loves me because I remind him of his first love.

This ambiguity is a general fact about causal conjunction in English. Some further examples are below (a=root, b=epistemic).

(40a) The rules cannot be broken, therefore I will have to sentence you to two hours of trash collection.

b) The rules cannot be broken, therefore the dean knew some way around them that allowed him to hire John.

(41a) Since John isn't here, we'll just leave a note.

b) Since John isn't here, he has (evidently) gone home for the day.

(42a) Although he didn't hear the screams, he came (by chance) and saved her.

b) Although he came and saved her, he didn't hear the screams; he came by chance.

(43a) Despite their threats, she kept right on doing her job.

b) Despite the fact that she never wavered (her courage),

(we now know that) she was being threatened the whole time.

Ross uses examples like (37 a-b) and the subsequent (b) sentences as arguments for the presence of an abstract performative verb in every English sentence; he and Davidson(1973) assume that the causality is between a premise and an act of assertion. In fact, as with epistemic modality, it is conclusions rather than assertions which are in question in the above cases; the (b) sentences do not express the speaker's reason for (or against) asserting the main clause to the hearer, but rather his/her reason
for or against concluding that it is true.
However, there are cases of causal conjunction which appear genuinely to connect premises with the current speech act, rather than linking premises to conclusions. I refer to cases like the following:

(44) Since we're on the subject, when was George Washington born?
(I ask you because we're on the subject or because you're so smart.)

(45) Although I sympathize with your problems, get that paper in by tomorrow.
(I command you despite my sympathy.)

(46) The answer is on page 242, since you'll never find it out for yourself.
(I tell you because you'll never find out otherwise.)

Cases like (44)-(46) would seem to indicate that causal conjunction operates on sentences in three worlds,¹¹,¹² as opposed to the two in which modal verbs apply. When sentences are joined with a causal conjunction, this can be understood as:

(a) a conjunction of content; real-world cause related to its effect.

(b) a conjunction of two epistemic entities - the premise and conclusion related in the reasoning chain.

(c) a conjunction at the speech-act level; the causes (of whatever nature) are related to the resultant speech act.

As with the modals, only pragmatic factors will decide on which level the hearer should interpret the sentences as being causally conjoined.

C. Anyway. Anyway, the "despiteive" adverbial which is closely related to the causal conjunctions, also is used at more than one level.

(47) He came on time anyway. (despite all the obstacles)
(48a) He came on time, anyway. {though he did a bad job.
   b) Anyway, he came on time. }{though you say he's irresponsible.

(47) indicates real-world conflict between the event described and some surrounding forces. (48a-b) indicate either epistemic conflict between some piece of knowledge and some surrounding internal judgments or beliefs; or conflict at the speech act level (I persist in asserting this although you have said something which conflicts with it). In its speech-act sense, anyway can be used
as a marker of discourse-structure: I could use the first clause of (48b) to mean something like, "Despite the long digression I've gone through about the reasons I asked him to come, I return to the question you asked me and I assert in response to it that he came." The feeling is that the anyway-clause expresses the on-the-track topic of discourse, which we are returning to despite divergence from it.

The use of anyway is thus three-leveled like the use of causal conjunctions. Other despititive adverbials such as nonetheless seem to share at least some of anyway's ambiguity, though I shall not give examples here.

Our ideas of real-world causality are thus extended into the worlds of reasoning and speech acts, with the result that English causal lexemes are ambiguous among three levels of application. It is not clear why modals should be used on only two of these levels, though intuitively it seems to me that the two uses of the modals cause more real ambiguity for speakers than do the three uses of the causal conjunctions; so perhaps it is fortunate that modals don't operate at the speech-act level.

It should be noted that modality can be expressed towards a speech act (or towards a conclusion) by putting that act overtly into the real world, so that modality can be applied to the act as a real-world event:

(49) I must tell you that your father wants you home, (although I would rather not).

(50) (Since all the evidence points that way),
I must conclude that English and Tokharian are related.

If causal forces and barriers are viewed as generalized from the content (real-world) domain to the domain of propositions as epistemic objects or as speech acts, then it is scarcely surprising that modality (composed, like causality, of intentional forces) manifests a similar extension from its real-world application to application in an epistemic world. Besides the lexical classes mentioned above, there is a large body of general linguistic evidence that propositions and premises are thought of as causal forces, which bring about conclusions. Thus for example we talk about strong arguments, which have force, and weak ones, which don't. We ask someone their authority for believing or concluding that something is the case. None of these phrases is random; we have a coherent metaphorical treatment of epistemic forces in terms of sociophysical forces. (cf. Lakoff and Johnson 1980).
Conclusions. This paper has set forth an analysis of linguistic modality and causality as being generalized or extended from the real-world domain to the domains of reasoning and (in the case of causality) speech acts. The advantage of such an approach is that it allows us to give single semantic analyses to the modal verbs, causal conjunctions, and other "ambiguous" lexical items such as insist or anyway. Such words are not ambiguous between root and epistemic senses, but between their basic application and an extended application to the epistemic domain. My proposed analysis is also coherent with the historical and developmental linguistic evidence which suggest that an extension from the sociophysical world to the epistemic world would be more reasonable than an extension in the opposite direction.

Talmy's approach to deontic modality and causality in terms of forces and barriers has given us a way to look at modality which can be extended to the epistemic world as well. Attempts to find single superordinate analyses which include both deontic and epistemic modal meanings have proven unsuccessful (cf. Ehrman 1966). The same would probably be true for causality: logicians would castigate as hopelessly confused any analysis which tried to subsume in a single category both real-world forces or causes and the kind of necessity imposed on a conclusion by a premise. But in both cases, the problems for semantic analysis are removed by taking into account our understanding of mental processes as analogous to sociophysical interactions. Without taking into account this background metaphor, trying to unify deontic and epistemic modal meaning is like trying to figure out what are the common features of optimism and pink sunglasses without basing our analysis on the knowledge that physical sight is a primary metaphor for world-view in the psychological domain. But given the priority of the real world and the structuring of the epistemic world in terms of that prior world, it then follows naturally that the same understanding of modality and causality will apply to both worlds.

The single semantic analysis of the modals which I have proposed is a very simple one. It would not extend so easily into the epistemic domain if it explicitly mentioned a complex set of possible identities for real-world imposers and targets (imposees) of modalities. Rather, it leaves these identities to pragmatic interpretation. I consider this to be a further advantage of my analysis, since the semantics of the modals appear to be indeterminate in this area. That is, the semantic structure of the modal verbs does not explicitly pick out either subject or object (or any specific syntactic or semantic role) as the person on whom the modality rests;
rather it is the pragmatic factors inherent in the speech-act setting, together with our understanding of utterances as multi-leveled objects, which easily account for the possible ambiguities of modals with respect to the origins and targets of forces.

An utterance is content, epistemic object, and speech act all at once. There are areas of meaning which are naturally circumscribed within one of the three worlds in which utterances exist. But our linguistic treatment of causal force, and of the closely allied concepts of different modal forces, can only be fully understood by examining their application to more than one of the three.

Notes.
0. My advisors, Charles Fillmore, George Lakoff, and Paul Kay, first encouraged this project and have given me crucial feedback throughout. Leonard Talmy kindly discussed his own work on modals with me at length. Julian Boyd, Elizabeth Closs Traugott, and Robin Lakoff have been the sources of many invaluable comments and suggestions. Iskendir Savasir and Julie Gerhardt have maintained a dialogue about our joint interest in modals, which I at least have found very stimulating. And finally, Orin Gensler must be thanked for his longsuffering assistance as a critic (at the levels of content and style alike), friend, and even occasionally informant. As always, none of these acknowledgments should be taken as placing the blame for mistakes on anyone but the author.

1. I shall throughout the ensuing discussion refer to root modality, rather than using the term deontic. Not only is root a broader term (some might take deontic as indicative of purely social or moral obligation), but it also reflects my leaning towards an analysis of epistemic modal meaning as rooted in sociophysical (root) modality.

2. I personally have data showing that modal verbs have a root/epistemic ambiguity in both the IndoEuropean and Semitic language families at large, and also in Finnish and Tagalog. Tregidgo(1982) lists a much larger set of languages cited by Perkins (forthcoming). I have not obtained a copy of Perkins' paper, but the list is as follows: Basque, Classical Aztec, French, German, Italian, Kapampangan, Korean, Luiseno, Polish, Tamil, Thai, Tzeltal, Welsh, and "many ancient IndoEuropean languages."

3. There is a large literature on the subject of more and less prototypical agentivity and causality, which
I cannot begin to discuss here. Shibatani(1976) is an appropriate general reference. The other comment I have on the subject of more and less basic causality is that one could easily take the let of sentence (3) as being metaphorical, and claim that we understand non-intentional forces and barriers (like water and stones) in terms of our perceptually more basic concept of intentional force. This is what I feel is going on.

4. Viewing the schema of may as including a barrier, while must involves a force, also seems coherent with their different negation-scoses. The negation of removing or holding back a barrier would be leaving it in place, hence may not becomes prohibition. Must not, on the other hand, is a very forceful prohibition; which is scarcely what one would expect if must is a barrier whose negation is an open path. Rather, the internal-negative reading of must not indicates an oppositely directed force, a force compelling that one not do whatever it is. Note that the external negation of a force would simply be the absence of the force, which is the reading we get for German muss nicht.

5. The commonest use of shall in English is perhaps in consent-requests for mutual action, like "Shall we dance?" In these questions, it is precisely our joint intent to undertake an action which is being queried; so my analysis seems to make some sense. Likewise, in singular equivalents like "Shall I marry her?" (note the contrast with "Will I marry her?"), my undertaking to do so is in question. The third-person equivalents of these questions ("Shall he marry her?") still question the speaker's undertaking, of course, rather than the subject's.

6. The term distal I have taken from Langacker(1978), which uses this term precisely to refer to a generic "distance" within either the temporal or the causal sequence.

7. Lyons at no point attempts to give a unified analysis based on this suggestion. The suggestion in fact appears at the end of his (separate) analyses of deontic and epistemic modality.

8. Boyd and Thorne, for example, analyze root must as "I state I (or some Pro) (Imp)," where Imp is an imperative predicate applied to the content of the sentence. Epistemic must, on the other hand, they take to be, "I state," applied to the content of the sentence. There is a feature (nec), "necessary," which is marked on the predicate Imp in root-modal must, but on the predicate state in the epistemic must.

Tregidgo contrasts deontic and epistemic must as follows: the deontic "a must b" translates as "X DEMAND Y-
Y CAUSE - ab," while the epistemic "a must b" will translate instead as "X DEMAND Y - Y STATE - ab".

9. I would love to be able to explain why some of the root modals transfer better into the epistemic domain than others. Shall seems so much tied to the speaker that it is perhaps reasonable for it to lack an epistemic sense (there is no entity "the speaker" inside the epistemic world). But even that is just a guess. And why can and need should be epistemically used only in negative or interrogative forms, while ought has a full epistemic usage - well, maybe the internality of can and need (while ought is social/external) makes them transfer less fully to epistemic use? But why do they transfer at all, then?

10. Note the different intonation-patterns in (38)-(39), as shown by the comma. We will see this contrast again in the examples of use of anyway (47-8), where the epistemic use of the adverbial element is again set off from the sentence by a pause.

11. Conjunction in general operates on more than one level. And, but, and or have at least a couple of uses if not more: compare the conjunction of speech acts in (a-b) with the content-conjunction in (c-d).
   (a)What is that phone number? - but don't bother to look it up if it's too much trouble.
   (b)The Yangtze River has good dim sum, or the Taiwan makes great red-fried eggplant, but King Tsin has excellent mu shu pork.
   (c)replace the or and but in (b) with two ands.
   (d)I would like that number, but I don't want you to take too much trouble to look it up.

12. This triple view of sentences as content, belief or proposition, and speech act has some interesting ramifications, one of which is the self-referentiality of language. The application of modality or causal conjunction in the epistemic or speech-act worlds is implicitly self-referential use of language, since the relevant intentional force is understood as applying to the very act in which it is expressed.

Bibliography


Fleischman, Suzanne (1980) "Futures: where do they come from, where are they going to?" talk presented to the Linguistics Group at Univ. of Calif. at Berkeley.


Huddleston, Rodney (1979) "Would have become: empty or modal will," *Journal of Linguistics* 15.


Searle, John R. (1979) *Expression and Meaning.* (Cambridge UP)


THE IMPERSONAL PASSIVE IN LITHUANIAN

Alan Timberlake
University of California, Los Angeles

1. Introduction.* A central concern of modern syntactic theories is the rule of Passive. With respect to nominal arguments of the predicate, there are evidently two processes involved: advancement of the object to subject, and demotion of the (former) subject. Theories differ in how they account for these two components of the Passive. In this paper I will examine impersonal passives in Lithuanian and their significance for the account of Passive in the theory of Relational Grammar in particular.¹

Relational Grammar (RG) characterizes Passive universally as an advancement; RG claims that there are no cases in which Passive spontaneously demotes the subject without also advancing an object. The claim follows from a more general principle of RG called Motivated Chomage, according to which there can be no demotion of a nominal to a chomeur relation unless another nominal assumes its former relation. To account for impersonal passives of intransitive predicates, in which it appears that the (former) subject is demoted without any corresponding advancement, RG claims that a dummy nominal is inserted as object, and the dummy is advanced by the rule of Passive.

As suggested by Perlmutter in his 1978 BLS paper, the Motivated Chomage Law can be combined with two other principles of RG to make a specific empirical prediction about the types of predicates that may undergo Passive.

The first of these is the 1 Advancement Exclusiveness Law or, for short, the 1-AEX. This law claims that within a single clause there can be at most one advancement to subject (in RG terminology, ‘I’ is the name for the subject relation).

The second principle is the so-called Unaccusative Hypothesis, which is in effect a typology of basic clause types. In addition to transitive clauses, which have a subject and an object, intransitive clauses bifurcate into two classes with different syntactic characterizations. On the one hand, unergative clauses — roughly the class of intransitives with a semantically agentive participant — are characterized as having an initial subject but no object. On the other hand, unaccusative predicates — roughly the class of intransitives with a semantically nonagentive participant — are characterized as having an initial object but no initial subject. This analysis further requires a rule, called Unaccusative Advancement, that advances the initial object of unaccusative predicates to subject.

These three principles, plus the device of dummy nominals, combine to make a prediction about the types of predicates that could undergo Passive. In the Passive of a transitive predicate, the object advances to subject, making the former subject a chomeur. In the Passive of an unergative intransitive, a dummy is inserted as object, then the dummy advances to subject, forcing the former subject to become a
chomeur. In order to form the Passive of an unaccusative intransitive, it would first be necessary to advance the initial object to subject, by Unaccusative Advancement. By the Motivated Chomage Law, this subject cannot simply be demoted. To form a passive, it would be necessary to insert a dummy as object and then advance the dummy by Passive. But this last step would amount to a second advancement to subject within a single clause, a step that is precluded by the 1-AEX. Thus, the combination of these three principles (and dummy nominals) predicts that it should not be possible to form impersonal passives of unaccusative predicates.

Because this concrete prediction rests on the combined effect of three different assumptions, there is some difficulty in interpreting a potential counterexample. If it turns out that there are languages that form impersonal passives from unaccusative predicates, this does not necessarily invalidate the Motivated Chomage Law, and with it the advancement analysis of Passive. Instead, it could be taken as evidence against one of the two related assumptions.

To deal with this eventuality, I adopt the following strategy here. First I will exhibit impersonal passives of a number of intransitive predicates, some of which can, on semantic grounds, reasonably be suspected of being unaccusative. Second, I will argue that these are in fact instances of Passive. Then I will argue that both the related assumptions — the 1-AEX and the Unaccusative Hypothesis — have some motivation internal to Lithuanian; hence it must be the Motivated Chomage Law, and its corollary the advancement analysis of Passive, that is faulty.

2. Lithuanian Passives. Let us look then at some passives in Lithuanian and, at the same time, at the surface morphosyntactic properties that give evidence about final grammatical relations. In Lithuanian, the subject is nominative, the direct object typically accusative, and the subject controls agreement in the predicate; note (1-2):

(1) Aš pirkau krištolinį sietą.
I buy chandelier
(nom) (1sg) (acc)

'I bought the chandelier'

(2) Mane apėmė snaudulys.
me overcome drowsiness
(acc) (3) (nom)

'Drowsiness overcame me'

Nominative case and control of predicate agreement are properties of final subjects, as can be seen in the personal passives in (3-4):
In (3-4) the initial object is evidently the final subject, since it is nominative and controls agreement for person and number in the copular auxiliary, and controls agreement for gender, number, and case in the passive participle. Conversely, the agent phrase, expressed in the genitive, does not control agreement.²

Lithuanian also forms passive constructions with a wide range of intransitive predicates.³ In texts these passives usually function to signal epistemological uncertainty — inferentiality, supposition, evidentiality, dubitativity, or the like — so it is reasonable to translate them as English active sentences with an additional evidential adverb. Observe, for example, the impersonal passives in (5-6) with unergative predicates:

(5) Jo čia per griovį šokta.
him here over ditch jumped
(gen/m/sg) (nom/n/sg)

'(Evidently) he jumped over a ditch here' (= 'here it was jumped by him')
(Jablonskis 1957:310)

(6) Kas turi tiesę taip pasakyti, iš kur grįžtama?
who has right thus say from where returned
(nom/n/sg)

'Who has the right to say from where one can return?' (= 'from where it gets returned')
(A. Bieliauskas, Mes dar susitiksim, Vilma!)

In addition to these unergative verbs, other intransitives can form impersonal passives, including some that are probable but not certain unaccusatives on semantic grounds:
(7) Giriu čia snausta.
forests here drowsed
(gen/f/sg) (nom/n/sg)

‘One can observe that) forests used to drowse here’
(Jablonskis 1957:588)

(8) Ir pamiršom visi, kur mūs gimta, kur augta.
forget all where us born where grown
(gen) (nom/n/sg) (nom/n/sg)

‘And we have all forgotten, where we were born and where we grew up’
(Geniušienė 1976:150)

Some intransitives that are unaccusatives on semantic grounds:

(9) Vaiko sergama.
child be-sick
(gen) (n/sg)

‘(Evidently) the child is sick’
(Jakaitienė 1976:120)

(10) ... atžalyno šiurenta.
saplings rustled
(gen) (n/sg)

‘... saplings must have rustled here’
(Jakaitienė 1976:46)

(11) Ko čia degta/dužta/plyšta?
what here burnt/shattered/burst
(gen/n/sg) (nom/n/sg)

‘What was it that burned/shattered/burst here?’
(Jablonskis 1957:310)

Some but not all phenomenological predicates (Geniušienė 1974:212, Jakaitienė 1976:124):
(12) Naktį gerokai palyta.
night good rained
(nom/n.sg)

'Last night it (evidently) rained a bit'

(13) Atsikėlęs pamačiau, kad jau pasnigta.
stand see that already snowed
(nom/n.sg)

'When I got up I saw that it had already snowed'

Final intransitives derived from basic transitives with reflexive morphology, such that the intransitive subject corresponds to the transitive object:

(14) Liaudies švietimu nebuvo rūpinamasi.
folk education not-be concerned
(instr) (nom/n.sg/rfl)

'With the education of the masses one was (evidently) not concerned'
(Geniušienė 1976:142)

(15) Nemažai tada buvo jaudintasi.
not-small then be upset
(nom/n.sg/rfl)

'At that time one (presumably) got more than little upset'
(Geniušienė 1976:142)

And even the verb ‘to be’ in its existential sense. Examples are cited in somewhat fuller form to show the evidential function of the impersonal passive:

(16) Ar būta tenai langinių? Dėl langinių jis suabėjojo.
Q been there shutters about shutters he doubt
(nom/n.sg) (gen/f/pl)

'And were there really shutters there? He began to have his doubts about shutters'
(V. Sirjos Gira, Štai ir viskas)
I would assume that existential ‘be’ is the ultimate unaccusative verb, and in fact there is good syntactic evidence for the unaccusativity of this verb.

Note that in these impersonal passives, the initial subject is expressed in the genitive case (or omitted), and does not control agreement in the passive participle, which is invariably nominative neuter singular. Hence the agent in this construction is not the final subject.

3. Final Nonsubjecthood: Adverbial Participles. A second argument for the final nonsubjecthood of the agent of impersonal passives is provided by the choice between agreeing and nonagreeing forms of participles used for reduced adverbial clauses; this choice is diagnostic for final grammatical relations (Geniušienė 1974:203-4, Jakaitienė 1976:194-5). In the examples below, control of adverbial participles is marked by Greek letter subscripts on the controller in the matrix clause and on the agreeing and nonagreeing forms of the adverbial participle.

A final subject selects a form that agrees with it in gender, number, and case – that is, nominative. Observe (19):

(19) **Griždama**/*Grižtant** iš miesto, motina persišaldė.
    returning from city  mother catch cold
    (nom/f/sg)/(-)       (nom/f/sg)

    ‘Returning from the city, mother caught cold’

The alternative form is the nonagreeing form, which cannot be selected by a final subject.
Final non-subjects, on the other hand, strongly prefer this invariant nonagreeing form, although the agreeing form in the appropriate case is marginally acceptable. Thus, in (20), the controller is a genitive possessor; in (21), an indirect object; and in (22), a direct object. In all cases the invariant form is strongly preferred.

(20) ?Keliančioβ/ Keliantβ sąsiuvini, joβ rankos drebėjo.  
Lifting folder his hands tremble  
(gen/m/sg)/(−) (gen/m/sg)  

‘Liftingβ the folder, hisβ hands trembled’

(21) Kai buvau mažas, mama manβ sekavos pasaką, prieš ?užmingančiamβ/užmingantβ:  
when be small mama me tell story before falling asleep  
(dat/m/sg) (dat/m/sg)/(−)  

‘When I was little, mama used to tell meβ a story before fallingβ asleep’

(22) Jiβ apėmé snaudulys, ?artėjantiβ/artėjantβ prie langelio.  
him overcome drowsiness approaching near window  
(acc/m/sg) (acc/m/sg)/(−)  

‘Drowsiness overcame himβ approachingβ the window’

(23) Ñisα buvo apimtas snaudulio, artėdamaα/*artėjantα prie langelio.  
he be overcome drowsiness approaching near window  
(nom/m/sg) (nom/m/sg) (nom/m/sg)/(−)  

‘Heα was overcome by drowsiness approachingα the window’

In (23), the passive of (22), the initial object has been promoted to subject, and it now controls the agreeing form of the participle. This shows that the choice between agreeing form and invariant form is a test for final subjecthood.

Agents of impersonal passives of intransitives control the invariant rather than the agreeing form, as in (24-25), showing that the agent is not the final subject of its clause. (24-25) contain the unaccusative predicate existential ‘be’.

(24) Čia Jonoω būta, prieš ?išeinančioω/išeinantω  
here been before going out  
(gen/m/sg) (gen/m/sg)/(−)  

‘Jonasω was (apparently) here before goingω out’
(25) Mamos$_\omega$ jau esama kaimė, lyg $\?b\ddot{u}g\text{-}stan\v{c}ios$_\omega$/būg\text{-}stant$_\omega$ bombardavimu.
   mama already been village as if fearing bombings
   (gen/f/sg) (gen/f/sg)/(-)

'Mama$_\omega$ was (presumably) already in the village, as if fearing$_\omega$ the bombings'

4. Former Subjecthood: Reflexivization. Thus, we have three properties — case, control of predicate agreement, and control of adverbial participles — that show that the agent of an impersonal passive is not the final subject.

In order to show that it has been demoted, we must show that it once was a subject. A test for subjecthood at any level — not exclusively the final level — is provided by the control of the reflexive pronoun in Lithuanian (as suggested originally by Klenin 1974 for Russian). In the examples, control of pronouns is specified by Greek letter subscripts on the controller and on the personal and reflexive pronouns.

(26) shows that control of reflexive pronouns is limited to subjects. If coreference is intended between the direct object ‘employees’ and the holders of beliefs — the $\beta$ reference in (26a) — the nonreflexive form must be used.

(26a) Domantas rūšiavo tarnautojus$_\beta$ pagal $ju_{\beta}$/*savo$_\beta$ įsitikinimus.
   divide employees by their/own beliefs
   (pro)/(rfl)

'Domantas divided employees$_\beta$ according to their$_\beta$ beliefs'

(26b) Domantas$_\alpha$ rūšiavo tarnautojus pagal $jo_{\alpha}$/savo$_\alpha$ įsitikinimus.
   divide employees by his/own beliefs
   (nom) (pro)/(rfl)

'Domantas$_\alpha$ divided employees according to his$_\alpha$ beliefs'

If, on the other hand, coreference is intended between the subject ‘Domantas’ and the holder(s) of beliefs — the $\alpha$ reference in (26b) — then the reflexive form must be used. In the corresponding personal passive of (26a), ‘employees’ is now the subject, and obligatorily controls the reflexive pronoun, if that coreference is intended (specified $\alpha$ in (27a)). Interestingly, the agent also controls the reflexive form, if that is the coreference that is intended (specified $\omega$ in (27b)).

(27a) Tarnautojai$_\alpha$ rūšiuomi Domanto pagal $ju_{\alpha}$/savo$_\alpha$ įsitikinimus.
   employees divided by their/own beliefs
   (nom/m/pl) (nom/m/pl) (pro)/(rfl)

'The employees$_\alpha$ are divided by Domantas according to their$_\alpha$ beliefs'
Thus, in order to control the reflexive pronoun, it is sufficient that the intended controller be a subject at some level, although not necessarily at the final level.

In impersonal passives, including impersonal passives of unaccusative predicates, the agent controls the reflexive pronoun. Note (28), (29), with the passive of existential ‘be’, and (30), with the passive of a reflexive-intransitive verb:

(28) \( \text{Jos}_ω \text{ pykt} \text{a} \text{ nt } \text{ *jos}_ω \text{ pač} \text{i} \text{os/ pači} \text{o} \text{ s } \text{saves}_ω \).

her angered at her Emph /Emph self

‘(Apparently) she \( ω \) has gotten angry at herself \( ω \)’

(29) \( \text{Mamos}_ω \text{ jau esama } \text{ *jos}_ω \text{/savo}_ω \text{ kaim} \text{e} \).

mom already been her /own village

‘Mother \( ω \) is (presumably) already in her \( ω \) village’

(30) \( \text{Ir } \text{ čia } \text{ ju}_ω \text{ būta, savim}_ω \text{ rūpint} \text{a} \).

and here them been self concerned

‘(Evidently) they \( ω \) have been here, worried about themselves \( ω \)’

(Jablonskis 1957:301)

Thus, on the assumption that control of reflexive pronouns is limited to nominals that are subjects at some level of structure, these facts argue that the agent of an impersonal passive is a subject at some level. Together with the observation that this agent is not the final subject, we conclude that the agent nominal of an impersonal passive is a former subject that is demoted to nonsubject at the final level. This completes the argument that there is demotion in impersonal passives, including impersonal passives of unaccusative predicates.

5. Impersonal Passives of Personal Passives of Transitives. Before providing evidence for the 1-AEX and the Unaccusative Hypothesis in Lithuanian, let me look briefly at one further subtype of impersonal passive that is categorically prohibited by the assumptions of RG. If one starts with an active transitive verb, as in (31), and promotes the object, the personal passive in (32) results.
(31) Vėjas nupūtė tą lapelį.
wind blow that leaf
(nom) (acc)

'The wind blew down that leaf'

(32) Tas lapelis vėjo nupūstas.
that leaf wind blown
(nom/m/sg) (gen) (nom/m/sg)

'That leaf was blown down by the wind'

In order to form an impersonal passive of (32), it would be necessary to insert dummy as object, and then promote it, in violation of the 1-AEX. Thus, the combined assumptions of RG predict that it should be impossible to form the impersonal passive of a personal passive of a transitive clause, just as it should be impossible to form an impersonal passive of an unaccusative.

Observe, however, that the impersonal passive of (32), cited from Jablonskis's syntax of Lithuanian (1957:530, 588), is fully grammatical:

(33) To lapelio būta vėjo nupūsto.
that leaf been wind blown
(gen/m/sg)(nom/n/sg) (gen) (gen/m/sg)

'That leaf was (presumably) blown down by the wind'

(33) is impersonal, as shown by the neuter singular passive participle of the copula būta. The subject is now in the genitive and controls case agreement in the passive participle nupūsto, of which it is the former (although not initial) subject. The maintenance of case agreement provides good evidence that (33) is in fact derived from (32).

Lest one suggest that (32) itself is not syntactically derived from (31) (a proposal that in any case would run counter to the descriptive practice of RG), we now exhibit a construction in which the personal passive that serves as the source for the impersonal passive must itself be syntactically derived. Given the active, subject-controlled equi structure in (34), it is possible to promote the object of the infinitive directly to subject of the matrix clause by what might be called Biclausal Passive (Geniušienė 1974:219). The textual example in (35) illustrates this.
(34) Aš numačiau pirkte laikrodį iš honoraro.
I intend buy watch from honorarium
(nom) (1sg) (acc)

'I intend to buy a watch from my honorarium'

(35) Laikrodis buvo numatyta pirkti iš honoraro.
watch was intended buy from honorarium
(nom/m/sg) (3) (nom/m/sg)

'A watch was intended-to-be-bought from my honorarium'
(A. Bieliauskas, Mes dar susitiksim, Vilma!)

Since the final matrix subject of (35) is the initial embedded object of (34), (35) is presumably a derived structure. (35) can now serve as the source for the impersonal passive in (36), countering the objection raised above.

(36) Laikrodžio būta numatyto pirkto iš honoraro.
watch been intended buy from honorarium
(gen/m/sg) (nom/n/sg) (gen/m/sg)

'A watch had (evidently) been intended-to-be-bought from the honorarium'

The formation of impersonal passives from personal passives, which is fully grammatical in Lithuanian, clearly violates the advancement analysis of passives in RG.

6. Motivation for the 1-AEX. To confirm that it is specifically the Motivated Chomage Law and the RG account of impersonal passives that is counterexampled by the above facts, let us now look for some evidence within Lithuanian in support of the two related assumptions of RG, starting with the 1-AEX. To test the 1-AEX, we need to find a construction in which there are two potential targets for advancement by Passive. Here the biclausal application of Passive shown immediately above comes in handy.

Observe first the active, biclausal object-controlled equi structure in (37). The usual passive is (38), in which the matrix direct object is advanced to subject.

(37) Jos vyra paprašė ji parašyti tą laišką.
her man ask him write that letter
(nom) (acc) (acc)

'Her husband asked him to write that letter'
(38) Jis jos vyro paprašytas tą laišką parašyti.
he her man asked that letter write
(nom/m/sg) (gen) (nom/m/sg) (acc)

'He was asked (by her husband) to write that letter'

But if the matrix object is syntactically missing — for example, if it is unspecified or discourse-deleted — then it is possible to reach down into the infinitive clause and advance the embedded direct object to subject of the matrix clause. This is shown in (39):

(39) Tas laiškas paprašytas jos vyro parašyti.
that letter asked her man write
(nom/m/sg)(nom/m/sg) (gen)

'That letter was asked-to-be-written (by her husband)'

(40) Jis paaškinėjo tai, kas laiške prašoma padaryti.
he explained that what letter asked do
(nom/n/sg) (instr) (nom/n/sg)

'He explained what it was that had been asked to do with the letter'
(J. Grušas, Karjeristai)

Observe also (40), a textual example of Biclausal Passive that differs from (39) in transparent ways.

Turning our attention back to example (38) above, we note that the direct object of the matrix clause has been advanced so the path is in principle clear for the direct object of the infinitive to be advanced by Biclausal Passive. If the 1-AEX holds in Lithuanian, then it should be impossible to advance the embedded object, since that would amount to the second advancement to subject within the matrix clause. Further, given the possibility of forming impersonal passives of personal passives, one might expect to be able to form an impersonal passive from (38). If, conversely, the 1-AEX does not hold in Lithuanian, then — given that the matrix object is out of the way — it should be possible to advance the object of the infinitive by Biclausal Passive. In fact, the attempt to advance the object of the infinitive, which is given in (41), is characterized as ungrammatical and incomprehensible in the most virulent ways by native speakers.

(41) **Tas laiškas jo būtas paprašyto jos vyro parašyti.
(nom/m/sg) (gen/m/sg) (nom/m/sg) (gen/m/sg) (gen)
(42) Jo būta (jos vyro) paprašyto tą laišką parašyti.

him been her man asked that letter write
(gen/m/sg) (nom/n/sg) (gen) (gen/m/sg) (acc)

‘(Evidently) he was asked to write that letter (by her husband)’

On the other hand, the impersonal passive of (38), which is given in (42), is considered grammatical if stylistically awkward. The contrast between (41) and (42) is that which is predicted if the 1-AEX holds for Lithuanian.

7. **Motivation for the Unaccusative Hypothesis.** Given this support for the 1-AEX, let us now look for evidence for the Unaccusative Hypothesis. A natural candidate is the genitive of negation rule. As shown by (43), subjects of transitive verbs can never go into the genitive, while objects of transitives must.

(43) Niekas / *Nieko nematė *linksmus delfinus/linksmų delfinų.

no one not-see merry dolphins
(nom) / (gen) (acc) /(gen)

‘No one saw the/any merry dolphins’

(44) Linksmi delfinai/ *Linksmų delfinų nešokinėjo paskui laivą.

merry dolphins not-jump after ship
(nom) / (gen)

‘(No) merry dolphins jumped along behind the ship’

(45) Traukinyje néra *lietuviai/lietuvių.

train not-be Lithuanians
(loc) (nom) /(gen)

‘There are no Lithuanians on the train’

As shown in (44), subjects of unergative verbs, also cannot go into the genitive, but subjects of unaccusative predicates can, as shown in (45) by existential ‘be’ (Senn 1966:393-395, Jakaitienė 1976:45).

To be accurate, the genitive of negation does not apply to the subject of all predicates that might be classified as unaccusative on semantic grounds. Further, the rule applies under all conditions to transitive objects, but primarily to nonreferential unaccusative subjects. Despite these reservations, however, it is still true that the genitive of negation identifies the subjects of certain intransitives with the objects of transitives. In the argumentation of RG, this is evidence that the final subjects of
certain intransitives should be considered initial objects. That is, it is evidence for the unaccusativity of some intransitives.

The evidence is clearest for ‘be’ in its existential sense. Recall that this verb was used consistently above as the primary example of an unaccusative predicate that forms an impersonal passive. Note the striking textual example in (46), in which adjacent clauses have an impersonal passive and then genitive of negation for existential ‘be’:


‘Who says there is anything in this world more delicious than bread? There is nothing more delicious than it.’

8. Conclusion. To review the argument, a combination of three assumptions in RG leads to the prediction that it should be impossible to form passives of unaccusative predicates and of personal passives. This prediction is falsified by Lithuanian. Since two of the assumptions are independently motivated in Lithuanian, it follows that it is specifically the Motivated Chomage Law that is incorrect, and its corollary, the advancement analysis of Passive.4

Once the advancement analysis is rejected for impersonal passives of unaccusatives, there is of course no reason to resort to the advancement of a dummy object to maintain the analysis for impersonal passives of unergatives, especially in light of the fact that there was never any positive evidence for the promotion of a dummy object in the first place (Comrie 1977, Nerbonne 1982). There may, however, still be reasons for viewing personal passives as involving primarily advancement. If so, then we are in an awkward position with respect to a universal definition of Passive. It may be that advancement and demotion are not the right concepts, or it may be that there is no universal rule of Passive.

As noted above, the facts of Lithuanian undermine not only the advancement analysis of Passive but also the principle of Motivated Chomage. The notion of the chomeur is one of the central notions of RG, a notion for which it claims originality over other syntactic theories (Gibson 1982). Although it would take some space to discuss the status of this concept, we can note briefly that it is supposed to be constrained by two principles: Motivated Chomage, the principle that a nominal can become a chomeur only if another nominal assumes its grammatical relation; and the Chomeur Law, the principle that a nominal must become a chomeur when another nominal assumes its relation. The Chomeur Law has been challenged in other work (Seiter 1979, Dryer, this volume). If the argument against Motivated Chomage given here stands, then it appears that there are no significant constraints left on the notion of chomeur.
Notes

* I would like to thank Mykolas Drunga, Jūratė Izokaitytė, Tomas Venclova, and Livija Lipaitė for their help as native consultants. In a short paper like this, I have imposed some simplifications, but there was unanimous agreement on the acceptability of the impersonal passives cited here. I would also like to thank Sandra Chung for her encouragement and technical advice on this paper.

1. The discussion of Relational Grammar is based on Perlmutter and Postal (1977, ms a, ms b, ms c) and Perlmutter 1978. I will use generally accessible names for grammatical relations (subject, direct object, indirect object). 'Agent' is used here as a purely descriptive label for the nominal in a passive that corresponds to the final subject of an active. The argument below will in part consist of showing that this agent is a demoted subject or, equivalently, that it is a subject-chomeur in the sense of Relational Grammar. For the uninitiated, 'an x-chomeur' (where x is a grammatical relation) is the relation of a nominal that has been demoted from the x relation if and only if another nominal assumes the x relation.

2. Abbreviations for morphosyntactic categories of gender, case, number, and person should be transparent. Two minor points of Lithuanian grammar: verbs do not distinguish number in the third person, and certain pronouns — 1st sg, 2d sg, and reflexive — distinguish two genitive forms, one used to express possession (for example, 1st sg mano), the other for verbal and prepositional complements (1st sg manęs); it is the possessive genitive that is used to express the agent of a passive.


4. One can anticipate two possible modifications of RG that might allow it to maintain Motivated Chomage and/or the advancement analysis of Passive.

First, one might suggest that impersonal passives of all intransitives are derived by the insertion of a dummy nominal directly as subject, which would make the subject a chomeur. Demotion by dummy insertion is conceivable, given that it is
already used for direct objects. On the assumption that demotion by dummy insertion is motivated, this would superficially allow the principle of Motivated Chomage to be maintained, at the expense of giving up the advancement analysis of Passive.

Second, both the advancement analysis and Motivated Chomage could be saved by weakening the 1-AEX. Note that the evidence for this law in Lithuanian comes from an attempt to advance two overt nominals. One could suggest that the 1-AEX holds only for overt nominals, not for dummies. (Some weakening of the 1-AEX is already prefigured in the RG treatment of passives with reflexive morphology representing an unspecified argument. These are exempted from the 1-AEX because the two advances are multiattached (Perlmutter and Postal ms a: fn. 22).) Under this weakening of the 1-AEX, impersonal passives of unaccusatives could be derived directly as sketched above in the introduction: unaccusative advancement of the initial object of an unaccusative predicate, insertion of dummy as object, and advancement of dummy to subject. The last step would no longer be a violation of the 1-AEX if that law is reformulated so as not to apply to dummies. Impersonal passives of personal passives could be derived in an analogous way.

At this point one can ask whether anything would be gained by such modifications. They amount to the creation of two separate subsystems of grammar, one for overt nominals and another, virtually unconstrained subsystem for dummies. Under either modification (as well as under the original RG account of impersonal passives of unergative verbs), dummies serve the function of demoting an overt nominal that would otherwise become a chomeur spontaneously. If dummies are not constrained like ordinary nominals, then there is no content to the claim that demotion to chomeur is motivated.
References


———. ms a. The 1-Advancement Exclusiveness Law.

———. ms b. Some proposed laws of basic clause structure.

———. ms c. Impersonal passives and some relational laws.


Rhyme, or Reason? A Look at Syllable-Internal Constituents
Stuart Davis
University of Arizona

Within current work on metrical phonology, the syllable is analyzed as consisting of onset (syllable-initial consonantism), peak (nuclear vowel or syllabic consonant), and coda (syllable-final consonantism). The validity of these ultimate constituents of the syllable is unquestioned. But it has further been argued (e.g., by Selkirk (1978), McCarthy (1979), and Halle & Vergnaud 1978, 1980) that peak and coda are obligatorily grouped together to form a universal syllable-constituent, the "rhyme". The proposed tree-diagram for syllable-structure in this theory is the following:

```
  o
 / \
/    \ rhyme
|  o   |
onset peak coda
```

In this paper, however, I will offer evidence demonstrating the invalidity of the arguments previously taken to establish the constituency of the rhyme. This same evidence, along with other data, requires one to posit a flat structure for the syllable -- i.e., one with no internal constituents other than onset, peak, and coda -- as is illustrated by the following diagram:

```
  o
 / \
/    \ onset peak coda
```

Some of the arguments heretofore adduced in support of the rhyme include the following:

A) The existence of phonotactic constraints between peak and coda:

"The grouping of peak and coda into a constituent is advocated as a universal of syllable composition ... The claim made is that cooccurrence restrictions between peak and coda are always more likely to exist than are restrictions between either peak or coda and the onset." (Selkirk 1978:5)

"Whereas practically any onset can be combined with any rhyme to form a proper English syllable, there are severe limitations on what peak can precede what coda." (Halle & Vergnaud 1978)
B) Reference to the rhyme in stress assignment rules:

"... in all languages known to us, stress assignment rules are sensitive to the structure of the syllable rime, but disregard completely the character of the onset." (Halle & Vergnaud 1980:93)

"... if the rhyme is a structural unit then no language can assign stress by reference to weight or any other property of CₒV sequence." (McCarthy 1978:8)

C) Mention of the rhyme in other language specific rules:

"French vowels assimilate in nasality to the following tautosyllabic consonants. Therefore, the rhyme is the domain of the feature (+ nasal)." (McCarthy 1979:454)

D) The existence of a durational relationship between peak and coda:

"Evidence such as that provided by Chen (1970), who claims that there is a constancy in the length of the vowel plus stop combinations, could be taken as supporting the existence of the rhyme...[O]ne could say that within a constituent like the rhyme the duration of one element is adjusted in function of another." (Selkirk 1978:8)

The above arguments are supposed to support the constituency of the rhyme because the kinds of evidence that they involve have been taken as valid indicators of constituency. However, if such evidence is valid for establishing constituency, then it turns out that onset and coda, as well as onset and peak, can also be considered syllable constituents, for, — as I will show — the same sorts of phenomena can also occur between them.

First, let us consider claims from phonotactics. In the literature on English phonotactics, the existence of various constrain between peak and coda have been pointed out. As far as I am aware, though, nowhere in this literature is there a discussion of the systematic constraints that hold between onset and coda. But I have found a number of such constraints, and they indeed appear to be systematic. It is not the case, for English, that "any onset can be combined with any rhyme." Observe the following constraints on monosyllabic words:

1.) If a word has a two-slot onset and a one-slot coda, then the second slot of the onset and the first slot of the coda cannot have the same consonant (thus, C.C.V.C forms like *flill are not possible; state and the clipping, stat are the only noteworthy exceptions).
Along these lines are a number of other constraints:

1a) No word can occur with two slots in the onset and two slots in the coda such that the second slot of the onset is the same as the first slot of the coda (thus, C,V,C,C forms like *fiili are not good, as well as mirror-image words with two consonants in the onset).

1b) If a nasal occurs in the second slot of the onset, no nasal can occur in the coda (e.g., *snam).

1c) If an onset has three slots, then the consonant in the third slot cannot occur in the coda (*splal, *strark).

Phonotactic constraints also occur between onset and peak. For example, Pike and Pike (1947:87) mention the following constraint in Mazatec: "...[N]asalized vowels may not be preceded by v, y, l, r or their clusters, nor by m, n, ŋ." More simply put, the class of sonorant consonants cannot occur before nasalized vowels. (The occurrence of /v/ with this class is probably accidental, given its infrequency in Mazatec). That it is a natural class which cannot occur before nasalized vowels suggests the restriction is systematic.

The above data from English and Mazatec indicate that there can be systematic dependencies between onset and coda, as well as between onset and peak. Thus, the proposed limitation of phonotactic constraints to members of the syllable rhyme cannot be maintained, since this would make it impossible to state the English and Mazatec restrictions just discussed. A theory of syllable structure which incorporates the rhyme as a universal constituent cannot, therefore, be based on an argument from phonotactic constraints, since such an argument—applied to English—would yield the following syllable structure with "double motherhood" for the coda:

```
\[\begin{array}{c}
onset \\
speak \\
coda \\
\end{array}\]
```

The implausibility of such a structure leads one to conclude that phonotactic constraints are not a test for constituency.

Probably the strongest argument for the rhyme is that, in many languages, the makeup of peak and coda is crucial in rules of stress placement. (It is worthwhile to note, though, that—according to surveys, such as Hyman (1977)—syllable-weight plays a role in stress-placement only in a minority of languages.) However, Halle & Vergnoud's claim that "stress assignment rules ... disregard completely the character of the onset" goes too far, since they do not consider additional evidence which falsifies their claim. There are, indeed, languages which have onset sensitive stress-rules:
the Arandic languages of Central Australia are a primary example. In Aranda (the main language within Arandic) the stress-assignment rule essentially states that, for words of more than two syllables, stress falls on the first syllable containing an onset. Thus, if the word begins with a consonant, then stress is placed on the first syllable, but, if the word begins with a vowel, then stress occurs on the second syllable. The following examples, taken from Strehlow (1942), illustrate the rule in question:

- tárama - to laugh
- kútnula - ceremonial assistant
- tó:ituratûra - marsupial mole
- imáŋa - arm
- arálkama - to yawn
- ulâmbalamba - fowl (sp.)

Yidin' (another Australian language), described at length by Dixon (1977), also has a stress-rule that is onset-sensitive. In Yidin', stress is usually assigned to the first syllable containing a long vowel (and, in words of three syllables, this will always be the second syllable), but Dixon mentions the following exception to this generalization: "If the third syllable of a trisyllabic word is closed and begins with a stop or w, and the second syllable is open and begins with a lateral or rhotic, then vowel length and stress are likely to shift from second to third syllable. And, thus, he claims, "the main preference seems to be for the stressed syllable to begin with a stop or w and for it not to commence with a lateral or rhotic." (It should be mentioned, however, that Nash (1979/80) disagrees with Dixon's account of the data, and proposes an account of Yidin' stress that is not onset-sensitive.)

Another language that appears to have a stress rule that is onset sensitive is the New Guinea language Gadsup. In their brief description of stress in this language, Frantz & Frantz note that "... syllable ... with a phonetic stop onset have more stress than those with nonstop onset."

The existence of such stress-assignment rules, which are sensitive to the character of a syllable's onset, constitutes evidence against Halle & Vergnaud's argument for the universality of the rhyme. For, as McCarthy has observed "... if the rhyme is a structural unit, then no language can assign stress by reference to weight or any other property of C_v sequences." Since there are such languages, then, the rhyme cannot be an obligatory (universal) structural unit, within the syllable. And so we further see that stress-rules do not provide an argument for syllable-internal constituency, either.

Similar to the argument for the rhyme just criticized above is the contention that the rhyme forms the domain of phonetic spreading-rules. Against this claim, one can mention that phonetic spreading-processes, such as nasalization, do not necessarily have just peak and coda as their domain -- as McCarthy's French nasalization example would seem to imply. Palatalization and labialization
often apply over the onset and the peak (that is, a high vowel or a round vowel will often spread its features onto a preceding consonant). Examples of such languages include Nupe (in which front vowels condition palatalization of the preceding consonant, while round vowels condition labialization), and also Lugisu, a Bantu language, in which a round vowel likewise conditions labialization in the preceding consonant. In these languages the domain of the feature [+round] or [+high] is the onset plus the peak. McCarthy's phonetic spreading-evidence, then, does not constitute an argument for the rhyme's being a constituent, unless onset and peak are also to be viewed as forming one.

A more sophisticated argument for the rhyme is the claim that certain language-specific rules require reference to rhyme-structure in their description. In fact, many recent analyses propose rules in which rhyme-structure is mentioned. But some of these analyses would be compelling over alternate analyses not referring to the rhyme only if the rhyme could be established as an obligatory universal on independent grounds. Phonological rules, though, that do require reference to peak and coda in their description are not necessarily arguments for a rhyme-constituent, but are also consistent with a flat syllable structure — which would allow the different parts of the syllable to interact. This is because phonological rules may, in the general case, involve non-constituents. For example, non-constituents can be involved in such processes as nasal-harmony, vowel-harmony, dissimilation, and metathesis, which can all occur over syllable boundaries. So, to reiterate, the mere fact that peak and coda are mentioned in a phonological rule does not constitute an argument for their forming a syllable-internal constituent. This conclusion means that not much of the proposed evidence is still left to motivate the rhyme.

One of the remaining arguments for the rhyme (and the last one to be dealt with here) is that of Selkirk (1978), who claims that the rhyme is a durational unit, in the sense that, within the rhyme, the duration of one element is adjusted as a function of another. Here, it is, firstly, interesting to note that, in some languages (such as Russian), the onset and the peak form a durational unit, in CVC-syllables. Secondly, if Selkirk's argument is to be valid, it must be the case that a temporal relationship exists only between a vowel and the following consonant in the same syllable (in a VCS sequence), and not across syllables (as in a V$C$ sequence in a CVCV word). The reason for this is that, if a temporal relationship is an argument for rhyme constituency, then such a correlation between V and C over a syllable-boundary would establish the absurd conclusion that members of two separate syllables form a constituent within one syllable. But, obviously, a V$C$ sequence cannot be a syllable-internal constituent. However, studies of languages in which there is a temporal relationship between a vowel and the following consonant appear to indicate that
just such a relationship does hold across syllable boundaries. Kim's (1975) study of temporal duration in the segments of Korean nonsense-forms indicates that the syllable boundary has no effect on the relationship between a vowel and the following consonant. From his data, Kim concludes the following:

"If the syllable boundary plays any role in the temporal interaction between adjacent segments, we would expect the adjacent segments across the syllable boundary to show a less significant negative correlation [temporal relationship]. However there is no such evidence ..."

Kim's conclusion about Korean is also paralleled by research on other languages done by other researchers. Lisker's (1978) study of English nonsense forms and Chen's (1970) French data both seem to indicate that syllable boundaries do not effect temporal compensation in these languages (although these studies were not specifically designed to prove this point). The following are some of Lisker's data:

<table>
<thead>
<tr>
<th>English nonsense form</th>
<th>First V in ms.</th>
<th>Following C in ms.</th>
</tr>
</thead>
<tbody>
<tr>
<td>gabi</td>
<td>195</td>
<td>98</td>
</tr>
<tr>
<td>gapi</td>
<td>171</td>
<td>140</td>
</tr>
<tr>
<td>kabi</td>
<td>212</td>
<td>91</td>
</tr>
<tr>
<td>kapi</td>
<td>183</td>
<td>131</td>
</tr>
</tbody>
</table>

Again, then, if temporal relationships are an argument for syllable constituency, we would not expect to find them across syllable boundaries, as we do in these data. Thus, the existence of a temporal relationship between peak and coda is not evidence for the rhyme, but rather an instance of a more general relationship between a vowel and the following consonant.

To summarize so far, if all the arguments just discussed are valid for establishing constituency, then, not only do peak and coda form a constituent, but so do onset and coda (because there can be phonotactic constraints between them), as well as onset and peak (because they can be the domain of phonetic processes, and figure crucially in stress-placement rules, e.g., in Aranda). These arguments for constituency would thus lead to a syllable structure where there is "double motherhood" for each of onset, peak, and coda, and hence would yield a syllable with the following structure:

```
     /
    /  
onset peak coda
```

The implausibility of such a structure leads one to conclude that dependencies (e.g., phonotactic constraints) and mention in rule-environments (e.g., stress-assignment rules, and other language-specific processes) do not, after all, establish constituency in
phonology — any more than, say, Subject-Verb Agreement (a dependency) and Subject-Aux Inversion (an environmental mention) establish the constituency of Subject NP and Aux (or Verb) in syntax. Rather, it is advisable to recall that in syntax, movement rules (plus deletion and anaphora) provide the main evidence for constituency. But, given that this is the case, one is left with absolutely no valid evidence for the constituency of the rhyme.

Now, even though advocates of the rhyme have not previously considered this type of evidence in sound structure, it may perhaps still be the case that phonological "movement" rules could validate syllable-internal constituency. However, if they do, then they, too, fail to support the rhyme.

Among the common transposition speech-errors (which may be considered movement rules) are ones involving phoneme-reversals, such as "Rhine wacks" for "wine racks" and "torn the Kerner" for "turn the corner." In these cases, only onsets and peaks are reversed. However, though there are cases where the rhymes in two words can be reversed (e.g., "our backyoad is full of tards", for "our backyard is full of toads"; "hunk of jeap", for "heap of junk"), there are also cases where the onset and the peak are interchanged (e.g. "cassy put", for "pussy cat"; "piss and stretch", for "stress and pitch"). From examples like these, Fromkin (1971:33) observes "... a CV or VC sequence which is part of a syllable can be involved in speech errors." Thus, speech errors do not at all support the constituency of the rhyme.

In view of the preceding arguments against a hierarchical arrangement of the syllable-internal constituents, a flat or level structure is left as the only possibility. It is only such a structure that can allow for the different possible interactions of onset, peak, and coda. And thus, the only reasonable internal structure for the syllable is one that has no rhyme.

References


Major information from a "minor parameter":
Point of Contact in sign language phonology*  
Mark A. Mandel  
Northeastern University

Introduction. The phonology of sign language (its formational level: Battison 1974) is stated in terms of parameters: several characteristics of a sign which, taken together, constitute a distinctive description of the sign.<1> Four parameters are usually considered: the Location at which a sign is articulated, its Movement, the configuration of the hand (Handshape, Figs. 1 and 2), and the hand's Orientation in space. In the first sign language phonology, Stokoe (1960) considered Location, Handshape,<2> and Movement sufficient to distinguish signs; later Battison, Markowicz, & Woodward (1975) found that Orientation was sometimes also necessary. Klima, Bellugi, Newkirk, & Battison (1979; hereafter "KBINB") call Handshape, Location, and Movement "major parameters" and list Orientation among the "minor parameters": "subclassifications of hand configuration ... [that] distinguish limited sets of minimal pairs, yet further differentiate signs" (p. 45). The values that a parameter may have, comparable to phones or phonemes, are called primes (KBINB 1979:40; Bellugi, p.c. in Battison 1974:4).  
Handshapes are named according to their use in the manual alphabet and number system of American Sign Language (ASL); primes of other parameters are named with descriptive words or phrases. Although this paper is based on data only from American Sign Language, the analysis should be valid for all sign languages of deaf communities.

Battison (1978:32-36; 1974) discovered two word structure constraints in ASL that apply to lexical signs that use both hands. The Symmetry Condition states that if both hands move independently, they must share Handshape, Location, Movement, and Orientation. "Share" in this context allows Location, Movement, and Orientation to be either identical, as in the sign SINCE (both hands move forward from the right<3> shoulder), or symmetrical, as in SPAIN (each hand moves forward from its own shoulder).<4> The Dominance Condition states that if the Handshapes are different, then (a) one hand must be a stationary base for the other hand's movement (or at most may move only as pushed or pulled by the active hand), and (b) this stable basehand is restricted to one of seven relatively unmarked Handshapes, called "neutral Handshapes". These allowable base Handshapes are shown in Fig. 1. (Note that, unlike the Symmetry Condition, the Dominance Condition does not mention Orientation. In fact, some basehands do need to be specified for Orientation.) The effect of these conditions in limiting articulatory and perceptual complexity is obvious: either the hands do the same thing, or one is stationary and has a simple shape.
These two conditions distinguish three types of two-handed sign (Table 1). The signs that have both hands moving fall under the Symmetry Condition, and share all four parameters: examples are DIALOGUE, MINGLE, ALLOW, and BUILD (Fig. 3). These are Battison's Type 1. Signs whose hands have different Handshapes obey the Dominance Condition, with a neutral base Handshape: for example, LIGHT-A-MATCH, VOTE, and BROADCAST. Signs like these make up Type 3. In the middle are the signs subject to neither Condition, those with both Handshapes the same and one hand stationary: for example, WINDOW, CAN'T, and NAME. These are Type 2.

KBNB (1979:45-50) list three minor parameters in all: Orientation, Hand Arrangement, and Point of Contact. Point of Contact (PC) is the part of the hand, such as palm or fingertips, which touches another surface. It is an important component of the feel of a sign. It describes the tactile portion of the signer's proprioceptive feedback, which is arguably as important as visual feedback in monitoring one's own signing (Stokoe 1978:82-85). The arguments to be presented here, however, are based on statistical and absolute (i.e., exceptionless) prediction of one parameter of a sign from other parameters, and the corresponding determination of a least-marked prime or feature value in a phonological environment.

Oddly, PC is the only parameter not recognized at all in Stokoe's analysis. Almost all notice taken of PC has been in terms of other parameters, often as part of one of them. Friedman first introduced PC in 1976 as part of Orientation, using it instead of the hand's attitude in space in signs where the hands touch the body or each other: in this environment the hands do not conform to Stokoe's defining terms for orientation, the three cardinal axes of the body (up-down, left-right, and front-back), but rather to the surface being touched. Battison (1978:37) cites an observation of Richard Lacy's (p.c.) that more-frequent Handshapes have more PCs than less-frequent ones. Wilbur (1979:56) found PC necessary in the derivation of the [A] Handshape from underlying /S/, and noted the lack of proposed features for PC as a measure of the small attention paid to this parameter. Anderson (1981) uses "focus" (similar to PC) for contact and direction of movement in his morphophonemic analysis (cf. below, "PC and deixis"). And most recently, Boyes-Braem (1981)'s morphophonemic analysis of Handshapes includes features to associate a PC with a Handshape (though without analyzing PC itself).

Base Handshapes in Type 3 signs. Newkirk has claimed that the Handshape of a basehand can be predicted from its PC (KBNB 1979, fn. 8, citing Newkirk 1978). This is true, but only subject to a caution, a restriction, and an exception. The caution is that we must choose an appropriate set of PC primes. Then, since the basehand of a Type 2 sign is the same as the active Handshape, which can be any Handshape at all, we must also restrict this prediction to the neutral basehands that occur in Type 3 signs, or
we will find ourselves trying to predict highly marked non-neutral Handshapes (Fig. 2) from their PCs — a generally impossible task, since the latter are a proper subset of those of the less-marked Handshapes (cf. Lacy's observation). The exception will come up later.

Newkirk's observation captures a redundancy that is not easily expressed in a phonology without underlying PC. Basehand B occurs with contact on the palm and the edge of the hand, and more markedly on the fingertips. G has contact on the tip and the middle of the finger and along its entire length. And S has contact on the end of the fist, the back, and occasionally the palm and knuckle surfaces. If (as I will demonstrate) PC predicts Handshape in a certain environment but not vice-versa, then PC in a sense includes Handshape in that environment, and carries more information about the sign.

Battison listed seven neutral Handshapes that can appear in the basehand. The magic number shows up again as the number of PCs that occur on basehands in Type 3 signs (Table 2, columns 1-2; Fig. 4). <8> PCs are majorly divided by the feature Space: Inside and Angle are [+Space], while Palm, Side, Back, Shaft, and Tip are [-Space]. Contact with a [+Space] PC is defined as being within its defining volume, not necessarily physically touching the hand.

The lax hand predicted by Back-of-hand PC is rather peculiar. For one thing, it seems to vary more often and more freely than the other base Handshapes. For another, it does not occur in the active hand, or only very rarely — WOW! can be said to have it — which is probably why Stokoe did not consider it a Handshape and Battison omitted it from the neutral Handshapes, although it clearly satisfies the Dominance Condition. This is a difficult situation for a generative phonology of ASL, because basehand is clearly a neutralizing environment compared with active hand, and you don't want to posit an underlying prime that occurs only in neutralizing position. Underlying PC eliminates this theoretical awkwardness.<9>

I promised an exception to Newkirk's claim, and here it is. One common basehand is left unaccounted for by PC: besides occurring in variation with B and lax hand in the environment of Back-of-hand contact, S (the fist) is also very frequent as an invariant base Handshape with Side contact: for example, HELP and SODA-POP (Fig. 5). This combination of Handshape and PC, I claim, is specified underlingly just for Handshape, with the single feature [+Closed]. In this environment Side PC (end of the fist) is predicted as the unmarked value.<10>

Why should the system of PC and Handshape have this one exception? Well, consider that all the other neutral Handshapes have visually salient geometrical forms which, taken as Points of Contact, are unique to those neutral Handshapes and so predict them (Table 2, column 3). None of these forms appears on any other neutral Handshape.<11> But S is compact and has no such salient parts, and this very fact makes it unique among the neutral Handshapes. We capture that quality by specifying it as a
Handshape: the unmarked [+Closed] Handshape, with nothing protruding. This compact shape can contact on the Back or the Side, or very rarely (in basehand) on the Knuckle. The simplicity imposed by Battison's Dominance Condition is now enforced by limiting the basehand to a single specification — either a Point of Contact or one Handshape feature value — from which the remaining values are derived. (As in Battison's analysis, some signs still require basehand Orientation to be specified as well.) Battison's Dominance Condition allows no non-neutral Handshape in the basehand of a Type 3 sign, and Newkirk's claim and my discussion so far imply that to each PC (with the exceptions of Back and S) there corresponds just one Handshape. In fact, non-neutral Handshapes do appear, and a single PC may occur with more than one Handshape. We can accommodate this variety by introducing markedness. Each PC predicts a particular Handshape in the unmarked case; any other Handshape must be explicitly specified, at the cost of additional features. These additional specifications may produce another neutral Handshape or a non-neutral one. With the Handshape features in Table 3 (based on Mandel 1981), the common variant Handshapes for each PC differ from the unmarked one by a single feature specification. For instance, SHT has Inside PC with [+Closed] Handshape (S instead of O); a variant form of CATCH–SOMEONE has Shaft with [+Thumb] (thumbÂ instead of G); and a variant of BEGIN has Angle with [-Uniform] (V instead of 5).

Basehand PC as Location. Stokoe treated the back of the hand (combined with the back of the wrist) as a Location; now all Type-3-basehand PCs look like Locations. Like shoulder, chin, and other Locations, they are distinguishable landmarks or regions of the body, with the difference that the part of the body they belong to is flexible and moveable. The hand changes shape to highlight the PC to the viewer and make it easily accessible for the signer; Inside PC does not exist at all till the fingers are bent. To achieve the same purposes, the hand also moves to the center of neutral space if it is not already there, just as the moveable wrist, forearm, and elbow move toward the same place when used as Locations. Slow-motion videotape analysis shows that the basehand is formed and positioned before the active hand is ready to articulate the sign (Judy Kegl, p.c.): it becomes part of the body, a pre-existing given for the active hand. The hand's moveability also allows it to vary its Orientation, as torso Locations cannot do and the forearm could do but rarely if ever does significantly (in non-compound signs; see below).

The PC of the basehand in a Type 3 sign relates differently to the basehand itself and to the active hand in the sign: for the active hand it functions as Location, but within the basehand it is parallel to PC on active hands, making some of the same predictions about Handshape and some predictions that are different but regularly related (see below). Orientation is likewise a parameter of the basehand, but as far as the active hand is concerned the basehand's Orientation is a given of the
Location. The arguments in the preceding paragraph would suggest that basehand PC be treated as part of the Location parameter, but the basehand's double status — a hand to itself, but a part of the body to the active hand — precludes so simple a solution.

In Stokoe's original analysis of ASL phonology (1960) all the characteristics of a sign, or "aspects", were considered to be simultaneous: the articulator, the location, and the action. In his positional notation, he handled the basehand's double status by using symbols from the articulator inventory for the basehand's handshape and possible orientation (the latter originally borrowed from the action inventory), and writing them in the location slot. The principle of simultaneity survived the later reanalysis into four or more parameters, which Stokoe has never accepted (1978): for instance, Battison's Conditions are conceived in a simultaneous analysis (1978:28–36). But there is evidence, like the lag between basehand and active hand formation, suggesting that signs have an internal sequential structure. Several researchers have developed sequential analyses of portions of ASL phonology and morphology (Ellenberger 1977, Chinchor 1978, 1981, Kegl 1981, Gee & Kegl 1981, Barss 1981). From a sequential point of view, first the basehand sets up its PC and then the active hand uses that as its Location.

Symmetry in Type 2 signs. Recall that Type 2 signs fall between Battison's two Conditions, having one stationary hand and two identical Handshapes: STOP, NAME, DOOR. The analysis presented above, in which Type 3 basehands are redefined in terms of PC, raises a possibility: Maybe some Type 2 basehands are also underlyingly specified for PC, and just happen to come out to the same Handshape as the active hand. Take STOP, for example (Fig. 6). It has a basehand, and the same B Handshape on both hands, so it belongs to Type 2. But the basehand has Palm contact while the active hand has Side contact. Partly as a result, the Orientations are different too. Considering this asymmetry, STOP looks as though it could well be closer to PAY and BUTTER (which are Type 3, also with contact on the basehand Palm) than to such symmetrical Type 2s as SCHOOL and ANYWAY (which, like STOP, have B-Hands), or to NAME (with H's) and FINAL (with I's). How can we test this possibility?

The B of STOP, SCHOOL, and ANYWAY is a neutral Handshape; the H of NAME and the I of FINAL are not. In NAME, FINAL, and all other non-neutral Type 2 signs, the hands are symmetrical: they share PC and Orientation. Suppose this is a general characteristic of "genuine" Type 2 signs. We also find that some Type 2s with neutral Handshapes are symmetrical as well, but that many others, such as STOP, SUPPORT, and IN, are not (Fig. 7): just what we would expect if some basehands are specified for PC rather than Handshape. Evidently there are two kinds of Type 2 signs: symmetrical, "genuine" ones like ANYWAY and FINAL, whose hands share PC and Orientation as well as Handshape, and asymmetrical "crypto-Type 3s" like STOP and IN, whose basehand is independently specified for PC, as it is in Type 3. Since
specification of a basehand for PC can only produce a neutral Handshape, as it does in Type 3, non-neutral basehands are found only in "genuine", symmetrical Type 2s.

The distinction between basehand and active hand, which has been central to the analysis so far, exists only in Types 2 and 3. In Type 1 signs, like BUILD and PERMIT, we can distinguish the hands as dominant and nondominant: in right-handed signing the right hand is dominant and the left is nondominant.<12> When there is a basehand, it is always the nondominant hand; when a sign has only one hand, for instance FUNNY and SUNSHINE, it is always the dominant hand. In Type 1 signs, like BUILD, the hands share Handshape, Location, Orientation, and Movement, as well as PC if there is contact; in symmetrical Type 2 signs, like NAME, the Handshape, Location, Orientation, and PC are also shared, but the nondominant hand has no Movement of its own. The nondominant hand of an asymmetrical Type 2 like STOP also has no Movement specification of its own, but it is underlyingly specified for PC, and the PC produces a Handshape that matches the dominant hand. And Type 3, for instance BUTTER, is just like asymmetrical Type 2 except that the nondominant Handshape comes out different from the dominant.

A new typology. Symmetrical Type 2s group with Type 1, asymmetrical Type 2s group with Type 3 (Table 4). We seem to have a new typology, with two classes, alongside Battison's 1-2-3 classification. In Type A, the symmetrical class, the nondominant hand is specified in terms of the dominant; in the asymmetrical class, Type B, it is independently specified. Battison's Type 1 goes into Type A, Type 3 goes into Type B, and Type 2 -- the leftover type, falling between the Symmetry and Dominance Conditions -- is split. We can use both typologies at once and call its subtypes 2A and 2B. Now we can reformulate the Symmetry and Dominance Conditions:

Symmetry: If the nondominant hand is specified in terms of the dominant, then it will share the dominant's Handshape, Location, Orientation, and PC (if any), and may either share Movement or have none. (Type A.)

Dominance: If the nondominant hand is not specified in terms of the dominant, it may be specified only for PC or the single Handshape feature value [+Closed], and optionally also for Orientation. (Type B.)

(Like the prediction of base Handshape from PC, these constraints should not be taken as absolute but as describing the least-marked cases. The same is true of Battison's original formulations of the Symmetry and Dominance Conditions.)

So we have a new classification of two-handed signs. What can we do with it that we can't do in any older analysis? Well, we can constrain the set of possible signs and limit patterns of variation and change.

The original Dominance Condition allows some nonsigns that the PC version correctly rules out. For example (Fig. 8), a nonsign with the edge of the active B coming down onto the side of
the fist of a base G, and one with the thumbtip of an active thumb tapping the palmar side of a base A, are impossible as signs -- or highly marked -- because the PC of the basehand doesn't match the Handshape.<13>

Phonological variation in signs often crosses class divisions in the 1-2-3 typology. One frequent kind is "lazy hand" variation between Types 1 and 2A. The Type 2 variant may compensate for the stabilization of the nondominant hand by enlarging the movement of the dominant (as Anderson 1978, to whom I owe the name "lazy hand", has also observed), but otherwise it is identical. By neglecting PC, the 1-2-3 grouping misses the fact that Type 1 signs often develop Type 2A variants but seldom if ever cross the A-B division to vary with Type 2B. (See Fig. 9.) So we get Type 1 and Type 2A INTERPRET with the joined thumb- and index-tips of the two F-hands together (Tip PC, Handshape [+Opposed, -Uniform, -Closed]), but no starred form with the active hand's tips inside the circle formed by the basehand's thumb and index (basehand Inside PC). We find AMAZED with the two bentY hands (palm-up dominant beneath palm-down nondominant) tilting apart in a vertical plane from their initial Tip-contact (Type 1), and with the dominant hand dropping from initial Tip-to-Tip contact with the stationary nondominant (Type 2A), but not with the palm-in active hand dropping down and forward from initial contact of its Tip with the Knuckle of the palm-down basehand. And ANYWAY, with B-hands palm-in and side-by-side with Tips touching, has a Type 1 form with both hands brushing back and forth past each other and a Type 2A with the dominant hand brushing the stationary nondominant, but does not have a Type 2B in which the nondominant's fingers point up and the dominant Tip brushes its Side (pinky-edge): this is a possible sign, but not an expected phonological variant of a Type 1.

Handshape assimilation sometimes brings Type 3 signs into Type 2. RESIDENTIAL-SCHOOL (Fig. 10), originally a Type 3 sign, has an assimilated Type 2A form in which the basehand has turned from prone to semiprone Orientation. In the older form, the nondominant hand is specified only for Back PC, which implies Palm-down Orientation. Under the revised Dominance Condition it is costly to specify both Handshape and PC on the basehand, and the Symmetry Condition requires the nondominant hand to share Orientation as well as Handshape (and, in the revision, PC) with the dominant. So the newer form is symmetrical: retaining the older Orientation and PC would have been more costly. The earlier formulations of the Symmetry and Dominance Conditions do not predict this change: they would allow the basehand to remain Palm-down with Back PC while changing to I Handshape.

PC in active hands. PC has predictive power on active hands as well as basehands. Tip contact on the active hand most often has the G handshape (e.g., THINK and PAY), just as in basehands, and Palm contact similarly most often has B (MY and ENTHUSIASTIC). But the Handshape predicted by a PC is not always the same. Angle contact predicts [+Uniform] 5 on the basehand but [-Uniform] V on
the active hand. A similar difference appears with Tip contact on [+Opposed] Handshapes: on the basehand this combination always produces [+Uniform] 0, but on the active hand it produces 0 and [-Uniform] F with equal frequency. While the Dominance Condition imposes on the basehand a strong preference for Handshapes in which the fingers act uniformly -- G is the only exception -- the active hand allows non-uniformity, and may in fact prefer it.

PC without contact. The hand need not actually touch the other surface for PC to be meaningful. For one thing, contact varies with near non-contact both sociolinguistically and stylistically (Friedman 1976). But beyond that, ASL has nonphysical Locations: points and surfaces in the signing space (Friedman 1975, Supalla 1978a, KBNB 1979, Newport 1981). A hand can phonologically contact these Locations, as evidenced by Movement (Supalla & Newport 1978, KBNB 1979) and by Handshape: WASH-HORIZONTAL-SURFACE (with A) contrasts minimally with MOW-LAWN (with S), sharing the same Palm-down Orientation and back-and-forth Movement. [A] is not an underlying Handshape (except in loans from fingerspelling), but is derived from /S/ in the environment of Palm PC (Wilbur 1979:56), as here, or from /thumb/ in the environment of Dorsal Shaft PC. It is explainable here only if WASH-HORIZONTAL-SURFACE, but not MOW-LAWN, is articulated in contact with a nonphysical horizontal plane. This would be entirely compatible with the Location-incorporating morphology of WASH, which can be variously articulated on the trunk ('bathe'), the face, the side of the head ('wash the hair'), a nonphysical vertical surface, and so on, as well as on a basehand for a semantically unspecified location. (I am indebted to Hartmut Teuber for this example.)

Apparent Dominance violations and the issue of simultaneity. Some compound signs that appear to violate the Dominance Condition are regular when viewed sequentially. Many Handshapes occur as classifiers, nominal morphemes referring to a semantically or visually defined class of objects: e.g., 3 for a vehicle, B for a wide flat object, and G for a long thin object. Numeral Handshapes also function as plural classifiers: V and L for dual, 3 for trial, 4 for quartal, and 5 for quintal or multiple. (See Chinchor 1981 for a detailed analysis of numeral-incorporation.) Classifiers are incorporated into verbs of motion and location, producing a verb complex that predicates that motion or location of an object in that class. (For further data and theory see Frishberg & Gough 1973, Mandel 1977, Supalla & Newport 1978, Supalla 1978a and b, Mandel 1981:Chap. IV, and Gee & Kegl 1982.) When classifiers are used on basehands, apparent Dominance violations arise. Two examples of this large and productive class are SMALL-ANIMAL-JUMPS-ONTO-FENCE, with Side PC on a 4 basehand, and SECOND-OF-THREE with index-finger-Tip PC on a 3 basehand (Fig. 11). (Thanks to Judy Kegl for the following analysis.)
In compounds like these the lag between the formation and placement of the basehand and the formation of the active hand is on the order of the duration of a sign and clearly visible to the unaided eye, suggesting that it belongs to syntax rather than word phonology. The "basehand" forms not just a Location (its PC and Orientation) but a separate sign, with which the "active" hand then articulates morphosyntactically. **SECOND-OF-THREE** would thus be better analyzed as a phrase –-

```
  [dom.: THE-SECOND-ITEM
    nondom.: THREE-ITEMS...................
  -- "(of the-aforementioned-)THREE-ITEMS THE-SECOND-ONE ". The nondominant hand makes one sign to establish the context -- this sign is one-handed, and the hand that makes it is active and by definition dominant in the sign, though nondominant in the larger discourse. The discursally dominant hand then articulates literally "in" that context, making another sign which carries the new information.

This analysis is supported by the frequent retention of such a basehand sign through a fairly long stretch of discourse, several sentences or even more, during which it may be used many times. For example, speaking of five siblings<16> (references shown with numbers are located on the thumb through pinky tip of the basehand 5): "#1 moved out years ago; he's gone to Illinois. I'm #2. #4 and I are real close, but #3's real stuck-up. #5 is the baby of the family; #4 lends clothing to her all the time." Such a stretch can contain one-handed signs, in which the retained basehand plays no part, just as body Locations (forehead, chest, etc.) are uninolved though physically present during signs that do not use them. In two-handed signs not involving the basehand sign, the basehand may retain its Handshape while the active hand articulates on it, deforming that two-handed sign (but recoverably; cf. Battison 1974:9). Or the sign may be made normally, terminating the maintained sign, which will be set up again if needed later. The basehands of one-word signs such as ESTABLISH and WORD cannot be retained and used in this way: if signs in sequence happen to require the same nondominant Handshape, it will be maintained, but as soon as it is not needed the hand will relax and may drop out of signing space. In a sequential analysis like this, "signs" like SECOND-OF-THREE and SMALL-ANIMAL-JUMPS-ONTO-FENCE are not exceptions to the Dominance Condition at all, because they are not single words but phrases. The full word boundary within them is evidenced by the timing between the component signs, and the word structure constraint expressed by the Dominance Condition holds only within each word.

PC with Orientation and Movement. I have already mentioned Friedman's (1976) use of PC to simplify the description of Orientation. The present analysis looks the same in that respect, except that it treats PC as a separate parameter rather than a subset of Orientation, and does not require specification of all parameters.
PC simplifies the description of the Movement parameter as well. Two of Stokoe's Movement primes, grasp and enter, translate into the present analysis as contact by (respectively) the dominant and nondominant hand, on either the Inside or the Angle: grasp in EARRING, CATCH-SOMEONE, and APPLY, and enter in VOTE and APPEAR. These Movement primes, and no others, also have a special use to describe the initial contact of the hands, as in ESCAPE and SPIRIT. As the use of underlying PC eliminates grasp and enter, this exceptional use is reduced to simple onset contact with Inside or Angle, just like onset contact with the forehead (NOT-KNOW) and the Back of the hand (SEND). One handshape, bentV, can grasp with either its Inside (CATCH-SOMEONE) or its Angle (TICKET); underlying PC disambiguates the description. In mutual grasp both hands have a [-Space] PC: Inside in COOPERATE (linked F's) and MARRY (C's grasp each other palm-to-palm), Angle in FOOTBALL (interlaced 5's) and PLUG-IN (interlaced V's).

ASL has a number of deictic pronouns, which are usually described in terms of Movement, Handshape, and Orientation. Their Movement is controlled by the person, number, and placement of the referents, or of the nonphysical Locations used for referents that are abstract or absent, or whose true location is unknown or ignored (Friedman 1975, Baker & Cokely 1980). Their Handshape depends on the type of the pronoun: simple, numerical, possessive, honorific, emphatic/reflexive, or neuter demonstrative. The hand's Orientation and Movement are partly dependent on the Location — the hand "points" toward it — and partly dependent on the type of pronoun, not on the Handshape itself (Table 5). The diversity in deictically-oriented parts of the hand is directly captured by treating these parts as PCs. Each type of pronoun is specified for PC, and in some cases also for one or more Handshape features and/or for Orientation (such as Palm-up). The Handshape will be phonologically derived from the PC (and the Handshape feature specifications, if any). Note that the most frequent, semantically least-marked pronoun types, simple and possessive, have the simplest specifications, deriving Handshape from PC alone.

The place of PC in phonological theory. How should PC fit into a systematic analysis of sign language phonology? It acts as Location, predicts Handshape, substitutes for or partly controls Orientation, and replaces some Movements; it has been called a feature of Handshape (Boyes-Braem 1981) and of Orientation (Friedman 1976), one of six (KBNB 1979) or eight (Mandel 1981) separate parameters, and almost totally ignored (Stokoe 1960, Stokoe, Casterline, & Croneberg 1965); considered a minor (KBNB 1976) or a major (Boyes-Braem 1981) appendage of Handshape and a significant independent characteristic of the sign (Anderson 1981 and the present analysis). Where should it go in a parametric analysis of ASL, let alone a Stokoean asperctual one?

Perhaps parameters are not so critical to phonology as they seem. Certainly many morphological patterns refer to Handshape, Location, and Movement (see, among many, Frishberg 1975, Frishberg
& Gough 1973, Supalla & Newport 1978, Supalla 1978a and b, Klima, Bellugi, & Pedersen 1979, Klima, Bellugi, Newkirk, Pedersen, & Fisher 1979, and Boyes-Braem 1981). It is not surprising, then, that psychophysical experiments have shown signers to be sensitive to them (Lane, Boyes-Braem, & Bellugi 1976, Stungis 1978, Poizner & Lane 1978). But in phonology the features of a sign interact freely across parameters. PC conditions Handshape, Handshape conditions PC (S basehand), Location conditions Handshape ([Uniform] is more likely in the visual center of signing space than in the outer regions: Siple 1978b), PC conditions Location (in basehands); Directional Relation, Orientation, and PC condition each other in a two-out-of-three triangular relationship (Mandel 1981:14–15, 265). Parameters are a useful organizing principle in morphology, but in phonology they are unnecessary.

Summary. A two-way classification of two-handed signs of American Sign Language, based on underlying specifications, supplements and extends an earlier three-way classification based on surface Handshape and Movement, and allows revision of two major word structure constraints to cover all two-handed signs. The new formulations require underlying specification of Point of Contact, a parameter heretofore generally treated (in various ways) as relatively insignificant, or else ignored. They correctly exclude certain classes of nonsigns that the earlier statements allowed, and they constrain variation more accurately. A sequential analysis shows that another large class of "signs" that appear to be exceptions to the Dominance Condition are actually syntactic constructs of two signs and hence are not constrained by the Condition. The multiple function of PC as Location (in basehand) and as predictor of Handshape, and the phonological interrelationships of all the parameters, suggest that while parameters may be significant in morphology, they have little application in phonology.

NOTES

1. This paper was written with the support of NINCDS Postdoctoral Fellowship # 1F32NS 06484-01/02. My thanks to the members of the Language Perception and Speech Perception Laboratories of the Psychology Department of Northeastern University, and in particular to Hartmut Teuber and Judy Kegl; and to Joan Forman. Emily Dexter did the research on variants with Back PC. Paul Rhinhart, Rene Mandel, Beth Kuhl, and Andy Barss helped with the illustrations, but are not to be blamed for them.

2. Not actually just Handshape, but the entire articulator. Stokoe's "choreological" analysis was reinterpreted by later researchers.

3. Actually from the dominant shoulder; see text below.

4. Signs are conventionally referred to by fully-capitalized glosses, which should be regarded as convenient tags rather than exact translations. A gloss consisting of several English words is tied together with hyphens.

5. Generally only the moment of contact is illustrated, but in Fig. 3 the movements of Type 1 and 2 signs are indicated with arrows.
6. Hand Arrangement refers to the number of hands in the sign and, if two, to their use (two moving hands [Type 1], or one moving and one base hand [Types 2 and 3]) and directional relation (one hand above, below, beside the other, etc.). The name "Point of Contact" is from Friedman (1976), who to the best of my knowledge was the first to examine this parameter systematically. KBNB use "Contacting Region" and "Focus". In Mandel 1981 I called it "Focus".

7. Not quite true. The Handshape diacritic defined as "thumb or other digit given added prominence", and normally interpreted as "thumb extended", is used in a literal handful of cases by Stokoe, Casterline, & Croneberg (1965) for thumb contact on a Handshape whose thumb is already extended, such as L (AFTER-A-WHILE) and S (FINE, but not MOTHER).

8. One other PC, Knuckle, occurs on the active hand but very seldom on the basehand. On basehands it predicts [+Uniform] S, on active hands [-Uniform] X: see text below on PC in active hands.

9. The lax Handshape itself can be eliminated as a prime by deriving Back of hand directly to S. The Back of the palm-down S will tend to tilt away from the active hand; as the signer attempts to bring it to a more accessible angle the tonal effect (Mandel 1979) will tend to relax the fingers into the lax Handshape.

10. In fact, most of the S-basehands in Type 3 signs are in the unmarked Orientation: forearm midway between prone and supine and wrist about straight. This puts the Sides on top and bottom. Since the unmarked Directional Relation in Type B signs with [-Digit] PC seems to be active hand above basehand, Side contact comes as an automatic result of unmarked values. The phonology does not even incur the cost of a specific rule to derive it, since such "forcements" (Mandel 1981) are logical consequences of the definitions of features and primes. Compare, in spoken languages, the rule pair [+High] --> [-Low] and [+Low] --> [-High].

11. B is the only neutral Handshape with a plane-edge, but every Handshape has a Side that is physically available for contact, even if phonologically forbidden (as in open8). The shape of Side PC varies with the Handshape, but in the environment of basehand it defaults to being straight: Hsh [+Extended] --> Hsh [+Ext] / [nondominant hand]

(See text below for hand dominance.) As Stokoe, Casterline, & Croneberg observe, there is considerable variation between basehand B and G with index-edge contact; both of these are [+Extended]. 5, which is also [+Extended], is more marked for Side PC because it is [+Spread] (Mandel 1981:181-182).


13. In fact, the fist-Side of G is probably never specified as PC, but occurs only a result of other specifications and defaults. G on either hand, like basehand S, has fist-Side contact almost exclusively in the environment of two-handed signs where it has neutral Orientation (forearm semiprone), and a Directional Relation (dominant hand above nondominant) which is very frequent and probably least-marked with a basehand. The same is true of X, H, V, I, and Y, the other Handshapes that consist of a flat with finger(s) protruding. (Some others -- babyY, bentV, R, and thumbY -- do not occur at all with fist-Side contact.)

14. [+Uniform] covers two values of the Number of Fingers feature, [0 Fingers] and [4 Fingers]. Within [-Uniform], I is least-marked, followed by 2 and finally the highly-marked [3 Fingers]. G and F are [1 Finger]: tV, [2 Fingers], costs the same as G and F here because Angle PC ([+Space, -Palmar]) physically requires at least two fingers (unless [+Thumb Contact] is specified as well).


16. The example is invented but typical.

17. Stokoe, Casterline, & Croneberg also, rarely, use enter Movement with a Location that is part of the body: e.g., in JEALOUS the Tip of G enters the mouth. This contact is not part of the regular phonological system of ASL, but comes from an older form of the sign: usually contact is at the corner of the mouth. (My thanks to Hartmut Teuber for pointing out to me this usage difference and its consequences for the phonology of the sign.) -- The change is part of
Frishberg's (1976) historical Facial Displacement, which moves Location from the center of the face to the periphery. Rimor, Kegl, & Lane's results (unp.) indicate that the differences found by Frishberg may be due to differences in stylistic register as much as, or rather than, to diachronic change. Since inside-the-mouth contact and other superfine distinctions are still used in some forms of signing, it may be necessary to postulate a more detailed (and possibly less systematic) phonology for these registers than for ordinary fluent signing.

REFERENCES


Rimor, Mordechai, Judy Kegl, & Harlan Lane. Unpublished work in progress.
"Historical" changes in mimicry: some evidence against the exclusiveness of diachronic processes in ASL.
Fig. 1: Battison's (1978) neutral Handshapes

Fig. 2: Some non-neutral Handshapes

1 (DIALOGUE) 2 (NAME) 3 (VOTE)

Fig. 3: Examples of Battison's three sign types

Fig. 4: Type 3 signs with PC-defined basehands
HELP  SODA-POP
Fig. 5: Side PC on S basehand in Type 3 signs

PAY  STOP  ANYWAY
Fig. 6: B basehand in Type 3 and symmetrical and asymmetrical Type 2 signs

SUPPORT  IN
Fig. 7: Asymmetrical Type 2 signs

Fig. 8: Two nonsigns

INTERPRET

Type 3  Type 2A
Fig. 10: Variation in RESIDENTIAL-SCHOOL

Fig. 11: SECOND-OF-THREE

ANYWAY
Types 1 & 2A  Type 2B
Fig. 9: Impossible variation
### TABLE 1: Battison's Symmetry and Dominance Conditions and typology of two-handed signs

<table>
<thead>
<tr>
<th>Point</th>
<th>Base of Hand</th>
<th>Geometrical Contact shape</th>
<th>Type 3 S D T P S D D</th>
<th>FEATURE DEFINITIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Space: space between parts of the hand</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Digit: digit(s) used distinctly from body of hand</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Tip: uses digit only at tip</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Palmar: in palmar hemisphere of volume around hand</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Side: radial or ulnar side of part of hand (&quot;edge&quot;)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Distal: in distal hemisphere of volume around body of hand</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Dorsal: on dorsal skin of part of hand</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>N E C S O FEATURE</th>
<th>DEFINITIONS*</th>
</tr>
</thead>
<tbody>
<tr>
<td>F x l p p</td>
<td></td>
</tr>
<tr>
<td>g t r p</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Number of Fingers:</td>
</tr>
<tr>
<td>G</td>
<td>number selected to</td>
</tr>
<tr>
<td>S</td>
<td>participate in con-</td>
</tr>
<tr>
<td>O</td>
<td>figuration &amp; in con-</td>
</tr>
<tr>
<td>C</td>
<td>tact (if any). * is</td>
</tr>
<tr>
<td>S</td>
<td>[Uniform], covering:</td>
</tr>
<tr>
<td>lax</td>
<td>[0 Fg] and [4 Fg].</td>
</tr>
</tbody>
</table>

Extended: selected fingers are fully extended, all joints straight.
Closed: any fingers are closed onto palm.
Spread: any fingers are spread.
Opposed: selected fingers are opposed (unselected fingers never are).

* (There are other features, used in non-neutral Handshapes.)

### TABLE 2: Point of Contact primes, features, and basehand Handshape and geometry

<table>
<thead>
<tr>
<th>Battison's surface typology</th>
<th>New underlying typology</th>
<th>Type</th>
<th>Hand-</th>
<th>Ori.</th>
<th>Spec.</th>
</tr>
</thead>
<tbody>
<tr>
<td>TYPE 1: Both hands moving,</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Handshape, Movement, Location, and Orientation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TYPE 2: Escape both Symmetrical (2A)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conditions: one hand</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>stationary, shared</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Handshape.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TYPE B: Nondominant hand defined independently, for PC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Handshape.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TYPE C: Handshapes different, or Handshape (S), and optionally Orientation; has no</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>stationary with neutral Handshape.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### TABLE 3: Handshape features applying to neutral Handshapes

<table>
<thead>
<tr>
<th>TABLE 4: The two typologies of two-handed signs</th>
</tr>
</thead>
</table>

### TABLE 5: Deictic pronoun types
Lexical Diffusion in Hong Kong Cantonese: "Five" Leads the Way

Robert S. Bauer

University of California, Berkeley

Currently, in Hong Kong Cantonese there are several sound changes underway, one of which is the change of the syllabic velar nasal to the syllabic bilabial nasal, /ŋ/ → /m/. On the basis of my observations of this sound change while conducting fieldwork in Hong Kong, I believe I have identified the phonetic origin of the sound change, the particular morpheme with which the change began, the relative schedules of change of several morphemes of the word class, and the different stages of development of various segments of the speech community which have been affected by the sound change.

The model of sound change within which I will describe the observed sound change is based on the theory of lexical diffusion first proposed by Wang (1969). This theory recognizes that sound change proceeds through time and that this process can be viewed along three dimensions: The phonetic dimension describes the phonetic conditions that give rise to the abrupt change from sound X to sound Y in a particular morpheme, a change which is both perceptible and potentially phonemic. The lexical dimension links the change to the lexicon by tracing the change to the morpheme or morphemes of the lexical class initially affected by it. Finally, the social dimension follows the spread of the sound change from speaker to speaker within the speech community. Over the last decade or so, there have been several diachronic investigations of sound change that span a time frame from Middle Chinese (ca. 700 AD) to modern Chinese dialects which have been based on the theory of lexical diffusion (Chen and Hsieh 1971, Cheng and Wang 1972, Cheng and Wang 1970, Hsieh 1973 Wang and Cheng 1970). The present paper, however, departs from this general trend by applying the theory of lexical diffusion to the synchronic study of a particular sound change now in progress in the Cantonese dialect spoken in Hong Kong.

Of particular relevance to the microstudy of these three dimensions of synchronic sound change are data-gathering techniques developed in sociolinguistic investigations of American English first described by Labov (1966) and subsequently applied by Shuy et al. (1968). Sociolinguistic sampling and interviewing permit the sociolinguist
to observe sound change as if under a microscope by bringing into sharp focus the development of the sound change within the lexicon and its distribution across subgroups of speakers.

For my study of sound change in Hong Kong Cantonese, I gathered a sample of 75 subjects who ranged in age from 15 to 75. The subjects were not randomly selected, and the sample can best be described as a judgmental sample. Labov has suggested that the most efficient procedure to select a sociolinguistic sample "... is to graft the linguistic study on to an earlier sociological study, and conduct a secondary survey of a portion of the earlier sample" (Labov 1966b:7). Unfortunately, a pre-selected sample of subjects was unavailable in Hong Kong, and, in fact, the sociological study of characteristics that identify social classes in Hong Kong has never been done. Faute de mieux, I selected a sample which spanned a fairly wide range of social class backgrounds and age groups representative of the Hong Kong-born population. All but seven subjects are Hong Kong-born, and these seven were born in Canton or its vicinity and moved to Hong Kong at age ten or younger. As indicated in Table 1, the sample includes 42 men and 33 women whose occupations include school principal, teacher, office worker, housewife, student, construction worker, bank clerk, engineer, barber, welder, office machine operator, retired nurse, dock worker, etc.; their years of formal schooling range from 16 for university graduates to less than six. That this sample is sufficiently large and socially diverse provides the research design of the study with its external validity and permits the results obtained from the sample to be reliably extended to the whole of the Hong Kong speech community.

The linguistic interviews, all of which were conducted by this researcher, comprised two parts: an informal section in which the subject was engaged in casual conversation for the purpose of producing spontaneous speech; and a formal section in which the subject read a story written in colloquial Cantonese and three word lists. In the story and word lists were embedded words which would elicit the phonological variable under investigation.

The three dimensions of the change from syllabic velar nasal to syllabic bilabial nasal to be analyzed in this study are the phonetic origin of the change, the development of the change within the lexicon, and the spread of the change across subgroups of speakers within the speech community.

In Standard Cantonese of Hong Kong there is only one morpheme pronounced with the syllabic bilabial nasal: it is pronounced /ŋ/ and means "no, not"; it is often
<table>
<thead>
<tr>
<th>16 years university degree</th>
<th>14-15 years technical/adv training</th>
<th>12 years high schl form 6</th>
<th>11 years high schl form 5</th>
<th>10 years high schl form 4</th>
<th>9 years middle schl form 3</th>
<th>6 or less elem schl</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FEMALES</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23-teacher</td>
<td>22-secretary</td>
<td>23-typist</td>
<td>16-student</td>
<td>16-student</td>
<td>18-sprmrkt stocker</td>
<td>35-housewfe</td>
</tr>
<tr>
<td>25-teacher</td>
<td>24-teacher</td>
<td>24-unvrsty sec try</td>
<td>18-student</td>
<td>24-typist</td>
<td>30-ofc mchn operator</td>
<td>42-housewfe</td>
</tr>
<tr>
<td>26-teacher</td>
<td>26-acntng asstnt</td>
<td>25-office custdn</td>
<td>24-typist</td>
<td>25-office custdn</td>
<td>73-retired bnsnmn</td>
<td>44-housewfe</td>
</tr>
<tr>
<td>28-teacher</td>
<td>28-librarian</td>
<td>25-typist</td>
<td>25-office custdn</td>
<td>35-housewife</td>
<td>75-retired nurse</td>
<td>47-housewfe</td>
</tr>
<tr>
<td>35-school principal</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>47-housewfe</td>
</tr>
<tr>
<td>68-retired bnsnmn woman</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>52-housewfe</td>
</tr>
<tr>
<td><strong>MALES</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24-graduate student</td>
<td>24-unvrsty mntnce worker</td>
<td>18-student</td>
<td>16-student</td>
<td>16-student</td>
<td>15-constrcn worker</td>
<td>18-constrcn worker</td>
</tr>
<tr>
<td>27-teacher</td>
<td>26-engineer</td>
<td>18-student</td>
<td>18-student</td>
<td>16-student</td>
<td>19-constrcn worker</td>
<td>18-constrcn worker</td>
</tr>
<tr>
<td>28-teacher</td>
<td>27-advertsn artist</td>
<td>20-student</td>
<td>21-ofc clrk</td>
<td>17-student</td>
<td>19-constrcn worker</td>
<td>26-welder</td>
</tr>
<tr>
<td>34-teacher</td>
<td></td>
<td></td>
<td>36-ofc clrk</td>
<td>17-student</td>
<td>19-constrcn worker</td>
<td>44-porter</td>
</tr>
<tr>
<td>40-laboratory technician</td>
<td></td>
<td></td>
<td>37-ofc clrk</td>
<td>18-student</td>
<td>19-constrcn worker</td>
<td>45-dock worker</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>44-housing est mng</td>
<td>20-film devlopr</td>
<td>19-constrcn worker</td>
<td>52-bank manual worker</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>49-self-emp bnsnmn</td>
<td>27-air con mntcn worker</td>
<td>23-furniture painter</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>51-bank clk</td>
<td></td>
<td>30-ofc clrk</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>55-salesclerk</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
written with the Cantonese character 吔. The syllabic velar nasal morpheme class includes about a half dozen or so readily recognized words:

五 /ɣ/ "five" 吩 /ɦ/ "centipede"

伍 /ɣ/ "column" or "surname" 誤 /ɦ/ "mistake"

午 /ɣ/ "noon" 悟 /ɦ/ "awake"

呉 /ɦ/ "surname"

Only the four words on the left occur with any frequency in the spoken language, while the three words on the right belong primarily to written Chinese. I base this statement on my transcriptions of the spontaneous speech sections of 33 interviews. In 31 of 33 interviews the velar or bilabial nasal occurred at least once. In 27 interviews only the word "five" occurred, in two only the word "noon," and in two others both these words occurred. Although the two surnames did not occur in this section of the interviews, it can be assumed that since there are many people in Hong Kong with these two surnames, the two morphemes must occur in speech with relatively high frequency. As a result of the change to the bilabial nasal, this class has been gaining morpheme members at the expense of the velar nasal class which is in the process of disappearing altogether from Hong Kong Cantonese.

In attempting to discover the phonetic origin of this sound change, I found two sources of evidence which indicate that the change began first with the word "five" because it acquired an alternative bilabial phonetic variant. In looking through Cantonese dictionaries, syllabaries, and studies of Cantonese phonology published over the last 40 years, I found only one dictionary, published in 1977, which records both the syllabic velar nasal and the syllabic bilabial nasal pronunciations for "five" (Lau 1977:538). No other words belonging to the velar nasal class are so listed. Since dictionaries tend to recognize a new pronunciation after a lapse of years or decades from the time of its introduction into a language, this dictionary entry of the bilabial nasal variant for "five" suggests that the change may be of fairly recent origin. The second source of evidence for "five" comes from the direct observation of speakers' linguistic behavior. In transcribing the spontaneous speech sections of interviews, I noticed that informants who regard the syllabic velar nasal as the correct form, and used it exclusively in the formal contexts of the interview,
nevertheless sometimes produced the bilabial nasal in particular phonetic environments. When "five" co-occurs with neighboring labial segments, it often assimilated to the bilabial nasal as the result of progressive and regressive labial assimilation. The following instances of labial assimilation for "five" were observed:

五文 /män/ "five dollars"
十 五 /sáp ŋ/ "fifteen"
五 百 /păng/ "five hundred"
五 十 /săp/ "fifty"
五 頭 /jīp/ "five pages"
五 年班 /nǐn pān/ "fifth year (in school)"

That this sound change should begin with the high frequency word "five" is not unusual: it confirms an observation made almost a hundred years ago by Hugo Schuchardt, a 19th Century critic of the neogrammarians, who pointed out that "[t]he greater or lesser frequency in the use of individual words . . . is of great importance . . . for their phonetic transformation . . . Very rarely used words remain behind, very frequently used words take the lead . . ." (Mohr 1971:23). Over the last few years various studies by lexical diffusionists have recognized the importance of word frequency as a factor in sound change, i.e., the most frequently occurring words are typically the ones first affected by the sound change. Among these studies are Hooper (1976) schwa deletion in English; Phillips (1980) raising of /a/ before nasals in Old English; Ogura (1982) vowel shortening in Modern English; and Mohr (1980) development of early Modern English [ʊ] to [u], [U], and [ʌ].

Before analyzing the second dimension of the sound change to syllabic bilabial nasal, i.e., the lexical dimension, the spread of the change from one morpheme to another within the morpheme class, it is better suited to our purpose to first focus attention on the social dimension of the change, i.e., its distribution across subgroups of the linguistic sample. On the basis of their linguistic behavior with respect to the change, the sample can be subdivided into three groups: first, speakers who have not undergone any change and have only the syllabic velar nasal for all morphemes of the Standard Cantonese syllabic velar nasal word class in the formal section of the interview; second, speakers who show variation between the two forms of the nasal for one or more words of the word class; and third, speakers who have undergone a complete change to the syllabic bilabial nasal for all lexical items in the word class.
For this discussion, we will only consider the responses of subjects in the formal section of the interview, reading the story and the word lists. Figure 1 shows how subjects are distributed in these three groups according to sex, age, and the percent of the bilabial nasal that occurred. In the first group there are 24 subjects who use only the syllabic velar nasal. As can be seen, this group consists primarily of older members of the sample: 14 men and women aged 44 and over belong to this group. Four men between ages 34 and 40 are in this group as well, but not women of the comparable age group, who show variation between the two forms of the syllabic nasal. The remaining four men and two women between the ages of 20 and 28 in this group have received between 12 and 16 years of formal schooling: this suggests they are found here because their high level of education has made them more familiar with the standard pronunciation.

The second group includes 39 subjects who use both the syllabic velar nasal and the syllabic bilabial nasal. The scattergram clearly shows that women between the ages of 16 and 42 use a higher percentage of the bilabial nasal than most men of the same age group who also have variation. For this group educational level is not a sufficient predictor of linguistic behavior, since female high school teachers who have the highest educational level may use a higher percentage of the bilabial nasal than less-educated female office workers of the same age group. The men in this group between the ages of 23 and 30 tend to be more conservative in their use of the bilabial nasal than women of the same age group even though the men are less educated. For this group of six men the percent of the bilabial nasal ranges from 20% to 80% with an average of 38%; their years of schooling range from 4 to 15 with an average of 10.3. For 12 women of the same age group the percent of the bilabial nasal ranges from a low of 6% to a high of 94% with an average of 43%; years of schooling range from 9 to 16 with an average of 12.7. This tendency for Cantonese-speaking young women to lead in the use of the innovative form in the context of formal, i.e., careful, speech contrasts remarkably with Labov's findings. According to Labov, "... women are more sensitive than men to overt sociolinguistic values. Even when women use the most extreme forms of an advancing sociolinguistic variable in their casual speech . . . , they correct more sharply than men in formal contexts" (Labov 1972b:243).

The third group is made up of 12 speakers for whom there is a complete change to the syllabic bilabial nasal. This group includes 11 men and one woman. The scattergram indicates that all but one of the male subjects are
Figure 1. % /m/ in Story and Word Lists by Age and Sex of Subjects
between the ages of 15 and 21. The occupations represented by this group include clerk, construction worker, barber, student; this group has completed an average of 9.8 years of formal schooling. The 27 year-old man with a university degree and the 35 year-old housewife were both born in Canton and moved to Hong Kong at an early age, the man at age 6 and the woman at age 10. Their place of birth may be a factor in making their use of the variable more advanced than other subjects of similar age and social background.

The lexical dimension of this sound change to the bilabial nasal is concerned with how the change has affected the three common morphemes of the word class, "five," "noon," and "surname [with the low falling tone]." Are these three words developing with different or similar schedules of change? The evidence to follow indicates their schedules are not the same. Obviously, those speakers who have no variation in their speech provide little help to us in determining how the sound change has been affecting these three morphemes. Consequently, we concentrate our attention on the second group of speakers described earlier who have variation. Subjects pronounced the three words in three word lists with each word occurring at least twice in the three lists. There were 11 patterns of linguistic variation with respect to the three words, as shown in Table 2 below. By computing the number of informants who have the velar nasal, the bilabial nasal, or variation between the two for each of the three words, we can see how the trajectories of change for the three words vary with one another. This situation is vividly represented in Figure 2, % Change to /m/ of Three SC /ŋ/-Class Morphemes for Word List Style. Out of the 39 subjects 13 or 33% show a complete change to the bilabial nasal for "five"; ten subjects or 26% use the bilabial nasal for "noon"; but only five subjects or 13% have it for the "surname." Seventeen subjects or 44% have variation between the two forms of the syllabic nasal for "five"; 11 or 28% show variation for "noon"; and 16 or 41% do the same for the "surname." At the same time, 9 subjects or 23% show no variation for "five", having only the syllabic velar nasal; 18 subjects or 46% give the standard form for "noon"; and 18 subjects or 46% use it for the "surname." This data and that presented earlier for the phonetic origin of /m/ arising from labial assimilation strongly support the conclusion that the change to /m/ began first with "five", which has led the way for the /ŋ/-class morphemes in the change to /m/ since more speakers use /m/ for "five" than for "noon" or "surname."

This sociolinguistic microstudy of /ŋ/ → /m/ indicates that the mechanism for implementing this change still
Table 2.

<table>
<thead>
<tr>
<th>Number of speakers with this pattern</th>
<th>五 &quot;five&quot;</th>
<th>午 &quot;noon&quot;</th>
<th>吳 &quot;surname&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>ɲ</td>
<td>ɲ</td>
<td>ɲ</td>
</tr>
<tr>
<td>4</td>
<td>ɱ</td>
<td>ɱ</td>
<td>ɲ</td>
</tr>
<tr>
<td>4</td>
<td>ɱ</td>
<td>ɱ</td>
<td>ɲ</td>
</tr>
<tr>
<td>2</td>
<td>ɱ</td>
<td>ɲ/ɱ</td>
<td>ɲ</td>
</tr>
<tr>
<td>3</td>
<td>ɱ</td>
<td>ɲ/ɱ</td>
<td>ɲ</td>
</tr>
<tr>
<td>4</td>
<td>ɲ/ɱ</td>
<td>ɲ</td>
<td>ɲ</td>
</tr>
<tr>
<td>5</td>
<td>ɲ/ɱ</td>
<td>ɲ</td>
<td>ɲ</td>
</tr>
<tr>
<td>2</td>
<td>ɲ/ɱ</td>
<td>ɲ</td>
<td>ɲ</td>
</tr>
<tr>
<td>1</td>
<td>ɲ/ɱ</td>
<td>ɲ/ɱ</td>
<td>ɲ</td>
</tr>
<tr>
<td>4</td>
<td>ɲ/ɱ</td>
<td>ɲ/ɱ</td>
<td>ɲ</td>
</tr>
<tr>
<td>1</td>
<td>ɲ/ɱ</td>
<td>ɲ/ɱ</td>
<td>ɲ</td>
</tr>
</tbody>
</table>

Figure 2.
% Change to /ɱ/ of Three Standard Cantonese /ɲ/-Class Morphemes for Word List Style (Subjects with Variation in Story and/or Word Lists).
in progress is lexical diffusion. It also confirms Labov's recent statement that "[w]here lexical diffusion does occur, it is to be found most often in changes across subsystems . . . and changes of place of articulation of consonants" (Labov 1981:303). Close observation of individual speakers in the Hong Kong speech community strongly suggests that this change first began with the word "five", which developed the syllabic bilabial nasal as a phonetic variant as the result of labial assimilation. Contrary to Hockett's assertion, this study demonstrates that sound change in progress is not too slow or too fast to be directly observed (Hockett 1958:444-45). Analysis of the sociolinguistic sample reveals that this change has run its course, i.e., is a completed one, for many young men in their late teens and early 20's. Men and women in their 20's show considerable variation between the standard form and the variant, with young women more advanced in their use of the bilabial nasal than men of their age group. Older male speakers are relatively unaffected by the change, although variation extends to women in their 30's and early 40's. In addition, for speakers who have variation, the word "five" is more advanced in its development toward the syllabic bilabial nasal than the words "noon" or the "surname [with the low falling tone]."

Acknowledgment

The research reported in this paper was carried out during two years of fieldwork in Hong Kong and was supported by a U.S. Department of State Teaching Fellowship at the Chinese University of Hong Kong (1979-80) and a U.S. Department of Education Fulbright-Hays Doctoral Dissertation Fellowship (1980-81). During 1980-81 while selecting and interviewing the study's sample, I was a Visiting Scholar in the Centre of Asian Studies, University of Hong Kong, and I would like to thank the Centre's staff for the generous assistance they provided me.

Notes

1. The change /ŋ/ → /m/ was first mentioned in Bauer 1979. Other sound changes in progress in Hong Kong Cantonese include the following: /kw-/ → /k-\c(C); /n-/ → /l-/; /ŋ-/ → /ŋ-/+; /ŋ-/ → /ŋ-/; ʰŋ- → /n/; /w- → /n-/; /k'/ → /h-/ for ṦE "he."

2. Two female subjects, aged 42 and 47, never attended school and declined to read the written instruments saying they could not read. Their families had not sent them to school because of the belief that girls did not need an education.
3. For the two women unable to read, their use of the variable was determined by other means, viz., counting to ten (the variable for "five" occurs once), naming ten pieces of Hong Kong money (three of which elicit the variable for "five"), and using the variable in their spontaneous speech.

4. Cantonese tone marks used in this paper indicate tones as follows:

- High Level/High Falling: ✂️ 55 ✂️
- Mid Rising: ✡️ 35 ✡️
- Mid Level: ❆️ 33 ❆️
- Low Falling: ❁ 21 ❁
- Low Rising: ❂ 12 ❂
- Low Level: ✤ 22 ✤

Bibliography


Labov, William. 1966b. The linguistic variable as a structural unit, ERIC Report #010871.


Mohr, Burckhard. 1980. Word frequency and phonological change, ms.

Mohr, Burckhard. 1971. Hugo Schuchardt: on phonetic laws against the neogrammarians, Project on Linguistic Analysis Reports, Second Series, No. 12, University of California, Berkeley.

Ogura, Mieko. 1982. Word frequency and lexical diffusion in ModE shortening, ms.


Neologisms in 'word salad':
How schizophrenic speakers make themselves misunderstood\textsuperscript{1,2}
Kathie Carpenter
Stanford University

Schizophrenic Language
Confusing language has been considered an archetypical symptom of schizophrenia ever since Bleuler named the disease in 1911. Even a short conversation with a thought-disordered schizophrenic is sufficient to demonstrate that, communicatively, something has gone awry:

BC: Lukewarm is real free, hot or cold-warm one is false.
KC: Lukewarm is false?
BC: Lukewarm is real in a manhood. Hot isn't in a man, a woman uses cold. One (unint.) The Bible says, Revelation says, 'you're neither hot or cold, lukewarm.' That's the rewritten—wrote down all that suffer stuff an' all the plagues. I know who it was -- Michael.
KC: Michael?
BC: Well, this friend of mine. He calls himself the arcmain. I call him the arcmain. He didn't know who he was. Didn't keep reminding himself. He fell. Jim James took over. He's more, ah, we call adequaa. He knows Jesse James.
KC: He's more what?
BC: Both of 'em are. Our family tree to Jesse James. My family quest took me to the fill, boils me down to the name of Bodeen, which was Jesse James Bodeen. I think, now how the hell's that? I started back in 1948. I didn't live in 1986. But somehow, it's all coming back. Reminds me that he did. Because they kick me an' shoot, y'know, an' still remember a gun, y'know, and it comes back to me.

The exact linguistic reasons for the incoherence of linguistic speech, however, remain largely unelucidated. Traditional psychiatry (cf. Gerson, Benson & Frazier, 1964) assumes that schizophrenic language is linguistically normal, but it is normal language used to talk about bizarre thoughts. Thus, it is held that schizophrenic speech is confusing because schizophrenic thought is confused, and that language per se is not affected. Alternatively, it has been claimed that the deviance of schizophrenic speech is caused by an "intermittent aphasia" that "disrupts the ability to match semantic features with sound strings comprising actual lexical items in the language" (Chaika, 1974). In many ways, the speech of thought-disordered speakers is similar to that of jargonaphasics, and it is possible that a real language impairment is involved, similar to language impairments associated with focal brain damage. It has also been proposed that the speech of schizophrenics, while correct on the level of lexical retrieval, of morphology and of syntax, breaks down on the level of discourse organization (Rochester & Martin, 1979). Schizophrenic speakers, it is claimed, are unwilling or unable to take the listener's communicative needs into account. Each of these possibilities places the communicative failure at a different level,
so they are not mutually exclusive. Any or all of them may prove to
be the explanation for the perplexity of the schizophrenic's conver-
sational partner. Such issues cannot be resolved in the present
study, but they are presented to provide a glimpse of the "big picture"
of which neologisms form an important part.

Neologisms of Schizophrenic Language

Neologisms are often invoked as symptoms of the pathological na-
ture of schizophrenic speech. It is not clear, however, why neologisms
per se should be considered pathological. All speakers coin words.
Listeners usually understand such coinages, and indeed often do not
recognize them as novel. The ability to create and to comprehend un-
familiar words gives great power and flexibility to human language.
It is important, therefore, to take a closer look at the neologisms
of schizophrenic speech, and determine the ways in which they differ
from everyday word coinages. Are schizophrenic neologisms morpholo-
gically deviant? Are they linguistically well-formed, but used to
express meanings that surprise listeners? Or are they confusing be-
cause they are coined in contexts that provide the listener with in-
sufficient information to compute an acceptable meaning?

In this paper, I will show that different neologisms are deviant
in different ways. Thus, each of the preceding questions can be
answered affirmatively for a subset of the corpus. Some schizophrenic
neologisms consist of deviant combinations of morphemes (about 1/3,
listed under "#" in Table 1.) Others, however, appear to be struc-
turally well-formed, but have meanings that seem very strange to lis-
teners. The extent of this, however, is difficult to determine, be-
cause most of the neologisms occur in contexts that are already so
confusing that an intended meaning cannot be computed with any cer-
tainty. Each of these problems contributes to the oddness of schizo-
phrenic neologisms, and to the incoherence of schizophrenic speech.

Table 1. Word-formation devices used

<table>
<thead>
<tr>
<th>Device</th>
<th>#</th>
<th>*</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blending</td>
<td>37</td>
<td>NA</td>
<td>&quot;strange &amp; more materious&quot; (mysterious + material)(^1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(Fr) scorpinant (scorpion + piquant (stinging))(^7)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>neuralgiers (neuralgia + Algiers)(^4)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(Fr) voisuseuses (voisines (neighbors) + fem.voyeers)(^7)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>carstegial (carriage + vestigial?)(^8)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>eyecudescence (eye + ?? + incandescence?)(^1)</td>
</tr>
<tr>
<td>Compounds</td>
<td>35</td>
<td>2</td>
<td>&quot;a sequence-module to a zero-sequence-module&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>&quot;I would have to have a shamrock-cave repave&quot;(^1)</td>
</tr>
<tr>
<td>Prefixed</td>
<td>13</td>
<td></td>
<td>&quot;the semi-centrifugal fluids of an inkpen&quot;(^1)</td>
</tr>
<tr>
<td>Suffixed</td>
<td>23</td>
<td></td>
<td>&quot;Catholically insinuating pains&quot;(^4)</td>
</tr>
<tr>
<td>Conversion</td>
<td>5</td>
<td>1</td>
<td>blued off (because a letter returned marked in blue)(^4)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>&quot;The devil seeing you becomes i red&quot;(^5)</td>
</tr>
<tr>
<td>Unknown</td>
<td>4</td>
<td>NA</td>
<td>&quot;He still had (fe(^d)) with (tekrainz)(^1)</td>
</tr>
<tr>
<td>Clipping</td>
<td>2</td>
<td>2</td>
<td>&quot;He's more, ah, we call adequa(^2)</td>
</tr>
</tbody>
</table>
| Rhyme re-
| duplic.  | 1 | 0  | "I like to be abberscattered"\(^2\)                                   |

# = number of times device applied
* = number of times device applied incorrectly

120 25 ..... 25/79 deviant (excluding blends & unknowns)
To obtain these figures, I analyzed a corpus of 109 neologisms. Twenty-nine of them came from transcripts of half-hour conversations with two patients diagnosed as thought-disordered schizophrenics, whom I shall call AB and BC. The other 80 neologisms were gleaned from other reports in the literature. (The number of uses of word-formation devices is greater than the number of neologisms because several were formed by application of more than one device.)

The word-formation devices used by schizophrenic speakers are the same devices used in normal coinages. There are, however, some interesting quantitative differences. Blending, which is relatively rare in English word-formation (Marchand, 1969) is the most frequently used way of constructing neologisms in this corpus. Conversion or zero-derivation, on the other hand, which is generally very common, (Clark & Clark, 1979) is quite uncommon in this corpus. These differences are striking, and merit some discussion. It is possible that they reflect a bias in the observer, rather than in the speaker. Blends, being rare, may strike listeners as more novel than conversions, which are familiar forms used in novel ways. This is probably an insufficient explanation, however, because in many cases it is the meaning, and not the form, which draws the listener's attention to a neologism.

Noted after each device is the number of times it was used incorrectly, from a purely formal point of view. I have not listed the number of times neologisms were used to express bizarre meanings or the number of times that a meaning could not be computed on the basis of context, because there are no good objective criteria for identifying such deviant uses of word-formation devices. It is extremely difficult to assess even the structural well-formedness of a word on the basis of structure alone. A simple illustration can demonstrate the problem, which extends to the entire corpus. Most of the compound neologisms were simple nominal compounds, such as those in "the relativity of a sequence-module to a zero-sequence module!" Only two out of 35 were unambiguously deviant. Both of these were incorrect phrasal compounds, such as he-was-rightly, used by a patient who said she'd been "he-was-rightly confined," meaning that the person who had confind her felt that he had been right in doing so. The other compounds appear to be correct, but only if the speaker intended the same modifier-head relationship that we as listeners assume. That is, sequence-module and zero-sequence-module are correct nominal compounds only if they refer to a kind of module, and not to a kind of sequence. The context gives no clue as to which is intended. Either (or neither!) makes sense. Without access to the speaker's intended meaning, we can only guess about the structural well-formedness of most of the neologisms. With that caveat in mind, it will be helpful to go over in detail some of the ways in which particular neologisms were deviant.

Delusional Meanings

The world of the schizophrenic is marked by hallucinations, delusions and perceptual distortions. Most people do not need words to describe these experiences, which are alien to them. For this reason, the English lexicon is inadequate for the schizophrenic speaker who wishes to talk about such things. Auditory hallucinations ("hearing voices"), for example, trouble many schizophrenics, and a special
vocabulary is needed to talk about them. The patient who claimed the voices were brought to her by an "aero-telephone," the latest invention," was using English word-formation rules productively and correctly. However, the neologism strikes listeners as odd because the meaning is odd. In the same way, heart-voices, coined by another speaker who perceived the voices as emanating from his own body, is a well-formed coinage that describes a bizarre concept. To snortie, or to "talk through the walls," is similarly possible only in the patient's delusions. Carstejgial defined by the patient as "birth out of darkness from a broken baby carriage" (apparently a blend between carriage and vestigial), is an unusual amalgamation of many ideas included in one lexical item. Fluids that are only partially centrifugal ("semi-centrifugal fluids") and a cycle with six and one-half gears ("an ordinary 6 1/2-speed") are also concepts for which there is little need in the conventional lexicon.

Morphological Anomalies

As seen in Table 1, about 1/3 of the neologisms were deviant in form. Blends were excluded from this count, because there are no good criteria for determining whether a blend is well-formed or not. Most of the deviations from correct morphological rule application involved conventional stems plus conventional morphemes combined in various unconventional ways. In particular, there was affixation to a stem of inappropriate form-class, inappropriate composition or inappropriate phonology, overextension of a device which is productive only within a limited domain, and an unmotivated stem change. In addition, many of the morphemes used to construct the neologisms came from unconventional sources, such as prior utterances, rather than from a "dictionary-like" association between the morpheme and a discernible meaning. Following are examples and explanations of each type of anomaly.

Some neologisms were anomalous because they were composed of prefixes and suffixes attached to stems of the wrong form-class. Evering in "Because it is a sort of hydraulic evening," is incorrectly formed because -ing does not productively attach to adverbs. Deconvoltage in "the relativity of deconvoltage and high convoltage," is inappropriately formed because de- properly attaches to denominal verbs (e.g., debutton) or to verbs of process (e.g., desalinate), and to the deverbal nouns they give rise to (e.g., debuttong, desalination.) Voltage, a noun, should not be prefixed with de- without a verbalizing suffix such as -ing. Hydrasee in "through the roots of the hair and hydrasee," is anomalous because hydra- only attaches to nouns or to verbs derived from nouns (e.g., hydrogenate.) 4 Combustronability in "the process of combustronability," is deviant because -ability is normally added to verbal bases, and -tron is nominal (e.g., cyclotron, electron.) In productive usage (disregarding such frozen forms as bicycle which have entered the everyday lexicon) bi- prefixes technical adjectives and adverbs of time, so bipen in "a bipen that holds the semi-centrifugal fluids of an inkpen," is incorrect. In addition, both bipen and hydrasee are anomalous because bi- and hydra- are both technical in productive usage. They do not normally combine with everyday words like see and pen because such usage is an inappropriate mingling of registers. However, as will be discussed later, bipen is so similar in phonological shape to...
biplane, one of the few everyday words containing bi-, that blending
seems to be a more likely source for this neologism than derivation.

Within a form-class, structural constraints can define the class
of words that may combine with particular affixes. For example, in
English the adverbial suffix -ly does not ordinarily combine with
compound adjectives (except those of the type heart-rending), so
skintightly, in "Something that I can skintightly form," and he-was-
rightly are morphological anomalies for this reason. Structural
considerations can also govern which of several allomorphs to use.
According to Aronoff's (1976) formulation of the -tion, -ation, -ion
series, -trip is not one of the bases with which -tion productively
combines. Cause-a-tripion, in "the relativity of a cause-a-tripion," should contain the unrestricted allomorph -ation. Factuated, in "all
formerly stated, not necessarily factuated," involves overextension
of a pattern of only limited productivity. Although actual/actuated
and equal/equated represent a real alternation, factuated is an unac-
ceptable overextension of this very restricted pattern. Recluded,
apparently a participial form of recluse in "Everything is cool, pat,
recluded," is an example of an unmotivated stem change, perhaps on
analogy with persuasive/persuaded. However, blending is a likely
source for this neologism as well, since occluded and secluded are
similar in both form and meaning.

Phrasal compounds like he-was-rightly have already been cited as
examples of incorrect application of regular word-formation rules.
Clipping was also susceptible to misuse. Clipping typically involves
loss of a syllable or more, and to clip a single final consonant in
forming adequa2 from adequate is highly unusual. Clipping typically
does not change meaning, but only register (e.g., mathematics/math
varies in degree of formality) or connotation (clipped forms "feel"
more familiar or affectionate.) The clipping of protection to form
tection, meaning "protection in the good sense" involves a more radia-
cal meaning change than clipping does conventionally.

Many of the elements of which the neologisms were composed ap-
ppeared to have been chosen, not on the basis of an intended meaning,
but rather to fit into certain repeatedly used patterns. Many schizo-
phrenics have "predilection themes" that intrude inappropriately on
discourse of any topic. For example, AB had recurring delusions in-
volving robotization and electronics. In a simple naming task, he
called a ballpoint pen "a bipen, a bipen that holds the semi-centri-
fugal fluids of an inkpen." His obsession with technology led him to
answer an everyday question with a barrage of pseudo-technical jargon.
The elements of most of his neologisms were consistent with this theme.
"Predilection morphemes" such as cath-, -on, volt-, trip, bi-, ang-
and semi- all suggest an overall thematic coherence, although a single
topic was not discernable.

Entire phrases were sometimes used as single words, such as
cause-a-tripion and he-was-rightly. BC once said "Everything is cool,
pat, recluded," and a few minutes later produced the neologism padre-
cluded: A French-speaking patient of Lecours & Vanier-Clement said
"Vous êtes arrive à capital" (you have arrived at capital), and pro-
duced the neologism acapital: in a completely different context. A
patient of Bleuler's reported that she used wuttas to mean doves, and
a likely source is the common phrase what a.
Many schizophrenic speakers have "routines" that they use repeatedly. For example, AB used the routine "the relativity of X and -X," in two instances of which, neologisms occurred: "the relativity of deconvoltage and high convoltage" and "the relativity of a sequence-module to a zero-sequence module." These pairs of near-opposites may have been coined, not because they refer to a specific intended meaning, but because they fit into slots in a favored routine. The tendency to juxtapose negatives, often at the expense of correctness of form and clarity of meaning, is shared by many schizophrenics. Bleuler's patient spoke of lie-truths, the "lies which we present as the truth," and Lecours & Vanier-Clement report ouvre-ferme, pair-impair, hiver-été, fin-debut and jour-nuit (open-close, even-odd, winter-summer, end-beginning and day-night.)

Pragmatic Problems

The neologisms pose pragmatic problems for the listener, as well as morphological ones. One of the constraints on conventional word-formation is that the coinage of otherwise well-formed words can be blocked by pre-existing words in the lexicon (Clark & Clark, 1979.) We do not coin words to express a certain meaning if there is already a word with that meaning, and we do not create a new form/meaning match if the form conventionally expresses a completely different meaning. The coinage of leadered, then, to mean "action that a leader performed," should be prevented by the existence of led which already has that meaning. However, here again the correctness of the form depends crucially on the intended meaning. The speaker, BC, may not have meant to say "action that a leader performed," but rather something different. The context, in which leadered appeared to mean "messed up ... scattered around," supports this suggestion. In fact, leadered in this context appears to be antonymous with led. On the other hand, apartment, meaning "thing apart," should be blocked by the existence of apartment meaning "a set of rooms." The poignant statement "As a child, I was already an apartment" accurately expresses the isolation felt by many schizophrenics, but is confusing to the listener because apartment conventionally is assigned a different sense.

Listeners are usually safe in assuming that word meanings remain stable from situation to situation. But the meanings of many morphemes in the corpus seemed arbitrarily different from their conventional meanings. The meanings of many of the neologisms cannot be derived from the meanings of the component parts. Leadered, for example, used with a meaning antonymous with "action that a leader performed," shows idiosyncratic semantic assignment to the component parts leader + ed. One or both of them has been assigned the meaning of "opposite of," in addition to the conventional meaning. Similarly, the removal of pro-, which conventionally means "in favor of," should not also remove all the negative aspects of protection. The conventional meanings of snort and the diminutive suffix -tte in no way predict that the meaning of snorttie will be "to talk through the walls."

A new word can bewilder listeners if the speaker is judged not to have "authority" to coin such a form. For example, -on is a productive suffix in English, with the meaning "elemental particle." It is most frequently used to name new subatomic particles, by the scientists who discover them. It is also used to mimic scientific expertise in the special domain of science fiction, as in the naming of
Superman's home planet Krypton. The phrases "...peeron flow of the volt it generated...at the same time as the torron flow...what he did with the cathon voltage...and without the trecon..." confront the listener with a dilemma. If spoken by a particle physicist, these uses of -on would be compatible with our criteria for assigning its conventional meaning. We would comfortably assume that the neologisms named the four latest subatomic particles, of which we had been previously unaware. However, the same words, if spoken by someone we have no reason to assume know more about science than we do, seem much less likely to fit with the conventional meaning. Listeners are presented with two unsatisfactory alternatives: either they assign the conventional meaning, thereby granting the speaker scientific expertise that he clearly does not possess, or no real-world referent is possible, because the speaker is constructing words from the realm of science fiction.

The most glaring pragmatic problem facing the listener who strives to decode these neologisms is not a property of the neologisms themselves. Rather, it is the contexts in which they appear. For example, although deconvoltaging is incorrect because of a verbal prefix on a nominal base, remedying the structural problem with compatible base and prefix does not render the meaning any more clear. Neither "honestly connectable to the relativity of deconvoltaging" or "honestly connectable to the relativity of nonconvoltage" is any more helpful than was the original in providing the speaker's intended meaning. In the same way, "different relativities allowed within the coangfields of the relativity of a cause-a-tripation" is no more meaningful than was cause-a-tripation. "Something that I can form in a skintight manner" steers the listener no closer to the speaker's intended meaning than did skintightly.

Many of the neologisms appear in contexts in which it would be hard for any word to make sense. Try to imagine, for example, words that fit meaningfully into the following contexts:

If I could really duplicate the life processes, I see what's data ________.
The one that is contracting at the speed of no harmony the vis- ________.
No water, no more would drain the voltage of the proper current ________ flow.

Clearly, the problem confronting the listener who attempts to decode, respectively, corpuller, eyecudescence, and torron, is not just one of deviant morphology or bizarre thought content. These neologisms stick out because the speaker has failed to provide the listener with a context that makes their meaning clear, and words that have no meaning always stand out as odd. Note, however, that although these contexts do not cohere around any discernable topic, a special kind of coherence is nonetheless present. In each case, an intermediary word, associated in meaning with the context and related in form to the neologism, can be posited: data...(corpus)...corpuller; visional... (eye)...eyecudescence; water...(torrent)...torron flow.

Choice of word-formation devices affects the accessibility of meaning of coinages. The meanings of blends and compounds, both highly
favored by schizophrenic speakers, are very contextually dependent. A shamrock-cave, for example, could be a cave where shamrocks grow, a cave that is shaped like a shamrock or a cave that is associated in an infinite number of other possible ways with shamrocks, and the relationship of shamrock to cave could vary from context to context. The use of contextually dependent devices in hopelessly obscure contexts renders neologisms opaque. The contribution that contextually dependent word-formation devices make to the overall vagueness of schizophrenic speech is probably greater than suggested in Table 1, because the number of blends indicated there is overly conservative. Many of the apparent morphological misderivations can be reanalyzed as blends. For example, cause-a-tription is so related in form and meaning to prescription, which is a very important notion to a repeatedly hospitalized schizophrenic, that contamination is very likely. Recluded and biplane have already been mentioned as likely candidates for formation by blending.

Discussion

Schizophrenic neologisms differ from most word coinages in structural, semantic and pragmatic ways. While structural abnormalities and bizarre meanings contribute to the listener's perplexity over schizophrenic neologisms, an even greater contribution is made by the overall organization of schizophrenic speech. Most normal innovations (and indeed, most speech errors) go unnoticed because they appear in contexts that provide many clues to the intended meaning. Contextual information normally allows listeners to compute a meaning, and words which are meaningful do not usually strike listeners as odd.

The inability or unwillingness of schizophrenic speakers to adequately account for the needs of the addressee is reflected in other aspects of their language use. They do not, for example, pause or "set off" their neologisms with special intonation to cue the listener to pay special attention or to allow themselves a moment in which to gauge whether the listener is "with them." Their intonation could be described as an "excited monotone," not at all amenable to interruption or interaction. Often schizophrenic speakers do not respond at all to queries, interruptions or other obvious signs of lack of comprehension.

It may seem both contradictory and unenlightening to claim that the problem with schizophrenic neologisms is that some are morphologically anomalous, others are well-formed but have strange meanings, and still others are coined in pragmatically inappropriate contexts. Such a description, while accurate, lacks unity, and does not explain what schizophrenics are doing with language. However, it may be misleading to talk about "schizophrenic language" in the same way one talks of French or English. Schizophrenics form a very heterogeneous population, and schizophrenia, like cancer, may be not one disease but many. In the past, work has focused on the ways in which "schizophrenic language" differs from "normal language," and this perspective may be the source of many of the contradictions in the literature. In the future, detailed linguistic analyses may prove to be of great value in differentiating different patient populations.

In view of the inaccessibility of the schizophrenic speaker's intended meaning, the possibility that there is no intended referential meaning must be considered. Many qualities, including overuse,
connotative rather than topical coherence, absence of anticipatory (syntagmatic) blends and anticipatory speech errors, tendency to use routines and prefabricated sequences, and unvarying intonation, are compatible with the proposal that thought-disordered schizophrenics are using language non-referentially. However, the speech of young children exhibits many of the same patterns and many of the same pragmatic problems found in schizophrenic speech. Young children often confuse their addressees because they have not yet mastered the complex task of taking the listener's needs into account when they organize their discourse. Thus, the confusing qualities of schizophrenic speech are also compatible with the proposal that thought-disordered schizophrenics lack the concentration to organize their speech with another's needs in mind. Further research, including detailed comparisons of schizophrenics' with children's discourse and analyses of schizophrenics' use of conventions for presenting assumed versus new information, should be directed towards resolving how schizophrenic speech is organized from the speaker's point of view, and not just how it is confusing from the listener's point of view.  

Notes

1. I would like to thank Eve Clark, Sophia Cohen, Susan Gelman, Barbara Hecht, Will Leben, Kurt Queller and Elizabeth Traugott for helpful discussion and suggestions on this project.

2. A more descriptively apt title was coined by James D. McCawley, who suggested that this paper be renamed "Neologisms in crunchy peanut butter word spread." While this term accurately reflects the heterogeneity and intermittent nature of schizophrenic communication breakdowns, 'word salad' is conventionally used in the medical literature.

3. In the psychiatric literature, thought-disordered schizophrenics are the subgroup of schizophrenic patients with the most confusing language.

4. Cameron, who reported this neologism, interpreted it as hydrasee, not hydrasea or hydracy, because it appeared in a discussion of color and blindness.

5. I am grateful to Sue Foster, who pointed out to me many of the striking similarities between schizophrenic and child discourse, and to Leonard Talmy, who suggested the analysis of neologisms' positions within sentences as a means of getting at the speakers' intentions.

Sources of Neologisms

1 & 2, from patients AB and BC, respectively

3-10, from references, numbered accordingly

References

3 Arieti, Silvano 1966
American Handbook of Psych., Vol.3
Basic Books; New York

Aronoff, Mark 1976
Word Formation in Generative Grammar
MIT Press; Cambridge, Mass.

4 Bleuler, Eugen 1911
Dementia Praecox or the Group of Schizophrenias
Translated by Zinken, Joseph 1950
International University Press; New York
5 Cameron, Norman 1938
Reasoning, Regression and Communication in Schizophrenia
Psychological Review Company; Columbus, Ohio

6 Chaika, Elaine 1974
A linguist looks at schizophrenic language
Brain & Language 3:257-276

Clark, Eve V. and Herb H. Clark
When nouns surface as verbs
Language 55:768-811

7 Ferdière, G. 1957
Note préliminaires sur les "portmanteau words" de Lewis Carrol
dans la schizophrenie
Acta Neurologica Belgica 57:993

8 Forrest, David 1969
New words and neologisms
Psychiatry 32:44-73

Gerson, Stephen, D.F. Benson & S.H. Frazier 1964
Diagnosis: schizophrenia vs. posterior aphasia
British Journal of Psychiatry 110:353-364

9 Lecours, André Roch & Marie Vanier-Clément 1976
Schizophrenia and jargonaphasia: a comparative description
Brain & Language 3:516-565

Marchand, Hans 1969
The Categories and Types of Present-day English Word-formation
C.H.Beck'sche Verlagshandlung

Rochester, Sherry & J.R. Martin 1979
Crazy Talk
Plenum Press; New York

10 Vetter, H.J.
Language Behavior in Schizophrenia
Thomas; Springfield, Ill.
In recent years, only few linguists have tapped the rich resources of folklore. Doing so, it appears, would have soiled the purity of the linguistic approach. In my view, however, linguistics is in need of a re-definition of its field in broader, holistic terms. Re-definition is the appropriate word here. After all, a broad holistic conception of linguistics is not something new; it has simply been out of fashion. Up to the first part of our century, a holistic approach to language studies could be taken for granted. A unified perspective on linguistics, anthropology, and folklore was present in Herder's work and - in the USA - still in that of Sapir. It was only after the split of linguistics and anthropology - for which in the USA Bloomfield mostly has to take the blame - that linguistics seemed less and less interested in the socio-cultural roots of language. The "assertion and pursuit of disciplinary autonomy on the part of linguistics", Baumann says (1977:15), contributed to the undoing of the integrated approach in modern times.

One important conceptual framework for the attempt to bring about a re-definition of linguistics, anthropology, and folklore is the ethnography of speaking or ethnography of communication. Sherzer (1977:44) defines the ethnography of speaking as "a description in cultural terms of the patterned uses of language and speech in a particular group, institution, community, or society". Such patterned uses of language that are connected to groups, institutions, or communities can be considered language varieties. They certainly fall under the heading of what I call typolects. When speaking of language varieties, i.e., I do not have in mind examples of linguistic variation found within the speech even of one person or detectable if the speech behavior of two or more persons in the same setting are compared. I am here not concerned with
variation in language on the level of the individual and idiolectal, but on the level of the supra-individual, the typical; with language that is group or situation or community specific, in short, with typolects. Terminologically, then, 'typolect' is intended to express that a variety is not simply the language of a certain individual, but that typical of a group, a situation, an institution, a place at a given point of time. A Black inhabitant of the San Francisco Bay Area, e.g., does not represent Black English by himself; however, he most probably participates in the variety called Black English. Typolects are characterized by what, through common agreement, is viewed as representative; by features, rules, patterns that are characteristically observed by the average speaker of the variety in question. (cp. Dürmüller, forthcoming). For examples of typolects I turn to varieties of English in the San Francisco Bay Area (SFBA), ca. 1980.

From the viewpoint of demographic statistics there seems to be ample evidence suggesting a stratification of the English language in the SFBA according to social factors, especially ethnicity. According to the International Encyclopedia of Social Science (1968), an ethnic group is "a distinct category of the population in a larger society whose culture is usually different from its own. The members of such a group are, or feel themselves, or are thought to be, bound together by common ties of race, or nationality, or culture". This is a definition loose enough to accommodate not only such obviously ethnic varieties like Black English, Chicano English, Chinese English, Japanese English, etc., but also 'Mellowspeak', the variety favored by many Whites in California and even 'Fraternity Talk' and 'Gaytalk', although it may be safer to simply call these latter three 'social varieties' or 'group varieties'. Groups are separated by boundaries which help to emphasize the cultures within these boundaries. In terms of language as an emblem of ethnicity, such boundaries clearly separate one language variety from another. Within the larger social system of the SFBA, the English language is the vehicle of communication used by all the ethnic groups, both for intergroup and intragroup communication (cp. more generally Fishman, Cooper and Conrad, 1977). Although, in some cases, a group may have its own
different language (e.g. Spanish, Cantonese, Tagalog), all the groups have created their own varieties of English. The point here is that even without taking into consideration the original mother-tongue of, say, the Chinese, the Fillipinos, or the Chicanos, ethnicity is mirrored in language: in the English language, i.e., which is the language shared by all the groups, though differentiated by each according to cultural heritage and folklore, according to favored topics and techniques of narration and conversation, according to the conceptualization of the world in vocabularies and semantic fields, and according to pronunciation habits often acquired through interference phenomena. Since there is a variety of English used by all the groups and taught to all of them in school (Standard Textbook English), communication between the ethnically different population groups in the SFBA is not impossible. However, the curse of Babel - to refer to this illustrative myth - would certainly have had drastic effects upon communication between the many immigrant groups if they had not all accepted English as their lingua franca. There are still many members of ethnic groups - especially among the Chinese and Mexicans - who stick to their original mother-tongue; other speakers have had less reservations about taking up English as their second language and handing it down to their children as their first language. But even where the original mother-tongues have lost ground, differences between the various group-specific varieties persist. These differences can be traced on the various levels of language organization: in phonology, including suprasegmentals, morphology, syntax, semantics, lexicon, text structures and text types, discourse conventions. On the surface, the points of difference may seem insignificant at times, in their totality, however, they are bound to be of some consequence. Recent work by John Gumperz and his collaborators (1978, 1979) has shown that miscommunication between speakers of English from different cultural or ethnic origins are very frequent. In England, e.g., speakers of English English and speakers of Indian English were found to lack understanding for each other's way of using English. Both groups needed help in the form of hints as to how to decode each other's speech. If speakers in the interaction are using different strategies and signals from each other to con-
vey attitude and meaning, wrong inferences are likely to be drawn. Over a period of time, these tend to build up into stereotyped attitudes and help to produce the folklore of blason populaire. One should not be surprised therefore to hear members of different ethnic and social groups in the SFBA passing negative or prejudiced judgments on each other. The fact that there are so many examples of blason populaire in the folklore of the SFBA suggests that misunderstandings of the kind reported by Gumperz under the heading of 'crosstalk' are probably quite common.

However, folklore materials do not only underline the existence of crosstalk between members of ethnically and socially distinct groups speaking different varieties of English, folklore materials, such as blason populaire, can also be used in the process of identifying language varieties in the first place. The folk are aware of their own and especially of others' way of speaking. In the SFBA, they are aware of some Whites talking in a particular, funny way (Mellowspeak), of Black English being different from Chicano English, of Asian English being different again from Black English, of the Berkeley Fraternities and the San Francisco Gay community employing vocabularies of their own, etc. Such a folk classification of English language varieties in terms of ethnic and social groups makes much more sense than a conservative dialectological classification of language varieties in regional terms. Although speakers of Mellowspeak predominate in Marin County (North West), and speakers of Chicano English in Santa Clara County (South), there is no point in distinguishing South Bay English from North Bay English or West Bay English (Peninsula: San Francisco and San Mateo Counties) from East Bay English (Alameda and Contra Costa Counties). In most localities there are representatives of various social and ethnic groups and the speech repertoires of the communities are multivarietal. Instead of using a system of arbitrary regional classification, then, social dialectologists are better advised to follow the hints of folklore when attempting an identification and classification of the English language varieties in the SFBA.

Folklore materials may represent a group's image of itself as well as the representation of that image by members of other groups. Social and ethnic groups have
traditional rivals and scapegoats for which the folklore acts as a unifying force by means of identifying the group and as a divisive force by means of molding or confirming a group's attitude toward another group. The genre of folklore most useful for this purpose is blason populaire, a genre comprising ethnic slurs, prejudiced attitudes and stereotype judgements (Dundes 1975). Examples of blason populaire can be used to illustrate the existence of boundaries between groups as well as to identify solidarity within groups. Jansen (1965) distinguishes between the esoteric and the exoteric factor in folklore: 'esoteric' referring to what a group thinks of itself and what it imagines others to think of it; 'exoteric' referring to what a group thinks of another group and to what it imagines another group thinks it is saying about this other group. The stereotypes can be inwardly directed to establish strong in-group identification or they can be outwardly directed for the purpose of drawing attention to or depicting the characteristics of other groups (1965:47).

When dealing with stereotypes of the kind represented by blason populaire, the question arises to what extent these can be taken to reveal something generally valuable. Since I claim that examples of blason populaire can be used to identify language varieties of social or ethnic groups, I obviously think that folklore stereotypes are of some value. Looking back on the definitions of stereotypes in America, I find support for my view already in Walter Lippmann's classical account (1922). Lippmann characterized stereotypes as (1) means of organizing images, (2) fixed, simplex impressions, and (3) salient features chosen to stand for the whole. I am concerned mainly with the third point, the selection by the folk of a few salient features exhibited by another group, these features summing up in a short-hand way its characteristics in various areas, including language. (Lippmann also noted that such stereotypes are convenient, time-saving, and necessary; for without them man would have to interpret each situation as if he had never experienced any of that kind previously).

A study more closely concerned with stereotypes and language is that by Ogawa (1969). Ogawa deals with stereotypes in small-group communication. He shows how Caucasian UCLA students expect Japanese Americans to behave in discussions, and - this is the result I want
to emphasize - that these stereotyped expectations are indeed represented in actual communicative behavior, i.e. the Japanese Americans indeed behaved as the stereotypes predicted they would. Equally, in my own research on examples of blason populaire and their relevance to social and ethnic varieties of English in the SFBA, I came to conclude that the materials stored in the Berkeley Folklore Archives (Folklore Program, University of California at Berkeley) do not only document the awareness of the folk that other social and ethnic groups are different from the one they themselves belong to and that the kind of English used by the members of these groups may differ from their own, but also that the points singled out by the folk turn up in linguistic accounts of the varieties in question as well.

My first example is Berkeley Fraternity Talk. It illustrates the case where the data about a language variety have been extracted almost exclusively from folklore records. Folklore has provided the social dialectologist with the material necessary for the description of a variety when other sources were not available. In blason populaire the members of the Berkeley fraternities and sororities are known as freddies and sallies respectively. The genre as a whole reflects the fact that non-fraternity students view the Greek system as mainly dedicated to partying and strange outlandish customs. The freddies are seen as conceited, rich, boisterous, sex-, drink-, and generally fad-addicted; the sallies as snobbish, rich, fashion-conscious, proper and prim. Blason populaire parodies and ridicules fraternity lifestyle in house-name imitations like these: Grabba Thigh, Wanna Mastur Beta, Ata Bita Pie, Un Kappa Keg.

While the main information about Berkeley Fraternity Talk comes from folklore materials other than blason populaire - folk speech, rhymes, songs, games, etc. - the following ethnic varieties of English in the SFBA are also described - to some extent - in blason populaire. Examples both of esoteric and exoteric forms of blason populaire help to outline the demarcation line between, say, the Black ethnic group and other ethnic groups. It would be wrong to assume that boundaries exist only between the white and the black community; esoteric examples of folklore illustrate that Blacks capitalize on their being ethnically different from all the other ethnic groups, Whites, Chicanos,
Chinese, or whatever. Equally, it is not only the white community, but also the Chicanos, the Chinese, the Japanese, etc. that use ethnic slurs directed against the Blacks. The stereotypes, however, tend to be the same in the blason populaire folklore of all the non-Black groups. (The same point can be made about any other group; for a black perspective, see Folb 1980: 54 ff.). Anti-Black blason populaire deals with skin color (Blackness being associated with ugliness, dirt, baseness, evil, sin, hell), body size, sexual licentiousness; with animal-like behavior, lack of civilization and education; poverty, crime and agitation. Where so many points are singled out for blason populaire it is not surprising that language, too, is included in the catalog. Witness this joke (recorded in Oakland):

Rastas and Mandy had been married for a little while, and one day they were just sitt'n out on the porch talk'n, and Mandy says, "Rastas, when we all goin to Florida?" Rastas looks at her funny and replies, "Goin to Florida? Who says we goin to Florida?" Mandy says, "Why, you did, honey. You said when we got married, you was gonna take me to Florida". Rastas shakin his head says, "No, Mandy, I never said notin like that. I say dat after wes get married, I was gonna tampa wi' you".

This is an example of exoteric blason populaire. The non-Black folk usually tell the joke with what they think is a typically Black accent. Thus, and by observing other characteristics of Black English, the linguistic pun on "Tampa/tamper" is prepared for by the pointing out of other features, such as

Absence of postvocalic [r]
Replacement of dental fricatives by stops
Dropping of final consonants
Denazalization of [ŋ] > [n] in word-end position
gonna was conditional
contamination of we with us
unmarked past tense with say
copula deletion
get - passive
double negation
Question without inverted word order
All these characteristics of Black English are illustrated in this short example of *blason populaire*. Other genres of folklore point out that area of language which is often missed in narrow linguistic accounts: the linguistic tradition of Black English which centers on oral-aural skills rather than on reading and writing. Folklorists more often than linguists have identified the narrative forms exploiting these qualities: tales, proverbs, playing the dozens, toasts, signifying, rhymes. If we turn to Chicano English, it appears that the linguistic characterization of this variety of English is less distinctive than that of Black speech. Judging from documented folklore material alone, it appears that the folk are better informed about the peculiarities of Black English than about those of Chicano English. Non-Blacks are able to list linguistic items of Black speech to a degree not reached when non-Chicanos imitate Chicano English. Given the wealth of folklore material about Chicanos, this may, at first sight, be surprising. *Blason populaire* is directed at Chicanos just as much as against Blacks. The following are terms used by non-Chicanos to refer to Mexican-Americans: pepperbelly, beaner, taco, tortilla; greaser; wetback; Manuel Labor. Reference here is made to Mexican food, greasy hair, and employment. Wetback is understood both as referring to the frequent sweating of Chicanos due to work and to their having reached the U.S.A. illegally by swimming through the Rio Grande. All the terms, including the punning Manuel Labor, view the Chicanos as bums and hoodlums. In spite of all these—and many more, and worse—ethnic slurs, Chicano English itself is rarely singled out for *blason populaire*. There are stories like this one:

Riding on the trail with sidekick Pancho, Billy could smell this terrible odor. "Hey, Pancho, did you poo in your pants?" "No", said Panch, "I no poo in my panz".
They rode on a little further and Billy could still smell this shit. "Hey, Pancho, are you sure you no doo doo in your pants?" I smell something awful. "No, Billy, I no poo in my panz".
Well, Billy really got perturbed. Come on, Pancho, are you really sure you no poo in your pants?" "No, Billy, I no poo in my panz".
Well, Billy told Pancho to get off his horse and pull down his pants. Of course, these two turds fell out of his pants.
"Pancho, I thought you said you no doo doo in your pants". "Oh, Billy, I think you mean today!"
(Berkeley)

The language used by Chicanos is represented as primitive; doo doo and poo emphasize the infantile ring of the passage. Pancho, the Chicano, leaves out the verb in his sentences ("I no poo in my panz".), a feature which is echoed, for purposes of further ridicule, by his companion, Bill. The only feature that can be considered relevant, with regard to a description of Chicano English is the absence of tense marking ("I think you mean today,"), while the simplification and voicing of [ts] > [z] may be typical of other English vernaculars as well. The example illustrates, however, that it is pronunciation which is most reliably noticed by the folk. Witness this riddle-joke:

What is a pee-cup?
It is what a Chicano drives to work every day.
(San Francisco)

In this item of blason populaire, the tensing of [I] in closed syllables characteristic of Chicano English makes for a new reading of 'pickup'. The fact that the folk rarely include other linguistic points in their catalog of observations about Chicano English does not contradict my claim that folklore materials point out what is typical about language varieties. According to Metcalf (1972, 1974), it is precisely in the areas of phonology and suprasegmentals that the characteristics of Chicano English appear most distinctively.
In the case of the varieties of Asian English, it is especially the incapability of the Asian Americans to distinguish between [r] and [I] in the pronunciation of English words, which is ridiculed by the folk. Jokes like the following have as their butt the Chinese, the Japanese, or the Korean:

A Chinese lady walks into the optometrist's and complains about eye trouble. The optometrist gives her an examination. After the examination,
the optometrist says, "Well, lady, I'm sorry to say that you have a cataract [kəˈdɑːrəkt]. She says, "I do not, I have a Rincoln Continental".
(Berkeley)

A jovial Japanese man was standing on a corner in San Francisco on a particularly chilly day. An elderly, though staunch appearing Caucasian lady approached him and they stood together at the corner waiting for the light to change. The Japanese man, wishing to be friendly, made a cheerful comment on the weather: "Bely, bely cold today, yes?". The woman replied indignantly, "Well, your belly wouldn't be so cold if you'd tucked your shirt in!"
(Berkeley)

In the case of the Chinese, blason populaire also records a certain fascination exerted by Chinese names. This is documented in the well-known Chinky Chinaman and Ching Chong Chinaman rhymes and in riddle-jokes like these:

Why don't the Chinese use telephone books? There's too many Wing Wongs and they might wing the wong number.
(Inglewood)

How do the Chinese name their babies? They throw a bunch of silverware in the air and the noise it makes as it hits the floor are the names for the babies.
(Los Angeles, Berkeley)

How Long is a Chinese?!
(Berkeley)

This last example can be used to illustrate the fact that speakers of Cantonese English experience difficulties in grasping the particulars of English intonation patterns such as used in questions. The sentence How Long is a Chinese is disambiguated only if accompanied by the correct intonation pattern; since Chinese is a tone language, speakers of Chinese English find it hard to attend to the patterns of sentence intonation characteristic of English.
My last two examples of blason populaire are directed at Italian English:

One day an Italian man came into a bank to take out a loan. The teller told him to see the loan arranger. The Italien replied, "I donna wanna seea noa cowboy, I wanna makka loan".
(Berkeley)

One day a poor Italian who was living in the United States bought a ticket to the state lottery. As luck would have it, he won the first prize of 1,000,000 dollars. Since he and his wife and children were living in a very small apartment, he decided the first thing he would do would be to have a large house built for his family. After discussing it with the man, the architect and the contractor went to work. They were confused by one final instruction, but felt they had the right solution. At the unveiling of the house to the man, he was quite pleased until he got to the top of the long stairway to the second floor. In front of him was a statue of the Blessed Virgin. Furious he turned to the contractor to find out what it was doing there. "You asked for a statue with a halo, didn't you?". "No, no, you know. It rings. You go over and pick it up and say, 'halo, 'statyu?".
(Berkeley, Daly City)

It is not only the stereotypes about interference phenomena that are pointed out in these two examples, but, more important, the possibilities for misunderstandings and communication breakdowns between speakers of different varieties of English, a point also made in the sociolinguistic research referred to above.

It is usually isolation due to different geographical and cultural origins, to differences in apparent behavior, countenance and customs, to differences in occupation, education, age, and social status, and, finally, to speaking the language in a somewhat marked way, that causes the creation of group stereotypes and ethnic slurs. If language is addressed in blason populaire, it is perceived not simply as one of the cultural emblems marking off a group, but as the one emblem that can also include and express all the other emblems, like clothing, manners, diets, beliefs, myths, etc.
Blason populaire can identify the cultural background and the characteristics of the kind of language typically used by the speakers in a certain group; it can point out the existence of what I call 'typolects'. Folklore as a whole can establish the link between language and its function in different communities. "The ways in which language and folklore differ in function from one community to another are the most revealing", is what Hymes (1972:44) says on the subject. Folklore, in general, may point to "the amount, frequency, and kinds of speech that are typical; the valuation of speech with respect to other modes of communication; and the valuation of different languages and ways of speaking". (1972:44). Blason populaire, in particular, can reveal how ethnic and other social language varieties are valued and which of their features appear as the most salient ones. Since folklore is concerned above all with speech genres, speech acts, and phraseology, its comprehension of language is quite holistic. That is why I can easily agree with Hymes on the point that folklore can "direct attention to essential features of language that are now neglected or misconceived in linguistic theory". (Hymes 1972:47).

Any (socio)linguist with a holistic orientation is well advised to include the Folklore Archives among his sources of information. Descriptions of language varieties like Black English, Chicano English, or Chinese English, etc., remain incomplete without proper consideration of the genres of folklore in which cultural background is revealed so well. Where differences between language varieties are to be listed, it is insufficient to account only for what can be placed within the conventional narrow scope of linguistics: particulars of phonology, morphology, syntax, and certain aspects of semantics. A different notion of the scope of linguistics is required, one that can also accommodate variation in contextual and cultural frames. Folklore would again be understood as a storehouse for such broader linguistic information and appreciated as such as in Herder's days.
Note:
This paper was originally presented to the California Folklore Society Annual Meeting (April 18-20, 1980), Kroeber Hall, University of California at Berkeley.

I am grateful to Alan Dundes and Karana Hattersly-Drayton for having made the Folklore Archives available to me and to Joshua Fishman for having read through and commented on the paper.

References


THE LINGUISTICS OF CAUSAL ACCOUNTS
Veronika U. Ehrich
Max Planck Institut fuer Psycholinguistik

The present paper is concerned with causal accounts for particular events (namely traffic accident accounts), which were given in ordinary, non-institutionalized conversations. The examples of discourse under investigation are thus socially as well as logically distinct from scientific explanations of causal events. The social distinction has to do with conventions determining, among other things, the vocabulary and the social style or register in which scientific explanations are encoded. The logical distinction has to do with the status of general as opposed to particular statements. Scientific explanations are required when a given theory becomes problematic. Being concerned with theories in the first place, scientific explanations treat particular events as mere instances of some type which serve to confirm or disconfirm the theory in question. Ordinary accounts of the kind investigated here, on the other hand, are required when a particular event is problematic and thus needs to be accounted for. Accounts of this kind are also given on the basis of general statements or 'theories', but these are mundane theories not being questioned in the given context. Hence, ordinary accounts of the kind investigated here can best be compared to explanations given in court trial situations. And as a matter of fact, accident descriptions are quite frequent in forensic speech.

Traditionally, linguists dealing with causal speech have been primarily devoted to the semantics of causative verbs like hit and kill or push and pull. The analyses given in this tradition have roughly the following form:

\[
(1) \quad x \text{ Fs } y \leftrightarrow \text{ By doing P \ x CAUSES y to Q} \\
\quad \text{where} \\
\quad P \text{ stands for an action done by } x \\
\quad Q \text{ stands for a process undergone by } y \\
\leftrightarrow \text{ symbolizes a transformation that 'conflates'} \\
\quad P \text{ and } Q \text{ into } F
\]

This analysis reconstructs two aspects of the prototypical causal event, which I will call 'integration' and 'interference'. By 'integration' I mean that two basically different events are not treated as separate but are integrated into one higher-level event category. Integration seems to be psychologically fundamental for the recognition of causal links. Michotte (1963) found that people recognize a launching effect only if temporal and spatial contiguity enable them to perceive the movements of the two objects involved as one and the same event.

By 'interference' I mean that the source and the goal of any causal action undergo a transition from their normal state of rest to a temporally limited movement. HartHonorc (1959) have generalized
the principle of interference to apply to non-prototypical causal events as well. In their view, people consider a given state of affairs - be it an action, a state or a process - as causal if and only if this state of affairs is a deviation from the usual course of events: "When we look for the cause (of a given effect) we are looking for something, usually earlier in time, which is abnormal or an interference in the sense that it is not present when things are as usual." (op. cit. p. 43). The first clause in statement (2) does not refer to any such interference, and (2) can therefore not be interpreted as expressing a causal chain, even though one might consider the counterfactual expressed in (2') as being true. Similarly, one would probably not understand (3) as a causal statement, either; it is to be expected that people cross the street and, furthermore, their doing so does not affect the conditions of the street some hours later. (4) and (5), on the other hand, will be interpreted as causal statements; spilling oil on the street does affect its normal conditions even some hours later and somebody's crossing the street all of a sudden does interfere with the expected course of events.

(2) The car turned right and bumped into a tree.

(2') If the car had not turned right, it would not have bumped into the tree.

(3) The car turned right and bumped into a tree. Some hours before that somebody had crossed the street.

(4) The car turned right and bumped into a tree. Some hours before that somebody had spilled oil on the street.

(5) The car turned right and bumped into a tree. Some seconds before that somebody had suddenly crossed the street.

In what follows, I will be concerned neither with prototypical causal events nor with the semantics of causative verbs. However, integration and interference will be central aspects of the analysis to be given.

In non-prototypical cases, integration can be psychologically problematic when cause and effect are temporally discontinuous as in (4), because in this case the causal links between source and goal cannot be integrated into one perception and we must assume that their integration, if it takes place at all, is the result of a specific perception procedure. Being a linguist and not a psychologist, I cannot investigate the nature of the procedures involved, but will have to confine myself to some of the linguistic devices that speakers use in order to represent a given sequence of events as an integrated causal chain. In particular, I will be concerned with connector words serving to integrate a sequence of utterances into a coherent piece of discourse. And since I follow Hart and Honoré in considering interference as the crucial aspect of causality, this analysis will focus on con-
junctons and particles that point to an opposition between the actual and the expected course of events. In other words, I will take the presence or absence of adversative conjunctions or particles like Germ. aber/'but, however' as a crucial property of causal accounts.

The speech samples under investigation are oral descriptions of filmed traffic accidents. Speakers were shown two very short films of about 60 seconds each, showing a small accident involving a car driver and a motorcyclist. Both films were originally made for educational purposes serving to instruct motorcyclists to avoid the blind spot. Each film is accompanied by a verbal commentary telling the viewer how and why the accident in question happened. Thus, this commentary is itself an accident description. Speakers were requested to describe the film to a listener, who was also a naive subject. The instruction was roughly as follows: "Retell the content of the film in the way you would retell the content of an ordinary movie, but be precise enough, so that your listener will be able to decide whether he has seen the same film." The descriptions were given under the following three experimental conditions, whereby each individual subject was submitted to two of them:

A The memory/sound condition: Narration from memory, film being presented as a sound movie.

B The memory/silent condition: Narration from memory, film being presented as a silent movie.

C The simultaneous condition: Film presented as a silent movie. Subjects give a commentary on the film while it is running.

In addition, each subject was requested to give an account of a self-experienced accident. In the present paper, I will restrict myself to the descriptions given for one of the two films by a total of 20 speakers of German. But before I actually come to the data, I would like to say a few words about the analysis of traffic situations in general.

I assume that traffic events can be analyzed as sequences of what I will call 'constellations', where each constellation is defined by a certain space region and a set of participants occupying certain positions within the given region. This position determines the role of a participant at a time. Given a certain constellation it may be the role of one of the participants to have the right of way. I think of constellations as a special case of scenes. Scenes and constellations have in common that their participants act within a certain spatial setting. However, in a scene, this setting constitutes only the background of their actions, but does not define their roles. For a given constellation, the set of possible actions or movements which the participants can perform is subject to two kinds of restrictions, restrictions imposed by the traffic rules and restrictions imposed by maxims of behavior referring to the advisable or appropriate actions in the given constellation. (6) would be an instance of a German traffic rule; (7)
would be an instance of a traffic maxim.

(6) No other regulations present the through traffic has the right of way.

(7) Avoid the blind spot, even if the traffic rules give you the right of way.

I assume that traffic events and sequences of traffic events can be analyzed in a script-like framework. There are, however, two major differences between, say, a restaurant script and a traffic script. One difference is that, in a traffic script, the different roles are much more flexible and subject to change with each new constellation. The second difference is that a traffic script does not impose a fixed order of events. The behavioral maxims in a restaurant script are temporal maxims of the form represented in (8), the behavioral maxims in a traffic script are conditional maxims of the form represented in (9).

(8) After p do q!

(9) Do q in case p!

Let me finally come to the data. (10) is a description of the film in question. The quoted pieces of text give the commentary belonging to the film itself. The unquoted pieces of text above them describe in my words what the different sections of the film shows.

(10) A motorcyclist is driving along a street.
"Ja, also das war folgendermassen. Es war eine ganz alltaegliche Situation."/Well, it happened like this, it was really an ordinary situation.

The motorcyclist is approaching an intersection, where the traffic light has turned red. The motorcyclist stops to the right of a waiting car.
"Ich fuhr auf eine ampelgeregelte Kreuzung zu, an der seit kurzem ein Auto wartete."/I was approaching an intersection with a traffic light, where a car was waiting since a short while.

The car driver looks into the rear view mirror. The motorcyclist is not to be seen in the mirror.
"Ich hielt aber so an, dass der Fahrer mich im Rueckspiegel nicht sehen konnte."/However, I had stopped in such a way that the car driver couldn't see me in the rear view mirror.

The traffic light turns green.
"Bei Gruen gab ich dann Gas."/When the light turned green I started off.

The car is making a turn to the right.
"Ja, und dann wollte der PKW Fahrer rechts abbiegen."/Well, and then the car driver wanted to turn right.

The motorcyclist bumps into the car
Emergency lights of an ambulance
"Ja, und dann hatte es mich ganz schoen erwischt."/
Well, and then I got pretty much hit.

The motorcyclist is carried into the ambulance.

The following pieces of discourse are descriptions of this film given by different subjects, each being submitted to one of the three experimental conditions. For the segmentation into clauses and sentences in the transcripts, I followed Chafe (1980) that is, I took shorter hesitations and rising intonation as indicating clause boundaries, longer hesitations and falling intonation as indicating sentence boundaries.

(11) Memory/Sound Condition
1 Gut, also es geht um n Verkehrsunfall,
2 Und em wird (.) eh von mm und zwar um n Verkehrsunfall
   eines Mofafahrers,
3 Und der wird aus der Sicht des Mofafahrers geschildert,
4 Gleichzeitig laufen also die (.) laeuft ab wie der Un-
   fall geschah,
5 Und zwar fuhr n Mofahrer auf ne ampelgeregelte Kreu-
   zung zu,
6 Em an der Rot war,
7 Und schon ein PkW hielt.
8 Und der Mofahrer hielt jetzt neben ihm,
9 Aber so, dass der Autofahrer ihn im Rueckspiegel nicht
   sehen konnte,
10 Bei Gruen hat der Mofahrer Gas gegeben und wollte ge-
    radeausfahren,
11 Wohingegen der Autofahrer rechts abbiegen wollte,
12 Sodass der Mofahrer zu Fall kam.
13 Dann wurde noch also das Martinshorn des Krankenwagens
   gezeigt,
14 Und der Martins eh der Krankenwagen,
15 Das wars dann.
1   Well, it is about a traffic accident,
2   And um is (.) of um that is about a traffic accident of
   a motorcyclist,
3   And it is shown from the viewpoint of the motorcyclist,
4   Simultaneously it is shown how the accident happened.
5   A motorcyclist was approaching an intersection with
   traffic lights,
6   Which were red,
7   And where a car was already waiting,
8   And now the motorcyclist stopped beside it,
9   But in such a way that the car driver couldn't see him
   in the rear view mirror,
10   When it turned green the motorcyclist started and wanted
    to go straight,
11   Whereas the car driver wanted to turn right,
So that the motorcyclist fell.
Then there was also the emergency light of an ambulance shown,
And the ambulance,
That was it.

Simultaneous Condition
Man sieht n Mofafahrer,
Rote Jacke n junger,
15,16 Jahre,
Haltet neben einem VW Passat,
Der an der Ampel steht,
N gruener,
Fahrer guckt in den Spiegel Rueckspiegel,
Auch n dunkler Krauskopf,
Fahrer biegt nach rechts ab,
Ja und der Mofafahrer stuerzt.
Man sieht n Blaulicht in Grossaufnahme,
Kamera sieht hin und her,
Ambulanzwagen,
Der Junge wird reingeschoben von zwei uniformierten Sanitaetern.

You see a motorcyclist,
Red jacket a young guy,
15,16 years,
Stops beside a VW Passat,
Which is standing at the traffic light,
a green one,
Driver looks into the mirror rear view mirror,
Has also dark curly hair,
Driver turns right,
Well and the motorcyclist falls.
You see an emergency light in close up,
Camera goes back and forth,
Ambulance,
The boy is carried in by two uniformed ambulance men.

Memory/Silent Condition
War folgende Situation,
Ein Mopedfahrer,
Und ein Autofahrer fahren beide zusammen auf eine Ampel zu,
Dann wollen eh will der Autofahrer nach rechts abbiegen,
Und der Mopedfahrer will geradeaus,
Und der Autofahrer kontrolliert nur durch den Rueckspiegel ob sich neben ihm ein Fahrradfahrer oder ein Mopedfahrer befindet,
Und der Mopedfahrer befindet sich aber im toten Winkel, das heisst der Autofahrer kann ihn nicht sehen nicht wahrnehmen.

10 Biegt nach rechts ab,
11 Als es Gruen wird,
12 Und es kommt zum Zusammenstoss,
13 Weil der Mopedfahrer ja geradeaus weiterfahren wollte,
14 Der Mopedfahrer stuerzt,
15 Was in Zeitlupe gezeigt wird.
16 Und die naechste Aufnahme ist dann ein Krankenwagen vom Malteser Hilfsdienst,
17 Was ich an den Zeichen erkennen konnte,
18 Und dann wird also der Mopedfahrer verlezt wie er ist abtransportiert.

1 Was the following situation,
2 A motorcyclist,
3 And a car driver are both approaching a traffic light,
4 And the car driver wants to turn right,
5 And the motorcyclist wants to go straight,
6 And the car driver checks only through the rear view mirror whether there is a byciclist or a motorcyclist beside him,
7 And the motorcyclist is however in the blind spot,
8 That is the cardriver cannot see him not percieve him,
9 Turns right,
10 When it turns green,
11 And there follows a collision,
12 Which is shown in slow motion,
13 And the next picture is an ambulance of the Malteser Hilfsdienst,
14 Which I could read from the signs,
15 And then the motorcyclist injured as he is is brought away.

These examples are representative for the data and I will therefore inspect them in some more detail.
The first sentence of text (11) (clauses 1-4) gives a general description of the film. The second sentence (clauses 5-7) describes the constellation in question. The third sentence (clauses 8-12) is the crucial one. Clause 8 describes the motorcyclist's stopping beside the car and hereby introduces the event that finally leads to the accident. Clause 9 introduces the interfering condition and marks it as an interfering one by means of the adversative conjunction aber/'but'. Clauses 10 and 11 recount the film commentary, they contrast the interference introduced in clause 9 with the expected course of events. However, in the projected course of events, the two participants' different intentions are interpreted as being incompatible, and this is indicated by the adversative conjunction wohingegen/'whereas'. Clause 12, finally, describes the accident itself and characterizes it as an effect of
of the aforementioned interferences; its status as an effect is indicated by the consecutive conjunction sodass/'so that'. At the first glance, the result of this analysis seems to be kind of trivial, for not only does the order of sentences reflect the order of filmed events exactly, but also the speaker recounts almost literally the wording of the film commentary, at least in its crucial points, namely the use of adversative conjunctions and the use of modal verbs.

Let us now compare text (12), the one given in the simultaneous condition. In this case, too, the order of events is directly reflected by the order of clauses. Of course, the clauses are shorter than in text (11), but this is not really surprising. There are, however, two interesting differences between text (11) and text (12). The first interesting difference is that the speaker of (12), although being under time pressure, gives a more elaborate description of the main characters (clauses 2, 3, 6 and 8). The other interesting difference is that the speaker of text (12) neither refers to any interfering condition nor to the anticipated course of events. What is taken as an anticipation in text (11) (clauses 10, 11) is represented as a mere matter of fact in text (12) (clause 8). These differences might, of course, be trivially explained by the fact that the speaker of (12) has not heard the commentary of the film and is therefore not in a position to restore its wording. A comparison with text (13), the one given in the memory/silent condition, however, shows that this explanation does not hold. The main observation about text (13) is that it does introduce the anticipated course of events in clauses 4 and 5 and in doing so makes use of the same modal verb wollen/'want' as does text (11). Moreover, in clauses 6 and 7, text (13) does introduce two different but interrelated interfering conditions. The restrictive adverb nur/'only' in 6 suggests that the car driver should not only have looked into the rear view mirror, but should have done more. The adversative particle aber/'however' in clause 7 of text (13) again points to the fact that getting into the blind spot is a deviation from a behavioral maxim relevant in the given constellation.

My data base is not yet large enough to do any statistical tests. But the results seem to be pretty systematic. None of the seven speakers in the memory/silent condition omitted the interfering condition and only one of the speakers in this condition did not make use of an adversative particle in reference to the interference. Moreover, none of the speakers in this condition failed to mention the anticipated course of events and all of them made use of the modal verb wollen in reference to this anticipation. In the simultaneous condition, on the other hand, three speakers (out of seven) did mention the interfering condition, but only one of them made use of an adversative particle in doing so. This particular speaker was also the only one who mentioned the anticipated course of events and used a modal verb in doing so.
Obviously enough, the differences between the memory/silent condition and the simultaneous condition cannot be explained by the sound vs silent movie opposition. It might simply be the time pressure that accounts for the omission of adverasive particles and modal verbs in the simultaneous condition. And, so far, I have no convincing empirical evidence to exclude this explanation. But I will offer an alternative hypothesis in terms of the concept of integration.

Any chain of more than two subsequent events contains at least one pair of temporally discontinuous events whose elements cannot be integrated into one perception. In this case an on-line integration might be conceptually difficult if not impossible. If on-line integration is impossible, the simultaneous condition should lead to the same results as the ones obtained so far, even if speakers would have more time between the different sections of the film. If such an integration is merely difficult, the results should be different, provided that speakers had more time. But note that, in view of the integration hypothesis, lower time pressure would not just lead to an increased number of words (including adverasive particles and modal verbs), but would facilitate the process of integration, and this then would be reflected by the occurrence of modal verbs and adverasive particles. I have some ideas about how this hypothesis can be tested, but I will not go into this here.

Since I take the occurrence of adverasive particles as a criterion for classifying a discourse as a causal account, I would like to add some remarks about the semantics of aber/‘but, however’. R.Lakoff (1977) pointed out that one has to distinguish two buts, one that expresses a semantic contrast and one that denies a contextually given expectation. And linguists dealing with Germ. aber (for example Lang (1977)) have come to similar conclusions. If the occurrences of aber in the traffic accident descriptions meet one of these analyses, then it is clearly the denial-of-expectation one. However, clause (8) in text (11) does not so much deny an expectation invited by the forgoing clauses, it rather points to the fact that the state of affairs expressed in (8) constitutes the violation of a behavioral maxim that is relevant in the constellation designed by clauses (5-7). The second clause in (14) does not point to the denial of an expectation, either, but to the fact that the state of affairs expressed by this clause has a low preference value on a scale which rates healthy behavior.

(14) Walking is healthy, but I will buy a car.

However, I do not want to introduce a further aber or but. Instead, I will propose a generalization of Lakoff's analysis along the following lines:

(15) For any state of affairs p expressed by an utterance of a sentence S in a given context c there is a set Q of mutually alternative transitions from p, such that each q ∈ Q is an action, state or event that follows p.
Each q Q can be evaluated relative to different scales (preference scale, probability scale etc.), where the scale dimension that is actually chosen for a given q is determined by c', and where c' is given by p and q.

By uttering a sequence S1,S2, where aber occurs in S2, the speaker expresses his view that the state of affairs q referred to in S2 is an actual transition from p that has an abnormally low values on at least one of the scales for which q can be evaluated.

The idea of this characterization is that any state of affairs can be evaluated with respect to scales defined along various dimensions. If the scale in question is a preference scale, then the actual evaluation is determined by the behavioral maxims that belong to the given context. Any action that does not meet these maxims will have a low value on the given scale. By the use of aber in a preference context, the speaker expresses his view that the state of affairs in question has a low value on the preference scale. The first clause in (16) (from Lakoff 1971) provides the context for the selection of a probability scale, and the but in the second clause expresses the speaker's view that the adversative restricted state of affairs has an abnormally low probability value.

(16) Fords can go fast, but Harry will never get a ticket for speeding.

Summary
I have argued that integration and interference are essential for the recognition of causality. I have shown evidence that, in traffic accident accounts, speakers point to the interfering condition by using adversative particles. I have given an informal semantic characterization of Germ. aber. The essential point about this characterization is that aber is interpreted relative to a contextually determined evaluation scale. Finally, I have offered the hypothesis that, in the simultaneous condition, where speakers do not mention the interfering condition and where they don't use adversative particles, they fail to do so because they cannot integrate the ongoing events.

Acknowledgement
The ideas outlined in this paper were developed while I was a visitor at the Cognitive Science Program of the University of California Berkeley. I am highly indebted to E.Rosch and to Ch.Fillmore, who discussed these ideas with me. I also want to express my gratitude to Inge Tarim, who carried out the experiment, and to Susan Lindner, who helped me polish my non-native speaker's English. All remaining errors and shortcomings are, of course, my own.
References


Discourse topic, broadly defined as the propositional content of discourse, has been, and still is, something of a bugbear, in discourse study. It is often cited to explain some linguistic fact such as the switching of codes, but it is rarely actually focussed on as an entity in itself; and where it is, there seems to be a distressing array of confusing terminologies and definitions. The current paper combines work that I have been doing with Sharon Sabsay of UCLA's Neuropsychiatric Institute, on the precise nature of topic in adult discourse, with my own work on child language and children's emerging ability to handle discourse. It aims to examine some aspects of the organization of content in discourse, as a contribution to the formulation of a linguistically tight definition of discourse topic.

The most tangible aspect of discourse topic (propositional content) is clearly seen at the level of specific linguistic markers in the text that signal the cohesion of the content. Thus, people such as Halliday and Hasan (1976) and Grimes (1975) and others have looked at the distribution of repeated NP's and anaphora to indicate thematic participants, the use of definite versus indefinite reference, and so forth. These are markers at the sentence level. There are also markers at the discourse level—things like "right", "well", "so", "but", etc. that signal changes of content. All these textual markers are clearly indicators of topic continuation and topic change, but that is what they are: indicators, markers of an organization that is elsewhere, at the level of the organization of propositional content in discourse. To see that this is the case, examine the hypothetical conversation below:

1.a. P1 A. Guess what, my paper was accepted.
P2 B. Oh, good.
P3 A. Now all I have to do is write it.
P4 B. That shouldn't be too bad.
P5 B. How's the book coming along?
P6 A. Oh, fine.

Here, there is a sequence of assertions and questions that together constitute a clearly cohesive discourse. It is also clear that there are textual markers of this cohesion that signal some of the links in the content, (e.g., it). However, there is a break in such markers between P4 and P5. On one level, something new has been introduced; however, on the level of the overall content of the discourse, we, as speakers, clearly know that we are still dealing with the same topic. That is because we can fill in background propositions that have to do with writing papers and writing books (e.g., that they both have to do with getting tenure), such that we know that there is a relationship between the question in P5 and what
has gone before. (We can supply what Clark and Haviland (1974) call bridging assumptions.) So, clearly, cohesion in text is to do with more than textual markers. One might be tempted to say, however, that it is nonetheless to do with semantic links rather than propositions, because of the items paper and book, which belong to the same semantic field. However, consider a situation in which A says "Hey, can you open this?" and B says "sure". Here, there are not only no thematic textual markers, there are also no semantic items in common between the two utterances, and yet they are clearly perceived as cohesive. They are perceived as cohesive precisely because the entire proposition in A's question is presupposed in B's answer. As with the sequence of propositions in 1a above, they are all relevant to the topic in hand (see Foster and Sabsay, forthcoming).

A notion of relevance is clearly vitally important for an adequate consideration of discourse topic. Ill-defined a notion as it still is, it is clearly involved in accounting for the cohesion of discourse. In fact, there are two types of relevance involved. The first, I have already talked about—propositional relevance. But there is also functional—speech act—relevance. Notice that the utterances in 1a cohere not only because they are propositionally related, but also because they are a sequence of assertions that receive a comment (P1 and P2); a follow-up comment (P3 and P4), and a question that recieves an answer (P5 and P6). The importance of this distinction between propositional and functional relevance will be discussed further below, where we shall see that children can "do" functional cohesion without propositional cohesion, but first a further observation about propositional cohesion. Not only do we readily perceive that discourses cohere propositionally, but we have a natural ability, it seems, to extract from a cohesive sequence of propositions, a macro-proposition that represents the whole sequence. 1b below is a schematic representation of the relationships between the propositions of 1a, that shows how the relationship is a hierarchical one that has at its top node the macro-proposition that the whole sequence is about:

1b

```
|     MP-What A is doing for tenure |
P-A's paper                   P-A's book
  | P1 | P2 | P3 | P4 |
    |    |
  |     |
  | P5  |
  | P6  |
```

The notion of macroproposition has been most extensively discussed by van Dijk (1980) who suggests that the ability to extract a macro-proposition from a sequence is the result of our ability to perceive both overt and covert relationships between propositions, i.e. to react to the textual markers, if there are any, or to supply the expected, or usual, bridging propositions, if necessary. Although he does not discuss it in terms of hierarchies, clearly what he is saying is that there is a relationship between the propositions of individual utterances and some higher proposition, that may or may not be explicitly stated as one of the lower level propositions. Hence, the
is in the organization of propositions in discourse, the kind of hierarchical arrangement shown in 1b.

In the remainder of this paper, one of the things I shall try to demonstrate is that there is both sequential and hierarchical organization of propositions in discourse, i.e., that discourse topic involves both types of organization, by looking at the way the organization of content in discourse emerges in small children. Children are illuminating in this respect because at first they cannot produce a sequence of utterances that coheres in any way except sequentially, and even this cohesion is of the most elementary kind in which there are little more than pairs of cohesive utterances. However, this does not mean that children's early conversations are highly disjointed in their content, because there is the other kind of cohesion that initially takes the place of propositional cohesion—namely, functional cohesion. In other words, they cohere because they are doing something; they have some functional goal.

Speech act analysis, which has evolved to deal with the functional aspect of language, has been traditionally concerned with the function of single utterances. There are those, though, such as Ferrara (1980a & b), who have begun to explore the fact that sequences of speech acts may work together to realize a single goal. At the very lowest level of organization of speech acts are adjacency pairs (Sacks, Schegloff and Jefferson 1974), in which the first-pair part expects the second-pair part, (as in a question-answer, or a request-grant sequence, for example). Here, there is cohesion between utterances because one predicts the function of the other. It is also the case, as Ferrara has discussed, that whole sequences of speech acts may work together to make a request and justify it, for example. Thus functional organization, too, has a hierarchical structure.

So, functional organization brings with it a kind of dependent propositional cohesion, as well as there being bona fide cohesion due to propositional organization. And discourses vary in the degree to which they are primarily cohesive because of the functional goal they are working towards, as opposed to being primarily cohesive because of the propositional content expressed by the speakers. So, for example, if the purpose of the interaction is to persuade someone of something, to invite someone somewhere, or to elicit a sequence of directions from someone, then the organization of speech acts that will do that has to be put into action. In these cases, the purpose of the interaction is very clear, and the actual content is, to a large extent, organized by what the interaction is for. In other types of interaction, the propositional material is much less predictable, particularly in casual conversation, where the purpose of the interaction is for speakers to have a relatively free rein in what they can introduce as the content of the conversation.

So, in what follows, I shall provide evidence from child language that there are two kinds of cohesion—propositional and functional—and then that, within propositional cohesion, there is both sequential and hierarchical organization of propositions, i.e., of topical material. In doing so, I shall show that, in the beginning stages of language development, propositional cohesion is there by default, as a result of functional cohesion. I shall also show that
children produce some of the textual markers discussed briefly at the beginning of this paper, clearly in advance of understanding how they function in the adult system.

First, consider the data in 2a below, showing a child who, though communicating, has not yet really begun to acquire the linguistic system:

2a. Kate at 1;10
(Mealtime)

1 M. "'s that nice?" (i.e. food Kate is eating)
2 C. /hæʔ/
3 M. "it is is it?"
4 C. /gæʔkʰ/ + points at camera
5 M. "that's Sue"
6 C. /gæʔ/ + points at mother
7 M. "and Mummy"
8 C. /gæʔ/ + points at M's mug
9 M. "and that's Mummy's tea"
10 C. /gæʔ/ + points own mug
11 M. "Kate's got milk hasn't she 's it nice?"
12
13 C. /dæʔ/ + points M's mug
14 M. "that's mummy's tea"
15 C. /gæʔ/ + points own mug
16 M. "Kate's milk"
17 C. /gæʔ/ + points own food
18 M. "Kate's got cheese on toast for tea hasn't she?"
19 C. /hæhæhægæʔ/ + points camera
20 M. "What- that's Sue"
21 C. /gæʔ/ + points at mother
22 M. "that's Mummy and where's Kate?"
23 C. puts hand on own head
24 M. "that's right ((laugh))
25 chop hard that crust's a bit hard isn't it
26 act- oh that's a big piece shall I cut it up?"
27 C. /æʔ/ + allows mother to cut up food
28 M. "It'd make it easier I think wouldn't it?" + cuts up C's food
29 "That cheese is all rubbery
30 It's hot too you blow"
31 C. blows
32 M. "that's right
33 there you are
34 cheese"
35 C. blows on food
36 M. "is it hot still?"
37 C. /hæhæʔ/ + lifts a piece of food in each hand
38 M. "what's the matter with those?
39 Oh they're joined together are they?"
40 C. /hæʔ/ (((laugh--)) + puts food to mouth
41 M. (((laugh))"now love don't put any more in until
42 you've finished what you've got"
43 C. /ɑ:ʔa/ + hands piece of food to mother
The first thing to notice here is that there are two clear phases to this stretch of interaction. I have labeled them A and B. Within each section, there is a cohesion of content that might appear, at first sight, to be little different from the topical cohesion that can be found in adult interaction. This is not, however, the case. For one thing, both A and B are cohesive for basically functional reasons, rather than propositional ones. Though, in Part B, the mother may be trying to maintain propositional cohesion, her child cannot yet do so. Part A coheres because it is a routine. As such, it is an example of the most highly functionally controlled type of interaction. Once one enters into a routine, the content is entirely predicted by the fact that one is in a routine. This does not mean, however, that the end of the routine is predictable, and in this case, it could theoretically go on for ever, or until everything in the environment has been named. It therefore provides a tightly constraining frame that allows the child to produce a fairly long sequence of propositionally related utterances/communications. In fact, I would like to suggest that routines, which always have this property of being functional frames that allow propositional content to be buoyed up, may have a developmental function for children, in aiding their ability to maintain cohesive discourse.

Part B is slightly different. It is also in one sense a routine, because meals are routines of a kind, but it is not a routine that the child is controlling in the way she is in Part A. Here (in B), the mother knows what has to be done, and can steer the child in the appropriate direction. Notice that, here, where the child has little control over the function of the interaction, the child's utterances, while being contingent on the adult's, do not form sequences anywhere near the length of that in Part A. In Part B, we see the ability to produce contingent next communications. In lines 41-43, for example, we see something that looks like a preverbal version of the kind of contextual contingency that Bloom et al. (1976) talk about, in which the child produces an appropriate next that does not use any part of the mother's previous utterance. Also, in this section, there are responses to questions or commands, as in lines 30-31, and, in line 37, we see this child initiating new concerns.

This child can, then, produce initiations that are responded to, and responses to other peoples initiations—and I think that there is a good case to be made for saying that this child is evidencing the ability to handle adjacency pairs. But that is all there is.
The schematic representations under 2b show that, in both A and B, there is almost no organization/cohesion that is propositional (indicated by the solid lines) that is not there as a result of the functional organization (indicated by the broken lines). The showing of the toast may be an exception, but it is not clear that this may not be a request to have the toast cut up, rather than just a comment for the intrinsic interest of the thing. The second occasion on which the child blows on the toast is interpreted by the mother as if it is a return to a previous topic, but it does not look as though the child is even deliberately communicating at all. In fact, what we see here is an example of repetition, in this case of an action, which is built into the topic structure by the mother.
2b Schematic representation: Part A

Routine

C requests M answers C. requests M. answers C requests name

Part B

Mealtime

Mother's organization:

M. line 26 C. line 27 M. line 28
suggestion comply justify

Child's organization:

Mealtime

M. line 30 C. line 35 M. line 32/4 C. line 35 M. line 36
command comply completion ? request

Mealtime

C. line 37 M. line 38/9 C. line 40 M. line 41/2 C. line 43
gives info comment Acknow. command comply

?
Repetition, as discussed by Keenan (1977) and Bloom et al. (1976), is quite frequent among children aged between 2;0 and 3;0. Sometimes, as Keenan suggests, it has clearly specifiable meanings, such as agreement with the previous speaker, but at other times, it seems to be produced with no other intention than to fill up a turn with something that comes to mind. And just-mentioned, salient lexical items come to mind rather easily. A typical example is given below:

3. Ross at 1;11
Mother is sharing a book with Ross. She is talking about how a mouse needs thread rather than string to tie up a parcel.
M. "if you gave them a piece of string, they wouldn't be able to tie up the parcel with string, it would be like giving them a piece of rope"
C. "rope"
M. "rope"

Propositionally empty though this is, it does cohesive work, and behaves rather like the kind of repetition of NPs that we find in adult discourse (Bernstein 1981). As a strategy, it is even more effective if the child produces it after a little delay, when he can even give the impression that he is adding something new:

4. Ross at 1;11
Mother is describing a picture of a submarine.
M. "it goes under the water and there are people doing things inside there"
C. "mm"
M. "they're they're called submariners"
C. "people"
M. "um- people that's right. They're people yes. Submariners."

Another default device that results in unplanned propositional cohesion happens when children produce vertical constructions (Scollon 1976) as in 5:

5. Ross at 1;11
Mother and child are playing with crayons in a container.
M. "Let's have 'em all out" + tips out all the crayons
"can you find the green one?"
C. puts crayons back in container
M. "oh I see you're going to put them all back again now"
C. "top" + putting lid back on container
M. "That's all the drawing you're doing now? No more for today"
C. "go on"
M. "yes well you put the lid back on didn't you"

In "top" and "go on", this child seems to be producing an utterance across more than one turn; a proposition across more than one utterance (Keenan, Schieffelin & Platt 1976). (A little later, Ross produces the whole utterance in one turn: "top go on").
As with the routines and the repetition, what children are doing in a vertical construction does not involve a deliberate attempt to produce a cohesion of propositional material across utterances, but, in all cases, this is the result of the child's behavior. The child is doing topical cohesion in advance of understanding it, but seems to be interpreted as if he/she were doing so. This seems to be similar to the way gestures are produced as the ability to communicate emerges (Foster 1981a & b).

There is evidence of a more intentional planning of propositional material in the following:

6. Ross at 2;6

Mother and child are sitting at the table having a meal. They are not sitting in their customary chairs for having meals.

C. "that's Mummy's chair" + points to an empty chair
M. "Yes, I usually sit over there don't I?
   This is where Daddy sits isn't it?"
C. "Ross's chair over there" + points at the other empty chair
M. "That's right, you sit there"

Though this sequence does involve the repeated naming of things, it does not seem to be the kind of fixed routine we saw earlier. The intonation (one associated with introducing new, and surprising, information) of Ross's first utterance suggests that he is producing his utterances as the result of a planned intention to inform rather than simply to engage in a game. Also, note that he only names the things that his mother does not, so the repeated naming of objects seems not to be his aim here. This kind of data, though, may illustrate a transitional stage of development where routines are planned, but more evidence is needed in order to suggest this seriously.

A clearer example of planned propositional content is seen in 7. below, where the child goes on developing his topic even when his mother has ceased paying attention or giving any help in its development:

7. Ross at 2;6

Mother and child are sitting at the table. On both of the walls (to the child's left and right) are ornamental plates with designs on them.

C. "des dat's flower" + points to the plate on his right
M. "That's not a flower"

C. "plate"
M. "It's a plate with a pattern on, but it's not like a flower"
C. "It's a flower pattern"
M. "ooh dear" (She's referring to her sandwich, which has fallen
C. "dis another plate dere" + pointing to the other plate /apart)
M. "mm" (She's still attending to her sandwich)
C. "dook buvvers buvvers" + pointing to the two plates at once
M. " what did you say, what was that word, what did you say?"
(It seems clear that the word was "brothers", but the conversation soon turns to other things, and never resolves the problem.)
The propositional organization of this last sequence is given below in 8. and clearly shows the kind of hierarchical organization of propositions that was discussed at the beginning of this paper:

8. Schematic representation of the propositional organization of the data in 7. (There is also, of course, functional organization, in this sequence, but I have not shown it here.)

As we see in this representation, by 2;6 children can produce sequences of utterances that are related to each other in terms of their propositions. Each utterance is appropriate both to the preceding utterance (their own, or that of the other speaker) and to the general topic in hand.

In this data, therefore, we begin to see the organization of propositions clearly separated from the textual markers that characterize adult discourse. It is also possible to see that functional speech act organization need not be aligned with propositional organization—they are different things that can be analyzed separately. Text, propositions and speech acts form three aspects of discourse that deserve separate treatment, though of course they are not entirely separate entities. To use an analogy, they are like three faces of a prism: you can focus on one face, but the other two are always there, affecting the way the light falls on, or passes through the face you are interested in.

With respect to the emergence of propositional structure, an important question to ask now is: what precisely are we seeing in the hierarchical organization? Is this organization simply a reflection of the way ideas are organized? Clark and Clark (1977) make a case for saying that propositions are the unit of memory storage. If this is so, does discourse structure translate memory storage directly into language, in this respect? And what about the functional structures? Why are they the way they are? And how, precisely, do they interface with the propositional material, as children develop discourse skills?

Acknowledgements: Deep and sincere thanks to the following people who gave me much valuable help with this paper in the form of comments on the research that led to it and on drafts of the paper itself: Sharon Sabsay, Elaine Andersen, Peter and Susan Merrill, Rich Janda, Manny Schegloff, Benji Wald, and other members of the "Language in Context" group.
References


Foster, S. 1981b "The emergence of topic-type in children under 2;6—a chicken and egg problem" in Papers and Reports on Child Language Development No. 20 pp.52-60

Foster, S. & Sabsay, S (forthcoming) "Topics in Conversation"


The Functional Equivalents of the Middle Voice in Child Language
Iskender Savasir and Julie Gee
University of California, Berkeley

This paper is motivated by the observation that children of three different linguistic backgrounds, at about the same early age, seem to start using or inventing diverse formal means in roughly similar extralinguistic contexts: namely, situations in which children talk about changes as changes of states (or as "events", for short), rather than as actions brought about by intentional agents. In trying to discover a functional unity for these diverse forms, we were struck by the similarity between the direction our formulations were taking and Gonda's characterization of the Indo-European middle voice. More specifically, the children's use of the passato prossimo in Italian, the aorist inflection and its interaction with the passive in Turkish, and the middle verbs and their interaction with the -s inflection and explicit causatives in English, all seem to be serving the function Gonda posits for the Indo-European middle voice — namely, eventivity. The aim of this paper is to document this parallelism as an overture to a later investigation of the expression of causality in child language.

**EVENTIVITY**

According to Gonda (1975), "the hypothesis seems to be plausible that in prehistorical times, a widespread use was already made of the middle forms to indicate that something comes or happens to a person (or object), [something] befalls him, takes place in the person of the subject so as to affect him, without any agent being mentioned, implied or even known" (pg. 49). That is, for Gonda, in uttering a sentence in the middle voice, the Proto-Indo-European speaker would commit himself only to the occurrence of a change of state in the grammatical subject, without taking a stand on how this change of state may have come about. It is these sorts of constructions that Gonda proposes to call "eventive" constructions.

Although historically, the middle voice is related to the later passive forms, Gonda insists that eventivity and passivity are notionally distinct. Central to this distinction is the absence of any implication of agency in the middle forms. Thus, whereas the passive constructions represent an entity as suffering someone else's actions, eventive constructions represent the change designated by the verb, as belonging to the entity that undergoes the change.

Moreover, Gonda contends that if the implications of his characterization of eventivity were to be spelled out, an account of the reflexive and reciprocal uses of the middle voice, as well as its more apparently eventive dynamic use, would follow.
However, in this paper, we will concentrate on the parallelisms between the more prototypically eventive uses of the middle voice in Indo-European (the dynamic use) and children's eventive forms—thus postponing a discussion of the parallelism between its other uses and children's use of the reflexive and reciprocal expressions for a later date.

It should be reiterated that central to Gonda's characterization of eventivity is the fact that the subject which agrees with the middle voice verb is not an agent. Rather, this subject refers to an entity which manifests the change referred to by the verb. Moreover, this entity is not represented as a patient undergoing the action or an implied or deleted agent, but rather as the "seat" of the change. The three forms we will be considering share this central characteristic. We shall start with the Turkish data.

TURKISH

A brief characterization of the Turkish aorist and the passive are in order. The Turkish aorist, a polysemous inflection, gets added to the stem of the verb. Although grammarians disagree as to how its various meanings should be related to one another, the meanings often cited include: habituality, future reference, and tentativeness. Moreover, it seems to interact with person.

As for the passive, the verb is passivized in Turkish by the addition of the passive morpheme directly to the root of the verb, before the tense-aspect inflection. The Turkish passive is usually agentless. The domain on which the passive may operate is much wider than in English, in that (at least) some intransitive sentences may also be passivized.

The Turkish data was collected by A. Aksu for her dissertation: "Aspect and Modality in the Child's Acquisition of the Turkish Past Tense", 1978. We will be re-analyzing the speech of one girl and two boys from 2 - 2 1/2 years of age.

The most general point to be mentioned is that across all three children, the passive is used only with the third person. Furthermore, it can be seen from Table I that the earliest occurrence of the passive morpheme is restricted to negative sentences in the present tense. So for instance, sentences such as "It is not being opened"/"Açılmıyor" are common, while no sentences such as "It is being opened"/"Açılıyor" occur. At this first level in the development of the passive, the aorist has not yet made its appearance either.

At level II, the passive morpheme does appear in affirmative sentences. However, in these affirmative contexts the passive is restricted to the newly emerged aorist inflection, whereas in the present tense, the passive is still restricted to negative sentences. Furthermore, these passive sentences do not stand on their own. Almost all instances are immediately preceded or followed by another utterance which contains the active counterpart of the very same verb in the first person. The data reviewed so far is summarized in Table I.
### TABLE I

**Turkish**

Schematic Representation

All Passives are in the 3rd Person

<table>
<thead>
<tr>
<th>Level I:</th>
<th>V-Present</th>
<th>V-Negative Present</th>
<th>No Aorist Inflection</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>V-Negative Present</td>
<td>*V-Passive Present</td>
<td></td>
</tr>
<tr>
<td></td>
<td>V-Passive Present</td>
<td>V-Passive Negative Present</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Level II:</th>
<th>V-Present</th>
<th>V-Negative Present</th>
<th>V-Aorist (1st P.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>*V-Passive Present</td>
<td>V-Passive Aorist</td>
<td></td>
</tr>
<tr>
<td></td>
<td>V-Passive Negative Present</td>
<td>*V-Negative Aorist</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>*V-Passive Neg. Aorist</td>
<td></td>
</tr>
</tbody>
</table>

---

**EXAMPLES**

<table>
<thead>
<tr>
<th>Level I:</th>
<th>Açılｍiyor</th>
<th>Open-Pass-Neg-Pres</th>
<th>It is not being open</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Kapanｍiyor</td>
<td>Close-Pass-Neg-Pres</td>
<td>It is not being close</td>
</tr>
<tr>
<td>Pres. Tense</td>
<td>Yakılıｍiyor</td>
<td>Light-Pass-Neg-Pres</td>
<td>It is not being lit</td>
</tr>
</tbody>
</table>

The affirmative versions of these sentences do not obtain

<table>
<thead>
<tr>
<th>Level II:</th>
<th>Passive-Negative-Present tense sentences are the same as in Level I. And, as in Level I, no Passive-Affirmative-Present tense sentences are found.</th>
</tr>
</thead>
<tbody>
<tr>
<td>K &amp; Y Pres. Tense</td>
<td></td>
</tr>
</tbody>
</table>

**Aorist**

<table>
<thead>
<tr>
<th>Taşır им</th>
<th>Carry-Aorist-1st sing.</th>
<th>I carry it</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taşınır</td>
<td>Carry-Pass-Aorist</td>
<td>It carries</td>
</tr>
<tr>
<td>Burban Babaane’ye gidilír</td>
<td>Here-Ablat. Grandma-Dat</td>
<td>From here it is gone to the grandma's. (He leads to the grandma)</td>
</tr>
<tr>
<td>Go-Pass-Aorist</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Açır им</td>
<td>Open-Aorist-1st sing.</td>
<td>I open it</td>
</tr>
<tr>
<td>Açılışır</td>
<td>It opens</td>
<td></td>
</tr>
</tbody>
</table>

* indicates forms which are ungrammatical for children
In order to understand the proposed interpretation of the data, it must be noted that the use of the aorist is restricted to very specific contexts: namely those contexts in which what is at the center of the child's attention are the functional-physical properties of familiar objects. Essentially these are contexts involving instruction, demonstration, and exploration of objects – contexts in which objects per se are being focused upon.

What the distributional evidence cited so far suggests is the emergence in children's speech of two distinct but interdependent innovations to talk about events as events. First we have the passive. Given the fact that the passive can be characterized as making the verb agree with its object, what does its early restriction to negative sentences suggest about its meaning for the children?

In the negative passive sentences in which the verb is made to agree with its object, the non-occurrence of an event is thereby attributed to its object. Being unable to open a box, the contents of which she wants to have, the child says "It's not being opened"/"Açılmıyor". In this example and many other similar ones, the object agreement indicates that the non-occurrence of the opening of the box is attributed to something about the box. It is not a non-occurrence that the child has willed, but rather one that arises out of the properties of the box. It would seem that the earliest occurrences of the passive are restricted to reporting those cases in which the child's intentions/plans are frustrated due to the resistance from an object. This fits all the cases of the earliest uses of the passive morpheme in Aksu's data analyzed so far.

Thus, we interpret the use of these negative passive forms as indicating that the child has encountered events which can't be expressed within an agentive framework. An unsuccessful action due to the object's resistance isn't amenable to an agentive description. If the child were to use an affirmative sentence, at best what she could do would be to give a stative description of the 'culpable' property (eg. "It's hard"... and therefore won't bend), but what she can't do is to affirmatively describe a non-agentive change in the object that is made possible by these properties (eg. "It bends"). The report of such a change is what we want to refer to as eventivity: namely the ability to describe objects as manifesting changes, rather than agents bringing about the changes in those objects.

However, the passive by itself cannot function as such an eventivity marker because even when it makes the underlying object into the surface subject, the remaining verb morphology (the person and tense-aspect inflections) would still interpret this surface subject as the agent. This might explain why the children do not use the passive in affirmative contexts at the first level. Thus, the child needs at his disposal not only a way of attributing the verb to the object, but also a formal means to express a different kind of relationship between the object and the change it undergoes, than agency. The newly acquired aorist
is used for this purpose. In suppressing any implication of agency, the aorist functions as such an "eventivity" marker (in the sense of Conda). It serves to represent the object as "manifesting" the change without the "agent being mentioned or even implied". That is, the aorist sentences serve to represent what the objects 'can do' in light of their physical-functional capacities (like their 'attach-ability', or 'open-ability'). In other words, these sentences represent the changes the objects undergo in virtue of such intrinsic functional-physical properties, and not in virtue of agentic volition.

Yet if we look at the aorist examples in Table I, it will be noticed that some of them are in the first person active voice and thus seem to contradict our eventive interpretation. However, these first person uses are not randomly distributed in the children's corpora. Each occurrence requires a preceding or following third person passive aorist counterpart of the same verb. Thus we get lots of examples such as "I open it"/"Acarım" coupled with "It opens"/"Açılır". We want to argue that these first-third person active-passive couplings, which use the same verb with the aorist inflection in quick succession, are not mere "performance" options. But rather that these couplings are a necessary prerequisite for the later independent use of the third person aorist sentences.

This sort of data beautifully elucidates Piaget's developmental claim about the acquisition of physical concepts about objects. According to Piaget, children first discover functional-physical properties of objects through the manipulations they themselves perform on those objects. This means that object properties ultimately derive from the child's own manipulations.

Thus, what we want to claim is that the two children at Level II, are making explicit the way in which they come to know objects as independent sources of events. That is, the first and third person couplings represent both the way in which children come to discover events and the resultant representation of those events. These conclusions are supported by the following facts: 1) The third person passive constructions only occur in those contexts in which the child is actually enacting the event designated by the verb; 2) The children use the active and the passive voice of the same aorist inflected verb within a very short sequence - predicking the same verb now of themselves (first person) and now of the object (third person); and 3) Some of the third person constructions stand on their own independent of a first person counterpart, but the obverse situation never obtains. This suggests that the third person use is developing out of the amalgamated first and third person uses.

Given this sort of data, we want to claim that this tandem use of the aorist in the first and third person, which is conversationally redundant, captures the process of disservering facts about the object (what happens to it) - from what the agent does. In other words, by using the same verb in the aorist, in both the first and third person, the child is effectively able to objectify her manipulations and ascribe them to the object. Soon the third person uses will be able to stand on their own and the
child will be able to express the powers of the objects without any reference to himself.

Thus, the Turkish data suggests that eventivity is a homogeneous functional category whose acquisition is a complex formal achievement for children. Moreover, although Turkish does not have any obvious eventivity markers, the newly acquired forms like the passive and the aorist are restrictively combined so as to create a marking for this notion.

ITALIAN

The next source of seemingly corroborative data for the significance of eventivity in children's early speech, comes from a re-interpretation of the Italian data reported in the nice observational study by Antinucci and Miller. According to Antinucci and Miller (1976), when children acquire the passato prossimo construction, they make the past participle agree with the object instead of the subject as is required by the adult grammar.

In their words, in these constructions, the verb is characterized as an attribute of its object rather than as an action performed by an agent. Furthermore, this agreement is restricted to a newly acquired verb form - the auxiliary plus the past participle. Thus, it would seem that at a similar age, the Italian children not only make the verb agree with its object, but also use a novel verb form to express the relationship between the object and the change it undergoes. On the basis of the Turkish data, we have already suggested that eventivity consists in precisely these two related achievements. Thus we have strong reason to suppose that the nascent use of the passato prossimo expresses eventivity for young Italian children.

ENGLISH

Now on to the English data. The first corpus to be analyzed is the one collected by Roger Brown and his associates from Adam (reported in inter alia, Brown 1973). Our analysis will cover the age span 2;8 - 3;1 and thus focuses in on a later stage of language acquisition than for the Turkish children.

The reason for honing in on a later stage is as follows: At this stage, two new forms make their appearance in Adam's speech: the third person present tense inflection and periphrastic causative constructions (see Bowerman 1974 for a fuller documentation of the latter phenomenon in children's speech). As is usual for emergent forms, their nascent uses are restricted. We are going to argue that one can account for these restrictions by positing a functional category like eventivity which ranges over the use of certain verbs in certain contexts. In other words, we will argue that unless Adam already has some prior articulation of "eventivity", his restricted use of the periphrastic causatives and the -s inflection seem rather anomalous. Instead, our hypothesis that children mark eventivity will make these restrictions intelligible.

The data on which these conclusions are based follow. What is most striking is the fact that the verbs which embed under the explicit causative verbs and the verbs which take the -s inflection form an overlapping class. Moreover, these verbs exhibit another interesting feature: namely they are used both transitively and intransitively such that the object of the transitive sentence occurs in the subject
position of the intransitive sentence. Following traditional usage, we will call these verbs "middle verbs". To give an example, sets like the following are common.

A door opens.  It walks.  It fits.
I open the door. I walk him. I fit it.
I put the door open. Make him walk. I make it fit.

Of course, not all of Adam's verbs occur in this paradigm. In fact, other transitive verbs such as GIVE and THROW, and propositional attitude verbs such as WANT and LIKE are left uninflected when they occur in the third person present tense. Some examples follow.

Daddy give it to me. (Non imperative)
A cow dance.
He want it.
He throw it.

In fact the only other class of morphemes which do occur after explicit causative verbs are particles like IN, OUT, OFF, ON, AWAY, and BACK - and they occur in these contexts without a following noun phrase. These particles will be dealt with in the next section. For now, we shall try to characterize the limited class of verbs which occur in periphrastic causative constructions and which take the -s inflection.

Periphrastic constructions occur if and only if the clause embedded under the causative verb occurs elsewhere as a full sentence with the -s inflection. Remembering the paradigmatic example, "A door opens" and "I put the door open", it seems to be the case that only if an event is capable of being described without any reference to an agent or a cause, (as in "A door opens"), can it then also be described by a periphrastic causative sentence (as in "I put the door open"). Thus sentences like "A door opens" are eventive constructions and hence do not express any causality on their own. Consequently, in order to receive a causal interpretation, they must embed under an explicit causative form. The eventive interpretation of such sentences is best reflected in an almost prototypical example: the way in which Adam talks about his mechanical toys which work by being wound up. That is, their movement is not brought about by any volition but rather is due to the object's mechanical powers. When it is predicated of such a toy, Adam inflects a verb of motion like WALK with the -s inflection ("It walks"), but the same verb remains uninflected elsewhere.

What we are claiming is that at some point, Adam has recognized the distinction between a subject who intends to bring about a change of state, and a non-agentive subject which has the power to manifest a change of state. The -s inflection is restricted in its incipient use to cases of the latter non-agentive variety. Thus, we suggest that the -s inflection is initially used to distinguish eventive intransitive sentences like "A door opens" from agentive intransitive sentences like "He dance" - which noticeably is not marked with the -s inflection. Such a conclusion rules out the
hypothesis that the -s inflection is being used as an intransitivity marker irrespective of agency. Of course, we are not suggesting that this discriminatory function of the -s exhausts the meaning of the -s form for Adam.

However, if these -s inflected verbs are indeed eventive as we have argued, what about the transitive uses of the same verbs? What is the relation between the transitive and the intransitive uses? The interpretive problem this question raises is analogous to the one we have encountered with respect to the first person active aorist sentences in Turkish. Therefore, we offer the same interpretation in both cases. The third person eventive intransitive sentences represent the eventual objectification of the manipulation children themselves perform on objects. The first person forms make explicit the way in which children discover the properties expressed by the third person forms. For example, the child experiences his own opening of doors innumerable times; this gives him the framework to understand both that he, as an agent can open a door, but also that the door can open—that it is an openable. With this eventive sort of understanding the child can say "The door opens", without taking an stand on the issue of agency.

Although at this point we will not discuss it, it will be remembered that another context with respect to which these middle verbs function as a homogeneous class is that they embed under periphrastic causatives. This further corroborates our eventive interpretation since, to put it roughly, when the causal history of such events is described, the causality must be represented as being external to the event.

In addition to the data on Adam, we have English data on two girls, three years of age, in make-believe doll play situations. The data come from the second author's dissertation. This data is interesting in virtue of the fact that due to the context of make-believe doll play, other linguistic requirements arise which conflict with the expression of eventivity through the third person present tense inflection. More specifically, in so far as make-believe play consists of creating possible worlds, it requires an extensive use of modal forms. And in fact, our previous analyses show that at least 90% of the verbs in the third person co-occur with modals—thus obliterating the grammatical context for the third person -s inflection. This observation raises an interesting question. Does the absence of the -s inflection indicate an absence of eventive constructions altogether? Or, would other constructions be used which serve to distinguish doings from happenings? We hypothesized that some expression of eventivity would be retained in make-believe doll play, since there is a const split between the subject who wills the action (the child) and the subject which performs it (the doll). Thus, this split creates the conditions which would make the use of eventive expressions appropr

Congruent with the analysis of Adam's speech, we chose to look at the verbs which embed under explicit causitive verbs. We found that this class includes 2 sorts of predicates: 1) verbs of motion
such as GO, COME, WALK (eg. "Daddy gonna take you a walk") , and 2) particles such as BACK, OFF, ON and IN (eg. "I put them back to you"). At this point, although we have not fully analyzed the complete use of these particles, it is important to note that the use of the particles supports our general finding. That is, only those intransitive predicates which may occur as full predicates elsewhere, may be embedded under explicit causative verbs to form periphrastic causatives. That these particles are in fact being used independently in noncausative contexts is demonstrated by the following: As A is taking off her doll's dress, she says "off her dress". The context and intonation suggest that this utterance is a description and not a self-imperative. Or, as A is placing her doll in a toy ambulance, she says "In here", or putting her doll's panties on, "Panties on". Thus, we feel justified in treating these particles as full predicates in their own right. Furthermore, as will be remembered, we noted that Adam also uses particles as predicates which embed under explicit causatives: "I going put the door open (s) and put doors back together".

Thus, although there are no -s inflections in this make-believe play data, we find that, analogous to the data on Adam, a subset of independent predicates occur in explicit causative constructions. Moreover, when these predicates occur on their own, children often use them with other formal means to represent the non-agentive relationship between the subject and the verb. The most striking of these is the use of an objective pronoun in the subject position such as: "Hers gonna go in the water", "Hers gonna go asleep", "Us gonna get a tea party and it's gonna be fun", said by the three year old in the make-believe play situation. Now of course, in order to flesh out the meaning of these observations (for example, the seemingly eventive use of 'get' as a main verb), we need to discuss them in terms of the other distributional facts which obtain for this corpus. However, for purposes of this paper, it is enough to point out the partial overlap with the previous English corpus, in order to raise the more general question about the relationship between eventivity as a semantic notion and the particular genre or discursive context in which it is situated. If it is the case that children find it compelling to have a way to talk about events independently of their own agency, and yet the means they "typically" deploy are not congruent with the requirements of a particular genre - what happens?

Although we do not have a definitive answer to this question, our findings suggest that generic influences may have a shaping role in the articulation of functional categories such as eventivity. The make-believe data begins to document the more particular forms such generic influences may take in child language. Given this fact that across genres, divergent forms may be used to express a similar semantic notion, more attention should be paid to the requirements of particular genres as sources of linguistic change in both childhood and history.
CONCLUSIONS

Hopefully, by now we have been able to demonstrate the relevance of historical linguistics and Indo-European studies for the study of child language. Thus, to conclude we would like to suggest two different ways in which the present child language analysis may be extended such that it may have implications for some problems of Indo-Europeanists:

1). It is well known that besides its eventive function, the historical middle voice was used to express emotions/sensations, reflexivity, reciprocity, etc.. It has been suggested by many scholars that these seemingly diverse functions stem from a single core meaning. If indeed there is such a core meaning for these different functions, one would expect that children using eventive constructions would use (or "over-extend") them to express such things as emotions, reflexivity, and reciprocity as well. Since we can observe the actual speech situations which prompt such over-extensions, we may be able to get a glimpse of the behavioral-situational bases which link the expression of eventivity to the expression of any of these other notions.

2). A second point of potentially fruitful contact between child language and historical linguistics concerns one of the most muddling of all questions - What happened to the historic middle voice? In tracing how children re-interpret their earlier eventive forms so as to approximate adult usage, we may be able to suggest some possible directions in which the historic middle voice may have changed.

NOTES

1. We wish to thank Julian Boyd for drawing our attention to the phenomenon of eventivity. In the writing of this paper, Carol Justus has been immensely helpful both in terms of her generosity with respect to her knowledge of Indo-European and her warm support. We also wish to acknowledge the inspiring influence of Dan Slobin's paper, "The Origins of Grammatical Encoding of Events", 1979.

BIBLIOGRAPHY

BLS Publications:

Proceedings of the First Annual Meeting (1975) $6.00
Proceedings of the Second Annual Meeting (1976) $9.00
Proceedings of the Third Annual Meeting (1977) $10.00
Proceedings of the Fourth Annual Meeting (1978) $7.00
Proceedings of the Fifth Annual Meeting (1979) $8.00
Proceedings of the Sixth Annual Meeting (1980) $8.00

Shipping rates per volume:

<table>
<thead>
<tr>
<th></th>
<th>Domestic</th>
<th>Overseas &amp; Canada</th>
</tr>
</thead>
<tbody>
<tr>
<td>BLS 1, 2, 6, 7</td>
<td>$1.05</td>
<td>$1.50</td>
</tr>
<tr>
<td>BLS 3, 4, 5, 8</td>
<td>1.25</td>
<td>1.80</td>
</tr>
</tbody>
</table>

California residents please add appropriate sales tax.

Order from: The Berkeley Linguistics Society
University of California
Berkeley CA 94720