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Cumhachtach go bráth,
ní lag go deo.

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The following authors did not present their papers at the Annual Meeting, but are published in this volume: F.N. Akinnaso, M. Dede, M.N. Silva, S.S. Tura.

The Executive Committee of the Berkeley Linguistics Society wishes to express special thanks to Eve Sweetser for the fine calligraphy which graces our pages this year as in previous years.

LANGUAGE INDEX

ON THE SYNTAX AND SEMANTICS OF NOMINAL COMPOUNDS IN YORUBA PERSONAL NAMES

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1. The traditional view that the behavior of nominal compounds is almost entirely unsystematic and therefore not subject to rigorous analysis (Jespersen, 1942:6.143) has now been clearly replaced by at least two different theoretical views of the subject, each attempting a formal analysis of the syntax and semantics of nominal compounds: one argues their derivation from underlying sentential paraphrases and finite semantic predicates, while the other favors the functional negotiation of the semantic relations between compounded elements.

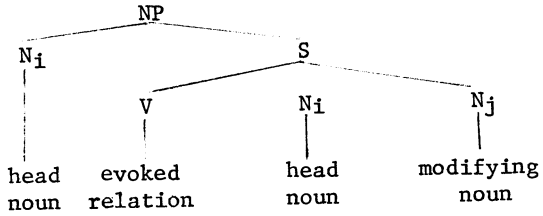
Though they differ in several respects, the analyses of nominal compounds provided by Lees, by Li, and by Levi, among others, typify a theoretical tradition which assumes that nominal compounds are based on a rather restricted set of underlying semantic relationships.[2] In particular, Levi (1978:50) who provides the most exhaustive study of complex nominals in English claims, among other things, that (i) complex nominals are all derived from an underlying NP structure containing a head noun and a full S in either a relative clause or NP complement construction; (ii) complex nominals are all derived by just one of two syntactic processes: the deletion or the nominalization of the predicate in the underlying S; and (iii) any given complex nominal is inherently and regularly ambiguous over a predictable and relatively limited set of possible readings.

In contrast to the generative-semanticist position that these claims suggest are the analyses of nominal compounds by Zimmer, by Downing, and by Kay and Zimmer.[3] These workers suggest that neither the semantic relation between the two nouns nor the overall meaning of the compound is explicitly signalled at any linguistic level but rather evoked and left for negotiation between speaker and hearer. Within this tradition, Zimmer's (1971) work marks a pioneering attempt to shift the focus from lexicalized, attested, and familiar compounds to novel compounds and the conditions under which they are created. Downing (1975, 1977) takes this functional approach in her ingenious study of the creation and use of nominal compounds in English. A major claim in Zimmer's work is that nominal compounds function primarily as naming devices which pick out particularly salient categories of the speaker's experience. Downing endorses this claim and goes further to stress the distinction between the naming function of nominal compounds and the asserting function of their sentential paraphrases.

In their recent formulation of the semantic structure and function of nominal compounds, Kay and Zimmer (1976) suggest that "the

prototypic use of nominal compounds is to narrow the semantic coverage of the head noun to a smaller class." However, they argue, since neither the semantic results of the narrowing nor the semantc relations between the two nouns is explicitly stated at any linguistic level, there is no reason to suppose that a finite list of semantic predicates or underlying paraphrases will be sufficient to supply the ungiven information. Consequently, Kay and Zimmer suggest that the formal semantic structure of nominal compounds be represented as follows:[4]

(1)



The most interesting thing about this structure is that the V-node of the complement sentence dominates essentially nothing as no particular relation is specified between the two nouns in any given compound.

In the present paper, I examine the syntactico-semantic structure and naming function of nominal compounds by analyzing a productive subset of Yoruba personal names. Attested Yoruba personal names of the form N + N are analyzed and compared to ordinary, attested nominal compounds in the language. Another set of data comprising personal names derived from VP nominalizations are then compared to those derived from N + N compounds. The results show that the syntax and semantics of personal name nominal compounds and of ordinary nominal compounds in Yoruba are similar (with the former drawing more from cultural and symbolic structures than the latter), but completely different from those of verb (phrase) nominalizations. Consequently, they can not both be derived from similar underlying structures. In particular, the results show that N + N compounds in Yoruba regularly exhibit syntactico-semantic characteristics which lead us to reject the analyses of nominal compounds, e.g., by Lees, by Li, and by Levi, which suggest their derivation from underlying sentences or clauses in the same way that verb (phrase) nominalizations are accounted for.

2. Besides its more obvious function which is the differentiation of individuals, personal naming in Yoruba is another way of talking about what one experiences, values, thinks, and knows in the real world. Consequently, the construction of Yoruba personal names is based on systematic cultural principles and the coding of information into them is based on the lexical, syntatic, semantic, and pragmatic rules of the language.

Three basic sociocultural principles underly the construction of Yoruba personal names.[5] First is the home context principle

which defines the nature and context of the special circumstances (social, economic, political, religious, sentimental, etc.) on which a given personal name is based. Secondly, there is the positive sanction principle which allows for the elimination of socially unacceptable information from personal names. By eliminating negatively sanctioned home contexts such as witchcraft, disability, criminality, etc., this principle supports the incorporation of only socially valued information in personal names. This allows namers to focus on highly valued objects, events, or social positions; e.g., ayọ̀ "happiness", ọlá "honor", ìfẹ́ "love", owó "money", adé "crown", etc., which, as we shall see, form recurrent themes in Yoruba personal names. The motivation for the third principle--the generality principle--hinges on the socio-pragmatic requirement that identification labels be brief. The generality principle permits the abstraction from a multiplicity of events (statable in several sentences) of short generalizations which can then be used in personal name construction. Since Yoruba personal names are used to associate persons with socially and psychologically salient events, the generality principle helps to eliminate ephemeral and specific information, making it possible for negatively valued events to be "buried" or eliminated completely through the use of short generalizations. Such generalizations can take the form of sentences or nominals.

Suppose, for example, that x is a wealthy man who recently became the president of a popular local club. Suppose also that there is another man y who is a pauper and so financially (and socially) incapable of joining the club. Suppose further that each of these men had a baby, x at the height of his fame and y at the height of his poverty. Because of the Yoruba preference for positive expectations and high values, the rich man can give to his new baby any of the names below:

(2)a. Olowogbade — olówó gba adé
owner-of-money get crown
"the wealthy gets the crown (i.e., the best of everything"

b. Ajenusi — aje ni `usì
money have fame
"wealth epitomizes fame"

c. Okẹowo — `okẹ + owo
bag + money

d. Afọlayan — a (= ẹni tí ó) fi ọlá yan
NOMINALIZER (one who) use- honor -march
"one who walks honorably"

An interesting aspect of the operation of Yoruba personal naming principles is that y, the pauper, can give any of the above names to his child. When this happens, personal names are used to focus on desirable positive values or experiences that the namers lack at the moment of naming. By associating his child with experiences that

are antithetical to his current situation, y is able to make a social comment both on his undesirable situation and on society in general. In any case, the important point here is that the x and y story and the names in (2) illustrate the application of the sociolinguistic principles underlying the construction of Yoruba personal names, though in a rather simple way.

3. Depending on the amount of information being signalled, Yoruba personal names can be derived from nominals or full sentences of varying degrees of complexity. This means that Yoruba personal names are constructed from two basic syntactic rules:[6]

(3) Nominal ⟶ Name

(4) Sentence ⟶ Name

For example, (2)a and (2)b are derived from sentences, while (2)c and (2)d are derived from nominals. In the application of the Nominal ⟶ Name rule, nominal can be realized as (i) a simple noun, (ii) a compound noun, or (iii) a verb (phrase) nominalization. Because of the general syntactic and semantic classification of personal names (they are NPs or head nouns in sentence structure, referring uniquely to certain individuals and functioning as agents or patients of predicates), the Nominal ⟶ Name rule appears to be the most general rule of personal name construction in all cultures. The most common application of this rule, however, views a nominal as a proper noun, such as the British or American John, which has no morphological or syntactic complexity. Conventional linguistic theory explains the structure of personal names mainly in terms of this simple process.

In Yoruba, however, personal names derived from simple nouns are very few and they constitute a limited subset of Yoruba personal names known as orúkọ àmútọrunwá ("name brought from heaven"), e.g.,

(5)a. Ojo — child born with the umbilical cord twined around its neck

b. Dada — child born with curly hair

c. Ajayi — child born with its face downwards during birth

Each of these names is made up of a single morpheme and has a unique cultural meaning which corresponds to the special birth circumstance for which it stands. Though àmútọrunwá names are very few, the list of Yoruba personal names derived from nominals is infinite because of the productive capacity of nominalizations and compounding.

When Yoruba personal name nominal is of the form $N_1 + N_2$, two attested nouns drawn from the general lexicon are combined to form a personal name. However, there are severe restrictions both on the choice of nouns and their combination. Only the major restrictive factors will be mentioned here. First, the choice of nouns must be motivated by the sociocultural considerations discussed in the pre-

ceding section. Secondly, only nouns having cultural or symbolic significance apart from their ordinary semantic denotations can be selected. Thirdly, given x as N_1 and y as N_2 in the personal name construction $N_1 + N_2$, y must be accorded equally high or higher social value than x--at least according to the namer's value hierarchy at the moment of naming. Furthermore, a definite structural relationship exists between the two nouns: N_1 must function syntactically as head of the noun phrase while N_2 must function as qualifier. Thus the higher social status that may be accorded N_2 is compensated by the higher structural status accorded N_1. Finally, the referents of both the head and the qualifying member of the compound must bear some clearly perceivable relationship. In other words, no suitable compounding relationship can exist between two nouns where their co-occurrence is definitionally or pragmatically precluded (Downing, 1977).

As we shall see, nominal compounds are particularly effective in Yoruba personal name construction because of their function in picking out relevant categories of the namer's past, potential, or desirable experience and in doing so without making any assertions. (6) below offers some clear examples of attested Yoruba personal names of the form $N_1 + N_2$.

(6)a.	Ọkẹọwo	ọ̀kẹ́ + owó	"bag + money"
b.	Adeọla	adé + ọlá	"crown + honor"
c.	Ọdunayọ	ọdún + ayọ̀	"year + happiness"
d.	Oyinọla	oyin + ọlá	"honey + honor"
e.	Olaolu(wa)	olá + olú(wa)	"honor + God"
f.	Ẹniitan	ẹni + ìtàn	"person + story"
g.	Oriade	orí + adé	"head + ade"
h.	Ẹniọla	ẹni + ọlá	"person + honor"
i.	Akinade	akin + adé	"valor + crown"
j.	Ẹbunọla	ẹ̀bùn + ọlá	"gift + honor"

I have not suggested a single meaning for any of the above compounds because (i) no semantic relation is explicitly signalled between any two members of any one compound; and (ii) the list of interpretations with different semantic relations holding between the two members in any one compound can be extended indefinitely. Indeed, given the wide range of variation in human experience and in home contexts that can motivate a given Yoruba personal name, it should not be expected that any personal name nominal compound should have one monolithic meaning. Let us, for example, consider some possible interpretations of Ọkẹọwo, (6)a [also (2)c]. For the purposes of this paper, we may interprete Ọkẹọwo as bag so-named because it can be any of the following:

(7) "bag of money"

"bag for storing money"

"bag in which money is kept"

"bag in which money can be kept"

"bag that is filled with money"

"bag for transferring money"

"bag used by Banks for customers dealing with large sums of money"

etc.

The 'etc.' indicates that the list can be extended indefinetely as argued for the interpretations of finger cup in Kay and Zimmer (1976). But the interesting thing about the above interpretations is that Ọkẹowo, as a personal name, does not mean any of them. We shall return to this in a moment.

In the meantime, let us consider the semantic implications of ọkẹ owo as an ordinary nominal compound. The following sentence (8) uttered by the Treasurer of a local farmers' cooperative union at a committee meeting shows that ọ̀kẹ́ owó is an attested nominal compound:

(8) ọ̀kẹ́ owó nâà ti ń gbó bag money the is -ing wear
"The 'money bag' is getting worn"

Depending on context and the degree of shared knowledge between the speaker and his audience, any of the interpretations in (7) can be suggested for ọ̀kẹ́ owó in (8). This problem of variable semantic interpretations applies to all attested nominal compounds in the language. The story is different with lexicalized nominal compounds which, like ordinary words, have prototypical meanings. Indeed, as Levi (1975:141) points out, "lexicalization is a result of a historical or cultural process which associates with a given NP only ONE of its numerous possible readings." Thus the possibility of variable semantic interpretation is minimized in regard to the following lexicalized compounds, each of which is interpreted more or less like a single word:

(9)a.	ilé iwé	house + book	"school"
b.	ilé ayé	house + life	"world"
c.	ọmọ ọba	child + king	"prince/princess"
d.	iṣẹ́ ọwọ́	work + hand	"handicraft"
e.	owó orí	money + head	"(income) tax"

There are, of course, numerous nominal compounds in colloquial use which, though not yet lexicalized, have had their possible variable meanings reduced. An example is (10) below whose present meaning is

only metonymically related to the transparent meanings of its members.

(10)	ọmọ ilé	child + house	"one of us", (i.e., an in-group member)

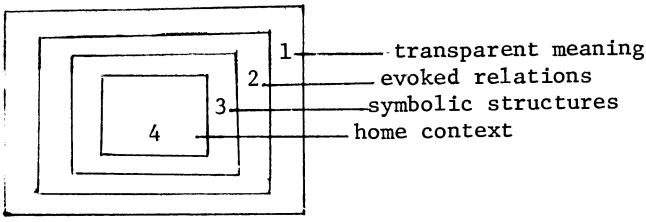
In returning now to personal name nominal compounds, we would try to answer the following question: What is the semantic structure of the kinds of information coded in personal name nominal compounds and how does it differ from that of ordinary nominal compounds? In aswering this question, I would like to follow Keesing (1979) who distinguishes between transparent and metaphorical-symbolic senses of words and suggests how to represent such distinctions in a semantic description. Using data on certain verbs and lexical items from the Kwaio of Malaita, Solomon Islands, Keesing shows how some of the difficulties that beset grammatical theory and lexical semantic descriptions derive from trying to analyze native speaker's linguistic knowledge as a self-contained system. He suggests that a characterization of a people's cosmology, symbolic structures, and cognitive economies is a necessary prerequisite to their lexical semantic description especially since members of a given community often use linguistic signs "to evoke a world of . . . [shared] meanings that express, presuppose, and are motivated by cultural assumptions" (pp. 21-22)

Going back to Ọkẹọwọ, let us examine in some more detail how cultural-symbolic information is encoded in Yoruba personal name nominal compounds and why such information remains opaque to the uninitiated. Earlier in (7), we saw a variety of possible interpretations of ọ̀kẹ́ owó. But these are interpretations derived from possible evoked relations between the two members of the compound and their possible semantic representations. When Ọkẹọwọ is used as a personal name, these various interpretations conjure a composite symbolic category: the image of "wealth" or "riches". As true of many societies, the symbols of wealth among the Yoruba include the ownership of prestigious cars and big houses, and membership in "elite" clubs or local associations. Used as a personal name, Ọkẹọwọ evokes these symbols severally or jointly in the mind of the hearer though namers may attach particular importance to particular symbols. Moreover, the sociocultural implications of these symbols vary according to the nature of the motivating home context. For example, if the child of a wealthy man is named Ọkẹọwọ, the symbols of wealth conjured by the personal name may be those currently enjoyed by the family. However, as pointed out earlier, if the same name is given to the child of a pauper, the conjured wealth would be nothing more than a desired state. Furthermore, if Ọkẹọwọ is the child of a robber, then the child's name is an attempt to cover up the father's negatively sanctioned occupation. Stretched this far, Ọkẹọwọ loses its transparent meaning.

So far, we have (both implicitly and explicitly) identified four levels of meaning for ọ̀kẹ́ + owó: (i) the level of transparent meaning of each member of the compound; (ii) the level of evoked semantic relations between the two; (iii) the level of cultural-

symbolic structures conjuring series of relevant images in the mind; and (iv) the level of the motivating home context which specifies the events that trigger the choice of the compound as a personal name. A semantic description of Yoruba personal name nominal compounds can be made on the basis of this four-layered semantic representation which is presented diagramatically as (11).

(11)



In addition to the major restrictions on personal name nominal compounding processes, an important difference between them and ordinary nominal compounds is that the former draws more on cultural and symbolic assumptions. Thus while ordinary nominal compounds hardly go beyond level 2 in (11) above, personal name nominal compounds must include levels 3 and 4. However, in both cases, meaning has to be negotiated as the semantic relations between compounded elements or between them and symbolic structures is not explicitly stated at any linguistic level.

4. The various cultural constraints discussed so far also distinguish personal names derived from verb (phrase) nominalizations from similar nominalizations used in ordinary conversation. However, the same syntactic processes apply to their construction. Yoruba nominalization processes are very rich and productive (see, e.g., Ekundayo, 1976). Discussion here will be limited to the use of the low-tone prefixes /à-/ and /ì-/ as well as the mid-tone prefix /a-/ in verb (phrase) nominalizations commonly used in the construction of Yoruba personal names. The names in (12)a - e below are nominalizations of the verb compounds in (13)a - c respectively, making use of the low-tone prefix /a-/.

(12)a.	Abikẹ́	à		bí	kẹ́	?"one who is born to be petted"
		NOM(inalizer)		bear	pet	
b.	Ariyọ̀	à	rí	yọ̀		?"one who is joy to see"
		NOM	see	pet		
c.	Abẹ̀kẹ́	à	bẹ̀	kẹ́		?"one who people beg to pet"
		NOM	beg	pet		
d.	Ajaní	à	jà	ní		?"one who is owned through struggle"
		NOM	struggle	have		
e.	Adukẹ́	à	dù	kẹ́		?"one who people scramble to pet"
		NOM	scramble	pet		

(13)a.	bí + kẹ́	bear (child) + pet
b.	rí + yọ̀	see + rejoice
c.	bẹ̀ + kẹ́	beg + pet
d.	jà + ní	struggle + have
e.	dù + kẹ́	scramble + pet

As indicated by the + sign, the two separate verbs in (13)a - e are compounded through similar syntactic processes as used in the construction of nominal compounds, and with similar semantic implications of an evoked relation between the two verbs in each compound.[7] This means that, as in nominal compounds, there is considerable semantic freedom of relation in verb compounds in Yoruba. For example, the following interpretations of the name Ariyọ (12)a exist and they are motivated by the variable interpretations of the semantic relations between the two verbs in the compound:

(14)a. ẹni tí ó jẹ́ ohun ayọ̀ láti rí
"one who is joy to see"

b. ẹni tí ó mú ayọ̀ wá fún ẹnikẹ́ni tí ó bá rí i
"one who brings joy to whoever sees him"

c. ẹni tí a rí tí a sì yọ̀
"one who makes us rejoice on or as a result of seeing him"

d. ẹni tí ó fẹ́ kí àwọn tí ó bá rí ọun wà nínú ayọ̀ ní ìgbà gbogbo
"one who wants other people to be always happy each time they see him"

e. ẹni tí a rí yọ̀
can mean any of the above.

Given this variety of interpretations, it can now be seen that the glosses provided in (12) above are quite arbitrary. Indeed, the question mark in front of the glosses in (12) is put in anticipation of the data in (14).

However, a different kind of explanation has to be advanced for names derived from verb phrase nominalizations using the mid-tone prefix /a-/ as in (15).

(15)a.	Abiọdun	ẹni tí a bí sí'nú ọdún "one who is born during a festival"
b.	Abọdẹrin	ẹni tí ó bá ọdẹ rìn "one who walks in the company of hunters"
c.	Abiọna	ẹni tí a bí sí ọ̀nà "one who is born on the wayside"
d.	Ajibikẹ	ẹni tí ó jí bá ìkẹ́ "one who wakes to find petting"
e.	Afọlabi	ẹni tí a fi ọlá bí "one who is born with honor around him"

Structurally, the names in (12) are different from those in (15). The former are derived from verb compound nominalizations whereas the latter are derived from verb phrase nominalizations. For example, prepositions and nouns occur as VP constituents in (15) while the VPs in (12) are simply verbs only. The distinction made here between verb compounds and verb phrases has important semantic implications. While the range of interpretations of the names in (12) is theoretically infinite, the presence of verb phrases in (15) allows for the narrowing of the meanings of the names to those suggested in (15). Let us illustrate with one example, (15)d. Through some contraction and deletion processes, the VP bá ìkẹ́ (V + N) becomes bikẹ. This is in turn juxtaposed with the single verb ji. This complex is then nominalized by the prefixation of /a-/ to derive the name Ajibikẹ. The presence of the noun ìkẹ́ makes the verb structure a verb phrase rather than a verb compound. But more importantly, the noun ike gives the verb phrase a clear semantic focus.

The story is slightly more complicated with the use of the low-tone /ì-/ in the nominalization of verb structures in the construction of Yoruba personal names, e.g.,

(16)a. Ifẹolu(wa) i(NOM) + fẹ́(love) + Olú[wa](God)
?"the love of God"

b. Ibukunọla i(NOM) + bù-kún (add-more) + ọlá (honor)
?"an increased allotment of honor"

From the surface structure alone, one would have expected that the VP of (16)a would be fe Olú. If this were the case, (16)a would be derived from (17).

(17) Mo fẹ́ Olú "I love God"

However, this is not the case because (17) is not an acceptable interpretation of the Yoruba personal name in (16)a. On the contrary, if the baby so named is viewed as a symbol of God's love for its parents, (16)a can be interpreted as a derivative of (18) whose underlying S is (19).

(18) Ìfẹ́ tí Olúwa ní fún mi
"love which God has for me"

(19) Olúwa fẹ́ mi
"God loves me"

Given this derivational interpretation, the surface form Ifẹolu (16)a is derived from the nominalization of the verb fẹ́ in (19) by the prefixation of /ì-/ which is then juxtaposed with the diminutive form (Olu) of the subject NP of the sentence (19).

However, this is not all the story. Since, like Olú and olá, ìfẹ́ and ìbùkún are regular nouns in the language (many regular nouns in Yoruba are derived from verb [phrase] nominalizations), it is possible to regard Ifẹolu and Ibukunọla as nominal compounds. If they are so regarded, then each of them will be open to various

semantic interpretations. Consequently, the meaning stated for Ifeolu above will be one of several possibilies. The fact that Oluwafẹmi (19) exists simultaneously with Ifẹolu as a personal name in Yorùb suggests that the two names have different pragmatico-semantic implications. Oluwafẹmi is a declarative sentence, Ifẹolu is not a sentence; the former is assertive, the latter is not. But more importantly, the latter may not, after all, be derived from the former.

5. The syntactico-semantic structure of nominal compounds proposed by Kay and Zimmer (1976), and represented as (1) above, accounts for the basic structure of nominal compounds in Yoruba. Unlike a sentence or a sentential paraphrase which asserts, a nominal compound should be viewed as a concatenation of two nouns naming or symbolizing in a somewhat hierarchical order of salience, some relevant, nameable, categories of the speaker's experience. Since the constraints on nameable categories are more cultural than linguistic, we surely need to incorporate more cultural information in the description of nominal compounds and other lexical semantic categories than hitherto realized or permitted by conventional linguistic methodology.

The syntactico-semantic structure of verb phrase nominalizations is different from that of nominal compounds in several respects. For one thing, verb phrase nominalizations do not all derive from the same source structure and so can not be accounted for in the same way (cf. Levi, 1978). Secondly, each verb phrase nominalization has a focused interpretation; this is particularly so in Yoruba where proper nouns, function words, etc., participate in their construction. Thirdly, verb phrase nominalizations seem to favor particular clausal or sentential derivations. However, while paraphrase relationships between verb phrase nominalizations and their underlying clauses or sentences are derivational, paraphrase relationships between a given nominal compound and its numerous clausal or sentential interpretations can not be derivational. They are different phenomena and can not both be accounted for in terms of a finite set of semantic predicates and underlying clauses or sentences.

NOTES

1. This paper is in its preliminary version. But I wish to acknowledge the influence of Paul Kay who drew my attention to the implications of my data on Yoruba personal names for the issues discussed in this paper. I may soon regret that I am yet to make the paper available to him and others for comments.

2. Lees (1960, 1970); Li (1971); Levi (1975, 1978).

3. Zimmer (1971); Downing (1975, 1977); Kay and Zimmer (1976).

4. Kay and Zimmer (1976:31) have a specific example at the bottom of the tree.

5. For a fuller discussion of these principles, see Akinnaso (1981).

6. For further details, see Akinnaso (1980) and Ekundayo (1977).

7. I use verb compound to characterize the kind of verb groups in (12) where nothing else occurs with the verbs except the nominalizer. Verb compounds, of course, are the simplest examples of verb serialization whose syntactic and semantic structure is still the subject of much controversy in African linguistics.

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IS WHORF'S RELATIVITY EINSTEIN'S RELATIVITY ?

There is no central question more significant to the combined research efforts of psycholinguistics, linguistics, psychology, philosophy, anthropology, and even physics, than the language-and-cognition issue advocated by Benjamin Whorf and named the principle of linguistic relativity. Not simply for the past 30 years, but for almost 300 years of scientific debate and over 2000 years of Western intellectual speculation this issue of how different languages relate to ways of thinking has occupied some portion of the mental deliberations of hundreds of people in a professional way, as well as untold millions of (what we call) "linguistically naive people" coping with everyday multilingual situations. It is a problem of our time, and of all time.

Linguists, in general, do not spend much quality time in studying the history of ideas within our discipline, nor how those ideas affect other disciplines, primarily because we are preoccupied with current research. However, we are concerned here with the history of relativity, and especially whether Einstein's version, which revolutionized physics, had anything to do with either Humboldt's or Whorf's versions.

As I was preparing a manuscript entitled "Reality, Mind, and Language as Field, Wave, and Particle," the longer work on which this paper is in part based, I became particularly intrigued with Whorf's intellectual scope -- and, I might say, increasingly dismayed at his rather shoddy handling of bibliographic references, especially where he is paraphrasing a well-known author of his time. As I read works by physicists like Einstein, Heisenberg, and

Shroedinger, Gestalt psychologist Köhler, philoscopher Cassirer, and linguist Humboldt, I kept getting distinct echoes of specific phrasings and statements by Whorf. After I pointed out a number of these recently to our Session Chair, Marilyn Silva, she suddenly quipped the line which is the central theme of this paper: "Whorf wasn't a weirdo -- he was just literate!"

Indeed, many of the (what are often considered) wild and somewhat suspect ideas of Whorf are often rephrasings of well-known statements made during his intellectual prime in the 1920s and '30s -- statements and ideas that are not so well known since the advent of what Dell Hymes (1961:26) called "an ideology hostile to questions of meaning".

If Whorf's critics today had any inkling of the background knowledge which Whorf took for granted -- the cream of Western intellectual thought in a time when all the major advances of modern physics were made -- they would know that Einstein provided special evidence for linguistic relativity, and that scientists don't waste their time empirically testing things called "principles".

What Is a Principle?[1]

The notion of principle, which is what Whorf called his statement of linguistic relativity, brings up a crucial point: "principle" is not interchangeable with either "theory" or "hypothesis". Within scientific nomenclature there is a progression from a conjecture to a hypothesis to a theory; then there are principles and their postulates. A principle is like an axiom in geometry, the unproveable scientific equivalent of a philosophical statement. As Cassirer points out (Itzkoff 1971),

> Principles constitute fixed points of the compass that are required for successful orientation in the world of phenomena. They are not so much assertions about empirical facts as maxims by which we interpret these facts in order to bring them together into a complete and coherent whole.

What I wish to suggest is that Whorf, in naming his formulation "a new principle of relativity" in honor of Einstein's then-recent formulations, "upped the ante," so to speak, on his future critics. That is to say, all psycholinguistic experimentation regarding Whorf's relativity has proceeded as if

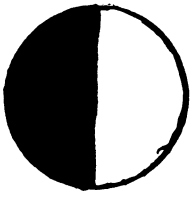
Einstein never existed or provided a foundation of modern physics called relativity.

Whether Whorf was ultimately justified in self-promoting his statement to the status of principle is perhaps questionable. But more questionable by far are the actions of otherwise responsible social scientists who, seemingly assuming that they could judge Whorf's idea by ignoring its historical antecendents in German intellectual thought, relabeled the principle a theory or hypothesis, added a liberal shot of causal determinism, and then empirically tested the resulting hodge-podge and pronounced relativity invalid (at least in the strong or extreme form which includes determinism). Robinson (1975) points out that the modern universalists have never to his knowledge made any serious effort to refute relativity itself (such as the notion that languages structure concepts like time, space, and causation differently). Perhaps it is easier to deal with strawman issues than actually refute the content of relativity.

FIGURE 1

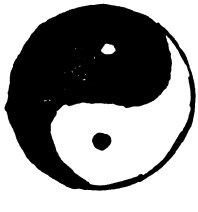
REDUCTIONIST DICHOTOMY:

Yes/No Choice



HOLISTIC, COMPLEMENTARY MUTUAL INTERDEPENDENCE:

Yes-Yes; both Yes and No



Complementarity

Before going more deeply into relativity, I'd like to introduce some of you to a totally new way of thinking, of putting opposite qualities into perspective. It's one of those relations between ideas that Humboldt, Sapir, Whorf, and modern physicists

have in common, but is significantly lacking during certain historical periods -- such as our recent past.

When I say "opposites" to you, you prototypically (for our culture) think of a popularly emphasized relation between them: one is yes, one is no; one is black, one is white. This illustrates our normal way of seeing opposites as contradictory. This binary or dichotomous thinking helps us to imagine that either/or are viable choices, which they almost never are. Whorf took for granted, as well, the kinds of opposites involved in the classic fundamental questions of early 20th century physics: is light matter? yes. is light energy? yes. This yes-yes thinking, which says that matter is a convenient way of saying what things are when they aren't being energy, is called complementarity, and is on the next level of thinking beyond considering opposites in a yes-no relationship. Complementarity straddles the subtle distinction of two things each being true in opposite but mutually interdependent ways, and before the 20th century was found perhaps most lucidly as the Tao of Eastern mysticism -- the golden road of balance.

FIGURE 2

EXAMPLES OF COMPLEMENTARY ("YES-YES") THINKING

1. Is light matter (particle)? yes ("wavicles")
   Is light energy (waves)? yes
2. Are opposites contradictory? yes
   Are opposites complementary? yes
3. Are human beings matter? yes
   Are human beings energy? yes
4. Does language project habitual illusory restrictions on our understandings of reality? (relativity) yes
   Does language depend on biological, social, and other organizations and functions common to all human beings? (universals) yes
5. Is language particle-like? yes
   Is language wave-like? yes
   Is language field-like? yes
6. Does language mold thinking? yes
   Does thinking mold language? yes
7. Are there significant differences in language? yes
   Are there significant similarities in language? yes

Figure 2 gives some examples of yes-yes thinking which can be helpful for considering our present topic: such as #4, which affirms that BOTH relativity and universals are opposite but equally true and useful ways of orienting oneself to the facts of language; the same is true for #7. These examples illustrate a way of thinking, be it called organic, gestaltic, holistic, or any other of more than 30 terms found in the literature, which Humboldt, Sapir, and Whorf took for granted. This is noteworthy because the complementary way of viewing oppositions, common in earlier generations, often seems too subtly complex for us to comprehend.

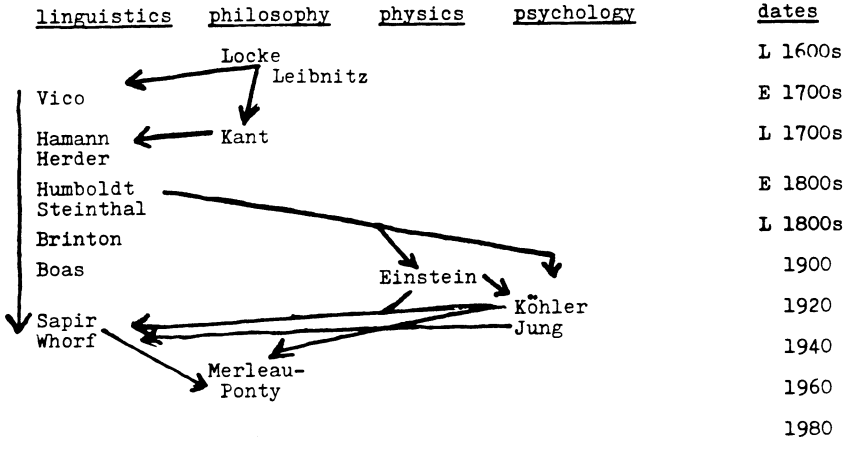
Roger Brown, for instance, in a book examining Humboldt's conception of linguistic relativity, quotes a statement by Humboldt regarding the mutual interdependence between thought and language -- and yet, when faced with, to him, the "logically inconsistent" fact that Humboldt advocated both relativity and universals, could conclude only that Humboldt was being inconsistent; Brown and others have similarly used this inconsistency argument against Whorf.

It is curious how the insights of an older generation can be lost so quickly in the rush for technological progress; how, unerringly throughout history, the holistically balanced insights of one generation become, in the next, plundered merely for their analytic regularities. This is how Chomsky, for instance, could claim Humboldt as an "honorable ancestor" while dismissing his non-analytic insights as "romantic". To wit: it seems that hard-won intellectual gains of the early 20th century have been forgotten by post-Hiroshima intellectuals. Hopefully, the relearning of early 20th century insights will separate the late 20th century from the mid. Universalists have nothing to fear from relativists; since languages have both differences and similarities, each position can illuminate the efforts of the other as long as neither claims superiority.

Humboldt, Sapir, and Whorf have gotten bad press in their times for being "contradictory" when viewed from an analytically logical point of view, primarily because they advocated in different writings either relativity or universals; the yes-yes statements got translated into yes/no interpretations which destroyed the holistic or gestalt insights originally expressed.

FIGURE 3

HISTORY OF AN IDEA: RELATIVITY



Partial History of An Idea: Relativity

Figure 3 shows a partial history of the idea of relativity, which, from its beginnings in ancient Greece, was always concerned with the relation between thinking and languages. What started out as a question of philosophy in the time of Leibnitz and Locke -- or, more precisely, a question of philosophy of language -- took on added significance when data-oriented linguists began taking it seriously with the rise of comparative grammar. Whether one sides with the universalist or the relativist position has a lot to do with whether one looks for and describes a language in terms of universal categories, or whether one describes the language in its own terms, according to its unique inner form or particular historical and environmental worldview.

Relativity predated Humboldt[2], but for now, let's hit the highlights of this story from Humboldt on. Of most importance here is the complementary attitude which allows him to champion both universals and relativity in the same breath:

> Thinking is not merely dependent on language in general, but, up to a certain degree on each specific language (Cowan 1963).

In shorthand, A is not merely dependent on B, but also on B1 or B2, etc. Humboldt's balanced insight is interpreted by Brown to mean that B1 or B2 causally determine A, that "the forms of language determine the forms of thought." Like "principle" and "hypothesis", "depend on" and "determine" are considered interchangeable terms!

Humboldt writes elsewhere (Cowan 1963), "Every language sets certain limits to the spirit of those who speak it; it assumes a certain direction and, by doing so, excludes many others." This is a crucial statement since Brown calls this the basis for a strong argument for linguistic relativity, even though it says nothing about causal determinism. It simply says that every language makes choices about what is culturally important; once made and settled into the habitual grammatical or lexical patterns of a people, it assumes that people will usually follow the socially accepted way instead of countless possible others. Native Americans are often puzzled at our cultural notions of "weeds" and "vermin", which single out flora and fauna considered worthless -- a distinction which was foreign to their cultural valuing of each part, piece, and scrap for survival.

The rich and enigmatic ideas of Humboldt have influenced all of Western thought, especially through the university system of education which he established. It takes no leap of imagination to realize that men with names like Einstein, Boas, Sapir, Kohler, Jung, and Von Neumann were the cultural recipients of early schooling in German intellectual thought; we have an unbroken historical lineage. Relativity has the same basic meaning for all these scholars, as we see when we turn to Einstein, for instance.

All of this century's major statements regarding linguistic relativity followed Einstein's formulations in physics -- a fact which too few critics have explored for its implications. Gary Zukav (1979:280), in a recent history of physics, explains that John Von Neumann's "discovery that our thought processes (the realm of symbols) project illusory restrictions onto the real world is essentially the same discovery that led Einstein to the general theory of relativity." He explains (p160):

> The general theory of relativity shows us that our minds follow different rules than the real world does. A rational mind, based on the impressions that it receives from its limited perspective, forms structures which thereafter determine what it further will and will not accept freely. From that point on, regardless of how the real world actually operates, this rational mind, following its self-imposed rules, tries to superimpose on the real world its own version of what must be.
>
> This continues until at long last a beginner's mind cries out, "This is not right. What 'must be' is not happening. I have tried and tried to discover why this is so. I have stretched my imagination to the limit to preserve my belief in what 'must be.' The breaking point has come. Now I have no choice but to admit that the 'must' I have believed in does not come from the real world, but from my own head."
>
> This narrative is not poetic hyperbole. It is a concise description of the major conclusion of the general theory of relativity and the means by which it was reached. The limited perspective is the perspective of our three-dimensional rationality and its view of one small part of the universe (the part into which we were born). The things that "must be" are the ideas of geometry (the rules governing straight lines, circles, triangles, etc.). The beginner's mind was Albert Einstein's. The long-held belief was that these rules govern, without exception, the entirety of the universe. What Einstein's beginner's mind realized was that this is so only in our minds.

Remembering that Whorf (1956:208) calls mathematics a specialized extension of language, we are led to a common conceptual denominator linking the relativity formulations of Einstein, Sapir, and Whorf. Einstein's special problem revolved around the privileged status which Euclidean geometry held for organizing the world through its projections; for Humboldt, Sapir, Boas, Whorf and others, the problem was the privileged status held by Western Reason and the traditional categories of Indo-European grammar being projected onto exotic

languages. As Humboldt stressed the way each language sets limits, so Einstein wrote that the great power possessed by the general principle of relativity lay in the comprehensive limitation imposed on the laws of nature.

It cannot have escaped Einstein's notice that his discovery that one geometry could be as valid as another for mapping nature was a specialized case of the historical language-and-thinking problem, for he dealt with linguistic relativity in a little-known 1941 radio speech:

> What is it that brings about such an ultimate connection between language and thinking? ...the mental development of the individual and his way of forming concepts depend to a high degree upon language. This makes us realize to what extent the same language means the same mentality.

So relativity, a philosophical language-and-thought question for thousands of years, was specialized by Einstein as a geometry-and-thought question for the philosophy of mathematics; thereafter the dual Humboldtian-Einsteinian strains of relativity led to formulations by Sapir and Whorf, the latter copying Einstein's use of the word "principle".

There are two ways of firming up the Einstein-Whorf connection even further. One is to mention that certain heretofore unknown manuscripts by Benjamin Whorf (Rollins 1980)[3] show clearly Whorf's expertise in physics: he wrote three articles on the topic of concrete models of gravitation in which he prophetically established a fundamental unity between gravity, light and matter, anticipating by decades the formulation of "matter is gravitationally trapped light" by Jack Sarfatti as his interpretation of E=mc2.

The other way is to show the similarity of concepts and phraseology between Einstein and Whorf; compare the following statements:

1A(lbert): Science has taken over from prescientific thought the concepts space, time, and material object..., and has modified them and rendered them more precise.

1B(enjamin): language does in a cruder but also in a broader and more versatile way the same

thing that science does (see also 3B).

2A: We are thus led to extend the transformations to arbitrary continuous transformations. This implies the general principle of relativity: Natural laws must be covariant with respect to arbitrary continuous transformations of coordinates.

2B: We are thus introduced to a new principle of relativity, which holds that all observers are not led by the same physical evidence to the same picture of the universe, unless their linguistic backgrounds are similar, or can in some way be calibrated.

3B: From this fact proceeds what I have called the "linguistic relativity principle," which means, in informal terms, that users of markedly different grammars [cf. geometries] are pointed by their grammars [geometries] toward different types of observations and different evaluations of externally similar acts of observation, and hence are not equivalent as observers, but must arrive at somewhat different views of the world....From each such unformulated and naive world view, an explicit scientific world view may arise by a higher specialization of the same basic grammatical patterns that fathered the naive and implicit one. Thus the world view of modern science arises by higher specialization of the basic grammar of the Western Indo-European languages.

Thinking and Meaning

As we have seen, Humboldt, Einstein, and Whorf were all deeply concerned with the question of thinking -- the very question which phenomenologist Merleau-Ponty (1964:17) cites as the basic question all philosophy starts with. Whorf (1956:78) states that linguistics is fundamental to the theory of thinking and in the last analysis to ALL HUMAN SCIENCES. Perhaps it is simply because these men did not refer to themselves as philosophers of language that we also do not.

FIGURE 4

LINGUISTIC RELATIVITY SCORECARD		
HISTORICAL	CAUSAL	
Mutual Interdependence	"Weak"	"Strong"
Humboldt Sapir Whorf Others	Sapir-Whorf Critics	Nobody "hypothesis" testing pronouncements: "strong form is invalid"

As philosophers of language, their main fascination lay with the astoundingly diverse but patterned differences which make up the phenomenal world around us, and the way symbols project habitual illusory restrictions onto the "out there". We all know there is something "out there" on which our perceptions of the world depend; we know that language certainly can't be projecting it all. But it does project artificial distinctions and discriminations, differently patterned for each language, which organize the world in a comfortable and workable way. "The world doesn't yield to us directly," as don Juan tells Carlos Castaneda, "the description of the world stands inbetween." And elsewhere, "When you stop your words, you stop your world."[4]

The problem is how to distinguish the out-there from our word-built reconstruction of it, to discover the absolute limits of language. Language becomes a hindrance for viewing reality. Mystics and physicists tell us equivalent tales of their experiences with those limits -- mystics when they describe the insights of altered states of consciousness, and physicists when they describe atoms and subatomic particles. To the Zen master (Talbott 1981), "existence" and "nonexistence" impart no useful information. Likewise, when physicists tell us that an atom consists entirely of its radiations and that there is no "thing" there radiating, or when

they tell us that one electron is indistinguishable from another, that the words "same" and "different" give us no real information about electrons, they demonstrate that they, no less than linguists, are concerned with the limits of language. That is, when they find that two mutually exclusive words like "same" and "different" become interchangeable, neither imparts any real information. The ultimate nature of reality transcends language. As Heisenberg wrote,

> The problems of language here are really serious. We wish to speak in some way about the structure of atoms....But we cannot speak of atoms in ordinary language.

That is because language is based upon discrimination: discrimination is meaning. If one cannot discriminate between two electrons, there is no meaning in words ascribed to their differences. Our minds flip-flop our word gestalts and create the illusion that words possess meaning. The words on this page possess no meaning. There is no meaning in words; only discrimination, which has to do with conventional ways of thinking in a language. If we allow this notion of discrimination a certain similarity to Whorf's (1956:67-8) "rapport",

> It is not words mumbled, but RAPPORT between words, which enables them to work together at all to any semantic result. It is this rapport that constitutes the real essense of thought insofar as it is linguistic...

Conclusion

In exposing the Humboldt-Einstein-Whorf connection within the total history of the idea of relativity, we are presented with an intriguing strategy for the future. First, by accepting that there are valid domains for both relativity and universals, we can save a lot of time and money trying to disprove this view or that, we can accept the complementary as well as the contradictory relation between opposites the way other disciplines do (and ours in past times did), and go on with our business. Secondly, if anyone questions our use of Whorf we can now simply refer them to Einstein and say that his established special case validates the Humboldt-Boas-Sapir-Whorf general case.

In sum, those critics who attempt to make or retain their reputations by attacking the so-called "(Sapir-) Whorf Hypothesis" must henceforth be seen as attacking, as well, the physics principle and theory (not "hypothesis") which Whorf merely restated for linguistics: Einstein's General Theory of Relativity.

* *

NOTES

[1] See Alford 1981 for further discussion.

[2] For a fuller treatment of pre-Humboldtian treatments of relativity, see Steiner (1975), Brown (1967), Alford (1980) and Alford (1981). Also see Hunold 1981 in this volume for more on Humboldt.

[3] See Alford 1981b for a fuller review of this book.

[4] Both of these statements echo Humboldt, with his notion that language is a transparent envelope through which we communicate, and that the limits of our language are the limits of our world.

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Topicalization in Breton

Stephen R. Anderson, U.C.L.A.

0. Introduction. This paper grows out of a discussion by Sandra Chung and myself some years ago (Anderson & Chung, 1977) of the syntax of some languages with basic VSO order. We concluded then that in these languages, there are often arguments for distinguishing between subject and non-subject NP's. Part of the interest of this comes from the fact that the configurational basis for this distinction which is normally available in an SVO language like English does not generalize directly to VSO structures, though we did not suggest a specific alternative.

Among the facts discussed in that paper was the treatment of topicalization in Breton[1]. In this language, it seemed that some facts indicated the existence of a constituent like a VP, despite the fact that an element containing the verb and its object(s), but not the subject, is apparently not a continuous substring of normally structured Breton clauses.

In fact, however, it now seems to me that this conclusion resulted from an inadequate analysis of the properties of topicalization in the language, and is practically a paradigm example of the dangers of drawing theoretical conclusions directly from linguistic facts, rather than from fully worked out analyses. My purpose here is to rectify the situation by sketching some of the points basic to an adequate analysis of Breton topicalization.

1. Basic word order. First, of course, it is important to establish that Breton actually is a verb initial language, if the interest of the earlier point is to be maintained. In the other Celtic languages this is hardly in doubt, since VSO structures predominate under all but clearly derived conditions; but in Breton it is necessary to appeal to a variety of non-central structures to establish this order. The primary analytic problem is to demonstrate that the verb is initial in the clause: the order of the remaining constituents is quite clear.

Verbs are initial in a variety of clause types[2]. Among these are negative declarative sentences (1,2) and imperatives (3):

1. N'eo ket brav an amzer hiziv
   neg-is not nice the weather today
   "The weather isn't nice today"
2. Ne gave ket Yann alc'houez an armel
   neg found not John key the closet
   "John didn't find the key to the closet"
3. Ro din eun tamm bara!
   give to-me a piece bread
   "Give me a piece of bread!"

The same order is characteristic of a variety of subordinate clause types, including those introduced by most conjunctions (4,5) and those serving directly as the complement of a verb (6):

4. Pa welo da vamm-gozh da gaier-notennou ...
   when will-see your mother-old your notebook
   "When your grandmother sees your notebook, ..."
5. Ma veze Yann skuizh, e chomo er gêr
   if he-were John tired prt he-will-rest in-the house
   "If John is tired, he'll stay home"
6. (C'hwi a ouie) e oa bet korseriou e Sant Malo gwechall?
   you prt you-know prt was been pirates in Saint-Malo formerly
   "(Did you know) there used to be pirates in Saint-Malo?"

Clauses preceded by a (subordinate) clause (5,7) show the same order as well:

7. E-kreiz evañ e vanne, e kwezhas Yann war e hed
   after drink his glass prt he-fell John on his length
   "After drinking his glass, John fall flat out"

The same possibility also exists for affirmative main clauses, where it has the effect of rendering the sentence "emphatic". This structure is largely restricted to sentences in which the main verb is emañ (the locative or habitual copula), as in (9), though it is occasionally found with other verbs (such as mont "go" as in 8):

8. Ez a Yann d'ar porz david pesked
   prt goes John to-the port after fish
   "John is (really) going down to the port to get fish"
9. Emañ Yann war ar mor
   is(loc) John on the sea
   "John (really) is at sea"

Typically in declarative main clauses, however, something else precedes the verb. Thus, corresponding to the negative sentence 10, we have 11-13:

10. N'emañ ket Perig o klask e vreur er c'hoad
    neg-is not Peter at looking-for his brother in-the woods
    "Peter is not looking for his brother in woods"
11. Perig a zo o klask e vreur er c'hoad
    Peter prt is at looking-for his brother in-the woods
12. E vreur a zo Perig o klask er c'hoad
    his brother prt is Peter at looking-for in-the woods
13. Er c'hoad emañ Perig o klask e vreur
    in-the woods is Peter at looking-for his brother

The item appearing in pre-verbal position is the "topic," and the choice of one or another element of the sentence to be topic depends on discourse facts. The construction is distinct from another one that corresponds to English cleft structures; there is no particular emphatic force to sentences such as 11-13, which are quite ordinary declarative clauses. Apparently both topicalization and focus (cf. Prince, 1981) are conflated in this construction,

which (roughly) divides the content of the clause into old information and comment, but in which the initial element may constitute either of these, depending on other factors not examined here. In structural terms, however, the overall generalization is that any single constituent of the clause can be the topic: subject (11), object (12), or adverbial (13), for example. It is also possible to have a possessor as topic (as in 14), or the object of a preposition (as in 15). In each of these cases, we find a resumptive pronoun:

14. Yann a zo Perig o klask e vreur er c'hoad
    John prt is Peter at looking-for his brother in-the woods
    "Peter is looking for John's brother in the woods"
15. Ar c'hoad a zo Perig o klask e vreur ennañ
    the woods prt is Peter at looking-for his brother in-it
    "Peter is looking for his brother in the woods"

In all sentence types, when the direct object of a verb is a pronoun, it appears as a "conjugated preposition." This treatment can also be found when the object is the topic, since in this case it can optionally be represented by a resumptive pronoun:

16. N'en-eus ket kavet Yann anezhañ
    neg-he-has not found John of-it
    "John has not found it"
17. Ma levr en-eus kavet Yann (anezhañ)
    my book he-has found John (of-it)
    "John has found my book"

Given the facts surveyed above, we conclude that the topic element is strictly external to the structure of the basic clause. The most natural treatment appears to place the topic in the Comp position, as a daughter of $\bar{S}$ and sister of S. Internal to the constituent S itself, we assume VSO order.

2. Verbs as topics. We have asserted above that any constituent of the clause may be represented by the topic; and since the verb is of course a constituent, we would therefore expect to find verbs as topics, despite the fact that the usual sense of "topic" does not obviously extend to verbs. In fact, we do find verbs as topics: the construction of interest is that in (19), corresponding to (18) with topical subject, in which the verb appears in a non-finite form we will discuss below, and its basic position in the clause is marked by a form of the verb ober "do." The categories of person, number, and tense are marked on this latter element:

18. Me a yelo da weled ac'hanoc'h
    I prt will-go for seeing of-you
    "I'll go and see you"

19. Mond a rin da weled ac'hanoc'h
go prt I-will-do for seeing of-you
"I'll go and see you"

It can be noted that this use of ober is parallel to the do of "do-support" in English, rather than to the do of "do-so," since all verbs (and not just activity verbs) can appear in sentences such as 19 (cf. Anderson, 1976 for further discussion of do constructions in English).

When the main verb of the clause is in a compound tense (formed with the auxiliary elements corresponding to "have" or "be" together with the past participle of the verb), the participle can appear in topic position as in (21). When this occurs, no form of ober is found:

20. Ma hent am-eus kollet
my road I-have lost
"I have lost my way"

21. Kollet am-eus ma hent
lost I-have my road
"I have lost my way"

Alternatively, the topicalized verb may appear in the same non-finite form as in sentence 19, in which case the past participle of ober replaces it:

22. Koll am-eus graet ma hent
lose I-have done my road
"I have lost my way"

Other elements plausibly forming a constituent with the verb can accompany it when it appears in topic position:

23. Kousked mad a rez?
sleep well prt you-did
"Did you sleep well?"
24. Kredi a-walc'h a rafen
believe gladly prt I-would-do
"I'd be glad to believe (it)"

Elements such as mad "well" in 23 and a-walc'h "gladly" in 24 are closely associated with the verb, and in fact appear immediately after it (and preceding the subject) in sentences where non-verbs are topics.

The most interesting cases, however, are those in which the verb together with its object constitutes the topic, such as 25:

25. Debriñ krampouezh a raio Yannig e Kemper hiziv
eat crêpes prt will-do Johnny in Quimper today
"Johnny will eat crêpes in Quimper today"
26. *Debriñ Yannig a raio krampouezh e Kemper hiziv
eat Johnny prt will-do crêpes in Quimper today
"Johnny will eat crêpes in Quimper today"

The verb together with its subject cannot constitute the topic, however, as shown by the ungrammaticality (except on the nonsense reading "crêpes will eat Johnny") of sentence 26. The possibility of 25, in which we have apparently a unique example of a non-constituent as topic, was of course the basis for the claim in Anderson & Chung (1977) that a VP might exist in Breton despite its VSO structure.

3. The categorial status of topicalized verbs. Confronted with an apparent basis for treating (topicalized) verbs together with their objects as constituents, the question immediately arises of what sort of constituent this is. One hint is to be found in the character of the preverbal particle element. We have thus far said nothing about this item, which precedes all verbs (though it is systematically elided before certain vowel-initial forms of a few common verbs such as the various copulas). Basically, as shown by the various sentences above and by 27-30 below, the particle is a exactly when preceded by a (topic) NP[4]; and e (ez or ec'h before vowel-initial verbs) elsewhere - i.e., after adjectives, adverbs, participles, prepositional phrases, initial clauses, or when the verb is itself sentence-initial.

27. Eul levr a lenn Yannig bemdez
    a book prt reads Johnny every-day
    "Johnny reads a book every day"
28. Yannig a lenn eul levr bemdez
    Johnny prt reads a book every-day
29. Bemdez e lenn Yannig eul levr
    everyday prt reads Johnny a book
30. An den a varvas e vuoc'h
    the man prt died his cow
    "The man's cow died"

Given the generalization that whenever the topic is a Noun Phrase, the preverbal particle is a (and otherwise, e), the fact that the particle in 25 is a, then, suggests that debriñ krampouezh is a NP. This is further supported by sentences like 31:

31. Kestal lann evid tantad ar pardon a zo graet
    collect gorse for bonfire the pardon prt is done
    "Gorse is collected for the bonfire at the pardon"

Sentence 31 represents a topicalized form of a passive clause, whose main verb would be expected to be eo "is" plus a participle. This example presents a number of interesting properties, but what is of interest here is the verb form zo. In the present tense, Breton has three distinct forms of the verb "be": emañ, used for locational expressions or habitual attributes; eo, the ordinary copula; and eus, the verb of existential constructions. These three are only distinguished, however, as long as they are not immediately preceded by a NP. When a topic NP precedes any of the forms of "be," they are all replaced by the form zo.

32. Glas eo ar mor
blue is the sea
"The sea is blue"

33. Ar mor a zo glas
the sea prt is blue
"The sea is blue"

The presence of zo (rather than eo) in 31, then, furnishes further evidence that the topic phrase consisting of the verb together with its object is a NP.

In fact, this conclusion is not as unexpected as it might appear, when we consider the morphology of the verb in topicalized sentences. The form of the verb that shows up in topic position is not the finite verb of corresponding sentences with other topics, but rather the "verbal noun," a form which has all of the properties of other nouns (including gender). Verbal nouns, like other nouns, take adjuncts such as articles (34), prepositional phrases (35), and possessives (36):

34. a. ar mor
the sea
"the sea"

b. al labourad douar
the working land
"the fact of working the land"

35. a. eul louzou ouzh ar remm
a remedy for the rheumatism
"a remedy for rheumatism"

b. sellout ouzh an den
to-look at the man
"looking at the man"

36. a. doriou an ti
doors the house
"The doors of the house"

a'. eul levr
a book
"a book"

b'. en eur gerzet
in a walk
"while walking"

a'. stered en oabl
stars in-the sky
"stars in the sky"

b'. kwezhan en dour
to-fall in-the water
"falling in the water"

b. sevel an ti
building the house
"to build the house"

In connection with 36b, note that the possessor of a verbal noun is interpreted as the object of the corresponding (transitive) verb. This is another example of the general principle explored in Anderson (1977), by which a single complement of an item with a thematic interpretation is interpreted as filling the "theme" relation with respect to its head.

In addition to having the internal constituent structure of NP, Verbal Noun phrases appear in all of the syntactic positions that can be occupied by other noun phrases. This includes subject position (37), direct object (38), as possessor (in certain locative constructions, such as 39), and as object of a preposition (40)):

37. Pegoulz vo an dornañ?
when will-be the to-thresh
"When will the threshing be?"

38. Ne garan ket kleved kurunou
neg I-like not hearing thunder
"I don't like to hear the thunder"

39. E-lec'h mond da c'haloupad, e vefe gwelloc'h dit chom er gêr
in-place going to run prt were better to-you stay at home
"Instead of going running, you ought to stay home."
40. Staotad a rae ar gigerez en he dilhad gand ar c'hoarzin a rae
pissed prt did the butcher in her clothes by the laughing prt did
"The butcher(ess) pissed in her pants with the laughing she did"

Note that, in this last case, the verbal noun phrase ar c'hoarzin "the laughing" is not only the object of the preposition gand, but also the head of a relative clause a rae "that (she) did." Further, the internal structure of this relative clause is such as to make it clear that its head is a verbal noun phrase of exactly the sort we are most concerned with here, namely one that arises in the topicalization structure.

We suggest, then, that the topics in sentences like 25 are simply (verbal) noun phrases. If this is so, it explains immediately why the object of a participle (unlike that of a finite verb appearing as a verbal noun) cannot be topicalized with it:

41. *Kollet ma hent am-eus
lost my road I-have
(cf. 21 above)

This follows from the structure of participial phrases. In general, participles and phrases built on them can be used as adjectives, just as in English and many other languages. Participial phrases take various complements (such as adverbs, prepositional phrases, and the reflexive pro-clitic sequence en em), but do not occur directly with noun phrase complements. If we assume that a topicalized past participle (phrase) is a constituent, just like all other topics, it should thus display the same limitations as other participle phrases; and thus a direct object NP ought not to occur with it (as we observe in 41). The fact that verbal nouns, in contrast, do take a "direct object" complement follows from the distinct structure of NPs and AdjPs (including participial phrases), and thus the contrast between 25 and 41 is perfectly consistent with (and indeed predicted by) the rest of the grammar of the language.

4. The analysis of topicalized constructions. We concluded the the previous section that the topic in a sentence such as 25 is a NP. As a result, we no longer have any problematic evidence for a constituent such as VP in Breton: in fact, we can return to the original generalization suggested above, to the effect that the "topic" position in a Breton sentence can be filled by any (single) constituent of a type independently generated by the phrase structure rules of the language: Adv, PP, AdjP (including participles), or NP (including those with verbal nouns as heads). Given this conclusion, however, we now have two possible accounts of the origin of the topic constituent: either it is moved there from somewhere else, or it is generated there by the rules of the base. A number of independent lines of evidence seem to favor the latter alternative overwhelmingly.

4.1. If topics arise by movement, it must be that sentences with verbal topics have the verb ober "do" in underlying structure, with a verbal noun as its object. But the construction ober + verbal noun already exists, with another sense:

42. a. Me a raio sevel eun ti
I prt I-will-do building a house
"I'm going to have a house built"
b. Sevel eun ti a rin
building a house prt I-will
"I'm going to build a house"

If sentence 42b is derived from a source like that of 42a by a movement of the object of ober, we have no natural account of the considerable divergence in meaning and thematic structure between the two.

4.2. If the verbal noun which presumably undergoes topicalization in sentences like 19, 22, 25, etc. above is the object of ober, it is not clear how we could account for the fact that, beside sentences like 25 in which a verb(al noun) and its object appear as topic, we also find sentences like 43, in which only the verb is topic:

43. Debriñ a raio Yannig krampouezh e Kemper hiziv
eating prt will-do Johnny crêpes in Quimper today
"Johnny will eat crêpes in Quimper today"

In order to derive this sentence in a parallel fashion, we would have to assume that ober is followed by two direct object positions (one occupied by the verbal noun debriñ and one by the object of this verb). This would first of all be completely unique in Breton: no verb ever appears in surface structure with two direct objects, and there is no reason to believe this is a posible base structure. Furthermore, if it were generated, we would expect to be able to topicalize only the second object, yielding a sentence such as 44:

44. *Krampouezh a raio Yannig debriñ e Kemper hiziv
crêpes prt will-do Johnny to-eat in Quimper today

If grammatical at all, this sentence has only the causative reading similar to 42a above. The only alternative to this consistent with a movement analysis of 43 would seem to be to allow topicalization to move only the head of a constituent (the verbal noun in a verbal NP), while leaving its complement structure in place: a type of movement that has been argued by a variety of authors to be impossible.

4.3. As noted above, topicalized objects can be represented by a resumptive pronoun. But this is not possible with topicalized verbs:

45. *Lenn eul levr brezhoneg a ra Yannig anezhañ bemdez
reads a book Breton prt does Johnny of-it everyday
"Johnny reads a Breton book everyday"

If the topicalized verbal NP is a NP, as we have argued above, and is generated as the object of ober, there is no apparent reason why this object should not (like other objects) be able to leave a resumptive pronoun in place when topicalized.

4.4. The topic position may be filled with the verbal noun bez(a) "be." There is no apparent source for this through movement, however:

46. Bez' am-eus keuneud
be I-have firewood
"I've really got firewood!"

4.5. In the case of passives, such as sentence 31 above, the material which would have to be topicalized consists of the verb and its (passive) subject. As we have already seen, the verb and its subject cannot in general be topicalized. If we were to generate the perfectly acceptable verbal noun phrase appearing as topic in 31 in that position, however, and simply associate its interpretation with the (otherwise empty) verb (a) zo graet "is done," no problem arises in consequence. The possibility of a regular transitive verbal noun phrase with a finite verb form showing passive morphology gives a particularly striking argument for treating the material in topic position as generated independently of the structure of the rest of the clause.

4.6. Some intransitive verbs require the auxiliary "have" in the perfect, while others require "be." Any topicalized verb will employ "have," however, since this is required by (transitive) "do." In order to account for the consistent use of "have" with ober, on the assumption that this is inserted as a "resumptive pro-verb" when an underlying verb is topicalized, we would have to make the choice of auxiliary follow a presumed movement rule. On the other hand when a participle is moved, the appropriate auxiliary remains, depending on the original verb; and thus it would seem that whatever rule topicalizes participles must follow the choice of auxiliaries. Assuming we wish to preserve a uniform statement for topicalization, this is a paradox.

47. Menel d'eureuji am-oa graet, hag manet on abaoe.
stay at-unmarried I-had done and stayed I-am since
"I remained unmarried, and I have stayed (that way) since"

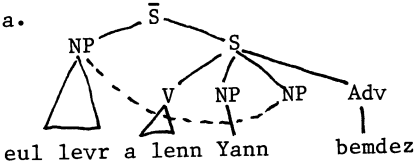
The second clause in 47 shows that the verb menel "remain" takes "be" as its auxiliary in compound tenses, and that this must remain when the participle is topic; but the first clause shows that topicalization which involves replacement of the finite form by a form of ober leads to the use of "have" as auxiliary.

5. Conclusion. We have seen above that Breton topics are potentially single constituents of any phrasal type; and the arguments of the preceding section suggest that they are generated in place by the

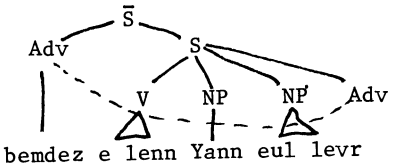
rules of the base rather than being moved into preverbal position from an intra-clausal origin. Note, by the way, that the arguments given above in sections 4.1, 4.2, 4.3, and 4.5 also suggest that an analysis parallel to that proposed by Chomsky (1977) for English, involving base-generated topics and a rule of wh-movement from a clausal position followed by free deletion in Comp cannot be correct for Breton (since they show that in general, there is no intraclausal position in which it would be appropriate to generate such a wh-element).

It appears, however, that a rather natural account of Breton topicalization is available if we simply generalize the notion of "binding" from recent work in syntax. Suppose, that is, we assume that the base rules allow for the generation of a phrase of any type[5] in Comp; and also that (as a general principle), the rules expanding any category within the clause are optional. In line with the "Empty Category Principle" of Chomsky (1980), any such phrasal category which is not expanded must be properly bound; but in fact, a phrase in Comp will c-command any such position within the clause, and thus can be interpreted as potentially binding it. "Binding" is normally interpreted as based on referential co-indexing, and of course the relation between e.g. an Adv in topic position and an unexpanded Adv internal to S is not an instance of this relation; but it is a comparatively direct extension of the co-indexing relation for (potentially) referential NP if we consider that the relation in question consists of supplying the interpretation of the binding antecedent as the interpretation for the unexpanded bound category. We assume therefore that sentences such as 27 and 29 above have the following structures:

49. a.



b.



The binding relations are shown by dotted lines.

When a verbal noun appears in topic position, it is possible for this to bind the Verb position, if that is unexpanded. Before this proposal can be considered complete, of course, an account of the semantics of verbal noun expressions must be given which reconciles their interpretation with that of the category Verb; but there is every reason to believe that this is simply an instance of a more general problem which occurs in many (if not most) other languages. In English, of course, the pro-verb do (cf. Anderson, 1976) also occurs, and in many cases its interpretation is to be supplied by reference to some NP constituent:

50. a. What is this verb doing here?
    b. It's doing the same thing as Breton ober.
    c. How do you get it to do that?
    d. The thing to do is to insert do.
    e. The other thing to do with do is to delete it.

Sentence types such as those in 50 are quite parallel in their interpretive difficulties to Breton topicalized verbs (or verbal noun phrases).

Of course, if we are to treat verbal noun phrases in topic position as binding an unexpanded verb constituent, we must still account for the appearance of a form of ober in the surface structures of such sentences. It does not seem unnatural, however, to propose that a rule of the "phonological" portion of the grammar (that is, one contributing to the relation between s-structure and overt surface form, as opposed to logical form) simply inserts ober for otherwise empty verbs, just as in English it or there is inserted for otherwise empty NP positions under some circumstances.

When the facts of "topicalization" in Breton are considered carefully, then, it appears that there is no such rule in the grammar of the language at all. Furthermore, the appearance that this construction provides evidence for a constituent VP in an otherwise VSO language proves to be a mistaken one. The properties of Breton topics thus do not have the sort of sort of bearing on theoretical issues they initially were taken to have, although it would seem they are nonetheless not without interest.

Footnotes:

[1] This paper is based on (limited) fieldwork in Brittany during the summers of 1971, 1972, and 1974, supported in part by research funds from Harvard University; and on material to be found in the published literature on Breton (especially Trépos, [1968]; Gros, 1966, 1970, 1974; and LeGléau, 1973). I am grateful to Sandra Chung, Sharon Hargus, and Tracy Thomas-Flinders for recent discussions contributing to my understanding of these facts.

Forms cited below represent the "standard" literary language, especially as spoken in the Tréguier region. The orthography is by and large the standard in use throughout Brittany, though I may not have completely succeeded in normalizing examples taken from printed sources. For the reader's information, "ñ" represents simply nasality of the preceding vowel (and in fact is often lost altogether in speech); "c'h" represents both voiced and voiceless velar fricatives; and otherwise, the orthographic values are similar to those of French. Like other Celtic languages, Breton has an extensive system of mutations or initial consonant changes; I have made no attempt to indicate below that these have taken place, and if the reader finds a word changing before his eyes, this should not disturb him too much.

In addition to the discussion in Anderson & Chung, 1976, the Breton topicalization construction has also been discussed by Wojcik (1976), as well as in the traditional sources referred to above.

[2] While the immediately following examples exhibit overt subject and object NP's, it should be noted that, unless topicalized, pronoun subjects never appear overtly in post-verbal subject position. An account of the distribution of pronouns, full NP's, and verbal agreement morphology is proposed in another paper to appear.

[3] In earlier Breton (and still for some conservative speakers), object pronouns can appear attached to the verb as possessive forms. We omit mention of these forms here, since we have not been able to ascertain the conditions under which they are possible in the modern language (which has generalized the construction with object pronoun as a conjugated form of the preposition a). This alternative morphology for object pronouns, however, does not appear to affect the analysis to be given below.

[4] Except when this NP is a "predicate nominative." Thus, we get Pesketour e vo Yannig "Johnny will be a fisherman," with e rather than a preceding the verb because the NP pesketour is predicative rather than referential (cf. Yannig a vo pesketour, with the same sense but with referential Yannig preceding the verb). It is well known that non-referential NP's have very different syntactic properties from those that (purport to) refer; cf. Kuno (1970) for extensive discussion.

[5] We do not, however, find Verbs among the constituents in topic position, except in the form of verbal Nouns. This can be attributed to the fact that the only non-finite forms of Verbs are the verbal Noun and the participle (or verbal Adjective). If a Verb were generated in topic position, it would ipso facto not be in the domain of Tense, and so would require a (non-existent) non-finite form. The absence of topicalized Verbs (per se) thus follows without stipulation from the independent properties of morphology of the language.

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GRAMMATICAL RELATIONS AND SURFACE CASES IN TURKISH

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Every NP in a Turkish sentence appears with one of the following case endings:

Nominative (NOM): Ø (zero case ending)
Genitive (GEN): -(n)In
Accusative (ACC): -(y)I
Dative (DAT): -(y)E
Locative (LOC): -DE
Ablative (ABL): -DEn

Traditional grammarians of Turkish have considered these cases as the indicators of grammatical relations of NPs. Thus an NP marked with NOM is identified either as subject (SU) or indefinite direct object (DO). An NP marked with GEN is identified as the definite SU of an embedded sentence. ACC case is considered as the marker of definite DO. All the NPs marked with DAT, LOC, and ABL are identified as complements of the verb, which I will call oblique objects (OBL) following the term proposed by relational grammarians.[1]

Traditional grammarians have been led to this confusion by the fact that there is a great deal of correspondence between grammatical relations and surface cases in Turkish. Indeed the SU is always in NOM or GEN case and it also agrees with the verb in person and number. So the identification of the SU offers no problems. However, the identification of the DO only on the basis of ACC and NOM cases is misleading. It is a fact that ACC is always the marker of a DO but this does not mean that an NP marked with another case cannot function as the DO. Thus the purpose of this paper is to show that in Turkish there are NPs with ABL and DAT which behave like NPs with ACC during the process of some relation changing rules.

In most grammar books, on the one hand, DO is defined as the participant which is directly affected by the action expressed in the sentence. On the other hand, the NPs like süt-ten in (1c) below are identified as OBL, while süt and süt-ü are both identified as DOs.

(1) a. süt iç-ti-m
milk drink-past-1sg
'I drank milk.'

b. süt-ü iç-ti-m
milk-ACC drink-past-1sg
'I drank the milk.'

c. süt-ten iç-ti-m
milk-ABL drink-past-1sg
I drank some of the milk.'

Süt in (1a) is an indefinite DO. The only difference between (1b) and (1c) is that the DO süt-ü is completely affected, while (1c) suggests that the NP here is only partially affected by the activity of drinking. Now consider the following:

(2) a. Ali çocuğ-u vur-du
child-ACC shoot-past
Ali shot the child.'
b. Ali çocuğ-a vur-du
child-DAT hit-past
'Ali hit the child.'

(3) a. fare peynir-i ye-di
mouse cheese-ACC eat-past
'The mouse ate the cheese.'
b. fare peynir-e dokun-du
mouse cheese-DAT touch-past
'The mouse touched the cheese.'

In (2a) and (2b) the two semantic definitions of the polysemic verb vur are revealed by the ACC and DAT cases. In (3a) and (3b) verbs with different semantic definitions are involved but in each the action is transferred to the patient peynir 'cheese' apparently with different degrees of affectedness.

These examples suggest that the identification of grammatical relations only on the basis of surface cases is misleading. They also suggest that surface cases have various functions in the grammar of Turkish. Since surface cases are not just the indicators of grammatical relations but also carry some semantic load, we can predict that they cannot be deleted during the application of any relation changing rule. For example, the Predicate Raising is a rule which involes changes in grammatical relations. During the process of Predicate Raising the SU of an intransitive verb is demoted to DO as in (4b) and is marked with ACC case. The SU of a transitive verb is demoted to IO being marked with DAT as in (5b) and (5d).

(4) a. çocuk gül-dü
child laugh-past
'The child laughed.'
b. adam çocuğ-u gül-dür-dü[2]
man child-ACC laugh-caus-past
'The man made the child laugh.'

(5) a. çocuk süt iç-ti
child milk drink-past
'The child drank milk.'
b. adam çocuğ-a süt iç-ir-di
man child-DAT milk drink-caus-past
'The man made the child drink milk.'

c. çocuk süt-ü iç-ti
child milk-ACC drink-past
'The child drank the milk.'
d. adam çocuğ-a süt-ü iç-ir-di
man child-DAT milk-ACC drink-caus-past
'The man made the child drink the milk.'

This fact supports the Keenan and Comrie Hierarchy (SU>DO>IO>OBL) in relational terms (1977:66). That is, during the process of Predicate Raising the subject of the clause embedded under CAUSE is reassigned a new grammatical relation which is next on the case hierarchy.

Now let us take a sentence with an ABL NP.

(6) a. çocuk köy-den gel-di
child village-ABL come-past
'The child came from the village.'
b. adam çocuğ-u köy-den get-ir-di[3]
man child-ACC village-ABL come-caus-past
'The man brought the child from the village.'

Since gel 'come' is an intransitive verb and köy-den 'from the village' is an OBL, the original SU is demoted to DO, which is the next available position on the case hierarchy. Thus the SU çocuk 'boy' becomes the surface DO and appears with the ACC case. If we identify grammatical relations on the basis of surface cases and consider all the NPs with the ABL case as OBLs, the original SU of (7a) must become the surface DO when the sentence is embedded in a causative construction. However, the ungrammaticality of (7b) indicates that this is not the case.

(7) a. çocuk süt-ten iç-ti
child milk-ABL drink-past
'The child drank some of the milk.'
b.*adam çocuğ-u süt-ten iç-ir-di
*man child-ACC milk-ABL drink-caus-past

The grammatical form of (7b) is

(7) c. adam çocuğ-a süt-ten iç-ir-di
man child-DAT milk-ABL drink-caus-past
'The man made the child drink some of the milk.'

We notice that the SU of (7a) becomes the IO of the causative sentence (7c) just the same way as the SU of the transitive sentence (5a) becomes the IO of the causative sentence (5b), which leads us to the conclusion that IO is the next available position on the case hierarchy, the DO position being already occupied by the NP süt-ten.

Sentences containing objects marked with DAT seem more complicated due to surface case constraints. As seen so far, it is the original SU of the embedded sentence which is demoted to DO or IO depending on the next available position. The original DO or OBL retains its case during the process of Predicate Raising. However, the original DAT DO obligatorily takes the ACC case when the SU is demoted to IO because of the surface constraint which states that if there are two NPs in a causative construction only one of them can be marked DAT.4

(8) a. Hizmetçi çocuğ-a bak-tı
maid child-DAT look after-past
'The maid looked after the child.'
b. *hizmetçi-ye çocuğ-a bak-tır-dı-k
maid-DAT child-DAT look after-caus-past-1pl
'We made the maid look after the child.'
c. hizmetçi-ye çocuğ-u bak-tır-dı-k
maid-DAT child-ACC look after-caus-past-1pl
'We made the maid look after the child.'

(8c) presents an evidence that çocuğ-a in (8a) is not an OBL but a DO which obligatorily takes the DAT case. Now consider the following:

(9) a. herkes kapı-ya bak-tı
everybody door-DAT look at-past
'Everybody looked at the door.'
b. Herkes-i kapı-ya bak-tır-dı-m
everybody-ACC door-DAT look at-caus-past-1sg
'I made everybody look at the door.'

(9b) indicates that bak meaning 'look at' is an intransitive verb while it is a transitive verb when it means 'look after' as in (8a).

Another verb which obligatorily takes a DAT NP and which can be used either as a transitive verb or as an intransitive verb is başla 'start, begin'. The two uses of this verb are illustrated below:

(10) a. Anne-m kazağ-a başla-dı
mother-my sweater-DAT begin-past
'My mother began the sweater.'
b. Anne-m-e kazağ-ı başla-t-tı-m
mother-my-DAT sweater-ACC begin-caus-past-1sg
'I made my mother begin the sweater.'

(11) a. Çocuk okul-a başla-dı
child school-DAT start-past
'The child started the school.'
b. Çocuğ-u okul-a başla-t-tı-m
child-ACC school-DAT start-caus-past-1sg
'I made the child start the school.'

(10a) is an example for the transitive use of başla. Notice that the patient kazak 'sweater' is totally affected by the action of beginning. That is, my mother, using needles, casted on certain stitches and began knitting the sweater. Thus the activity performed by the agent is transferred to the patient. However, in (11a) the action of beginning which is performed by çocuk 'child' is just directed towards okul 'school'. That is, the child began going to school which had already started. Notice that we can say (12a) but not (12b).

(12) a. Okul başla-dı
school start-past
'The school started.'
b. *kazak başla-dı
sweater start-past
'*The sweater started.'

Although the transitive and intransitive uses of başla are not distinguished morphologically in (10a) and (11a), the distinction is revealed by ACC and DAT cases of the NPs kazak 'sweater' and okul 'school' respectively in the corresponding causative constructions.

Another rule which involves changes in grammatical relations is the Passive Rule. By the Passive Rule the DO is promoted to SU and the SU is either demoted to an oblique case or does not appear in the sentence at all.

(13) a. Parti-de bira iç-ti-ler
party-LOC beer drink-past-3pl
'They drank beer at the party.'
b. Parti-de bira iç-il-di
party-LOC beer drink-pass-past
'Beer was drunk at the party.'
(14) a. çocuk-lar süt-ü iç-ti-ler
child-pl milk-ACC drink-past-3pl
'The children drank the milk.'
b. süt iç-il-di
milk drink-pass-past
'The milk was drunk.'

(15) a. Çocuk-lar süt-ten iç-ti-ler
child-pl milk-ABL drink-past-3pl
'The children drank some of the milk.'
b. süt-ten iç-il-di
milk-ABL drink-pass-past
'Some of the milk was drunk.'

We notice that the ACC case marker is deleted when the DO is promoted to SU. However, the deletion of the case marker does not apply to the ABL DO süt-ten in (15b) because the deletion of the case will yield a passive sentence which is exactly the same as (14b). That is, the meaning of partial affectedness will be lost. Similarly, the DAT case marker is retained when the Passive Rule applies to (17a) while the ACC case marker gets deleted in (16a).

(16) a. Birisi çocuğ-u vur-du
somebody child-ACC shoot-past
'Somebody shot the child.'
b. Çocuk vur-ul-du
child shoot-pass-past
'The child was shot.'
(17) a. Birisi çocuğ-a vur-du
somebody child-DAT hit-past
'Somebody hit the child.'
b. çocuğ-a vur-ul-du
child-DAT hit-pass-past
'The child was hit.'

The DAT NP retains its case marking in order to preserve the meaning of the verb because if deletion applies, the outcome will be exactly the same as (16b). The reader might be wondering about what happens to the definiteness of the DO in (14b), in which the ACC case marker has been deleted. In Turkish the definiteness of the SU is expressed by word order or stress.[5] The restriction of deletion only to ACC case is accounted for by the semantic functions of the other cases, which cannot be expressed by any other means such as word order or stress. The constraint about the deletion of surface case markers yields sentences which contain ABL or DAT SUs. Such SUs do not agree with the verb because subject-verb agreement can only be triggered by NOM SUs. In the light of this fact I would suggest that the lack of agreement between the derived ABL or DAT SU and the verb cannot be used as a strong evidence against the subjectness of such NPs.

The discussion presented so far provides some evidence for the existence of DAT and ABL DOs in Turkish. We have seen that the occurence of DAT or ABL with some verbs can be accounted for on the basis of their semantic load such as partial affectedness. There are also verbs with ABL and DAT NPs which reflect the deep case distinctions of the NPs involved.

(18) a. sen-den kork-uyor-um
you-ABL fear-pres-1sg
'I am afraid of you.'
b. sen-den nefret ed-iyor-um
hate -pres-1sg
'I hate you.'
c. sen-den iğren-iyor-um
be disgusted
'I am disgusted by you.' 'You disgust me.'
d. sen-den bık-ıyor-um
get fed up with
'I am getting fed up with you.'
e. sen-den şüphelen-iyor-um
suspect
'I suspect you.'

(19) a. san-a bayıl-ıyor-um
you-DAT be crazy about-pres-1sg
'I am crazy about you.'
b. san-a yalvar-ıyor-um
beg
'I beg you.'
c. san-a tap-ıyor-um
worship
'I adore you.'
d. san-a kız-ıyor-um
be angry
'I am angry with you.'
e. san-a inan-ıyor-um
believe
'I believe you.'

Obviously the occurence of ABL and DAT with the verbs in (18) and (19) is not just a coincidence. In all of these sentences the verb expresses some kind of psychological or mental state of the SU. In (18) sen-den stands for the initiator of the feeling expressed by each state verb, while in (19) the feeling conveyed by the verb is directed towards the participant san-a 'to you'. Thus in these two groups of sentences the NPs hold different deep case relations with the verbs involved. It follows that another function of the surface cases in Turkish is to reflect the deep case distinctions. Although there is a great deal of correspondence between surface cases and deep cases, the two must not be confused because NPs with different deep cases can appear with the same surface case.

(20) a. Büyük şehir-ler-den hep kork-ar-ım
large city-pl-ABL always fear-pres-1sg
'I am always afraid of large cities.'
b. Öğrenci-ler büyük şehir-ler-den gel-miş-ler
student-pl large city-pl-ABL come-past-3pl
'The students have come from large cities.'

Although büyük şehir-ler-den 'from large cities' appears with the same surface case in both (20a) and (20b), they have different deep semantic roles. As stated earlier, büyük şehir-ler-den can be viewed as the initiator or the indirect cause of the feeling expressed by the state verb kork 'fear', while the same NP reflects the starting point of the activity expressed by the action verb gel 'come'. The difference between the semantic roles is revealed by the fact that we can paraphrase (20a) as in (21a) but not (20b).

(21) a. büyük şehir-ler hep ben-i kork-ut-ur
large city-pl always I-ACC fear-caus-pres
'Large cities always scare me.'
b. *büyük şehir-ler öğrenci-ler-i ge-tir-miş
large city-pl student-pl-ACC come-caus-past
'*Large cities have brought the students.'

The analysis of grammatical relations and surface cases in Turkish suggests that not only these two levels but also surface cases and deep semantic roles should be carefully distinguished. In fact, because of the morphological structure of Turkish, certain semantic phenomena which are disguised in English are overtly expressed in Turkish by means of case markers or other suffixes. To illustrate what I mean I will quote Fillmore (1977:63-64). One of the arguments Fillmore has used to justify specific claims about deep case distinctions is that "we may be dealing with different case relationships whenever we find a single verb collocating with two seemingly disparate cases of nominals in a given grammatical relation, with the nominals from the two classes seeming to exemplify different semantic roles in their sentences." Fillmore states that the argument has seemed particularly weak to a number of European critics, who have suggested that his analysis is based on accidental properties of English words. The Turkish equivalents of Fillmore's examples offer a stronger evidence for the different semantic roles of the nominals involved.

(22) a. ayağ-ım acı-yor
foot-my hurt-pres
'My foot hurts.'
b. Bu ayakkabı acı-t-ıyor
this shoe hurt-caus-pres
'This shoe hurts.'
c. Bu ayakkabı ayağ-ım-ı acı-t-ıyor
this shoe foot-my-ACC hurt-caus-pres
'This shoe hurts my foot.'

Notice that (22a) is embedded in the causative construction (22c). Since the outcome of the Predicate Raising is a simplex sentence, the two NPs cannot have the same semantic role.

In this paper, I have tried to indicate that there are DOs in Turkish which appear with ABL and DAT cases. I have also tried to

account for the occurrence of DAT and ABL DOs with certain verbs referring to the semantic functions of surface cases, such as the meanings of case markers and their relationships with deep semantic roles. As a conclusion, I suggest that grammatical relations, surface cases, and deep semantic roles must be carefully distinguished since all these three levels are needed for a complete linguistic description of a language.

FOOTNOTES

1. The problem of the existence of DAT and ABL DOs has been raised by some grammarians from time to time but a complete study of the problem has never been presented. In most grammar books at present only NOM and ACC NPs are identified as DOs.

2. The Predicate Raising in Turkish requires that the raised predicate be incorporated under the higher V node, resulting in the formation of a single word and a simplex sentence. As the outcome of this incorporation, the causative verb appears with one of the four alternative suffixes -DIr∿-t, -Ir; -It, -Er∿Ert depending on various factors irrelevant here.

3. The causative form of gel is ge-tir not gel-dir.

4. Due to this constraint, (2b) cannot normally be embedded in a causative construction.

   (2) c. *Ali-ye çocuğ-a vur-dur-du-m
   -DAT child-DAT hit-caus-past-1sg

   If the original DAT object takes the ACC case when the SU is demoted to IO as in (8c), the outcome will be the causative form of (2a). That is, the meaning of the verb vur as 'hit' will be lost.

   (2) d. Ali-ye çocuğ-u vur-dur-du-m
   -DAT child-ACC shoot-cause-past-1sg
   'I made Ali shoot the child.'

   So we express the causative sense of (2b) in other ways such as follows rather than by morphological causative construction.

   (2) e. Ali-ye çocuğ-a vur-ma-sı-nı söyle-di-m
   -DAT child-DAT hit-nom-3sg-ACC tell-past-1sg
   'I told Ali to hit the child.'

5. In (13b) and (14b) the indefiniteness and definiteness of the SU is distinguished by means of stress as follows:

(13b) parti-de bír̀a iç-il-di (indefinite)
(14b) süt iç-il-dí (definite)

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The Phonological Status of Downstep in Bakweri*

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1. Overview

Bakweri is a Bantu language spoken in Cameroon in and about the town of Gbwea. As in many other African tone languages, the sound system of the language makes liberal use of tonal downstep: in numerous environments, there can be a tonal drop (typically about a minor third) between two adjacent high tones, thus redefining a new, lowered pitch level for the second of the two high tones and for ensuing high tones within the current tonal group. Downstep can occur within a single word or across word boundaries. It can arise as a phonological adjustment to the underlying tone sequence High-Low-High; or, for a wide range of grammatical constructions, downstep can be an intrinsic part of the morpho-tonological tone contour which characterizes the construction.

Following a preliminary sketch of Bakweri morphology, Part 5 of this paper will dissect the former, or phonological, type of downstep, noting the heavy morphological and even syntactic restrictions operating on it. Part 6 will then present the various constructions in which the latter, or grammatical, type of downstep figures. Part 8 will propose the reinterpretation of grammatical downstep, at a deeper level, as phonological downstep operating on a floating low tone. Powerful internal motivation for doing this will be presented, with one major disclaimer. Parts 10 & 11 will present two perspectives on how not to view downstep. Finally, the floating-tone reanalysis will be put to work for the purposes of internal reconstruction, to provide a plausible diachronic account of the polar tone of the negative morpheme 'za'.

2. Tones, Downdrift, and Downstep

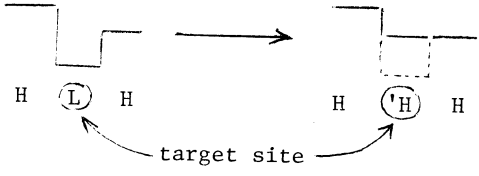
Bakweri has five "basic" tonemes, which it will be useful to present in two notational schemas:

Tone	Diacritic Notation	Letter Notation
High	◌́	H
Low	◌̀	L
Falling	◌̂	HL
Rising	◌̌	LH
Downstep-High	ꜜ	'H

There are, in addition, several "complex" tones (rising-falling, falling-rising) which are rare and highly constrained; they will be ignored. The downstep tick mark ' specifies the second tone in a sequence H'H as being a downstepped high tone. This should not be thought of as a mid tone; rather, as indicated above, it establishes a new pitch baseline for ensuing high tones. The tones as given here are taxonomic phonemic in intent --- that is,

this is the tonemic inventory required to transcribe what you hear, rather than constituting a deeper tonemic level from which surface tones might be generated by rule. The contour tones bear a much lighter functional load in the language than do the level H and L tones, and usually arise as combinations of underlying H and L tones.

In Bakweri, as in many other African languages, two high tones in a sequence H-L-H (or H-L-L-H, H-L-L-L-H, etc.) are not on the same pitch; the second is lower. This phenomenon is called downdrift. The overall tone drop in question is roughly that characteristic of a downstep, and in fact downstep often arises from a more basic, underlying H-L-H sequence:



Downstep which arises in this way will be termed phonological downstep. Note that the target site --- the syllable whose surface tone is 'H --- is underlyingly low-toned.

Opposed to this is grammatical downstep, where the target site is underlyingly high-toned. As part of the morphotonological specification of some grammatical construction, this H becomes a downstep-H with respect to a preceding H. Thus, for the root 'kóka' "bite", we can contrast:

he didn't bite(Yesterday)	à-zi-kók-e	(without downstep)
he won't bite	à-zá-kók-á	(with downstep).

Restating the two types schematically:

Phonological Downstep: phonologically derived from downdrift. Target site is underlyingly L.

Grammatical Downstep: part of the morphotonological definition of a grammatical construction. Target site is H.

In principle, the overall tone drop characteristic of a downstep can appear in three distinct types of bisyllabic sequences: ˊ ꜜ ˊ ˆ ˊ ˊ ˇ .

It should be noted at the outset that the above three sequences all exist and are contrastive in surface structure; consider, for example, the minimal tone pair:

he won't build	à-zá-ónga	ázónga
he won't grow	à-zá-ónga	ázǒnga.

The three sequences do tend to merge phonetically, however, notably in fast speech.

Note that the downstep tick makes sense only in the sequence H'H. In sequences such as H'L or L'H, which may be

generated by the morphotonology, the "downstep" is phonetically meaningless and may be erased and ignored. But the phonetically meaningless downstep can have morphophonological significance, and the issue will require reconsideration --- see sections 8 and 9.

3. Vowel and Tone Blending

Vowel blending across morpheme boundaries is a pervasive phenomenon in Bakweri, not only within a single word but among adjacent words in a sentence. When it applies, vowel blending acts on an underlying configuration $V_1 + V_2$ and either tracelessly deletes V_1 or replaces it with a (roughly) homorganic glide. The tonological concomitant of vowel blending is a very simple tone-blending rule: put both tones on the surviving vowel V_2. If the tones are different, a contour tone arises. Contour tones usually further simplify to level tones by various tone absorption processes, which will be assumed and invoked in this paper wherever necessary.

Within a single word, vowel blending is rigidly governed by verbal or nominal morphophonemics; an example is 'àzôngá' above. Across a word boundary, vowel blending is extremely common, and seems to be largely governed by prosodic factors such as pauses and speed of delivery. For example, for "he is washing" there are both a slow, deliberate citation version and a fast, spontaneous blended version:

àveli àzoza ⟶ àvelàzoza.

Thus for the linguist a transcribed stretch of Bakweri speech is not transparently segmentable into words; the tracelessly deleted vowels must be resupplied.

4. General Noun and Verb Structure

Prior to undertaking the specific morphotonological analysis of downstep, it is necessary to provide some idea of the scope of the notion "verb tense" in Bakweri, and a capsule summary of the rich and highly structured morphology of verbs and nouns in the language. There are a good many simple independent positive verb tenses in Bakweri. But the overall verb system is much richer. As is common in Bantu languages, the negative counterparts of the positive verb tenses count morphologically as independent tenses in their own right. Furthermore, Bakweri has distinct morphological tense forms for a verb as it appears in an independent clause, in a subject-relative clause ("he who VERBs"), and in an object-relative clause ("that which he VERBs"). The dimension of negativity crosscuts this trichotomy, and the further dimension of reflexivity crosscuts the entire system. I present in the table on the next page a summary of the "tenses" of Bakweri; a line (—) indicates that the specified morphological tense form does not exist. For fuller detail cf. Gensler 1980.

To this elaborate inventory of tenses corresponds an elaborate verbal morphology. The verb in Bakweri segments

	Independent		Subj Rel-Cl		Obj Rel-Cl	
	Pos	Neg	Pos	Neg	Pos	Neg
Yesterday	✓	✓	✓	✓	✓	✓
While-Ago	✓	✓	✓	✓	✓	✓
Just-Now	✓	✓	✓	?	✓	✓
Perfect	✓	✓	—	✓	✓	✓
Progressive	✓	—	✓	—	✓	—
Present-Future	✓	✓	✓	✓	✓	✓
Subjunctive	✓	✓				
Narrative-Then	✓	✓				
Before-Past	✓	—				
When-Future	✓	✓				
Imperative	✓	—				
Infinitive	✓	—				

naturally into an agglutinative sequence of slots (underlined slots occur obligatorily):

SB - (TNS-NG) - (OB) - (REFL) - ROOT - (EX) - FL .

Here SB and OB are the class prefixes (see below, Nouns) specifying the gender/number of the subject and object NPs; REFL is a special marker -áá- appearing only with reflexive tenses; TNS-NG covers various tense and negative markers, including zero for certain tenses; EX is a valence-changing extension(s) added onto the ROOT; and FL is the final vowel. All of the affixes involved here are monosyllabic. Normally the rule is "One morpheme per slot"; however, the slot EX may hold a sequence of monosyllabic morphemes. A particular verb tense is specified morphologically by applying a characteristic tone contour over the verb, and (for certain tenses only) by choosing a TNS-NG marker and/or changing the FL vowel. The ROOT has lexical tone, as do the prefixes in the four preceding slots; EX and FL are intrinsically toneless, their tone being a function of the particular tense. Examples follow; here and elsewhere in the paper I will be using as "parade examples" the high and low-toned roots 'kóka' "bite" and 'zòza' "wash".

	SB	TNS-NG	OB	ROOT	FL
they bit me (Yest)	vá	ma	nò	kók	á
he didn't bite them (Yest)	à	zi	vá	kók	è
he who bit (Yest)	à	ma	- - -	kók	á
he has washed	á	ma	- - -	zòz	à
he bit (Just-Now)	à	- - - - - - - - -		kók	ì

Note in particular that negative tenses are characterized by 'zi' or 'za' in the TNS-NG slot.

The various verb tenses can be represented schematically in abstract "phonological tense matrices". Ignoring for simplicity the REFL, OB, and EX slots, certain of the above tenses would be represented as follows:

Positive Yest	SB - mà - ROOT - á
Negative Yest	SB - zí - ROOT - è
Positive Yest, Subj-Rel-Cl (low-toned SB only)	SB - má' - ROOT - á.

In this last case, downstep appears as an integral part of the matrix, an example of grammatical downstep. Note that plugging in the low-toned root 'zòza' will yield here

à - má' - zòz - á.

As remarked in section 2, the downstep in a sequence H'L is meaningless, so the form becomes the actually occurring

à-má-zòzá.

Thus in all cases both high and low-toned roots are encompassed in a single unitary formula for the tense.

Nouns are far simpler. A noun falls into the general syntagmatic mold PREF - STEM, where PREF is the Bantu class prefix specifying in portmanteau fashion both number (sg/pl) and gender (noun class); one class has a zero prefix. The STEM can take various lexically determined tone patterns. A few examples are:

bird	i-nɔ̀ní
chicken	Ø-wúvà
water	mà-líva.

5. Phonological Downstep

The salient fact about phonological downstep is that the process of downstep formation (H-L-H ⟶ H-'H-H) is in all cases highly constrained grammatically. Within the noun, the environment for phonological downstep does not seem to arise. Within the verb, only low-toned ROOT morphemes may serve as the target site for phonological downstep, which applies there obligatorily. Thus:

he washed him (Yest)	à-ma-mo-zóza	(no downstep)
he washed it(=knife)	à-ma-li-zóza ⟶	à-ma-li-zo'za
he hasn't washed	à-zi-zózi ⟶	à-zi-zo'zi
they washed (Just-Now)	vá-zózi ⟶	vá-zo'zi.

Other low-toned morphemes cannot be the target site for downstep. Thus:

they bite him	vá-mo-kóka	(OB mò unchanged)
they bit (Yest)	vá-ma-kóka	(TNS-NG mà ")
they didn't bite(Just-Now)	vá-za-kóki	(TNS-NG zà ").

We see here a morphological constraint at work on phonological downstep.

Phonological downstep may also apply across a word boundary, as part of the general phenomenon of inter-word tone sandhi. Here the pattern H-L-H may be distributed over the two words in two ways:

they are eating	H-L#H	vá-véli vá-la	⟶ vá-véli va-la
I saw water (Yest)	H#L-H	nàmɛ́nɛ́ màlívá	⟶ nàmɛ́nɛ́ málívá.

Inter-word downstep of this sort does not apply across the board to all possible H-L-H sequences, and the precise controlling factors remain to be worked out. Downstep apparently can occur only if the two words are part of a single breath-group, i.e. if they are not separated by a pause. In such circumstances downstep usually occurs intra-clausally, but apparently tends not to occur across an independent-clause sentence boundary. Here, then, the grammatical constraint is not morphological but syntactic.

6. Grammatical Downstep

The cases of grammatical downstep can be subdivided into three groups: verb constructions, noun definiteness, and inter-word floating downstep. I will examine each of these in turn.

a. Verb constructions

There are five different groups of verb tenses characterized by grammatical downstep, covering a somewhat bewildering variety of constructions. The examples will contrast the high-toned root 'kóka' "bite" and the low-toned 'zòza' "wash". In the first three groups, the target site is the (underlying H) verb ROOT.

1. The three negative tenses formed with the (polar-tone) TNS-NG morpheme 'za':

he didn't VERB(While-Ago)	a-za-kokeai	vs	a-za-zozeai
he didn't VERB(Just-Now)	a-za-koki		a-za-zozi
he won't VERB	a-za-koka		a-za-zoza

(The morpheme 'za' is said to have polar tone because it is low after a high-toned SB, and high after low. Thus compare the above examples with:

they won't VERB	vá-za-kóka	vá-za-zóza.)

Contrast the grammatical downstep of 'za' with the straightforward behavior of the other TNS-NG negative marker 'zi':

he didn't VERB (Yest) à-zí-kóke vs à-zí-zóze.

2. The Positive Yesterday Subject-Relative-Clause tense:

he who VERBed (Yest) à-má-kóká à-ma-zoza

they who VERBed (Yest) vá-má-kóká va-ma-zoza.

Contrast the independent-clause form:

he VERBed (Yest) à-mà-kóká à-ma-zoza.

3. The Narrative-Then tense (used in sequential narrative as the normal storytelling tense):

then he VERBed(isolated) á-kóka á-zoza

then he VERBed(context) á-kóká á-zòzá.

Note that in this tense the SB marker is forced to high tone.

4. The Positive Perfect tense:

he has VERBed á-má-kóka á-ma-zoza.

Note that here, too, SB is forced to high tone. The target site for this tense is not the verb ROOT but the high-toned TNS-NG marker 'má'.

5. The entire Reflexive tense series is characterized by a quite unparalleled occurrence of grammatical downstep in the syllable immediately following the ROOT tone. To give only one example:

he VERBed himself (Yest) à-mà-áá-kókɛ́ à-ma-aa-zozɛ́.

Note the REFL marker 'áá' and the characteristic FL vowel 'ɛ'. Most especially note the occurrence of phonological downstep with the low-toned root 'zòza'. Contrast the non-reflexive form:

he VERBed (Yest) à-mà-kóká à-mà-zòzá.

b. Noun definiteness

For most noun classes, the indefinite form ("a NOUN") is specified morphologically by a low-toned class prefix, while the definite form ("the NOUN") has a high-toned class prefix with following downstep. (The exceptions are Classes 1 & 9, which form the definite by prefixing 'è-'.) Thus:

mò-lélí "food" lì-ófá "door"

mó-lélí "the food" lí-ófá "the door".

I am not certain, however, whether we are dealing here with a downstep or a falling tone on the prefix. As remarked in

section 2, the sequences ˊˈˊ and ˆˊ can be hard to distinguish; and with definite noun forms, the initial tone sometimes sounds like a downstep, sometimes like a falling tone. If the downstep analysis is the correct one, then noun definiteness should be counted as an instance of grammatical downstep.

c. Inter-word floating downstep

Noun classes 1 and 9 were alluded to above in connection with their exceptional definite form. In these same classes, the indefinite form participates in a special type of inter-word grammatical downstep. Consider the words for "a man" (Class 1) and "a pawpaw" (Class 9): múnyánà "man" fɔ̀fɔ́ "pawpaw".

So the words appear in isolation. However, following a verb form such as

nàmàkóká "I bit",

and indeed after any H tone, a downstep mysteriously crops up:

I bit a man/a pawpaw nàmàkóká ˈmúnyánà nàmàkóká ˈfɔfɔ .

Contrast an indefinite noun from another noun class, 'mɔ́lɛ̀ngù' "sheep" (initial high tone due to vowel blending):

I bit a sheep nàmàkóká mɔ́lɛ̀ngù .

This type of downstep stands somewhat apart from the phonological/grammatical dichotomy. I class it as grammatical downstep chiefly because the target site is underlyingly high. But the downstep hardly seems linked to any grammatical construction --- the mere fact of belonging to Class 1 or 9, or of occurring in context after a H tone, hardly counts as a "grammatical construction". It seems reasonable in the present case to ascribe the downstep not to any grammatical construction but to the noun itself. We are thus led to set up the indefinite form of all H-tone-initial Class 1 and 9 nouns with a preceding "floating downstep", thus: ˈ múnyánà.

The constructions given in this section may be summarized schematically using the matrix notation presented in section 4:

a.	Verb constructions	
1.	Neg While-Ago	SB - zaˊˈ - ROOT - èai
	Neg Just-Now	SB - zaˊˈ - ROOT - ì
	Neg Future	SB - zaˊˈ - ROOT - á
2.	Pos Yest Subj-Rel-Cl	SB - maˊˈ - ROOT - á
3.	Narrative-Then	SBˊˈ - ROOT - à, SBˊˈ - ROOT - á
4.	Pos Perfect	SBˊˈ - ma - ROOT - à
5.	Certain Reflexive tenses	X - áaˊ - ROOTˈ - X
b.	Noun definiteness	PREFˊˈ - STEM
c.	Inter-word floating downstep	Xˊ # ˈ STEM

A note: In many of these cases it might be argued that grammatical downstep should not be seen as a "global" phenomenon, i.e. as part of the overall tone contour specifying the tense, but rather as a local phenomenon, as part of the lexical specification of (say) the affix 'za'. This approach seems to me inadvisable, on two counts:

1. It cannot apply to cases like the Narrative-Then tense or the Reflexive tenses, where there <u>is</u> no special affix to associate the downstep with.
2. The tone on the affix 'za' is not fixed, but is sensitive to (part of) the overall tone contour, specifically to the SB tone: 'za' exhibits polar tone. Thus the grammatical downstep of 'za', occurring only with high-toned 'zá' after low-toned SB, is itself dependent on the overall tone contour.

7. The Incompatibility Problem

In section 6, alongside the forms with H-toned target sites which are subject to grammatical downstep, I made a point of also presenting in the right-hand column the forms which appear when the target site is underlyingly not H but L. Here a very curious correlation emerges: grammatical downstep is incompatible with phonological downstep at the same target site! That is, if for a H-toned target $\acute{X}_2$ we have grammatical downstep in a particular construction

$$\acute{X}_1\ \grave{\acute{X}}_2\ \acute{X}_3\ ,$$

then for a L-toned target $\grave{X}_2$ in the same construction, <u>phonological</u> downstep will be blocked:

$$\acute{X}_1\ \grave{X}_2\ \acute{X}_3 \quad \not\longrightarrow \quad \acute{X}_1\ \grave{\acute{X}}_2\ \acute{X}_3\ .$$

Consider by way of example the Neg Future tense in 'za', subject to grammatical downstep, in contradistinction to the Neg Perfect in 'zi' with no downstep:

Neg Future	à-zá-kóká (gramm.)	à-zá-zóza ⇏ à-zá-zóza
Neg Perfect	à-zí-kóki	à-zí-zózi → à-zí-zózi.

With the low-toned verb root 'zòza', the Future form is parallel tone-for-tone to the Perfect form; the environment is precisely right for phonological downstep on the low-toned ROOT target site; but only with the Perfect form does it occur. Indeed, if there were to turn up a downstepped Future form

à-zá-zóza ,

it would be naturally taken as <u>grammatical</u> downstep on a hypothetical H-toned root 'zóza'.

This "incompatibility problem" can arise at all only for some of the cases of grammatical downstep presented in section 6.

Others are excluded in principle. There are two structural requirements which must be met:

1. The grammatical downstep must be embedded in the specific context H'HH and not H'HL.
2. The target-site syllable must be capable of switching to L tone without compromising the grammatical identity of the construction.

The Neg-While-Ago, Neg-Just-Now, and Narrative-Then (isolation) tenses are excluded because their downstep is embedded in the context H'HL. The Perfect tense is excluded because the target site 'má' cannot switch to a low-toned 'mà' without destroying the identity of the tense. The Reflexive forms look suspicious because the low-toned root 'zòza' does undergo phonological downstep. But the target site for this phonological downstep, viz. a low-toned root syllable, is not the same as the target site for grammatical downstep with reflexives, viz. the syllable following a high-toned root; contrast

à-ma-áá-zoz ɛ́ à-ma-áá-kokɛ́ .

And a switch to low at this post-root target site could not occur without destroying the tonal identity of the tense. Hence Reflexive forms too are excluded from consideration.

For the remaining cases, the target site is the initial syllable of the verb ROOT or the noun STEM --- precisely the position which permits lexical tone, either low or high, to be plugged in freely. And every one of these cases exhibits the incompatibility problem: grammatical downstep occurs with high-toned targets, but low-toned targets are immune to phonological downstep.[1] What we have, then, is no sporadic accident, but a quite general property of grammatical downstep. Why should this be so?

A plausible explanation which comes to mind immediately has to do with the avoidance of ambiguity. There are in Bakweri minimal tone pairs such as

kóka "bite" òka "be big" .

These have the distinct Neg Future forms

à-zá-kóka à-zá-òka.

Were the latter form subject to phonological downstep, the two forms would merge into a single ambiguous form. To avoid this situation, the argument goes, phonological downstep does not apply. The problem with this explanation is that there are other processes in the morphotonology which have no compunction about creating just this sort of ambiguity. We may consider, for example, the Positive Yesterday forms of the minimal tone pair presented in section 2:

ónga "build" ònga "grow".

Underlyingly, the Positive Yesterday forms are distinct:

à-ma-ónǵá à-ma-ónǵá .

This is a vowel-blending situation, however, and the result is a single ambiguous form àmónǵá.

Thus a principle of avoidance of ambiguity does not seem to have grammatical significance in Bakweri. We must look elsewhere for an explanation of the incompatibility problem.

8. Grammatical Downstep as Phonological Downstep

The analysis which I propose, following Hyman 1979 and many others, is to recast grammatical downstep as phonological downstep operating on a floating low tone as target site. By "floating tone" I mean an abstract tone which is not tied to any syllable but is rather "located" between two syllables, e.g.

X̀ - X́ .

Diachronically this is presumably the residue of a more concrete realization at an earlier stage of the language, when the "floating tone" was perhaps anchored to a now-vanished syllable. Synchronically, though, it is a purely abstract notion existing only in underlying structure. For a floating tone to survive as such on the surface would be incoherent; any surface manifestation it has can only be indirect, by virtue of its interaction with neighboring tones. A language-specific convention of tone grounding will formally prevent a floating tone from reaching the surface:

> If the floating tone is identical in pitch either to its left or its right neighbor, then erase the floating tone.

Since we posit only a floating low tone, the only case not covered by this convention is the sequence X́ - X̀ . This is just the right tonal sequence for phonological downstep, which we will now require to apply obligatorily to any such floating target site. The resulting sequence X́ ꜜ X̀ will surface, after tone grounding, as X́ ꜜ X́ --- the floating tone drops, but the downstep itself remains.

The introduction of a floating low tone allows us to get a hold simultaneously of both horns of the incompatibility dilemma. For the Neg Future tense, the morphological matrix schema was, as we saw,

SB - zá ꜜ - ROOT - á.

This now becomes instead

SB - zá - ROOT - á.

For the high-toned root 'kóka', the observed "grammatical downstep" now arises from the application of phonological downstep:

à - zá - kóká ⟶ à - zá ꜜ - kóká ⟶ à - zá ꜜ - kóká.

Similarly, the floating downstep preceding Class 1 and 9 nouns is now recast as a floating low tone; thus:

I bit a man namakoka munyana ⟶ namakoka munyana .

For the low-toned root 'zòza', phonological downstep does not occur because no environment for it exists; there are <u>two</u> low tones intervening between highs, not just one! Thus:

a - za - zòza ⟶ a - za - zòza

namakoka fɔfɔ ⟶ namakoka fɔfɔ.

Schematically, X - X X ⟶ X - X X.

Thus the incompatibility problem is transformed from a puzzle to a natural byproduct of the analysis.

What I have done here is to replace one theoretical construct by another. Grammatical downstep, a theoretical construct closely tied to the surface, is replaced by the more abstract theoretical construct of floating tones. The justification for this increase in abstraction is the immediate demystification of the incompatibility problem. (And it should be noted that we already have some precedent for the use of floating tones in the tonology, viz. the "floating downstep" preceding the indefinite form of Class 1 and 9 nouns.) The notion of grammatical downstep, to be sure, will remain useful as a descriptive heuristic and label for the phenomena presented in section 6. But it no longer has the status of a theoretical construct.

9. Counterevidence: the Reflexive

It remains to consider a subtle piece of counterevidence to the floating-tone analysis. Recall the Reflexive form built on the low-toned root 'zòza':

a-ma-áá-zozɛ .

As explained in section 7, this occurrence of phonological downstep was not a problem in a framework where grammatical downstep was a primary construct --- the target sites were not the same. But it <u>is</u> a problem for a floating-tone analysis. The Reflexive tenses in question were represented by the matrix:

X - áá - ROOT - X,

which now becomes

X - áá - ROOT - X.

Plugging in our two standard root-examples, we get

a - ma - áá - kok - ɛ ⟶ a - ma - áá - kok - ɛ

a - ma - áá - zoz - ɛ ⟶ a - ma - áá - zoz - ɛ (!).

We may compare this last form with the Negative Future

a - za - zòza ⟶ a - za - zòza,

already mentioned above. In both cases with 'zòza', we have two lows intervening between two highs; the floating low is paired with its left neighbor in the former case, with its right neighbor in the latter. In both cases, the sequence of two lows should block phonological downstep. But in the reflexive forms, phonological downstep occurs anyway!

I have no good explanation for this anomaly, which calls in question the whole floating-tone approach. It seems to me both ad hoc and bizarre to have recourse to a "principle" which "explains" these cases on the basis of <u>which</u> of the two successive low tones is a floating tone. Nowhere else in Bakweri does the sequence HLLH yield a downstep. There is, to be sure, a restricted set of "short" possessive kin terms such as

múnyéní "her husband"

which might be seen as derived from the fuller equivalent

múnyàna wèní.

But any such "derivation", by virtue of excising substantially more material than in the normal sort of vowel blending (see section 3), would be highly irregular. I prefer to think of these kin terms as an exceptional closed set, lexicalized and learned as such --- rather like the English set

men/oxen/children/brethren.

I reiterate: nowhere in Bakweri does the sequence HLLH yield a downstep.

Faced with this problem, I can only fall back on an appeal to "guilt by association". Grammatical downstep as manifested in the reflexive tense series has already been seen to be "different" in at least two ways. First, the target site is the syllable <u>after</u> the root:

X - áá - ROOT - ' X = X - áá - ROOT - X.

Secondly, grammatical downstep applies not to any specific reflexive tense but rather across the board to all reflexive tenses whose non-reflexive counterparts have the matrix

X - ROOT - X.

What I propose to do, then, is to treat reflexives as a "series apart" in yet a third way, and suggest that the representation

X - áá - ROOT - X

holds only for high-toned roots. Low-toned roots will have a matrix which lacks the floating low tone. This would break the basic unity of the matrix characterization of the tense (see section 4); two different matrices must be invoked, one for high-toned roots and one for low-toned. (There is some precedent for representing a single tense with two different matrices, for example the case of the negative tenses built with the polar-tone

NEG morpheme 'za', as discussed in sections 6,12.) This approach works; for low-toned roots, the matrix

$$X - \acute{a}\acute{a} - \text{ROOT} - \acute{X}$$

offers no barrier to the formation of phonological downstep. This does not make the approach any less ad hoc. I see no other option, however, short of rejecting the entire floating-tone analysis and thereby remystifying the incompatibility problem.

10. One Way Not to Look at Downstep

In this and the following section, I wish to clear up two possible misconceptions regarding downstep in Bakweri. First of all, we cannot make the generalization: Grammatical downstep arises when a low-toned morpheme preceding the target site is raised to high for grammatical purposes, according to the schema

$$\text{L-H} \longrightarrow \text{H-'H} .$$

In principle such an approach is perfectly reasonable, and has been successfully applied (e.g.) to the Chadic language Ga'anda (cf. Newman 1971). But for Bakweri (contra Kingston 1979:160) it is not a useful descriptive procedure. Of the cases of grammatical downstep assembled in section 6, only two clearly belong here (numbering below as in section 6):

a2. Positive Yesterday Subj-Rel-Cl tense: Raise the independent-clause 'mà' to high-toned 'má' with following downstep, thus:

$$\grave{a} - ma - \acute{k}\acute{o}k\acute{a} \longrightarrow \grave{a} - m\acute{a} - \acute{k}\acute{o}k\acute{a}.$$

b. Noun definiteness: Raise the basic low-toned class prefix to high with following downstep.

With strain, two other cases could be brought under this heading:

a1. Negative tenses with 'za': The polar-tone 'za' might be seen as basically low-toned, but grammatically raised to high with following downstep after a low SB marker --- as if

$$v\acute{a} - z\grave{a} - \acute{k}\acute{o}k\acute{a} \longrightarrow \grave{a} - z\acute{a} - \acute{k}\acute{o}k\acute{a} .$$

a3. Narrative-Then tense: The Narrative-Then tense (for <u>past</u> narration) might be seen as derived from the Present-Future by raising the SB to high with following downstep (Kingston 1979:160):

$$\grave{a}\text{-}k\acute{o}k\acute{a}\text{(Pres-Fut)} \longrightarrow \acute{a}\text{-}k\acute{o}k\acute{a} \text{ (Narr-Then)}$$

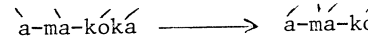
Note, though, that the same Narrative-Then tonal pattern holds just as well for an underlying <u>high</u>-toned SB marker such as 'vá',

$$v\acute{a}\text{-}k\acute{o}k\acute{a},$$

where there can be no question of raising a low tone to high.

Cases a4 and a5 do not fit into the proposed generalization at all. Note that in the case of a4 there are <u>two</u> markers which

would have to be raised (low-toned SB and TNS-NG 'ma') if one were to attempt to derive the Perfect from the Yesterday tense,

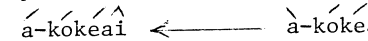


Finally, there are several tenses in Bakweri where a low-toned morpheme might just as naturally be seen as "raised to high for grammatical purposes" without engendering downstep:

1. Subjunctive, from the Future:

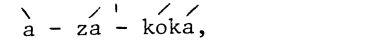
2. Narrative-Then Just-Now form, from normal Just-Now tense:

3. Object-Rel-Cl forms, from corresponding independent-clause forms, for example with the While-Ago tense:

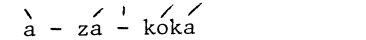


11. Downstep and Vowel Blending

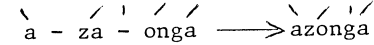
Downstep and vowel blending (section 3) are distinct processes in Bakweri. My focus on examples like



where vowel blending does not occur, has been deliberate, and demonstrates that downstep in principle has nothing to do with vowel blending. The two can, of course, interact. Parallel to

he won't bite 

we have

he won't build 

which sets the pattern for the behavior of downstep under vowel blending. The blending rule for downstep is:

that is, relocate the downstep after the surviving vowel. The above examples pertain to grammatical downstep with the high-toned roots 'kóka,ónga'; but the rule applies just as well to low-toned roots with phonological downstep. Parallel to

he hasn't washed 

we have

he hasn't grown 

Downstep formation applies first in this derivation, at a fairly deep level; vowel blending subsequently applies much closer to the surface.

The reverse order of application

*he hasn't grown a - zi - ongi ⟶ azongi ⟶ azongi

would not only be hard to motivate in any positive sense, but would be tonologically at odds with the derivation given in section 2:

he won't grow a - za - onga ⟶ azonga ⟶ azonga.

A contour tone in the sequences ∧ / and / ∨ is under no tonological compulsion to become a downstep, but rather resists such a change. This is in sharp distinction to the floating-tone case treated in section 8, where phonological downstep is required to apply to the sequence X - X. Thus the sequences X - X and X - X, though identical in terms of overall tone movement, are tonologically very different.

12. An Internal Reconstruction of 'za'

Often an abstract underlying form is only the synchronic image of a concrete reality from an earlier stage of the language. In this concluding section, I will attempt to apply the abstract floating-tone analysis of grammatical downstep so as to illuminate the peculiar polar-tone behavior of the NEG morpheme 'za'. Far from being disconnected quirks, polar tonality and grammatical downstep with 'za' arose together from an earlier and simpler state of affairs.

Depending on the SB tone, 'za' occurs in two different tonal matrices:

SB - za - ROOT = SB - za - ROOT

SB - za - ROOT.

What is common to these two is that the span 'SB-za-', taken as a unit, ends in a H-L sequence in both cases. That is, H-L spreads over these syllables as best it can, squeezed to the right in the case of a low-toned SB. I suggest that, at an earlier stage of the language, 'za' was associated in some way with a H-L tone sequence --- perhaps as a falling tone 'za', perhaps as a blended combination 'zi-a', perhaps realized in yet another way. A diachronic change occurred, and the H-L sequence became localized leftwards and rightwards, after a H and L-toned SB marker, respectively:

SB - za - ROOT ⟶ SB - za - ROOT

SB - za - ROOT.

The latter case is our schema for grammatical downstep; in the former, the floating H tone is absorbed by tone grounding; looking at both together, we see that the morpheme 'za' has "acquired" polar tone. The weakness of this approach lies in the unmotivated leftwards and rightwards localization of H-L,

which I have no good account for. The alternatives are:

1. SB - za - ROOT
2. SB - za - ROOT
3. SB - za - ROOT
4. SB - za - ROOT.

With a low-toned SB, alternative #1 above would create a floating high tone, something unprecedented elsewhere in Bakweri, in just the environment X - X where it could not easily undergo tone grounding --- there is no upside-down, high-toned equivalent to downstep formation. No such problem would arise with #2. Regarding #3 and #4, the only suggestion I can make is that the H on the SB marker "absorbed" the now redundant H in the H-L sequence associated with 'za', leaving only a low tone on 'za' while preserving the overall H-L sequence. (NB: We cannot approach case #3 via the normal tone-absorption rule for falling tones in Bakweri; the tone-absorption rule is

HL L ——————> H L,

while here the tonal sequence of interest is not HL L but H HL.) Flaws and all, however, the present internal reconstruction does provide a unified account of grammatical downstep and polar tone on 'za', confirming the usefulness of the floating-tone approach to downstep.

13. Conclusion

On balance, the merger of phonological and grammatical downstep has been seen to solve more problems than it creates. On the plus side of the ledger we can list the very fact of a unification of downstep, the demystification of the incompatibility problem, and a plausible diachronic account of the polar tone of 'za'; on the minus side, some increase in abstraction, and the conspicuous unsolved difficulty with the reflexive tense series. Moreover, the extension of phonological downstep to grammatical downstep involved no jarring discontinuities or conceptual leaps in the analysis. There was already precedent for the grammatical use of floating tones, in the "floating downstep" which was posited for Class 1 and 9 nouns. In the environment of such a floating low tone, phonological downstep was constrained to apply obligatorily --- and here too there was precedent, for phonological downstep was already highly constrained by quite specific morphological, syntactic, and prosodic factors. As remarked in section 8, none of this invalidates the notion of grammatical downstep as a useful descriptive term. But in a theoretical account of Bakweri morphotonemics, it must give way to the floating-tone analysis.

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* This paper focuses on one aspect of my 1980 Master's thesis, and significantly extends the treatment presented therein. My thanks to John Kingston for much fruitful give-and-take spanning several years, and above all to my language informant and friend, Eposi (Mary) Ngomba-Westbrook.

Will Leben, in discussion at the conference, was kind enough to bring to my attention the references Armstrong 1968 and Leben 1971, where a phenomenon in Yala(Ikom) is discussed which is a very close parallel to the incompatibility problem in Bakweri. There the "phonetically meaningless downstep" in the sequence H'L blocks the normal process of Tone Glide Formation,

H L ————> H HL ;

the process applies only to the sequence H-L, not to H'L. This fact becomes comprehensible only if downstep is regarded as an underlying low tone. See the two references cited for details.

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1 I am aware of one case of noun definitization where downstep does occur, indeed appears obligatory. This involves the Class 19 noun for "pot":

j͡ɔ́ngɔ́ (indef) j͡ɔ́ɔ́ngɔ́ (def).

Presumably the underlying forms are respectively

i-ɔ́ngɔ́ j͡ɔ́-ɔ́ngɔ́ ,

or something similar.

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THE RELATIONSHIP OF MEANING AND UNDERLYING GRAMMATICAL RELATIONS: EVIDENCE FROM QUECHUA*

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1. In the history of generative grammar there have been two major approaches to the relationship of meaning and deep syntactic structure. The first approach is that taken by Noam Chomsky (in Syntactic Structures, and later work) and the MIT school of linguistics. According to this approach even though meaning and syntactic structure interact at various levels, they are essentially autonomous and meaning does not directly determine underlying structure (and, hence, underlying grammatical relations).[1]

The second approach was taken by Katz and Postal, more fully developed by generative semantics and also adopted by researchers working in the framework of Relational Grammar. (See, for example, Perlmutter (to appear a) "Inversion in Russian and Kannada," and Perlmutter and Postal (1977) "Towards a Universal Characterization of Passivization.") According to this approach, meaning directly determines underlying grammatical structure (or, in a relational theory, the initial grammatical relations). This approach is clearly stated in Perlmutter (to appear a). Perlmutter claims that a strong version of Relational Grammar maintains that the initial grammatical relations of a nominal can be universally predicted from the semantic role the nominal plays in its clause. Thus if two nominals play the same semantic role in their respective clauses, they also bear the same grammatical relation in the initial stratum in their respective clauses. This holds not only for cases where the two clauses are in the same language, but also cross-linguistically in cases where the two nominals are in different languages.[2] I will call this second approach the Semantic Predictability Hypothesis.

In this paper I will not address myself to the question of the nature of the Semantic Predictability Hypothesis or its status in linguistic theory. I have the more limited and modest goal of pointing out a class of counter examples to the hypothesis, drawing evidence from Imbabura, a dialect of Highland Ecuadorian Quechua.

Let us now examine the effects of the Semantic Predictability Hypothesis in a relational theory like that developed by Perlmutter and Postal. In a relational theory one would expect nominals playing the same semantic role to have the same initial grammatical relations. Perlmutter (to appear a) proposes, for example, that experiencers and cognizers are universally initial subjects. In this paper I will concentrate on this claim and show that in the light of Imbabura Quechua data we cannot maintain this hypothesis.

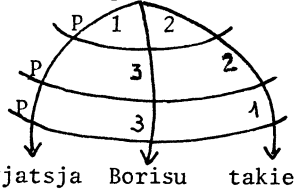
It is important to note that not all counter examples to the claim that experiencers and cognizers are initial subjects turn

out to be valid counter examples. Thus, for example, Perlmutter notes that a superficial comparison of experiencers in English and other languages seems to pose a problem for the claim that experiencers are universally initial subjects. Although in a language like English this hypothesis makes the correct prediction, in Russian experiencers seem to be indirect objects, as can be seen from comparing English (1) to Russian (2).[3]

(1) Boris likes such jokes.
(2) Borisu nravjatsja takie anekdoty
Boris-dat like-3 pl such jokes-nom
'Boris likes such jokes.'

Perlmutter shows that in contrast to English, in Russian Borisu does not behave like a final subject: it does not have nominative case marking; it does not trigger verb agreement and it cannot be an Equi victim. However, Perlmutter demonstrates that syntactically experiencers like Borisu are initial subjects in Russian. He does so by showing that the experiencer exhibits behavior typical of subjects such as being the controller of reflexive pronouns and being the victim of Equi in the gerundive construction. He is able to show that one can independently motivate a condition on reflexives and Gerundive Equi referring to (anytime) subjects. Thus, on syntactic grounds we posit a grammar for Russian in which certain initial subjects are demoted to surface indirect objects, sanctioning the following subnetwork (represented here as a simplified stratal diagram):

(2')



Inversion

Unaccusative Advancement

nravjatsja Borisu takie anekdoty

The construction represented in (2') is known as Inversion. Inversion has been motivated in a similar fashion for experiencers and cognizers in a number of other languages, for example, Georgian, Italian, Kannada and Quechua.[4]

Thus, it has been shown successfully that a class of apparent counter examples to the Semantic Predictability Hypothesis vanishes once we recognize the effects of Inversion. Perlmutter remarks that while this does not in itself establish that initial grammatical relations are predictable, it strongly suggests that further work may be able to eliminate other counter examples in a similar way.

My purpose in examining the Imbabura data is to show that not all counter examples can be eliminated by positing Inversion. More specifically I will show that although in Imbabura we do have an Inversion construction in which experiencers can be shown indepen-

dently to be initial subjects, there is a parallel construction in which the experiencer behaves quite differently and in which we are forced to assume that the experiencer is both a final and initial object.

Why does the Imbabura data present a crucial conter example to the Semantic Predictability Hypothesis? After all, there are many languages in which we have no independent motivation for the claim that experiencers are initial subjects. These are languages in which experiencers do not exhibit any behavior typical of subjects, and in which they group together with other indirect objects. One such language is Hebrew, in which the experiencers in (3) seem to be final indirect objects:

(3) a. kar li
cold 1-dat
'I'm cold.'

b. yeš li ba'aya
is 1-dat problem
'I have a problem.'

The experiencers in (3) behave like indirect objects as fas as verb agreement and case marking are concerned (just as in the examples from Russian). However, unlike the Russian examples, these experiencers cannot be Equi victims, and cannot relativize with the Ha- strategy. (It can be independently shown that only subjects can be Equi victims and undergo Ha- Relativization.) So we have no direct evidence for the subjecthood of the experiencer in Hebrew. Note, however, that it can be shown independently that in Hebrew Equi must be formulated to refer to final 1s, as distinct from Russian in which Equi into gerundives, for example, has to be formulated to refer to (anytime) 1s.[5] Moreover, as far as relativization is concerned, we find that in Hebrew only nominals which are both initial and final subjects can undergo Ha-Relativization. Thus, Hebrew clearly does not present a counter example to the Semantic Predictability Hypothesis. We simply lack any independent evidence regarding the initial subjecthood of the experiencer since we failed to find any conditions referring to initial 1s. (Hungarian is another example of a language in which we cannot find independent evidence for the initial 1-hood of experiencers.)[6] However, since we have no evidence to the contrary, we can assume that these experiencers are initial subjects, and thus are not counter examples to the Semantic Predictability Hypothesis. To summarize, in order to show that not all experiencers are initial subjects, we need a language in which we can independently establish the existence of conditions referring to initial subjects, but in which the nominals in question fail to be analyzed as initial subjects by these conditions (i.e., the experiencers fail to exhibit behavior typical of initial subjects). As I claimed above, such a language is Imbabura. Let me turn to the Imbabura data now.

2. In Imbabura we have two surface patterns in which experiencers can show up, exemplified in (4) and (5) respectively:[7]

(4) a. (ñukata) makita chiriwanmi
1-acc hand-acc cold-OM-3 pr-val
'(It) is cold to me the hand.'

b. (ñukata) rina chayawanmi
1-acc go-nom have to-OM-3 pr-val
'I have to go.'

(5) a. (ñukata) maki chiriwanmi
1-acc hand-nom cold-OM-3 pr-val
'(It) is cold to me the hand.'

b. (ñukata) kanga unguna yariwangui
1-acc 2-nom-top sick-nom seem-OM-2 pr
'You seem to be sick to me.'

A limited number of predicates show up in these constructions, usually predicates of physical sensation (like 'be hungry', 'hurt', 'cold', 'hot') and some modals such as 'have to' and 'seem'.

Note that in all the examples in (4)-(5) we have an experiencer or cognizer, which (just as in Russian) does not behave like a final subject. Thus, these experiencers (the underlined nominals) show up in the accusative case (-ta) reserved for direct objects in Imbabura. They do not trigger subject-verb agreement, which is triggered only by final subjects. (This can be observed in (4) and (5).)[8] Moreover, unlike final subjects, these nominals optionally trigger first person object agreement on the verb (the -wa- morpheme in examples (4) and (5)). In Imbabura, only objects can trigger this optional agreement marker; final subjects cannot, as shown in (6a) and (6b) respectively:

(6) a. Juan (ñukata) rikujuwanmi
Juan-nom 1-acc see-prog-OM-3 pr-val
'Juan is seeing me.'

b. *(ñuka) Juanda rikujuwanimi
1-nom Juan-acc see-prog-OM-1 pr-val
('I am seeing Juan.')

Hence, in Imbabura, just as in Russian, Kannada, Georgian and Italian, experiencers and cognizers are not final subjects but final objects.

What about the initial termhood of these nominals? Can they be shown to be initial subjects (like Russian experiencer/cognizers) and thus not counter examples to the Semantic Predictability Hypothesis? I will show below that in Imbabura the experiencers in (4) differ in their syntactic behavior from those in (5). More specifically, while the experiencers in (4) can be shown independently to be initial subjects (since, as I will demonstrate, they appear in constructions restricted to subjects), the experiencers in (5) behave quite differently: they do not appear in these constructions and, hence, we cannot analyze them as initial sub-

jects. I will claim then that in Imbabura we must allow experiencers to be initial subjects as in (4), or initial objects as in (5), in direct contradiction to the hypothesis claiming that all experiencers must be initial subjects.

Let us turn now to the evidence for this claim. I will first show that we have at least two conditions in Imbabura referring to working 1s and one referring to anytime 1s (1s at any stratum). Informally stated, a working 1 is a nominal which is a subject at some stratum and a final term. Thus in monostratal clauses, subjects are working 1s, in passive clauses the nominal which is the final subject is a working 1 (but not the passive agent) and in inversion clauses the inversion nominal (the experiencer) is a working 1.[9] Secondly, for each such condition I show that the experiencers in (4) satisfy the condition and hence are initial subjects, whereas the experiencers in (5) are not analyzed as subjects by the condition. The data is presented below.

2.1. Switch reference marking in adverbial clauses. Imbabura, like most Quechua languages, has a system of switch reference marking in adverbial clauses which marks the subject of the adverbial clause as identical or non-identical to the subject of the matrix clause.[10] I will concentrate here on the choice of the suffix -shpa which indicates identity of main and adverbial clause subjects. As shown in (7), matrix direct objects cannot trigger -shpa in the adverbial clause:

(7) *(ñuka) Quitupi kashpa Juan ñukata rikurka
1-nom Quito-in be-SR Juan-nom 1-acc see-3 past
('When I was in Quito, Juan saw me.')

Subjects of simple active sentences trigger the -shpa switch reference marker:[11]

(8) (ñuka) Quitupi kashpa (ñuka) Juanda rikurkani
1-nom Quito-in be-SR 1-nom Juan-acc see-1 past
'When I was in Quito, I saw Juan.'

Passive subjects can trigger -shpa also:

(9) (ñuka) Quitupi kashpa ñukaka Juan makay tukurkani
1-nom Quito-in be-SR 1-nom-top Juan beat pass-1 past
'When I was in Quito, I was beaten by Juan.'

Passive agents cannot trigger -shpa:

(10) *(ñuka) Quitupi kashpa Juanga ñuka makay tukurka
1-nom Quito-in be-SR Juan-nom 1 beat pass-3 past
('When I was in Quito, Juan was beaten by me.')

The experiencers in (4) can trigger -shpa:

(11) (ñuka) Quitupi kashpa (ñukata) makita chiriwarkami
1-nom Quito-in be-SR 1-acc hand-acc cold-OM-3 past-val
'When I was in Quito, to me was cold the hand.'

(12) (ñuka) Quitupi kashpa (ñukata) trabajana chayawarka-
1-nom Quito-in be-SR 1-acc work-nom have to-OM-3 past-
mi
val
'When I was in Quito, I had to work.'

The examples in (7)-(12) justify a working 1 condition on switch reference in Imbabura. This condition can informally be stated as follows: choose -shpa if the subject of the adverbial clause is identical to the working 1 of the main clause. (I will not discuss here what type of subject the identical NP inside the adverbial clause has to be. In fact, it can be shown that it has to be a final 1.) Examples (11) and (12) then show that experiencers must be subjects at some stage (we assume initially). Otherwise we have to considerably complicate the condition on -shpa assignment by saying something like: final 1s and (as an exception) experiencers trigger -shpa.

The experiencers from (5), however, fail to assign -shpa and, thus, behave quite differently from the ones in (4):

(13) a. *(ñuka) Quitupi kashpa (ñukata) maki chiriwarka-
1-nom Quito-in be-SR 1-acc hand-nom cold-OM-3 past-
mi
val
('When I was in Quito, to me the hand was cold.')

b. *(ñuka) Quitupi kashpa (ñukata) kan unguna yari-
1-nom Quito-in be-SR 1-acc 2-nom sick-nom seem-
warkangui
OM-2 past
('When I was in Quito, you seemed sick to me.')

2.2. The same pattern emerges when we consider the condition on assigning switch reference into purpose adverbial clauses. In purpose adverbials, the suffix -ngapaj is employed to express identity of embedded and main clause subjects, and -chun to express non-identity. Looking at the condition on assigning -ngapaj (the identity marker), we notice that in this case the condition does not seem to mention working 1s but seems to refer to anytime 1s (subjects at any level). Thus we can show that main clause direct objects cannot trigger -ngapaj, main clause active subjects can, and so can main clause passive subjects, passive agents and the experiencers in (4):
Direct objects cannot trigger -ngapaj:

(14) *(ñuka) payta$_i$ makarkani pay$_i$ wakangapaj
1-nom 3-acc hit-1 past 3-nom cry-SR
('I hit him$_i$ so he$_i$ would cry.')

Active subjects (final 1s) trigger -ngapaj:

(15) (ñuka) wasiman rijuni (ñuka) mikungapaj
1-nom house-dat go-prog-1 pr 1-nom eat-SR
'I am going home so that I could eat.'

Passive subjects (final but not initial 1s) can trigger -ngapaj:

(16) wawaka$_i$ Juan makashka karka (pay$_i$) mikungapaj
child-nom-top Juan beat-pass be-3 past eat-SR
'The child$_i$ was beaten by Juan so that he$_i$ would eat.'

Passive agents (initial 1s and final chomeurs) can trigger -ngapaj:

(17) aychaka warmi$_i$ yanushkami karka payllataj$_i$
meat-nom-top woman cook-pass-val be-3 past her-emph
mikungapaj
eat-SR
'The meat was cooked by the woman$_i$ so that she$_i$ could eat it.'

Experiencers as in (4) can also trigger -ngapaj:

(18) ama mikunata randingapaj (ñukata) yarjawan
not food-acc buy-SR 1-acc hungry-OM-3 pr
'I am hungry, so that I will not buy food.'

In (18), yarja- 'be hungry' takes an experiencer, which triggers -ngapaj.

I suggest then that one can formulate a condition stating that in order to have -ngapaj in the embedded clause, the final 1 of the adverbial clause has to be identical to an (anytime) 1 in the main clause. Again, note that the experiencers from (5) do not allow -ngapaj in their embedded clauses (the example here is with the verb yarina 'seem'):

(19) *kanga maymi trabajanami yariwangui (ñuka) kulkita
2-nom-top a lot work-nom-val seem-OM-2 pr 1-nom money-acc
mirachingapaj
increase-SR
('You seem to me$_i$ to work a lot, so that I$_i$ can increase (my) money.')

Again this rules out an analysis of all experiencers as initial subjects.

2.3. The last condition referring to subjects has to do with constructions in which the subject of the embedded clause shows up as the final direct object of the main clause (Subject-to-Object Raising constructions). In this case, we can formulate a condition stating that only working 1s can also be final 2s in the main

clause. This is illustrated below. In (20) the active subject (a working 1) of the embedded clause is also a final direct object in the main clause:

(20) Juanga ñukata munan shamuchun
Juan-nom-top 1-acc want-3 pr go-subj
'Juan wants me to go.'

Example (21) shows that if the final direct object is not the final subject of the embedded clause, ungrammaticality results. In (21) the nominal in question is a final direct object in the embedded clause:

(21) *Juan aychata munan María mikuchun
Juan-nom meat-acc want-3 pr María-nom eat-subj
(Juan wants María to eat meat.')[12]

In (22) we can see that a passive subject (also a working 1) can raise:

(22) Juan ñukata munan María makashka kachun
Juan-nom 1-acc want-3 pr María-nom beat-pass be-subj
'Juan wants me to be beaten by María.'

Experiencers like the ones in (4) can also show up as final direct objects of verbs like muna-, and, therefore, must be initial subjects in the embedded clause:

(23) brujaka ñukata munan makita chirichun
witch-nom-top 1-acc want-3 pr hand-acc cold-subj
'The witch wants me to be cold [in] the hand.'

One can show independently that in (23) ñukata is indeed the final direct object of muna- 'want', but I will not go into details here.[13] The same can be shown for the experiencer in (4b):

(24) brujaka ñukata munan trabajana chayachun
witch-nom-top 1-acc want-3 pr work-Nom have to-subj
'The witch wants me to have to work.'

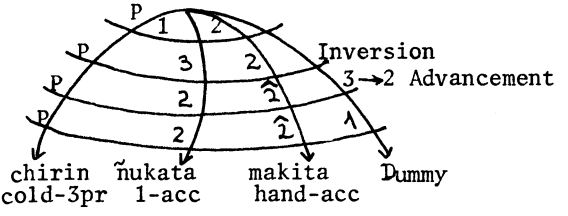
The experiencers in (5), however, cannot raise (that is, cannot be the final direct objects of muna-) as shown in (25):

(25) *brujaka ñukata munan maki chirichun
witch-nom-top 1-acc want-3 pr hand-nom cold-subj
('The witch wants me to be cold [in] the hand.')

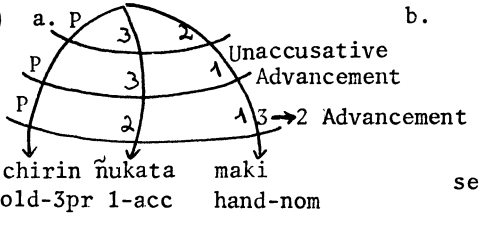
Similar facts hold for the experiencer of yarina- 'seem'. Again we conclude that the experiencers in (5) cannot be initial subjects.

To summarize, I suggest the following simplified stratal diagrams for the two types of experiencer constructions:

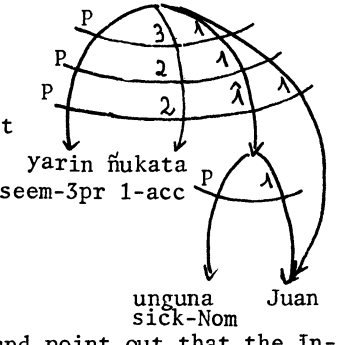
(4')



(5') a.



b.



Let me digress here for a moment and point out that the Inversion construction in Imbabura (represented in (4')) differs in a crucial respect from inversion in languages like Georgian, Kannada, and Italian in that the initial 2 is not advanced to 1 by unaccusative advancement, which in these languages applies to the unaccusative stratum sanctioned by Inversion. Instead we seem to get a dummy 1 as the final subject, thus satisfying the Final 1 Law.[14]

Also, there is no evidence for assuming that the inversion nominal actually went through a stage of being a 3 and underwent 3→2 advancement. Again Imbabura differs in this respect from other languages in which inversion occurs, and in which the experiencer is a surface 3. In Imbabura the experiencer is a final 2: only final 2s are marked by -ta, while 3s are marked by -man. In Imbabura, however, experiencers cannot take the -man case marker, not even optionally.[15] Nothing, however, contradicts a 3→2 advancement analysis.

3. Having established that the two types of experiencers behave differently in Imbabura, the obvious question is whether we can find an account for this data which would not necessitate setting up different initial grammatical relations for the two experiencer types.

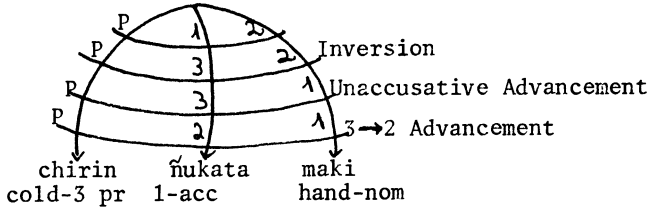
Above I showed that if we assume that Imbabura has conditions referring to working 1s and anytime 1s, some experiencers (those in (5)) cannot be initial 1s.

An alternative approach to the Imbabura data, which I shall reject below, would be to claim that we misformulated our condi-

tions in Imbabura. Under this analysis the conditions do not actually refer to working 1s or 1s at all, but are formulated in a different fashion. Note that the biggest difference between the two experiencer types is that the type in (4) does not have a (lexical) surface subject (final 1), whereas the one in (5) does. What if we reformulate our conditions in the following way: The highest ranking nominal in the clause (excluding dummies) is the trigger of -shpa or -ngapaj (in adverbial clauses).

This (given we can really exclude dummies from the hierarchy of grammatical relations) will correctly pick out the experiencer in (4') over other nominals (since a 2 ranks higher than a 2). For the experiencers in (5) we can then assume the following kind of subnetwork (replacing (5')), where the experiencer is an initial subject:

(5'')



If we assume that the conditions refer to the final strata, the highest ranking NP here would not be the experiencer but maki 'hand' and the conditions would correctly pick that nominal over the experiencer. (Indeed, in Imbabura it is this NP which triggers -shpa and -ngapaj in adverbial clauses and undergoes raising, as shown in Hermon (forthcoming).)

Thus we could save the generalization that all experiencers are initial subjects and have the differences in their behavior fall out from the different subnetworks for (4) and (5) (namely (4') and (5'')) and the way we formulated our conditions.

Note, however, that formulating the conditions to refer to the 'highest ranking nominals' (excluding dummies) cannot predict (26):

(26) tamyashpa (ñukata) chiriwanmi
rain-SR 1-acc cold-OM-3 pr-val
'When it rains, I am cold.'

In (26) the adverbial clause has a final dummy 1 and so does the main clause after Inversion. Note that -shpa is acceptable here, showing that the condition on triggering -shpa must not exclude dummies. Also, formulating the condition to refer to "highest ranking nominal" incorrectly predicts that (27) should be grammatical. In (27) paypaj is in initial position in the main clause and there is no other possible trigger, yet it fails to trigger -shpa:

(27) *Juan$_i$ mana trabajashpaca paypaj$_i$ sinchichu karka
Juan-nom not work-SR-top 3-for easy-neg be-3 past
kulkita tarichunga
money-nom find-subj-top
('When Juan$_i$ did not work, (it) was not easy for him$_i$ to find money.')

Furthermore, a condition referring to highest ranking nominal would predict that only the passive subject could trigger -ngapaj into purpose clauses (since it outranks the passive agent -- a final chomeur). Note however, that as was shown in (17), the passive agent triggers -ngapaj (as well as the passive subject, see (16)). Thus the possibility of reformulating the conditions in this way is eliminated.

3.1. A totally different approach would be to claim, that although we seem to have one phonological verb chiri- 'cold', we have two different verbs semantically: chiri-$_1$ takes an experiencer (as in (4)); chiri-$_2$ does not take an experiencer, but possibly a patient. Although this would get rid of a counter example to the semantic predictability hypothesis, there is no reason to think that we have such a semantic difference in Imbabura. Examples (4a) and (5a) exhibit no perceptible semantic differences, and speakers claim to be able to use them interchangeably. Also, I could not find any difference in meaning between the English 'it seems to me' and the Imbabura equivalent to 'seem' yariwanmi (5b). Although in English we can analyze to me as an experiencer (and initial 1), in Quechua the experiencer in (5b) is an initial 3.

4. I conclude that the hypothesis that all experiencers are initial 1s cannot be maintained and the relationship between semantic roles (such as experiencers and cognizers) and initial termhood is far more complicated than that suggested by the Semantic Predictability Hypothesis.

It is interesting to note that the data from Imbabura is by no means the only example in the literature where a researcher working in a relational theory was forced to analyze experiencers as initial objects. For example, Gerdts (1980) analyzes experiencers of psych-verbs in Halkomelem as initial 2s.

Moreover, the semantic role of experiencer is not the only counter example to the semantic predictability hypothesis. Williamson (1979) presents evidence from Lakhota which suggests that the strong version of the Unaccusative Hypothesis (which claims that initial unergativity vs. unaccusativity depends on the meaning of the predicate) must be abandoned. Williamson claims that in Lakhota the determination of which predicates are unergative and which are unaccusative is not only language specific, but also to some extent arbitrary.[16]

Thus, I believe that there is crosslinguistic evidence that underlying grammatical relations are not entirely semantically determined and are to some extent arbitrarily chosen in different ways in different languages.

Footnotes

*The data for this paper comes from Imbabura Quechua, a Highland Ecuadorian dialect spoken in the Province of Imbabura, Ecuador. The facts given here are based on information provided by Carmen Chuquin, a native speaker of Imbabura, whose generous assistance is gratefully acknowledged. I would also like to thank P. Cole for rechecking these facts with speakers in Otavalo, Ecuador, and Peter Cole, Alice Davison, Pete Landerman and Jerry Morgan for their suggestions regarding various aspects of the analysis presented in this paper.

[1]In his more recent work, Chomsky seems to have modified his original views on the relationship of meaning and syntactic structure. For example, in Chomsky (to appear) he claims that all levels of syntactic represention are projections of the thematic structure and subcategorization indicated in the lexicon. (For Chomsky's projection principle, see Chomsky (to appear), chapter 2.2.)

[2]This differs from Perlmutter's most recent views, which came to my attention subsequent to the presentation of this paper. In that work (to appear b), Perlmutter takes a position similar to that which I shall propose here: that initial grammatical relations are not universally predictable from semantic roles.

[3]All references to Perlmutter, unless otherwise indicated, are to Perlmutter (to appear a).

[4]See for example Harris (1976) on Georgian, Perlmutter (1979) on Italian and Japanese, Sridhar (1979) on Kannada, Cole and Jake (1978) and Cole and Hermon (1981) on Quechua.

[5]For the notions initial 1, final 1 and 1, see Perlmutter (1979), and Perlmutter (to appear b), where it is argued that linguistic theory needs (at least) five notions of subject to state rules and generalizations in the grammars of natural languages.

[6]For a discussion of experiencer constructions in Hebrew see Hermon (1979) and Hermon (forthcoming).

[7]I discuss only the distribution of experiencers with verbs such as chiri- 'be cold', yarja- 'be hungry', etc. In Imbabura, we also find experiencers as initial subjects of verbs formed by adding the desiderative suffix -naya to the verb stem. These desiderative experiencers are not relevant to our discussion in this paper.

[8]Imbabura has a rule of pronoun drop, which (optionally) deletes all subject pronouns and object pronouns which are marked on the verb.

[9]See Perlmutter (1979) in which the notion working 1 is motivated for linguistic theory.

[10]For a general description of the grammar of Imbabura Quechua see Cole (to appear).

[11]The subject pronoun in the adverbial clause can be deleted optionally, if the adverbial marker is -shpa indicating identity with the subject of the matrix clause.

[12]Note that (21) is grammatical on a different reading: 'Juan wants the meat so that María eat (it).' On this reading, aycha 'meat' is an initial matrix object and does not bear any grammatical relation to the predicate of the embedded clause.

[13]See Cole and Jake (1978) for such arguments.

[14]For the Final 1 Law see Perlmutter and Postal (to appear). Note that the Unaccusative Hypothesis, in conjunction with the Final 1 Law, allows for two possible situations: (a) the 2 of the unaccusative stratum can be advanced to 1 (as in Italian and Kannada), or (b) a dummy can head the final 1 arc. My claim is that in Imbabura both possibilities are realized: in the inversion construction (exemplified in (4)) a dummy is inserted to satisfy the Final 1 Law, whereas in other experiencer constructions (exemplified in (5a)) Unaccusative Advancement applies. This was illustrated in (4') and (5'a) respectively.

[15]For a detailed discussion and motivation of the arc pair networks of inversion constructions in Imbabura, see Hermon (forthcoming), in which 3→2 advancement and unaccusative advancement are motivated for Inversion in Imbabura. Also note that if we incorporate Perlmutter's Active Dummy Law (Perlmutter, 1981) then the dummy in (4') could only have been inserted as a 2. This in itself provides a theory internal argument for 3→2 advancement of the inversion nominal in Imbabura: at the stratum following inversion, where the dummy 2 is inserted, the inversion nominal cannot be a 2; otherwise it would be demoted to a 2 by the newly inserted dummy 2. Thus, we must assume that the inversion nominal has a 3 arc at the stratum where the dummy 2 is inserted and is only advanced to a 2 at a subsequent stratum.

[16]The Lakhota facts, and similar facts from Achenese, are the type of data which led Perlmutter (to appear b) to reformulate the strong version of the Unaccusative Hypothesis. According to this weaker form of the Unaccusative Hypothesis, unergativity vs. unaccusativity is postulated on syntactic grounds but is not predictable from the semantics of the clause (see Perlmutter (to appear b, pp. 500-501)).

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Dative Clitics in Albanian: Evidence for Syntactic Levels

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1. Two of the current controversial issues in syntactic theory are the place of grammatical relations and the question of whether multiple syntactic levels are necessary in the structural description of a clause. The behavior of the dative clitic in Albanian bears on both of these issues, providing evidence for a notion of indirect object that is not definable in terms of word order, case, or meaning, and that must be considered at at least two syntactic levels.[1]

There are at least five distinct interpretations of the dative clitic in Albanian.

1) Notional 3. (logical indirect object)
   a. Agimi ia dha Halitit librin.
      N ClCl give D book-the
      3sD3sAc 3sPDAct Ac
      'Agim gave the book to Halit'
   b. I flas Dritës.
      Cl talk D
      3sD 1sPrAct
      'I talk to Drita'
2) Notional 1 (logical subject)
   a. Ngjarja nuk i besohet drejtorit.
      story-the not Cl believe director-the
      N 3sD 3sPrNAct D
      'The director doesn't believe the story'
   b. Nuk më shkohet.
      Cl go
      1sD 3sPrNAct
      'I don't feel like going'
3) Possessor
   a. Qeni i pa macen Agimit.
      dog-the Cl see cat-the D
      N 3sD 3sPDAct Ac
      'The dog saw Agim's cat'
   b. Bilbili më këndon mua mirë.
      nightingale-the Cl sing me well
      N 1sD 3sPrAct D
      'My nightingale sings well'
4) Benefactive
   a. Agimi ju bleu një biletë.
      N Cl buy a ticket
      2pD 3sPDAct Ac
      'Agim bought you a ticket'

b. Drita i vishet Agimit si nuse.
N Cl dress D like bride
3sD 3sPrNAct
'Drita dresses herself up like a bride for Agim'

5) Narrative
a. Na ishte një fshatar dhe një ari.
Cl be a villager and bear
1pD 3sPI N N
'Once upon a time there was a villager and a bear'
b. Agimi më fluturoi në shtëpi dje.
N Cl fly to house yesterday
1sD 3sPDAct
'Mind you, Agim flew home yesterday'

These meaning differences are associated with other differences which suggest these constructions are structurally distinct.

Utilizing the relational grammar framework outlined in Perlmutter and Postal (1977), it will be argued that:

I. The dative clitics in (1) and (2) mark final 3's that are initial terms.
II. The dative clitics in (3) and (4) mark final 3's that are not initial terms.
III. The dative clitics in (5) do not mark 3's at any level.

The datives in (1) are called notional 3's or logical indirect objects. They differ from the other datives in two potentially significant ways. They generally cannot be paraphrased like possessive, benefactive, and notional 1 or "inversion" datives, and they have a variable semantic role.

The notional 1 datives in (2) are hypothesized in Hubbard (1980) to be initial 1's and final 3's, and are commonly called inversion 3's in relational grammar. While there is no clear syntactic evidence for the initial 1-hood of the datives,they have four characteristics that distinguish them from notional 3 datives. First, these inversion datives invariably occur in a clause with the verb in a non-active form, unlike notional 3 datives that can occur in active clauses as well. Second, the notional 2, if there is one, always occurs as the final 1. Third, inversion datives never occur in a clause with a final 2. Finally, there generally exist paraphrases for clauses with inversion datives where the notional 1 appears as the final 1, as in (6), which corresponds to (2a)

6) Drejtori nuk beson ngjarjen.
N 3sPrAct Ac
'The director doesn't believe the story'

The possessive dative, in contrast to the notional 3 and inversion datives, can appear with most verbs and so cannot be considered as lexically governed.[2] From a semantic perspective, possessive datives are not arguments of the clause, but rather arguments of possessive phrases, though they are clearly tied to the verb in the surface string. Like inversion datives, they

have paraphrases, as in (7), a paraphrase of (3a), where the possessive relation is marked with a possessive pronoun.

7) Qeni pa macen time.
N Ac my
Ac
'The dog saw my cat'

The benefactive, like the possessive dative, can occur freely with most verbs. Sentences with benefactive datives have paraphrases where the nominal occurs as the object of the preposition për 'for', as in (8), a paraphrase of (4a).

8) Agimi bleu një biletë për ju.
N for Ac
'Agim bought a ticket for you'

The narrative dative represents a problem simply in assigning it a semantic value. While it can, like the so-called ethical dative, sometimes have the implication that its referent is affected by the outcome of the action specified by the verb, this is by no means necessarily the case, as the sentences in (5) clearly show. It functions more often as a "storytelling" particle, in some sense bringing the referent, most often the speaker and/or hearer, into the story to produce an emotive effect. Whatever its semantic characterization, it clearly differs from the other datives in two ways. First, it can only occur as a clitic, not as a clitic copy of some other dative nominal in the sentence.

9) a. Na ishte (*neve) një fshatar dhe një ari.
Cl be us a villager and bear
1pD 3sPI D N N
'Once upon a time there was a villager and a bear'
b. Agimi më fluturoi (*mua) në shtëpi dje.
N Cl fly me to house yesterday
1sD 3sPDAct D
'Mind you, Agim flew home yesterday'

The sentences in (9) are ungrammatical when the non-clitic or free pronoun is included. The free pronoun can occur with any of the other dative clitics (e.g. (3b)).

Besides the fact that the narrative dative can only occur as a clitic, there is a special combination form më-të 'me-you', which only occurs with the narrative dative reading.[3]

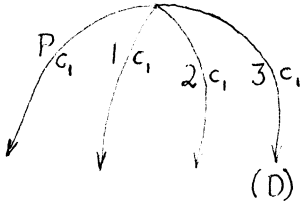
10) Më-të vrau Agimi një ushtar.
Cl Cl kill N a soldier
1sD2sD 3sPDAct Ac
'You see, Agim killed a soldier'

The number and variety of the differences discussed above sheds doubt on any analysis that attempts to account for all these uses by positing a single syntactic source.

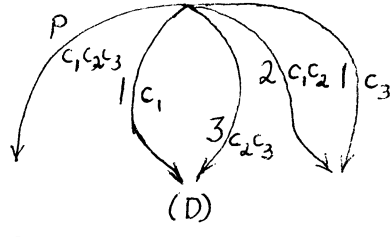
In the following section it will be shown how a relational grammar approach can account for these differences by positing independent sources for each of the datives mentioned above. It will then be argued that one cannot regard the dative clitic as exclusively a marker of the indirect object, and further that the notion "indirect object" cannot be limited to a single syntactic level, but must be considered at at least two.

2. Following the framework of Perlmutter and Postal (1977), the following RN's will be proposed for the dative constructions under discussion.

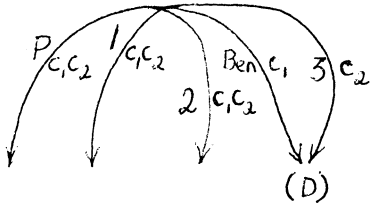
11) a. Notional 3



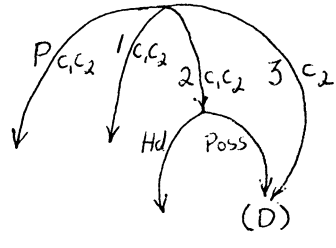
b. Inversion



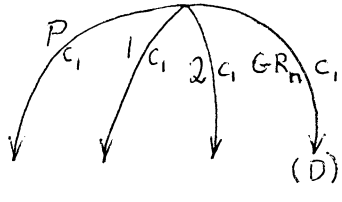
c. Benefactive



d. Possessive



e. Narrative



The networks in (11) are for initially transitive clauses, though all of these datives can occur in initially intransitive clauses as well. The (D) in each network indicates the nominal which is marked by the dative clitic in the surface form. GR_n in (11e) represents the oblique relation of the narrative dative.

The evidence in support of the RN's proposed above comes from sentences involving the floating of the quantifier të gjithë 'all' and conditions on the antecedents of pronominal reflexives. Specifically, it will be shown that të gjithë cannot float off of the narrative dative, although it can normally float off of final

terms, including 3's. The reflexive data will show that only the notional 3 and inversion datives behave like initial terms, and also that the benefactive and possessive datives behave like final 3's but not like initial 3's. This supports the hypothesis here that the RN's for these last two involve Benefactive→3 advancement (Bell, 1976; Harris, 1976) and Possessor ascension (Harris, 1976), respectively.

2.1. The quantifier të gjithë regularly occurs contiguous to the nominal it quantifies but can occur in a position not contiguous to that nominal as well.

12) a. Të gjithë burrat më panë.
all men-the Cl see
N N 1sD 3pPDAct
'All the men saw me'
b. Burrat më panë të gjithë.

Të gjithë changes its form relative to the gender and case of the nominal it quantifies and can float off of 2's and 3's as well as 1's. Rather than go into the full details of të gjithë float, however, we will limit ourselves to the facts involving 3's. Of particular interest here is the following claim.

13) Të gjithë 'all' can float off of final 3's. When it does, it appears as either të gjithëve (mD) or të gjithave (fD).

As the following examples show, të gjithë can float off of notional 3, inversion, possessive, and benefactive datives.

14) a. (Notional 3)
Burrave të katundit u fola të gjithëve.
men-the village-the Cl speak D
D G 3pD 1sPDAct
'I spoke to all the men of the village'
b. (Inversion)
U dhimsem unë të gjithëve.
Cl care for I
3pD 1sPrNAct N
'All of them care for me'
c. (Possessive)
Qeni u pa çupave macet të gjithave.
dog-the Cl see girls-the cats-the fD
N 3pD 3sPDAct D Ac
'The dog saw all the girls' cats'
d. (Benefactive)
Djemve u bleu bileta Agimi të gjithëve.
boys-the buy tickets N
D 3sPDAct Ac
'Agim bought tickets for all the boys'

Të gjithë cannot, however, float off of obliques, as shown in (15), a paraphrase of (14d).

15) *Për djem bleu bileta Agimi të gjithë.
for Ac Ac
'Agim bought tickets for all the boys'

Crucially, the narrative dative cannot float të gjithë.

16) *Na ishte një fshatar dhe një ari të gjithëve.
Cl be a villager and bear D
1pD 3sPI N N
'Once upon a time ('to all of us') there was a villager and a bear'

Të gjithë float thus provides evidence that the narrative dative is not a final 3.

2.2. The conditions on the antecedents of the forms of the pronominal reflexive vete 'self' are discussed in detail in Hubbard (1980). Based on evidence from active and passive sentences, the following generalizations are proposed there.

17) a. Final Term Reflexivization: a nominal A heading a final term arc with tail c may antecede a reflexive nominal B heading a final term arc with tail c if the R-sign of the arc headed by A outranks the R-sign of the arc headed by B on the hierarchy 1>3>2 at the initial level.
b. Final Non-term Reflexivization: a nominal A heading a term arc with tail c may antecede a reflexive nominal B heading a final non-term arc with tail c.

Let us briefly review the data which led to these generalizations.

In active sentences, a 1 may antecede a 2 or a 3 irrespective of the relative order of the two nominals.

18) a. Agimi pa veten në pasqyrë.
N see self in mirror
3sPDAct Ac
'Agim saw himself in the mirror'
b. Veten e pa Agimi në pasqyrë.
Ac Cl N
3sAc

19) a. Murati i flet vetes.
N Cl talk D
3sD 3sPrAct
'Murat talks to himself'
b. Vetes i flet Murati.
D N

Neither a 2 nor a 3 may antecede a 1 however.

20) a. *Agimin pa vetja në pasqyrë.
Ac N
b. *Vetja pa Agimin në pasqyrë.

21) a. *Muratit i flet vetja.
D N
b. *Vetja i flet Muratit.

As (22) shows, a 3 may antecede a 2.

22) Gazetari i a përshkroi veten Agimit.
journalist-the Cl Cl describe Ac D
N 3sD3sAc 3sPDAct
'The journalist described himself$_i$ to Agim$_i$'
('The journalist$_j$ described himself$_j$ to Agim')

A 2 may not antecede a 3, however, irrespective of word order.

23) Gazetari ia përshkroi Agimin vetes/vetes Agimin.
Ac D
*'The journalist described Agim$_i$ to himself$_i$'
('The journalist$_j$ described Agim to himself$_j$')

Finally, obliques may not antecede terms, e.g. (24), where an oblique antecedes a 3.

24) Agimi i foli vetes mbi Dritën.
N Cl talk D about Ac
3sD 3sPDAct
*'Agim talked to herself$_i$ about Drita$_i$'
('Agim$_j$ talked to himself$_j$ about Drita')

In passive sentences, a 3 may antecede the passive 1; however, the passive chomeur (logical subject) cannot, even though it is an initial 1, as (25) shows.

25) Vetja i u-pershkrua Agimit prej gazetarit.
N Cl 3sPDNAct D by
3sD
'Himself$_i$ was described to Agim$_i$ by the journalist'
*'Himself$_j$ was described to Agim by the journalist$_j$'

The generalization in (17a) can account for all of the above data.

The generalization in (17b) is based primarily on data from passives. It should be noted first, however, that final terms can antecede oblique reflexives, as in (26).

26) Agimi i foli Dritës mbi veten.
N D about
'Agim talked to Drita about himself'
'Agim talked to Drita about herself'

In passives clauses, final terms can antecede the passive chomeur, as in (27).

27) Unë **u-mësova** prej vetes.
I teach by
N 1sPDNAct
'I was taught by myself'

Interestingly, however, the passive chomeur can itself antecede an oblique reflexive, as in (28).

28) Afër drejtorit u-vu prej Agimit libri mbi veten.
near director-the place by book-the
3sPDNAct N
'The book about himself$_i$ was placed by Agim$_i$ near the director'
*'The book about himself$_j$ was placed by Agim near the director$_j$'

(28) also shows that an oblique cannot antecede another oblique. The generalization in (17b) captures the fact that the passive chomeur, alone among final non-terms, can antecede an oblique.

Returning now to the dative constructions, given the generalization in (17a), it can be seen that the dative in inversion clauses is indeed a final 3 and an initial term (presumably a 1, though the data is also consistent with initial 3-hood) from the fact that it can antecede a final 1 reflexive. This is also evidence for the initial 2-hood of the inversion 1, since an initial and final 1 cannot be reflexive.

29) Vetja i dhimset Agimit.
N Cl care for D
3sD 3sPrNAct
'Himself cares for Agim'

We have seen, then, that both notional 3 and inversion datives behave like initial terms and final 3's. Based on (17a), if any of the other datives under discussion----benefactives, possessives, and narratives----were initial and final 3's, we would expect them to be able to antecede a reflexive that is an initial and final 2. As the sentences in (30)-(32) show, none of these datives can do so.

30) a. Rruajta Agimin për veten.
shave Ac for
1sPDAct
'I shaved Agim for himself'
('I shaved Agim for myself')
b. I rruajta Agimit veten.
D D Ac
*'I shaved Agim for himself'
('I shaved Agim for myself')

31) Bija më pa veten.
daughter-the Cl see Ac
N 1sD 3sPDAct
*'My daughter saw myself'
('My daughter saw herself')

32) Agimi më goditi veten.
N Cl strike Ac
1sD 3sPDAct
*'Would you believe, Agim struck myself'
('Would you believe, Agim struck himself')

The sentence in (30a) shows that it is semantically acceptable in Albanian to speak of shaving Agim for himself in a context where Agim would normally be expected to do the act, but for some reason can't (e.g. he just broke his arm). The reading of (30b) where the reflexive refers to Agim, however, is clearly unacceptable, irrespective of context. The readings of (31) and (32) where the possessive and narrative datives antecede the final 2 reflexive are likewise semantically plausible but syntactically unacceptable. These results are expected if, as the RN's in (11) predict, the datives in these sentences are not initial 3's.

The data involving të gjithë float was used to argue that the possessive and benefactive datives are final 3's, while the narrative is not. There is evidence based on reflexive data that this is indeed the case. If the possessive and benefactive datives were final 3's, we would expect them to be able to antecede final non-terms. As (33) shows, they can.

33) a. I bleva prezidentit një libër mbi veten.
Cl buy D book about
3sD 1sPDAct
'I bought the president a book about himself/myself'
b. M' a vuri bijën pranë vetes.
Cl Cl place daughter-the beside
1sD3sAc 3sPDAct Ac
'He placed my daughter beside myself/himself'

In (33), the benefactive and possessive datives may both be interpreted as the antecedents of non-term reflexives. In the non-dative versions of these sentences, the benefactive and possessive nominals cannot antecede the reflexive.

34) a. Bleva për prezidentin një libër mbi veten.
'I bought for the president a book about myself/
*himself'
b. E vuri bijën time pranë vetes.
my
'He placed my daughter beside himself/*myself'

Similarly, if the narrative dative were not a final 3, we would expect it not to be able to antecede final non-terms. As (35) shows, it can't.

35) Na vuri qenin e Agimit pranë vetes.
Cl dog-the G
lpD Ac
'Mind you, he put Agim's dog beside himself/*ourselves'

To summarize, based on the arguments presented above, it can be concluded that the notion of indirect object, or 3, cannot be defined: a) in terms of meaning, because sentences with possessive, benefactive, and inversion datives have paraphrases where the nominal is not marked by a dative clitic; b) in terms of case, because the narrative dative is also a dative clitic; c) in terms of word order, because the narrative dative, as a dative clitic, occurs in the same position as the others. This suggests that it may best be considered as a primitive syntactic notion, thus supporting a basic assumption of relational grammar. In addition, it has been shown that a complex set of conditions on antecedents of pronominal reflexives can be accounted for by only two generalizations (those in (17)) if the notion of 3 is considered at at least two syntactic levels.

NOTES

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The following abbreviations are used in the examples:

Ab-ablative	G-genitive	Pr-present
Ac-accusative	N-nominative	p-plural
Act-active	NAct-non-active	s-singular
Cl-clitic	m-masculine	1-first person
D-dative	PD-past definite	2-second person
f-feminine	PI-past indefinite	3-third person

The examples are written in standard Albanian orthography. The letters have essentially their IPA value, with the following exceptions: ë[ə], ç[tʃ], c[ts], dh[ð], th[θ], and sh[ʃ].

[1]Familiarity with the following terms and abbreviations is assumed in the text. P-Predicate; 1-Subject; 2-Direct Object; 3-Indirect Object; term-a 1, 2, or 3; RN-relational network (the structural description of a clause); arc-the basic unit of an RN, consisting of the R-sign (relational sign, e.g. P, 1, 2, etc.), the coordinate (indicating the syntactic level, e.g. c_1 is the initial level), a head (the element bearing the grammatical relation), and a tail (indicating constituency); Hd-Head (the possessed nominal in a possessive phrase); Poss-Possessor. For a more detailed explanation see Perlmutter and Postal (1977).

[2]Normally, only one dative clitic is allowed in a clause, so a benefactive dative could not occur in a clause together with a notional 3 dative, possessive dative, etc. (But see Note 3).

[3]Albanian allows two dative clitics to occur together when the outside clitic has a narrative interpretation. Unfortunately, a discussion of them is beyond the scope of this paper. See Hubbard (1980)for more details.

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WILHELM VON HUMBOLDT'S LINGUISTIC IMPORTANCE

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Wilhelm von Humboldt (1767-1835) was the earliest major Western linguist to write extensively on general linguistics. Despite Humboldt's readily acknowledged place in the history of Linguistics, however, his ideas and their impact are not well-known to many contemporary linguists. The relationship of his thought to that of two major American scholars, Edward Sapir (1884-1939) and Benjamin Lee Whorf (1897-1941), is admitted without often being explored. For example, the theory of linguistic relativity commonly referred to as the Sapir-Whorf Hypothesis has very clear roots in the writings of Humboldt and might more accurately be called the Humboldt-Sapir-Whorf Hypothesis. This paper will acquaint the reader with some of Humboldt's ideas and show how they echo through the works of Sapir and Whorf. Thus, the close connection between these three scholars will be explored.

Humboldt was a versatile man who became the master of several widely divergent fields outside of linguistics, not only as personal interests, but also as fields of original endeavor. He produced works of value in political science, art, history, classical studies, literature, and biology, as well as in linguistics. One of the outstanding thinkers of his time, Humboldt left his imprint not only on linguistics, but on many aspects of Western thought.

It was on a trip through the Pyrenees that Humboldt encountered his first non-Indo-European language, Basque. This contact sparked Humboldt's interest in linguistics and he went on to be the first outsider to the Basque community to write a piece on their language. Later, when Humboldt found himself in an influential administrative post in public life, he was able to found the University of Berlin (now in East Berlin and known as Humboldt University) and create there the first Chair of Comparative Linguistics, a post which Franz Bopp, the noted Indo-Europeanist, filled. Humboldt also created the first Chair of Romance Philology, at the University of Bonn.

After retiring from public life in 1819, Humboldt began to write intensively, devoting the rest of his life to intellectual pursuits and entering the period in which he produced works of lasting linguistic significance. In addition to writing on the classical languages of Greek and Latin, European languages such as

German, French, and Basque, Humboldt worked on Sanskrit, American Indian languages, Chinese, Japanese, and the Kawi dialects. These studies served as the basis of his comparative work. Humboldt also focused on topics of general linguistic interest, such as the origin of language and the relationship of language to thought, to the spirit of its speakers, and to the human race as a whole.

In Pre-Romantic speculation on the origin of language, there were two main schools of thought: the orthodox school, which envisioned the capacity for language, and often language itself, as a direct gift from God, and the enlightened school, which held that language was a creation of human reason. As R.L. Brown points out (Brown, 1967:passim), there was a striking similarity between these two views: each explanation imagines language developing after the existence of the human race; both schools of thought assume that intelligence and society pre-existed language. Both of these views had been rejected shortly before Humboldt's time, when scholars began to seek the solution to the question of language origin in the similarities between men and animals, attributing the inception of language to primitive forms of expression such as grunts or cries, which gradually developed into language. Johann Gottfried Herder, in his award-winning essay, asserted the inseparability of language and thought, believing that the two developed concurrently and that they were interdependent.

Humboldt subscribed to the Herder point of view, believing that the development of thought and language were concurrent and postulating two stages in language origin. First, there was a slow development of potential. This developing potential was followed by a second phase in which language suddenly and irrevocably assumed shape and form. This second phase was a complete fusion into an organic whole of language. In other words, Humboldt did not think that a few isolated meaningful words slowing accumulated nor that thought existed before language.

Thought and language were therefore linked together from the beginnings of both. Accordingly, Humboldt felt that language is both consequent to thought and yet secondary to it. He saw language as reflection built upon a pre-existing symbolism. Because intellect and language developed together, there can be no arbitrary distinction between the two. In the individual, thought is primary: language brings thought into the realm of the senses; language organizes perceptions by objectifying experience. And yet, thought converted

to language loses precision; it limits the expression of human nature at the same time it allows the communication of that nature to exist. Still, for the individual, language is the means of bridging the gap between the inner and outer worlds, transforming inner nature into finite nature. The bond between thought and language is permanent and indissoluble.

When Humboldt suggests that thinking is dependent on language, he means not only language in general, but also language in particular. In his time, differences between languages and cultures were considered to be a matter of the environment and heredity. Environment was a determining factor of the national character of a community. National character, as the term meant in connection with language, is generally equivalent to our notion of culture. Humboldt took this relationship one step further and considered language an imprint on the spirit of its speakers. Different world views are expressed by different languages. Humboldt writes:

> The spiritual characteristics and the linguistic structure of a people stand in a relationship of such indissoluble fusion that, given one, we should be able to derive the other from it entirely. For intellectuality and language permit and further only mutually agreeable forms. Language is the external manifestation, as it were, of the spirit of a nation. Its language is its spirit and its spirit its language: one can hardly think of them as sufficiently identical.
> (Humboldt, in Cowan, 1963: 277)

Humboldt's exploration of this topic becomes the kernel of what has become a crucial and controversial theory, the principle of linguistic relativity.

In the interplay between language and culture, the needs of the speakers are always satisfied. Thus, the environment does help to shape the connection between them. Humboldt says, "The need for a concept and its resultant amplification does precede the word for it, which is merely the expression of its perfected clarification." (Cowan, 1963: 265).

Just as Humboldt linked specific languages to specific cultures, he linked the universal occurrence of language phenomena to a universal human capacity, an innate "spiritual and intellectual predisposition," which is then molded by the language and culture of the environment. Humboldt states that language is a consequence of human nature, of mankind's innate capacity for it. He stresses that languages are intimately in-

tertwined in the innermost nature of mankind and that they spring forth from it.

It is not surprising, given the historical climate, that Humboldt interpreted language change as development toward a goal. He saw a natural hierarchy in the variety of language structures he encountered, a progression towards a state most expressive of human nature. Sanskrit is specifically mentioned as being at the apex of this development. In this, Humboldt was not unique, for such opinions were common at the time. What is unique about Humboldt is his steadfast refusal to envision this hierarchy as any kind of implicit or explicit judgment on the intrinsic value of a language. He firmly supported and upheld the genius and integrity of non-Indo-European languages. The "enlightened" notion that language was somehow created by a kind of joint venture on the part of the speakers had led to the impression that, by further agreement, language could be improved; some scholars attempted in all seriousness to improve vernacular languages. Humboldt resisted these repeated attempts, holding that language could not be changed by speaker attempt and taking a stand against the tendency to denounce dialectal variation.

Humboldt always looked at language as an organic whole. All aspects of language are part of this whole. Humboldt disapproved of mechanistic analyses, insisting that language be examined in actual use, saying that otherwise grammars and lexicons are merely dead objects.

After Humboldt's death in 1835, Heymann Steinthal was the first major figure to support Humboldt's views. Steinthal's interest had far-reaching consequences, for it acquainted Franz Boas, who met Steinthal while a student, with Humboldt's works. Boas also had contact with Humboldt's writings on American Indian languages. By advocating the analysis of languages to be strictly in their own terms, rather than in those of unrelated European languages, Boas clearly follows in the Humboldtian tradition.

Boas, of course, influenced Sapir, who also had contact with Humboldt through his own research. Sapir addresses many of the same concerns that Humboldt does. For example, although admitting that all theories on the origin of language are speculation, Sapir makes a statement that resembles the second phase in Humboldt's theory. Sapir considers the origin to have been a single event in the past. All content was originally limited to concrete references, and, at first, relationships were merely implied. Like Humboldt, Sapir concedes that thought requires language to organize and objectify it.

Sapir states that the stage of cultural development of a community has no relationship to the complexity or the expressiveness of its people's spoken language. He agrees with Humboldt that languages develop to meet the needs of their speakers, writing, "Language is felt to be a perfect symbolic system...for the handling of all references and meanings that a given culture is capable of... The content of every culture is expressible in its own language." (Sapir, in Mandelbaum, 1956: 6). So, there is an interplay between language and culture, but no direct bond.

According to Sapir, the human mind has a propensity for making relationships; if presented with apparently unrelated words, a person will attempt to manufacture a relationship. Grammar is the stabilized mode of patterned and patterning relationships in language. Sapir considers word order to be one of the primary ways of relating. While these concepts do not exactly correspond to those of either Humboldt or Whorf, they are generally equivalent.

Sapir also endorsed an innate human capacity for language. Speech is a universal human trait--all known cultures have a language and all normal humans learn to speak at least one language in their childhood. The ability to speak is the defining characteristic of mankind; the potential for language among humans is universal and not related to the environment.

The universality of this human potential is not unexploited by any culture; Sapir stresses that there are no primitive languages in a psychological sense. He concurs with Humboldt's view that each language has an inherent value and deplores the condescending manner in which non-Indo-European languages are sometimes explored.

As Humboldt did, Sapir viewed language as a wholeness with a stable structure. In fact, he writes that it is infinitely more difficult to destroy the essential patterns of a language than it is to destroy the language entirely. The aspects of a language which are most easily destroyed are those least essential to it and to its speakers.

Sapir always saw language in the wholeness of its actuality. He put the human squarely in the focal point of his discussions and stressed the fallacy inherent in mechanistic thought. He writes, "It is peculiarly important that linguists, who are often accused, and accused justly, of failure to look beyond the pretty patterns of their subject matter, should become aware of what their science may mean for the interpretation of human conduct in general." (Sapir, in Mandelbaum, 1956: 77). Like Humboldt, Sapir felt that

by taking the human out of the picture, linguists are left with the essentially dead matter of lexicons and grammars.

Sapir consistently saw language in its human context, as part of cultural behavior. He considered language a social force helping to unify the experience of members of a community and thus serving an orientational function. Language reduces an individual's experience into comprehensible and socially acceptable form. Sapir writes, "...we see and hear and otherwise experience very largely as we do because the language habits of our community predispose certain choices of interpretation by habitual usage." (Sapir, in Mandelbaum, 1956, 69). Sapir echoes Humboldt in this relation of culture and language.

Not only Humboldt and Sapir make close connections between a language and the spirit and culture of its speakers. Whorf also endorsed a connection between the language of a community and their habitual way of organizing experience. Whorf clarifies his position by stating that "There are connections but not correlations or diagnostic correspondences between cultural norms and linguistic patterns." (Whorf, in Carroll, 1956: 159). Nevertheless, Whorf made strong statements about the link between thought and language and vigorously applied his principle of linguistic relativity to the data he examined.

Whorf considered that language has a "hidden metaphysics," meaning that the structure of a language makes implicit judgments about the nature of experience by the way in which natural continua, especially time and space, are treated. Each language organizes and manifests that experience in some way. These implicit judgments are a determining influence in the ways in which people react to their world by compelling them to habitually interpret experience by light of their language's individual system; these implicit judgments also serve to impose limits on the thought of monolingual individuals. Whorf may have even said that they limit those who speak languages related in the same stock, since he often grouped the European languages together conceptually. One overcomes this limitation by gaining a knowledge of a wide variety of languages, which serves to develop a sense of perspective in the individual. It would also, as Whorf says, "foster that humility which accompanies the true scientific spirit and thus forbid that arrogance of the mind which hinders real scientific curiosity and detachment." (Whorf, in Carroll, 1956: 219).

Whorf's writings, although more data-oriented than Humboldt's, are nevertheless rather vague and general,

which particularly plagues some of today's linguists. Whorf died at a rather young age, he was only 44, and he missed a great deal of the excitement and controversy his ideas aroused. He also missed the chance to defend himself from the many critics who sprung up after his death. Most of these critics question Whorf's linguistic relativity principle, but at least one questions his Hopi evidence, being quick to point out that Whorf's general observations are true enough but arguing that they are a result of the Hopi culture and not the Hopi language.

Whorf's linguistic ideas were influenced by his close acquaintanceship with Sapir, but they had an even closer natural affinity with those of Humboldt. Both Whorf and Humboldt preferred to look at mankind in the totality of experience; they refused to reduce language to mere data to be analyzed, insisting on keeping the context of language vivid. There was a similarity in their approach to language structure, in which each one saw the key to understanding humanity. They asked not only what was the stuff of language, but how did it relate to the inner person, to thought, to understanding, even to perception.

There were also striking similarities in their personal lives. Both men were highly educated, yet both eschewed academic careers. In addition to their intellectual pursuits, both men enjoyed successful careers in other fields: Humboldt was a well-known statesman, and Whorf worked for Hartford Fire Insurance.

And yet, a significant difference enters the picture. The two scholars developed different concepts of the relation of mankind to language. Humboldt, although allowing for the influence of language, did not consider it totally restrictive; moreover, he believed that languages were developing toward a goal of excellence. Whorf, of the other hand, saw language as a restriction to the ranging intellect of mankind. Far from seeing a positive direction in language development toward any one most expressive structure, Whorf felt that the inbuilt perspective of <u>any</u> language is a psychological limitation which must be overcome in order to best understand the nature of the world.

Perhaps these differences are due, at least in part, to the times in which each man lived. Humboldt lived in a time when there was still great hope that the rapidly expanding knowledge was moving toward an ever-improving state of the human condition. Whorf, on the other hand, wrote in a more jaded time, poised between two world wars and during a depression.

The philosophic unity of Humboldt, Sapir, and Whorf has been examined. It will be interesting to look at

the comments of each of these three scholars on one specific topic, "words." Juxtaposing these quotes will reveal the extent of their unity while reflecting each author's individual biases.

Humboldt, in line with his views on the interconnection of language and thought, firmly held that the intellectual act of comprehending even a single word presupposed the intellectual framework for comprehending the whole of language, in "one intellectual instinct of the mind." In the following passage, which shows Humboldt's theoretical bent, we see the word with an almost Jungian associative flavor--it is a sign and a symbol, yet has an objective existence, working in the realm of the mind and of experience. Humboldt writes:

> If you utter the word WOLKE (cloud) you neither think of its definition nor do you see a single definite image of the natural phenomena. All its different concepts and images, all the sensations and feelings which have been joined to its perception, everything--finally--which is related in some fashion to it, within us or without us: all these may represent themselves to the mind simultaneously and yet run no danger of confusion because the single sound of the word fastens and secures them. But the sound does even more: it brings back sometimes this, sometimes that association and if, as in the case of WOLKE, the associative material is rich in itself...then the sound of the word attunes the soul in a manner befitting the object, partly through itself, partly through recollection and associative analogies. Thus a word reveals itself as an individual with a nature of its own which bears a resemblance to an object of art...
> (Humboldt, in Cowan, 1963: 247-48).

This is an interesting explanation of what a word is and how it works. Even more interesting is the similarity shown by Sapir's definition. This is what Sapir has to say on the subject in his book Language:

> The word 'house' is not a linguistic fact if by it is meant merely the acoustic effect produced on the ear by its constituent consonants and vowels, pronounced in a certain order; nor the motor processes and tactile feelings which make up the articulation of the word; nor the visual perception on the part of the hearer of this articulation (sic); nor the visual perception of the word 'house' on the written or printed page; nor the motor processes and tactile

> feelings which enter into the writing of the word; nor the memory of any or all of these experiences. It is only when these, and possibly still other, associated experiences are automatically associated with the image of a house that they begin to take on the nature of a symbol, a word, an element of language...Thus, the single impression which I have had of a particular house must be identified with all my other impressions of it. Further, my generalized memory or my 'notion' of this house must be merged with the notions that all other individuals who have seen the house have formed of it. The particular experience that we started with has now been widened so as to embrace all possible impressions or images that sentient beings have formed or may form of the house in question...This house and that house and thousands of other phenomena of like character are thought of as having enough in common, in spite of great and obvious differences of detail, to be classed under the same heading. In other words, the speech element 'house' is the symbol, first and foremost, not of a single perception, nor even of the notion of a particular object, but of a 'concept,' in other words, of a convenient capsule of thought that embraces thousands of distinct experiences and that is ready to take in thousands more.
> (Sapir, 1921: 11-13)

We can readily see that Sapir also stresses the associative quality of the word and its role in organizing experience into concepts, in a definition very similar to Humboldt's. This quote reflects Sapir's insistence on always focusing attention on the human speakers of a language. His comments refer to individual experience, in the act of perceiving the word aurally and visually, and by exploring the impression of images in the human. Sapir constantly reminds us that words exist only in the realm of human speakers.

We can also find similar ideas in Whorf's quote, although Whorf's primary emphasis is quite different. Unlike the two preceding quotes, this one stresses the way the context provides a crucial referent of meaning while still revealing a similarity in mentioning the myriad association inherent in a word. Just as Whorf's emphasis in linguistics in general was on the relativity of languages in expressing human experience, his thrust here is on the relativity of the referent in each utterance:

> Hence the meanings of specific words are less im-

> portant than we fondly fancy. Sentences, not words are the essence of speech... We are all mistaken in our common belief that any word has an 'exact meaning.'... That part of meaning which is in words, and which we may call 'reference,' is only relatively fixed. Reference of words is at the mercy of the sentences and grammatical patterns in which they occur... The word "Fido" said by a certain person at a certain time may refer to a specific thing, but the word 'dog' refers to a class with elastic limits ... The limits of such classes are different in different languages... The context or sentence pattern determines what sort of object the Polish word (or any word, in any language) refers to.
> (Whorf, in Carroll, 1956: 258-59)

When one considers the wide range of definitions of 'word' which has been offered by linguists, the similarity between these three views is astounding.

It is readily apparent that Humboldt, Sapir, and Whorf present a unified trio in linguistic theory. We have seen that Humboldt originated the theory of linguistic relativity, a concept revived in this century by Sapir and Whorf. Humboldt's work has been an influencing factor on later work; the historical development of Humboldt's ideas has been traced, and it is safe to assume that his work will continue to have an impact on the progressive development of linguistic thought.

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THE SEMANTICS OF SPONTANEITY IN JAPANESE

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Alfonso (1974) cites a situation where an English speaker and a Japanese speaker are watching a man fishing. Noting that when a fish is caught the English speaker will likely utter (1), whereas the Japanese speaker will likely utter (2), Alfonso states that there is a "constitutional" difference in the way English and Japanese speakers view such situations.

(1) Look! He caught a fish.
(2) Aa! Sakana ga tureta.
fish NOM be-caught-PAST[1]
(Lit.) A fish was caught.

The English speaker views the situation as a change from not-catching to catching, whereas the Japanese speaker views the situation as a change from not-being-caught to being-caught. The Japanese speaker, in other words, adopts a "passive" perspective.

Apart from any assumptions regarding cross-cultural differences in perceptual patterns that may underlie Alfonso's observation, it is clear that Japanese displays a higher incidence of non-agentive constructions than English.[2] This paper will be concerned with morphologically intransitive non-agentive constructions, such as (2), corresponding to the unaccusative constructions of relational grammar. Such constructions typically have a single obligatory noun argument, marked nominatively in surface case, but semantically patient (a la Starosta, 1978) or theme (a la Gruber, 1976). They can be classified into four categories--existential, spontaneous, passive, and potential--of which I will deal with the last three. Those familiar with traditional Japanese grammar will recognize these three as categories traditionally used in describing the various functions of the verbal affix rare (classical ru), referred to as zihatu, ukemi, and kanoo in Japanese. With some peripheral exceptions, rare attaches to agentive predicates to create morphologically passive, spontaneous, and potential constructions. For that reason, the meaning categories in question have traditionally been treated as being part of the semantic content of rare. Part of my purpose in this paper, however, is to show that these meanings inherently reside in non-agentive intransitive constructions. It follows as a corollary that these meanings are associated with rare derivatively, by virtue of the fact that this affix has the effect of creating such intransitive construction

Spontaneous constructions express simple happenings, where states of affairs come into existence apart from any external or internal agency:

(3) Kinoo gakkoo de hidoi ziken ga okotta.
yesterday school LOC terrible incident NOM occur-PAST
A terrible incident occurred at school yesterday.

(4) Ii kangae ga ukanda.
good idea NOM rise-up-PAST
A good idea came to mind (I got a good idea).

Agentless intransitives of the "passive" type have already been illustrated in (2). A limited number of verbs in this class allow an optional ni-marked agent:

(5) Keisatu ni tukamattara doo suru?
police DAT be-caught-if what do
What will (you) do if (you're) caught by the police?
(6) Warui koto o sitemo hito ni sugu sirete-simau.
bad thing ACC do-even people DAT soon be-known
People soon find out when I do something bad.

Thirdly, there is a class of non-agentive intransitives which have a potential character, in that they are concerned with the possibility, either negative or positive, of a given event occurring:

(7) Ikura ositemo mado ga akanai.
how-much push-even window NOM open-NEG.
No matter how much I push, {the window won't open. / I can't get the window open.}
(8) Sonna riron de wa setumei ga tukanai.
that-kind theory with explanation NOM adhere-NEG
You can't provide an explanation with that kind of theory.
(9) Kono senensatu kuzuremasu ka?
this ¥1000-bill break-up-POL Q
Can (you) break this ¥1000 bill (for me)?
(10) Sono tyeen wa kantan ni hazureru.
that chain TOP easily come-off
That chain comes off easily.

Potential intransitives most commonly occur in negated contexts, such as (7) and (8), but examples of questions (9) and assertions (10) having a potential meaning can also be found.

Although a certain passive character is present in examples from all three of the categories passive, spontaneous, and potential, it would not be correct to subsume the three under a broad "passive" rubric, since "passive" carries with it the implication that some external agency is operative, and the existence of such external agency is clearly not a general meaning characteristic of examples such as (3) and (4). I will rather argue for an analysis whereby spontaneous constructions are taken to be the prototypes of an overarching category under which passive and potential constructions are subsumed as special cases. All the predicates in these categories express events that simply happen, apart from any internal agency of the subject. In the prototypical cases, no external agency is expressed either--some entity or situation simply comes into existence spontaneously. This coming into existence can take place either objectively (an "ontological" coming into existence, as in (3)) or in the subjective

domain of consciousness of the experiencer (an "epistemological" coming into existence, as in (4)).

Passive-type intransitive constructions are then a subcategory of spontaneous constructions which depart from the prototype in allowing external agents, sometimes overtly expressed by noun phrases marked with ni. The event in question is therefore understood as originating in an external source. Something happens to the subject so that it undergoes a change in state. Subjects in prototypical spontaneous constructions likewise undergo a change in state, but the event accompanying that change is not attributed to any particular source: the event, and often the subject together with it, simply comes into existence from a state of nothingness. Whether spontaneous or passive-like, however, non-agentive constructions are characterized by a nominative subject that is the locus of a change in state, never itself the initiator of that change.

Denoting the generalized class of spontaneous predicates as HAPPEN predicates, another class complementary to this emerges which can be denoted as the class of DO predicates. DO predicates include garden-variety transitive verbs, as in (11), and agentive intransitives, as in (12).

(11) Sagyooin ga koozi o mikka de siageta.
workers NOM construction ACC three days in complete-PAST
The workers completed the construction in three days.

(12) Kakoi no naka de uma ga hasiri-mawatte-ita.
fence GEN inside horse NOM run-around-PROG-PAST
Inside the fence, a horse was running around.

Both of these examples illustrate what I have been referring to as "internal" agency: the semantic role of agent is borne by the subject noun phrase, marked with ga. In the transitive case, the semantic role of patient is borned by a distinct noun phrase marked by o, and in the intransitive case the patient is identifiable with the subject, so that subjects in agentive intransitive constructions have a dual semantic role--they are both the initiator of an event and the entity which changes state as a consequence.[3]

Turning now to the class of potential HAPPEN constructions illustrated in (7)-(10), note that these constructions bear all the structural characteristics of spontaneous constructions: the verbs are simple intransitives, having no overt potential morpheme, and the obligatory noun phrase is in each case semantically a patient. What it is that sets apart this subcategory of potential constructions from their garden-variety spontaneous counterparts can be seen by considering an example pair such as the following, where (13) is a garden-variety spontaneous construction and (14) a potential construction, although the verb is in either case morphologically identical.

(13) Abunai! Tyeen ga hazureru yo.
dangerous chain NOM come-off PART
Watch out! The chain's going to come off.

(14) Tyeen ga kantan ni hazureru kara muri ni hipparanakutemo ii.
chain NOM easily come-off because forcefully pull-NEG-even-good
The chain comes off easily, so you don't have to force it.

Several differences in the semantics of these two constructions can be pointed out. First, the verb in (13) has a distinctly future interpretation, which is lacking in (14). Secondly, (13) expresses an event which occurs at a specific point in time, whereas the first clause of (14) bears no reference to any particular point in time at all. Consequently, (13) is a statement about a (yet-to-occur) actual event, whereas the first clause in (14) makes no claim about the actual occurrence of any event.

These observations serve to show that garden-variety spontaneous and potential constructions differ basically in their aspectual character. Potential constructions are divorced from any specific point in time, and it is by virtue of this "timeless" character that they cease to make reference to any actual event. Put in formal terms, HAPPEN(E), where E is an event, is interpreted as POSSIBLE(HAPPEN(E)) in the absence of any grammatical or contextual element tying E down to a specific point in time.

This last statement should not be confused with the familiar axiom of modal logic whereby the truth of a proposition Q entails the truth of POSSIBLE(Q). Where temporal categories are under consideration, that axiom could only be interpreted as saying that the actuality of an event occurring entails the possibility of its occurring. However, as already pointed out, we are here dealing precisely with a class of cases where no such actuality is presumed.

A further indication that we are not simply dealing with a logical axiom is the fact that the same aspectual quality operates in negated contexts: NOT(HAPPEN(E)) is interpreted as NOT(POSSIBLE(HAPPEN(E))) when E is not tied down to a specific point in time. In (15), for example, E is the event of finding good work. The negated intransitive here does not simply express the fact that work has not been found, but that work cannot be found.

(15) Syuusyoku zyootai ga hidokute ii sigoto ga nakanaka mitukaranai.
job situation NOM bad-GER good work NOM just be-found-NEG
The job situation is bad--good work just can't be found.

Negated intransitives are particularly susceptible of receiving potential interpretations in this way, a fact which is undoubtedly related to the adjectival status of the negative morpheme -nai in Japanese. Adjectives have precisely the timeless aspectual character that I have argued is typical of potential intransitive expressions. In any case, the fact that an expression of form NOT(POSSIBLE(E)) is interpreted as NOT(POSSIBLE(HAPPEN(E))) is not a result we would expect from modal logic, where the analagous entailment relationship is precisely the opposite--i.e., NOT(POSSIBLE(Q)) entails NOT(Q).

It is an accepted and well-known fact about lexically potential predicates that they are stative. This is a property shared with existential predicates and is reflected in the fact that the non-past

form of these predicates receives a "present" rather than a future interpretation. Contrast the different tense interpretation given to the non-past form of the potential predicate dekiru in (16) and the non-potential predicate iku in (17):

(16) Kare wa eigo ga umaku dekiru.
he TOP English NOM well can
He can (speak) English well.
(17) Kare wa ima gakkoo ni iku.
he TOP now school LOC go
He's going to go to school now.

While much attention has been paid to this aspectual characteristic of lexically potential predicates, however, little attention has been paid to the ability of simple intransitives to take on the same aspectual character. (16) is not a present-tense construction in the sense that it expresses an event which occurs at a specific point in time corresponding to the present. It rather possesses the same "timeless" character as spontaneous constructions divorced from any specific point in time. As a matter of fact, dekiru is a spontaneous predicate in its own right.

To illustrate this, it should be recalled that dekiru is traditionally given two dictionary glosses and is sometimes treated as a homophonous form for two distinct lexical items. The two glosses are "be able" and "be done, completed," illustrated in the following:

(18) Kare wa baiorin no ensoo ga umaku dekiru.
he TOP violin GEN performance NOM well be-able
He (can) perform well on the violin.
(19) Kare wa baiorin no ensoo ga umaku dekita.
he TOP violin GEN performance NOM well be-done-PAST
His violin performance was well done.
(20) Saikin kinzyo ni atarasii tosyokan ga dekita.
recently neighborhood LOC new library NOM be-completed-PAST
Recently a new library was completed in the neighborhood.
(21) Atarasii tosyokan ga dekiru made wa toobun gaman-sinakerebanaranai.
new library NOM be-com. until for-now be-patient-must
We have to be patient for now until the new library is completed.

Note that the "be able" and "be done" readings arein complementary distribution. Specifically, the "be done" reading occurs only in the presence of some grammatical element, such as thepast tense morpheme or the morpheme made "until," which ties the predicate down to a specific point in time. It is in such contexts that dekiru takes on the meaning of an actual event. The "be done" reading actually has a variety of English counterparts, such as "be built" or "be completed," all of which have something to do with an entity coming into existence. Etymologically, dekiru derives from the compound verb dete-kuru, which means to "come out," often with the specific implication of "come into existence." All of this points clearly to the fact that dekiru is a member of theclass of spontaneous HAPPEN predicates. Its potential

meaning and garden-variety spontaneous meaning are simply aspectual variants of the sort observed for other members of the same class.

The same aspectual relationship between potential meaning and spontaneous actual meaning is observable in the morpheme (r)are, of which the potential morpheme (r)e[4] can, for our purposes, be considered an allomorph:

(22) Sinkansen no okage de Tookyoo kara Oosaka made sanzikan de ikeru.
GEN shadow INS SOURCE GOAL 3 hours in go-POT.
Thanks to the Shinkansen, you can get from Tokyo to Osaka in 3 hr
(23) Sinkansen no okage de Tookyoo kara Oosaka made sanzikan de iketa.
GEN shadow INS SOURCE GOAL 3 hrs. in go-POT-P
Thanks to the Shinkansen, we were able to get from Tokyo to Osaka in 3 hours.

The past tense is here again associated with an actual event, although in both English and Japanese the potential morpheme is part of the ove sentential structure. "Spontaneous" (zihatu) and "potential" (kanoo) have been used to describe the functions of (r)are since the time of the classical grammarians. Since, however, the ability of simple intransitive constructions to take on the same meanings has been ignored the fact has consequently been obscured that (r)are is basically an intransitivizing affix which converts DO contructions into HAPPEN constructions. Agents in corresponding DO constructions are, with (r)are given a dative ni marking characteristic of possessors in possessive constructions or locatives in existential constructions:

(24) Kare wa oisii keeki o tukutta.
he TOP delicious cake ACC make-PAST
He made a delicious cake.
(25) Kare ni wa oisii keeki ga { tukurareru. / tukureru.
he DAT TOP delicious cake NOM make-POT
He can make delicious cakes.

The aspectual contrast between (19) and (20) and between (24) and (25) occurs with spontaneous predicates in general. Just as they take on a potential character when divorced from any specific point in time, so they take on the meaning of an actual event when tied down to a specific point in time:

(10) Sono tyeen wa kantan ni hazureru.
that chain TOP easily come-off
That chain comes off easily.
(26) Tyeen ga hazureta.
chain NOM come-off
The chain came off.
(27) Tyeen ga hazureru made zitensya ni notte-ikoo.
chain NOM come-off until bicycle LOC ride-go-let's
Let's ride the bicycle until the chain falls off.

The stative aspectual character of (10) gives rise to the interpretatic

"It is possible for the chain to come off." (26) and (27), by contrast, express actual events--one in the past (due to the past morpheme -ta) and one in the future (due to the morpheme made "until").

The aspectual character which typifies the potential use of HAPPEN predicates is paralleled by a tendency to view the potential event as being a property that inherently resides in the patient subject. There is a subject-property relationship between the noun phrase tyeen "chain" and the predicate hazureru "comes off" in (10) which parallels noun phrase + adjective constructions such as tyeen ga omoi "the chain is heavy." Properties of objects share the aspectual character of potential events in that they, too, are not bound to a specific point in time, although they can, of course, change over time. With HAPPEN predicates, the possibility of an event occurring is not seen as due to the ability of an agent to bring about the event, but as due to the inherent propensity of the event to occur, given the characteristics of the entity central to the event (i.e., the patient). The same relationship between potentiality and properties of patient subjects is also observable in certain English constructions, such as Linoleum floors clean easily, which can be paraphrased as Linoleum floors can be cleaned easily.

DO predicates differ from HAPPEN predicates in their ability to combine with lexically potential morphemes, as the following sentences illustrate:

(28) John wa eigo { ga hanaseru. (DO) / o hanasu koto ga dekiru. (DO) }
TOP English { NOM speak-POT / ACC speak COMP be-able }
John can speak English.

(29) *Mado ga akenai. (HAPPEN)
window NOM open$_{in}$-POT-NEG
*The window can't open.

(30) *Sono tyeen wa kantan ni hazurerareru. (HAPPEN)
that chain TOP easily come-off-POT
*That chain can come off easily.

Attaching the potential morpheme (r)are to HAPPEN predicates such as aku "open$_{in}$" and hazureru "come off" yields ungrammatical sentences in Japanese. The corresponding English sentences are, of course, not of very high acceptability either. When a predicate is capable of being used either as a HAPPEN or a DO predicate, it is only in its DO usage that it can co-occur with a potential morpheme:

(31) Ringo wa zenbu kono hako ni hairu (*haireru).
apple TOP all this box LOC go-in go-in-POT
The apples all fit in this box.

(32) Kodomo nara sono horaana ni haireru.
child if that cave LOC go-in-POT
If you're a child, you can fit in that cave.

Under the analysis I have been setting forth in this paper, the

difference in acceptability between the potential constructions in (31) and (32) is clearly attributable to the fact that the HAPPEN construction in (31) is already potential in character, and the potential morpheme (r)e therefore creates an unwarranted redundancy.

Although the potential meaning of (r)e and the inherent potential meaning of (31) are close enough to count as redundant, (31) and (32) nevertheless provide a clear formal basis for distinguishing two types of potentiality: (a) a spontaneous type, due to the inherent propensity of an event to occur and (b) potentiality due to the ability of an agent to bring about an event. The resulting construction in either case has the "timeless" aspectual character described earlier, and there are additional affinities in areas such as case marking (nominative phrases in both construction types are non-agentive; agents, when they appear, are marked by ni). Nevertheless, an underlying agentive structure is transparent in the (b)-type constructions (e.g., (32)), both in the verbal morphology and in the fact that an agent, if not overt, is at least recoverable.

Certain verbs of perception provide particularly interesting examples of the interaction of a spontaneous and potential semantic in Japanese. Kikoeru "be heard, can hear" and mieru "be seen, can see" are intransitive verbs which take nominatively-marked patient noun phrases. These noun phrases represent objects that spontaneously present themselves to the perception of the experiencer, illustrating the "epistemological coming into existence" described earlier:

(33) Mori no naka kara ookami no nakigoe ga kikoete-kita.
forest inside SOURCE wolf GEN cry NOM be-heard-come-PAST
(I) heard the cry of a wolf coming from inside the forest.

(34) Tooku kara tiisana akari ga mieta.
far SOURCE small light NOM be-seen-PAST
(I) saw a small light in the distance.

As expected, these verbs take on a potential sense in contexts where they have a "timeless" aspectual character:

(35) Kare ni wa mono ga kikoenai.
he DAT TOP things NOM can-hear-NEG
He cannot hear (i.e., he is deaf).

(36) Yane no ue kara huzisan ga mieru.
roof GEN top SOURCE Mt. Fuji NOM be-seen.
(You) can see Mt. Fuji from the rooftop.

Entities which "come into existence" in spontaneous constructions are typically marked with ga in spontaneous constructions, as in (37).

(37) Sore o hanasite-iru uti ni ii kaiketusaku ga dete-kita.
that ACC talk-PROG while good solution NOM come-out-PAST
A good solution emerged as we were talking that over.

A similar notion of coming into existence is often expressed using naru or naru-type predicates. Naru means "become" and is normally associated

with the case marking pattern A ga B ni naru "A becomes B." In certain spontaneous constructions, however, where B is viewed as coming into existence from no particular source, naru appears with a single ni-marked noun phrase:

(38) Ii tenki ni nari-soo da.
good weather DAT become-seem COP
It looks like it's going to be nice weather.

(39) Sonna yarikata de wa syoobai ni naranai yo.
that kind method with business DAT become-NEG PART
A business won't succeed using methods like that.

A related sort of construction is frequently used to express plans or decisions:

(40) Rainen Amerika ni ryuugaku-suru koto ni natta/kimatta.
next year LOC study COMP DAT become-PAST/be-decided
I'll be going to America to study next year. PAST

(40) avoids attributing the plan or decision to any particular agent or cause; things have developed in the indicated way spontaneously, as it were. In all three sentences (38)-(40), naru (or kimaru) not only co-occurs with no nominatively-marked subject, but there is not even a plausible candidate for filling the subject slot that will yield a grammatical utterance. The "subjectless" character of these expressions illustrates particularly graphically the notion of coming into existence from a state of nothingness that typifies the Japanese grammar of spontaneity.

I turn in conclusion to some observations of a more pragmatic nature. There is a tendency in Japanese conversation when showing deference toward one's interlocutor or some third party to avoid reference to the agency of that individual in bringing about a given state of affairs. Expressions of a spontaneous-like nature therefore frequently appear in polite conversation in Japanese.

Take, for instance, the case of a waitress approaching a customer in a cafe to see if the customer has decided what to order. She will be much likelier to approach the person with a HAPPEN expression such as (41) rather than a DO expression such as (42).

(41) Nani ni suru ka kimarimasita ka?
what DAT make Q be-decided-POL-PAST Q
(Lit.) Has it been decided what you will have?

(42) Nani ni suru ka kimemasita ka?
what DAT make Q decide-POL-PAST Q
Have you decided what you will have?

While there is a tendency to avoid reference to the agency of another party, there is, by contrast, a tendency to make reference to one's own agency, especially where an undesirable state of affairs has arisen. One is likely, for instance, to incur the displeasure of one's landlady when returning her borrowed stove in a broken condition if one makes explanation to her in the following way:

(43) Okusan no sutoobu ga kowarete-simaimasita.
madam GEN stove NOM break$_{in}$-POL-PAST
Madam, your stove broke.

Her displeasure will probably be mollified by using the following explanation instead:

(44) Okusan no sutoobu o kowasite-simaimasita.[5]
madam GEN stove ACC break$_{tr}$-POL-PAST
Madam, I broke your stove.

The reverse would, of course, be the case if someone else's responsibility were in question. If, for instance, one had lent one's own stove out to another person and later discovered it to be broken, one would, in making mention of the fact to the person, tend to avoid an accusatory utterance using transitive kowasu "break" and instead use intransitive kowareru "break."

There is nothing particularly unique to Japanese in the stove example. Referring to an event as a simple happening and thereby evading the assignment of responsibility to anyone for the event is undoubtedly a technique available in most natural languages. In Japanese, however, this phenomenon is grammaticalized to a much greater extent than would be expected merely on the basis of universal pragmatic principles.

This is especially evident in honorific expressions. One of the standard honorific expressions involves a predicate construction of the form o-V ni naru, where V is the infinitive form of a verb, o is an honorific prefix, and naru is the verb "become," discussed earlier as a spontaneous predicate par excellence. Use of this construction indicates deference to a "socially superior" person:

(45) Sensei wa kesa no sinbun o o-yomi ni narimasita ka?
professor TOP morning paper ACC read-HON-PAST Q
Professor, did you read this morning's paper?

As (45) illustrates, the V in o-V ni naru is not limited to HAPPEN predicates, since yomi "read" is a DO predicate. Nevertheless, when verbal suppletion takes place in this construction, as often happens, the suppletion tends to be in the direction of a HAPPEN predicate:

(46) Tanaka sensei ga o-mie ni narimasita.
prof. NOM appear-HON-PAST
Prof. Tanaka has come.

Mie in (46) is the infinitive form of the verb mieru "be seen, become visible," a HAPPEN predicate which here functions as the suppletive form of the DO predicate kuru "come." Honorific expressions of the o-V ni naru type in this way exhibit a two-fold spontaneous character, as seen in the presence of the naru predicate and in the tendency to supplete toward HAPPEN predicates.

Given this tendency toward spontaneous grammatical forms in polite language, it follows naturally that the affix rare, otherwise

used to create HAPPEN out of DO constructions, should itself be used as an honorific marker:

(47) Tanaka sensei wa asita Tookyoo ni ikareru soo desu.
prof. TOP tomorrow LOC go-HON REP COP
I hear that Prof. Tanaka is going to Tokyo tomorrow.

To summarize, I have considered three categories of meaning--passive, spontaneous, and potential--that arise in simple intransitive constructions and have attempted to provide a rationale for their unified morphological expression by treating passive and potential expressions as special cases of an overarching class of spontaneous expressions. Spontaneous expressions are characterizable as representing events that simply happen (i.e., come into existence) apart from any expressed agency or cause. Central to these expressions is a noun phrase which is nominative in surface case and patient in semantic case. In prototypical spontaneous constructions, this noun phrase is itself an entity that comes into existence as part of the event; i.e., it changes from a state of nothingness to a state of existing. Passive-type intransitive constructions are a departure from the spontaneous prototype in that the change in state sustained by the patient is imposed from the outside and also in that ni-marked "external" agents are sometimes allowed. Non-agentive potential expressions are fundamentally aspectual variants of spontaneous expressions, divorced from any locus in real time and typically expressing a property of the patient. This type of potentiality, attributable to the inherent propensity of an event to occur, is formally distinguished in Japanese from a potentiality attributable to the ability of an agent to bring the event about. There is a principle operative whereby omission of reference to an individual's agency in bringing an event about is interpreted as deferential. Spontaneous expressions therefore appear frequently in the language of politeness and honorification.

FOOTNOTES

1. The following abbreviations are used to indicate grammatical elements in literal glosses of example sentences in this paper: ACC accusative case, COMP sentential complementizer, COP copula, DAT dative case, GEN genitive case, GER gerund inflection, GOAL goal case, HON honorific marker, INS instrumental case, LOC locative case, NEG negative morpheme, NOM nominative case, PART sentential particle, PAST past tense morpheme, POL politeness marker, POT potential morpheme, PROG progressive morpheme, REP reportative morpheme, Q question morpheme, SOURCE source case, and TOP topic marker.
2. The sense of "agent" relevant to what I have to say in this paper refers to any entity capable of movement or action under its own power and as such covers a broader range of cases than this term is typically used to cover. Certain natural phenomena, for instance, count as "agentive" under this broader rubric, as in the following example.
(i) Kaze ga huite-iru.
The wind is blowing.
In an earlier paper (Jacobsen, 1979) I used the term "dynamic" to

indicate this extended range of agentive constructions. Since the borderline cases are not crucial to the arguments made in this paper, and so as to avoid terminological confusion, I have here adhered to the traditional agentive/non-agentive terminology.

3. For a reflexive analysis of agentive intransitive constructions, see Jacobsen (1979).

4. Initial /r/ is deleted in these morphemes when attached to consonant final verb stems.

5. (43) and (44) are based upon an actual anecdote related by Mizutani Osamu of the Nihon Kokuritu Kokugo Kenyuuzyo at a talk given at the University of Tsukuba in the fall of 1978.

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ATOMIC PHONOLOGY AND VOWEL REDUCTION

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0. Introduction. The recently advanced theory of atomic phonology (Dinnsen 1978) has been shown to adequately account for assimilatory processes as well as phonological neutralizations in numerous empirical investigations (Keel 1977). One area which has received little or no attention within the framework of atomic phonology are processes of strengthening and weakening. In this paper I will test the adequacy of atomic phonology in an analysis of prefix syncope in the High German dialects. In addition to offering strong empirical confirmation for the theoretical basis of atomic phonology, this study will clarify the relationship of sound change and evolving syllable structure in these German dialects.

1. Syncope. One of the most significant innovations in the development of the Germanic languages was the fixation of primary word-stress on the root or initial syllable. The repercussions of this change continue to this day effecting both the phonology and the morphology of the several Germanic languages. One of these effects has been the reduction and loss of unstressed vowels in Modern German dialects. One of the more interesting of these vowel reductions is prefix syncope or the loss of [ə] in the unstressed prefixes ge- and be-. The following examples in standard German orthography illustrate this type of syncope: gsagt vs. gesagt 'said, past participle'; bsonders vs. besonders 'especially' (König 1978:159).

1.1. In the Middle and Upper German dialects we find a high degree of variation in prefix syncope. The loss of [ə] in these environments evidences a marked phonological conditioning of that variation as we proceed from dialect to dialect. The Middle German dialects evidence the fewest instances of syncope. As we move south into the Upper German dialects, including Swiss German, prefix syncope becomes the rule rather than a sporadic exception. In this paper I will argue that based on the principles of atomic phonology attested variation in prefix syncope is predictable. While at first glance the dialectal variations seem to be rather unrelated, they will be shown to be derived via a series of rule additions from a basic rule of prefix syncope.

1.2. We can make the general statement that the loss of pre-tonal -e-/[ə] in the prefixes ge- and be-

occurs in a strictly phonological manner. The degree of loss--the number of forms affected--in a given dialect depends on the nature of the following consonant (the consonant which begins the syllable receiving primary word-stress). The Russian dialectologist Viktor Schirmunski (1962:166) believes that the variation in prefix syncope is just as significant for the classification of the High German dialects as the High German sound shift and the developments in the long vowels and diphthongs.

2. Variations in Syncope. The High German dialects exhibit a five-way differentiation in the loss of -e- in the prefixes ge- and be-:

2.1. Group I. The northernmost group (Low and Middle Franconian, Lower and Upper Hessian, East Middle German) generally retains -e- regardless of the following consonant (examples of syncope/no syncope from Schirmunski 1962:167-169): gəbonə 'gebunden/bound', gəfoan 'gefahren/driven', gəmolgə 'gemolken/milked', gəšɔsə 'geschossen/shot', gəgrɔwə 'gegraben/buried', bədreijə 'betrügen/deceive'. (Examples from Upper Hessian)

2.2. Group II. In South Hessian and Pfälzisch -e- is lost when followed by voiceless spirants and h. When h is the initial consonant of the stressed syllable, the remaining consonant of the prefix changes into a strongly aspirated stop (fortis). In all other environments -e- is retained: gflogə 'geflogen/flown', gšaid 'gescheit/smart', bsuxə 'besuchen/visit', phəldə 'behalten/keep', khad 'gehabt/had', gəbaud 'gebaut/built', bədairə 'bedeuten/mean', gəwis 'gewiss/certain.' (Examples from South Hessian)

2.3. Group III. In South Franconian, East Franconian and Lower Alsatian -e- is lost in all instances valid for Group II as well as when followed by non-nasal sonorant consonants and the voiced fricative/glide w: glegt 'gelegt/laid', grunə 'geronnen/run', gwisə 'gewiesen/pointed'. (Examples from South Franconian)

2.4. Group IV. In Swabian, Upper Alsatian and Bavarian -e- is lost in all possible environments. Prefix initial g is also lost if the loss of -e- occurs before a stop obstruent: bråxt 'gebracht/brought', blibə 'geblieben/remained', degd 'gedeckt/covered', glagd 'geklagt/complained', gfondə 'gefunden/found', gšlagə 'geschlagen/beaten', phiədə 'behüten/protect'. (Examples from Swabian)

2.5. Group V. In Swiss German -e- loss patterns similarly to that of Group IV. However, differences

in the consonant system, the retention of a lenis-fortis contrast in stop consonants, trigger different results in the reduced prefixes: ksi 'gesehen/seen', kjakt 'gejagt/chased', kmerkt 'gemerkt/noticed', klegä 'gelegen/lain', kxäüft 'gekauft/bought', pšissä 'beschissen/deceived', pxännä 'bekennen/know'. (Examples from the Kerenzer dialect)

2.6. Older Syncope. In addition to this relatively recent syncope, there was apparently an older prefix syncope in all dialects before a following sonorant, especially l or r. This syncope occurs in Middle High German times (c. 1200) and is reflected in the standard language as well as in the dialects which do not participate in the later syncope: (Standard German) bleiben from Old High German biliban 'remain', glauben from OHG gilouben 'believe', Gnade from OHG ginada 'grace'; (Ripuarian) jlövə 'glauben/believe', jrat 'gerade/immediately'; (Upper Hessian) gnek 'Genick/neck', blaiwə 'bleiben/remain'; (Thüringisch) glegə 'gelücke/Glück/luck', grådə 'gerade/immediately'. Different consonant reflexes in Swiss German attest to the isolated development of this process: glix 'gleich/right away', blibä 'bleiben/remain'.

2.7. In certain East Middle German dialects prefix -e- is retained in all instances; it is even inserted in forms where it never existed historically: gəlid 'Glied/limb', gəlands 'Glanz/splendor'.

3. Atomic Phonology. An analysis of prefix syncope as a series of rule additions reveals that it conforms to and supports the general notions underlying atomic phonology. That is, variations on a phonological process derive in a precise manner from a most limited, most specific rule characterizing that process, an atomic rule. The manner of rule generalization, complement rule addition, can be illustrated as follows: In an empirical study of final consonant devoicing we discover that stop obstruents are always part of the focus of the rule of terminal devoicing, sometimes exclusively so. On that basis we would assume that the so-called atomic rule of terminal devoicing is limited to stop obstruents (cf. rule (1)).

$$(1) \quad \begin{bmatrix} -\text{sonorant} \\ -\text{continuant} \end{bmatrix} \longrightarrow [-\text{voice}] \; / \_\_\_\# \qquad \text{(1)}$$

We would then predict that any variation of the terminal devoicing process must minimally contain rule (1) as a sub-rule. Further, any extension of that process can occur only by the addition of so-called complement rules. Two rules are said to be in a

complement relation if the features identical to the structural descriptions of both rules are sufficient to define precisely the effect of the two rules taken together. For instance, given rule (1), we might encounter a language which exhibits terminal devoicing for stop and continuant obstruents (see rule (2)).

(2) [-sonorant] ⟶ [-voice] /___#

Since this rule can be analyzed as rule (1) plus rule (3)

(3) $\begin{bmatrix}\text{-sonorant}\\ \text{+continuant}\end{bmatrix}$ ⟶ [-voice] /___#

and rule (3) is in a complement relation with rule (1) --the features identical to the structural descriptions of (1) and (3) are [-sonorant]#--atomic phonology predicts that such an expansion of rule (1) may occur in natural languages. On the other hand, other logically possible variations such as a rule by which all stops but only labial and velar fricatives are devoiced word-finally would be excluded in principle and would be predicted not to occur in natural languages. Since such a variation would require the addition of rule (4) to rule (1)

(4) $\begin{bmatrix}\text{-sonorant}\\ \text{+continuant}\\ \text{-coronal}\end{bmatrix}$ ⟶ [-voice] /___#

and rules (4) and (1) are <u>not</u> in a complement relation atomic phonology excludes rules such as (4) from being added to the grammar.

4. Analysis. Returning to the case of prefix syncope in the German dialects, we can begin our analysis of that process by examining the data to determine the most basic, most limited rule of <u>-e-</u> loss. We noted at the end of our discussion of the data that there was apparently an older rule of syncope which deleted prefix <u>-e-</u> before a sonorant consonant. Almost all dialects exhibit this stage of the process as well as the standard language. This syncope can be characterized by rule (5).

(5) $\overset{V}{[\text{-stress}]}$ ⟶ ∅ / #C___$\begin{bmatrix}\text{+consonantal}\\ \text{+sonorant}\end{bmatrix}$

Is rule (5) then the most basic rule for syncope and the starting point for the further development of the

process? My answer is no. I base this response on two crucial points: First, (5) must apply in dialects where the initial consonant of the prefix is not a stop (see the evidence from Ripuarian) and, second, application of (5) results in different initial consonant clusters, particularly in Swiss German. These points justify classifying the older syncope as a distinct process.

Where, then, does the more general process of prefix syncope begin? Rule (6), which describes the syncope of -e- when followed by a voiceless spirant, seems to be the most limited rule for this process. Rule (6) adequately accounts for the syncope data in the Group II dialects.

$$(6)\quad \underset{[-\text{stress}]}{V} \longrightarrow \emptyset \;/\; \#[-\text{cont}]\_\_\begin{bmatrix}+\text{cont}\\-\text{voice}\end{bmatrix}$$

The next group of dialects (Group III) syncopates -e- before l, r, and w. At first glance, we may wonder why these consonants should function as a class, but closer analysis of redundant features and phonemic inventories of the dialects reveal that l, r and w constitute the class of voiced continuants in these dialects. We can express this additional set of environments for syncope as rule (7).

$$(7)\quad \underset{[-\text{stress}]}{V} \longrightarrow \emptyset \;/\; \#[-\text{cont}]\_\_\begin{bmatrix}+\text{cont}\\+\text{voice}\end{bmatrix}$$

Since these dialects also evidence syncope before voiceless continuants, we can formulate rule (8) as the more general rule of syncope for Group III dialects.

$$(8)\quad \underset{[-\text{stress}]}{V} \longrightarrow \emptyset \;/\; \#[-\text{cont}]\_\_[+\text{cont}]$$

The southernmost dialects exhibit syncope before all consonants. This situation can be formulated as rule (9).

$$(9)\quad \underset{[-\text{stress}]}{V} \longrightarrow \emptyset \;/\; \#[-\text{cont}]\_\_C$$

These dialects (Groups IV and V) have in effect added a rule of syncope which is effective in the environment of a following non-continuant consonant. Note that this rule of syncope, rule (10), includes nasal consonants as well as stop obstruents in the environ-

ment, since nasal consonants are redundantly non-continuant.

$$(10)\quad \overset{V}{[\text{-stress}]} \longrightarrow \emptyset \;/\; \#[\text{-cont}]\_\_[\text{-cont}]$$

At this point we can verify that the extension of the most limited rule of syncope, rule (6), to rules (8) and then (9) occurred according to the principles of atomic phonology. For the Group III dialects, rule (7) which represents a complementary class of segments with respect to the environment of rule (6) is added and results in the generalized rule (8). In a similar fashion rule (10) adds a complementary set of segments to the environment of rule (8) for the dialects in Groups IV and V, resulting in the final rule of prefix syncope, rule (9). Since other logically possible developments in syncope do not in fact occur, syncope in the German dialects provides strong confirmation for the basic principles of atomic phonology.

4. Other Issues. Up to this point we have directed our attention solely to the loss of the unstressed vowel in the prefix. However, the consonants are involved in a development which proves equally significant. The loss of -e- destroys the 'natural' syllable structure of CVCV and creates syllables with initial consonant clusters of the type CCV. Only in the case of two stop obstruents occurring initially does simplification to a CV structure take place. We are left with an array of stop + fricative, stop + sonorant combinations. This development reminds us of the results of the second sound shift in the Upper German dialects: word-initial p, t and k become the affricates pf, ts and kx, respectively. It seems those dialects, particularly Bavarian and Swiss German, are also in the forefront with respect to syncope.

The question that arises is why are these German dialects doing such apparently wierd things at the beginning of a word. Obviously 'natural' syllable structure and 'natural' initial consonant clusters can be sacrificed to achieve some more important end in these dialects. Perhaps the answer lies in our initial discussion of the effects on the Germanic languages of the early fixation of primary word-stress. Why should the Germanic languages have fixed the accent on the lexical root of the word? The obvious answer is in some notion of emphasis on the semantic core of the word. Perhaps somehow these dialects, despite all of the sound changes of the past

2500 years, are still persistently holding to that course, ignoring the well-intentioned constraints of syllable structure and phonotactics.

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Toward a Universal Semantics of Indirect Subject Constructions*

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In natural languages the indirect subject construction is widely observed but poorly understood. Formally (and, as we will see, semantically), indirect subject constructions may be contrasted with more typical direct or nominative subject constructions, in which sentential subjects take the unmarked or nominative case and trigger verbal agreement.[1] By contrast, under indirect subject formation (or Inversion, as some relational grammarians refer to it), the ostensible subject is marked with an indirect case. It is typical but not universal for this indirect case to be that of the indirect object, or dative case. (Exceptions, however, include Bengali--v. 1a below.) It is also typical though not universal for the indirect subject to fail to trigger verbal agreement.[2]

This paper is concerned with a universal semantics for indirect subject constructions. First, let us consider some examples of these constructions from a variety of natural languages. These are seen in 1-13.

1 Bengali a. (ind) tomaake aamaar khub pachondo hay
you-O my-G very liking becomes
'I like you lots'

b. (dir) aami tomaake khub pachondo kori 'do'
I-N you-O very liking do-1p

2 Old English Anoþer drem dremede me yet. (N. McCawley 1976a:199)

3 Georgian m-civa mama-s u-qvar-s švil-i
me it-is-cold father-D/A 3p-love-pres 3p sg child-N
'I am cold' 'The father loves the child'
(Holisky 1978:140) (N. McCawley 1976a:201)

4 German a. ich friere an den Füssen b. mir frieren die Füsse
I chill-1p at the feet-D me-D chill-pl the feet-N
'I feel cold in the feet'

5 Hindi a. (dir) jɔn merii ko pasand kartaa hai 'John
John-N Mary O liking do-es likes Mary'.

b. (ind) jɔn ko merii (*ko) acchii lagtii hai 'do'
John O Mary-N O good seem-fem-s

6 Italian a. (dir) i bambini non mancano di energia
the children neg lack-pl of energy
'The children don't lack energy'

b. (ind) ai bambini non manca energia 'do'
to-the children neg lacks energy
(Perlmutter 1979:278-79)

7 Japanese Kimura-san ni (wa) sono mondai ga wakaru
Kimura-title D top that problem N understands
'Mr. Kimura understands that problem' (ibid. 310)

8 Latin piget me tui mihi dolet (Golab 1975:
disgusts me-A you-N me-D hurts 7,4)
'I am disgusted with you' 'I suffer'

9 Malayalam nanage avaḷu ishta ādaḷu 'I liked her'
me-D she liking became (Sridhar 1976:37)

10 Nepali mə̃y-le chara jəsto udũ 'I wish I could fly like a bird
me-I/erg bird like fly-opt 1p (Abadie 1974:173)

11 Quechua warmi-ta nana-ju 'The woman is hurt' (Perlmutter
woman-A hurt-prog 1979:316)

12 Russian a. (dir) on xotel kurit' 'He wanted to
he-N wanted-masc to-smoke smoke'

b. (ind) emu xotelos' kurit' 'do'
him-D wanted-ref neut to-smoke

13 Spanish me gusta Juan 'I like John'
me-O likes John

While indirect subjects may lack the morphological (coding) properties of direct subjects, they may share the syntactic (behavioral) properties of direct subjects. Thus indirect subjects may trigger reflexivization in languages wherein reflexives are governed by a subject antecedence condition; examples from Bengali and Japanese are seen respectively in 14a,b. A similar phenomenon is control of Equi, illustrated in 15a,b for Latin and Bengali respectively.[3]

14 a. taar sudhu nijeke pachondo hay 'He only likes himself'
his only self-O liking becomes (Klaiman 1980a:28)

b. sensei ni (wa) zibun ga wakar-ana-i (Shibatani 1977:
teacher D top self N understand-neg-pres 800)
'The teacher does not understand himself'

15 a. non te mihi irasci decet (Golaḃ 1975:5)
neg you-A me-D to-get-angry beseems
'It does not beseem you to get angry with me'

b. aamaar khete icchaa kare naa 'I don't feel like eating'
my to-eat wish does not

Some linguists have treated indirect subject constructions in the wider context of impersonal constructions, a few examples of which are seen in 16:

16 Latin vesperascit Japanese ima rokuzi da
'It grows dusky' now 6 o'clock is
(Golaḃ 1975:4) 'It is 6 o'clock now' (Makino
1975-76:102)

As 16 suggests, impersonal constructions typically express activities whose agency can be attributed to no personal entity. The question is how such constructions can be semantically linked with indirect subject constructions, which tend to express highly personal activities or experiences (such as hunger, anger, desire, etc.). In view of their apparent semantic dissimilarity it is paradoxical that impersonal and indirect subject constructions bear such a close formal resemblance.

Writers interested in the semantics of indirect subject constructions have observed that they tend to express certain kinds of activities to the exclusion of others; N.A. McCawley 1976a,b suggests that these activities fall into the six categories listed in 17:

17 a. Sensory and Mental Experiences
b. Emotional Experiences
c. Physical and Biological Experiences
d. Need/Duty/Obligation
e. Possession/Existence
f. Happenstance

A few theories concerning indirect subject constructions and universal semantics have been proposed. It has, for instance, been suggested that indirect subjects are semantically recipients (N.A. McCawley 1976a, Lindholm 1975); this viewpoint may be called the Recipient Hypothesis.[4] A second theory is that indirect subject constructions express subjective activities, i.e., activities that occur exclusively within the body or mind of the experiencer (Masica 1976:160). This viewpoint may be called the Subjective Hypothesis.

Both hypotheses have limitations. The Recipient Hypothesis fails to account for the minority of languages (e.g., Bengali) in which indirect subjects and indirect objects take different case markings. The Subjective Hypothesis is falsified by the occurrence in various languages of indirect subject predicates which do not express subjective activities (activities which occur within the body or mind of the experiencer); these predicates include geynan 'profit', misþowan 'go wrong' and geyfelian 'injure, become ill' in Old and Middle English (N. McCawley 1976a) as well as naak ḍaak- 'snore', laabh ha- 'profit', asukh ha- 'become unwell' and prasob ha- 'give birth' in Bengali (Klaiman 1980a). Moreover neither the Recipient Hypothesis nor the Subjective Hypothesis can account for the peculiar formal similarity between impersonal and indirect subject constructions, above noted.

Another hypothesis has been proposed for a number of languages, including Japanese (Makino 1975-76:102), Serbo-Croatian (Golab 1975:26-27), Old and Middle English (N. McCawley 1976a: 197), Russian (Scholz 1973:168) and Bengali (Klaiman 1980b), though it has not to my knowledge been very aggressively supported as a semantic universal for indirect subject constructions. This viewpoint--the Volitionality Hypothesis--holds that indirect subject constructions universally tend to express activities viewed or spoken of as nonvolitional.[5] This hypothesis has immediate advantages; not only does it account for the formal similarity between indirect subject and impersonal constructions, but it is also consistent with the semantic range of indirect subject predicates (v. 17). However, the strongest evidence for the hypothesis involves the relative distribution of direct and indirect subject constructions, particularly in languages in which direct and indirect subject predicates occur as formally related alternatives or counterparts.[6]

The evidence below for the Volitionality Hypothesis is taken from four languages: Bengali, Georgian, Japanese, and Russian. The evidence involves the contrastive behavior of indirect and direct counterparts with respect to adverbs of volitionality, disculpations, verbs of aural and visual experience, commands, and passives. While no one type of evidence is conclusive in and of itself, all the evidence taken together contributes to what I believe is a highly convincing case for the Volitionality Hypothesis.

Exhibit A. In the context of an adverb of volitionality (e.g., 'deliberately'), indirect subject constructions tend to be excluded. This holds in Bengali (18), Russian (19), and Georgian (20):

18 a. (ind)*baabaar aapotti satteo aamaar tomaake icchaa kore
father-G objection despite my-G you-O deliberately
pachondo hoyeche 'I deliberately liked you despite
liking has-become my father's objections' (cf. 1a)

b. (dir) baabaar aapotti satteo aami tomaake icchaa kore
father-G objection despite I-N you-O deliberately
pachondo korechi 'do' (cf. 1b)
liking have-done-1p

19 a. (ind)*emu nastojatel'no xotelos' kurit' nesmotrja
him-D insistently wanted-ref neut to-smoke in-spite-
na vozraženija otca 'He insistently wanted to smoke
of objections-A father-G despite his father's objections' (cf.

b. (dir) on nastojatel'no xotel kurit' nesmotrja
he-N insistently wanted-masc to-smoke in-spite-
na vozraženija otca 'do' (cf. 12a)
of objections-A father-G

20 a. (ind)*segnebulad m-cioda 'I was deliberately cold'
deliberately me-chilled (Holisky 1978:150)

b. (dir) cerili segnebulad da=vc̣ere 'I deliberately wrote
letter deliberately I-wrote this letter' (ibid.)

It may be particularly noted of Russian and Bengali--in which languages predicates may have formally related direct and indirect counterparts--that adverbs of volitionality are compatible with direct but not with indirect subject predicates. This suggests that the direct/indirect counterparts are differentiated by the semantic opposition volitional/nonvolitional.

Exhibit B. In disculpations--contexts in which the subject is to be represented as the unwilling prisoner of his emotions, as a victim of circumstances, or as a justified sinner--the indirect subject construction tends to be selected in preference to its direct counterpart.

Thus in Japanese a hostess and guest may exchange the following dialog (v. 21) at a dinner party.

21 Hostess: dooshite motto meshi agara nai no desuka
why more eat hon neg nominalizer is-it
'Why is it that you are not eating more?'

Guest: daietto-chuu nanode, 'As I am on a diet,
diet amidst as/because

a. (ind) boku ni wa moo kore ijoo taberare masen[7]
I-masc D top more any-longer eat-e- neg
I can't eat any more at all'

b. (dir)*boku wa moo kore ijoo tabe masen
I-masc-N top more any-longer eat neg
I'm eating no more at all'

While an indirect subject construction (21a) is an acceptable reply to the hostess, a direct subject reply (21b) is distinctly

bizarre. The implication of such a reply ('Since I'm on a diet, I refuse to eat any more at all') is at best rude, if not ungrammatical. Similar possibilities exist in Bengali. Consider the dialog in 22:

22 A: deri kore esecho kaeno 'Why have you come late?'
delay do-CP have-come-2p why

B: ki korbo, raastaay
what will-do-1p road-L
'What could I do, I was delayed on the road'

a. (ind) aamaar deri holo
my-G delay became

b. (dir) *aami deri korlaam
I-N delay did-1p

In 22, (a) is acceptable and (b) is peculiar because a speaker would hardly like to portray himself as a volitional participant in this particular situation. Here the indirect subject construction (a) allows him to confess tardiness with a face-saving nuance of helplessness. The direct counterpart (b), however, is at best rude; it implies 'I'm late, what of it?' In Bengali as in Japanese, indirect subject constructions are preferred over direct counterparts in disculpations. This suggests that volitionality is the criterion by which speakers of various languages select between indirect and direct subject alternatives.

Exhibit C. Let us now consider predicates of hearing and seeing in Japanese and Bengali. The former has, as we have seen, a productive process for forming indirect subject predicates from their direct counterparts by the addition of the stem formant -e-. Thus the direct subject predicate taberu 'eat' in 21b is related to its indirect counterpart taberaru in 21a. Similarly the direct subject predicate kiku 'hear, listen' yields the indirect counterpart kikoeru 'be audible', while the direct predicate miru 'see, look at' yields the indirect predicate mieru 'be visible'.

In some contexts either the direct or indirect counterparts of 'hear' and 'see' are acceptable, as in 23 and 24. But they are not interchangeable. Only the direct counterpart is possible in a context of volitional hearing or seeing, while the indirect counterpart is excluded. This is seen in 25 and 26.

23 a. (dir) Hamlet wa sono toki sono henna oto o kiita
Hamlet-N top that time that strange sound O hear-past
'At that moment, Hamlet heard/listened to that strange sound'

b. (ind) Hamlet ni wa sono toki sono henna oto ga kikoeta
Hamlet D top that time that strange sound N hear-e-past
'At that moment, Hamlet heard that strange sound/that strange sound was audible to Hamlet'

24 a. (dir) Mimi wa sono henna otoko o mita
Mimi-N top that strange man O see-past
'Mimi saw/looked at that strange man'

b. (ind) Mimi ni wa sono henna otoko ga mieta
Mimi D top that strange man N see-e-past
'Mimi saw that strange man/that strange man was visible to Mimi'

25 a. (dir) Hamlet wa sono toki sono henna oto o chuui
Hamlet-N top that time that strange sound O attention
site kiita 'At that moment Hamlet listened atten-
do-ptcpl hear-past tively to that strange sound'

b. (ind)*Hamlet ni wa sono toki sono henna oto ga chuui
Hamlet D top that time that strange sound N attention
site kikoeta 'At that moment that strange sound was
do-ptcpl hear-e-past attentively audible to Hamlet'

26 a. (dir) Mimi wa sono henna otoko o chuui site
Mimi-N top that strange man O attention do-ptcpl
mita 'Mimi gazed attentively at that strange man'
see-past

b. (ind)*Mimi ni wa sono henna otoko ga chuui site
Mimi D top that strange man N attention do-ptcpl
mieta 'That strange man attentively appeared to
see-e-past Mimi'

The same thing happens in Bengali. Consider the direct subject predicate daekh- 'see' and its indirect counterpart cokhe par- 'see, spot' (literally, 'fall into the eye'). Also consider the direct predicate son- 'hear' and its indirect counterpart kaane aa- 'hear' (literally, 'come into the ear'). These are respectively illustrated in (27a,b) and (28a,b). In such neutral contexts either the direct or indirect counterpart is possible. That they are not interchangeable, however, becomes clear in other contexts, as seen in (29) and (30):

27 a. (dir) se ekṭi sundor meyeke dekhlo 'He saw a pretty girl'
he a pretty girl-O saw

b. (ind) ekṭi sundor meye (ke) taar cokhe poṛlo 'He spotted a
a pretty girl O his eye-L fell pretty girl'

28 a. (dir) aami tomaar biruddhe naanaa kathaa suni
I your against various matter hear-1p
'I hear various things against you'

b. (ind) tomaar biruddhe naanaa kathaa aamaar kaane aase 'do'
your against various matter my ear-L comes

29 a. (dir) se ekṭi sundor meyeke taakiye dekhlo 'He stared at
he a pretty girl-O stare-CP saw a pretty girl'

b. (ind)*taakiye ekṭi sundor meye (ke) taar cokhe poṛlo 'do'
stare-CP a pretty girl O his eye-L fell

30 a. (dir) se kaan khaaṛaa kore protibesider jhagṛaa sunchilo
he ear erect do-CP neighbors-G quarrel was-hearing
'He was listening to his neighbors' quarrel with his
ears pricked up'

b. (ind)*kaan khaaṛaa kore protibesider jhagṛaa taar kaane
ear erect do-CP neighbors-G quarrel his ear-L
aaschilo 'do'
was-coming

That is, in a context of expressly volitional seeing (e.g., staring) or expressly volitional hearing (e.g., listening with one's ears pricked up), the indirect subject alternatives cease to exist. This suggests that they refer to nonvolitional acts of seeing and hearing respectively.

Exhibit D. Indirect subject constructions are by and large excluded in commands; their direct counterparts are not excluded. Evidence for this is seen in (31)-(32) for Russian, 33 for Georgian, (34)-(35) for Japanese, and 36 for Bengali:

31 a. (ind) mne veritsja s trudom
me-D believe-ref 3p sg with difficulty-I sg
'I have trouble believing that'

b. (dir) ja verju s trudom 'do'
I-N believe-1p sg with difficulty-I sg

32 a. (ind)*pust' vam veritsja mne 'Believe
let/may you-D polite believe-ref 3p sg me-D me!'

b. (dir) pover'te mne 'do'
believe-perf impv polite me-D

33 a. (ind)*gakvetili icodi 'Know the lesson!' (Holisky 1978:152)
lesson know

b. (dir) gakvetili isçavle 'Study the lesson!' (ibid.)
lesson study

34 a. (ind)*kikoenasai 'Hear!' (cf. 23b) b. (dir) kikinasai 'do'
hear-e-impv hear-impv (cf. 23

35 a. (ind)*mienasai 'See!' (cf. 24b) b. (dir) minasai 'do' (cf. 24a
see-e-impv see-impv

36 a. (ind)*tomaar onosoconaa hok! 'Repent!'
your-G repentence become-impv 3p

b. (dir) (tumi) onosoconaa karo! 'do'
you-N repentence do-impv 2p

To be sure, an indirect subject predicate can occur in the so called imperative form (simple or periphrastic) as an hortative; v. 37 (Russian) and 38 (Bengali):

37 a. ne grustite (dir) b. pust' vam ne
neg be-sad-impv polite let/may you-D polite neg
'Don't be sad!' budet grustno (ind)
be-fut 3p sg sad
'May you not be sad' (*'Don't be sad!')

38 aami caai, tomaar onusoconaa hok (cf. 36a) 'I want you
I want your-G repentence become-impv 3p to repent'

But such sentences as (37b) and 38 are not commands; they are wishes.

Commanding by its very nature presupposes the addressee's ability to choose to act or not to act on the speaker's request. This is why commands are normally addressed only to humans and to the more intelligent species of animals and not, say, to inanimate objects. In other words, a command presupposes the addressee's faculty of volition. The fact that an indirect subject cannot occur in the context of a command suggests that indirect subjects are semantically nonvolitional.

Exhibit E. Bengali offers some particularly impressive evidence that indirect subject constructions express nonvolitional activities. This evidence relates to passives.

Bengali has two passives: one whose characteristic is the finite verb jaa- 'go'; the other whose characteristic is the

finite verb ha- 'become'. Both passives entail that the affected clause undergoes sentence nominalization. This is followed by assignment of one of the matrix verbs just mentioned. Both passives are of the 'impersonal' type described by Comrie 1977; hence the underlying subject either deletes altogether, or--if it surfaces (under conditions which need not be explained here)--it takes the Genitive case. Both passives apply indifferently to transitives and intransitives. Examples of the Bengali jaa- and ha- passives are seen in 39.[8]

39 a. aektaa khabor praayi khaborer kaagoje daekhaa jaacche
one news very-often news-G paper-L seeing is-going
'One piece of news is very frequently seen in the newspaper'
(Jugantor newspaper, Calcutta, 10 April, 1979)

b. aamerikaay iṅreji balaa hay 'In America, English
America-L English speaking **becomes** is spoken'

In the following examples 40 through 43, the even numbered examples illustrate the jaa- passive and the odd numbered examples, the ha- passive. Passive applied to direct subject constructions is seen in the (a) examples, while passive applied (infelicitously) to indirect subject constructions is illustrated in the (b) examples.

40 a. alpo khete anek laabh karaa jaabe
less labor-CP many profit doing will-go
'A lot of profit can be made without working hard'

b.*alpo khete anek laabh haoaa jaabe 'do'
becoming will-go

41 a. alpo khete tomaar anek laabh karaa habe
less labor-CP your many profit doing will-become
'You'll make a lot of profit without working hard'

b.*alpo khete tomaar anek laabh haoaa habe 'do'
becoming will-become

42 a. bhaarotborse alpo taakaay anek din caalaano jaay
India-L less money-L many day causing-to-run goes
'In India it is possible to manage a long time on little money'

b.*bhaarotborse alpo taakaay anek din calaa jaay 'do'
running goes

43 a. taader alpo taakaay anek din caalaano hoyeche
their less money-L many day causing-to-run has-become
'They've managed on little money for a long time'

b.*taader alpo taakaay anek din calaa hoyeche 'do'
running has-become

In general, passives in Bengali apply to direct but not to indirect subject constructions. One could try to account for this on formal grounds, for example, by writing an appropriate structural description (SD) into the rule for passive. However, such a solution would fail to account for other types of sentences the passives of which block in Bengali.

For instance, passives block for sentences whose subjects have nonhuman referents. Examples 44 and 45 illustrate.

44 a. tinṭey naa chaaṛle aamaar samoymoto põũchono
3 o'clock-L neg leave-cond my on-time arriving
hoto naa 'If I hadn't left at 3 o'clock, I
would-become neg could not have arrived on time'

b.*tinṭey naa chaaṛle gaariṭaar samoymoto põũchono
3 o'clock-L neg leave-cond the-train-G on-time arriving
hoto naa 'If it hadn't left at 3 o'clock, the
would-become neg train could not have arrived on time'

45 a. aekṭaa laal saaṛi oke khub maanaabe 'A red sari should
a red sari her-O very will-suit suit her nicely'

b.*aekṭaa laal saaṛi oke khub maanaano jaabe 'do'
suiting will-go

The (b) examples in 44 and 45 illustrate the unacceptability of passives whose underlying subjects have inanimate referents. It may be mentioned at this point that volitionality cannot be an attribute of inanimate entities. In this connection it is interesting to note that a passive blocks in Bengali--even if the subject is human--when the predicate expresses a nonvolitional activity. Examples (46)-(48) illustrate.

46 a. omuker boi haariyeche b. *omuker boi haaraano
so-and-so-G book has-gotten- so-and-so-G book losing
lost hoyeche 'do'
'So-and-so has lost his book' has-become

47 a. maar khaaoaar par se tin din maatro bããclo
beating eating-G after he 3 day only survived
'After taking the beating he only survived 3 days'

b.*maar khaaoaar par taar tin din maatro bããcaa holo 'do'
beating eating-G after his 3 day only surviving became

48 a. omuk ei maatro maaraa giyeche 'So-and-so just died'
so-and-so just-now has-died

b.*omuker ei maatro maraa hoyeche 'do'
so-and-so-G just-now dying has-become

It is interesting to contrast 48, which expresses an ordinary act of dying, with 49, which expresses a <u>volitional</u> act of dying (**i.e.**, suicide):

49 aattohattaa karaar jonno aeksoṭaa ghumer osudh khelaam,
suicide doing-G for 100 sleep-G medicine ate-1p
kintu <u>aamaar maraa holo naa</u>, kaaron, daaktaarraa aamaake
but my dying became neg because the-doctors me-O
bããciye tullo 'I took 100 sleeping pills in order to commit
saved suicide; but I did not die, because the
doctors saved me'

While passive blocks in 48, it does not block in 49. The contrast between these two examples provides especially clear evidence that passive in Bengali applies only to sentences in which volitional activity is expressed. Turning back to examples (40)-(43), it would now appear that the failure of Bengali indirect subject constructions to passivize supports the position argued throughout this paper that indirect and direct subject constructions in natural languages tend to express nonvolitional

and volitional activities, respectively.

To conclude, evidence has been presented in this paper for the hypothesis that indirect constructions in natural languages tend to express nonvolitional activities. While direct subject constructions may express either volitional or nonvolitional activities, languages may display a formal alternation between indirect and direct subject counterparts such that the former tend to express activities viewed or spoken of as nonvolitional; the latter tend to express basically the same activities viewed or spoken of as volitional.

While I have limited the data in this paper to four languages--Bengali, Georgian, Japanese, and Russian--it is my prediction that similar evidence occurs in other languages. Moreover, it has been pointed out that in addition to contrastive evidence of the type presented in Exhibits A through E, other evidence for the volitionality hypothesis arises from two facts: (a) that indirect subject predicates tend to conform cross-linguistically to a particular semantic range (v. 17); and (b) that indirect subject constructions and impersonal constructions, which tend to be similar formally, both express activities which are nonvolitional, i.e., which lack the willful or agential participation of some personal entity.

The question remains why languages tend to select the same or roughly the same formal means of expression--the indirect and impersonal subject constructions--for a particular semantic notion, that of nonvolitionality. This problem is left for future research.

Footnotes

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[1]This behavior may be observed generally throughout the language, as in Bengali and Latin, or may be conditioned by grammatical factors like tense and aspect, as in Georgian and Hindi.

[2]Nepali (ex. 10) is a language in which indirect subjects can control verbal agreement. In other languages, the agreement trigger may default to the unmarked direct object--as it does in Hindi (v. 5b)--or to no NP at all--as in Bengali (v. 1) in the instance of most if not all of the language's indirect

subject predicates.

[3]The behavioral properties which indirect subjects share with direct subjects may be highly specific to individual languages. This holds of **Subject Honorification in Japanese**, described by Shibatani 1977. Shibatani shows that this grammatical process does not distinguish between direct and indirect subjects.

[4]The Recipient Hypothesis is based on an assumption that substantives which are treated alike formally (e.g., in terms of case marking) must have something in common semantically. It provides a seemingly natural way of accounting for the sameness of case marking, in many languages, of indirect subjects and indirect objects; it claims that both belong to a common semantic category of recipients. This in turn explains the fact that indirect subjects are widely referred to as 'dative subjects', dative being the case of the indirect object.

[5]The hypothesis does not entail that direct subject constructions in natural language never express nonvolitional activities. The hypothesis is only that indirect subject constructions in natural languages tend to be restricted to the expression of activities viewed or spoken of as nonvolitional. V. footnote 6.

[6]In some languages speakers have a choice of expressing a given activity or experience by using a direct subject construction or by using a formally related indirect subject construction. Such alternative predicates may be referred to as direct and indirect subject counterparts. The productivity of such alternation varies from language to language. In Italian I am aware of only three such pairs of counterparts: manca-/manca- 'lack' (v. 6); riusci-/riusci- 'manage, succeed'; and avere bisogna/abbisognare 'need'. (The first two are discussed in Perlmutter 1979; the third was offered me by Dr. Paolo Cherchi, personal communication.) In Bengali, on the other hand, according to Klaiman 1980a,b, approximately two-thirds of the indirect subject predicates have direct counterparts.

[7]Note that the Japanese nominative marker ga deletes before the topic marker wa (v. 21b, etc.). (On the status of ga as a nominative or direct case marker rather than a subject marker, v. Shibatani 1977.) Also note that the stem formant -e- may be separated from vowels in preceding and following morphemes by a variety of phonetic/phonological devices; hence tabe+e=**taberare and** kik+e+inf=kikoeru. The form taberare in (21a) looks superficially passive, though not all Japanese indirect subject predicates are formally identical to passives (v. e.g. the forms kikoeru and mieru in Exhibit C). However, N. Akatsuka (personal communication) informs me that (21a) cannot possibly be taken as a passive. The reasons are complex, but apparently have to do with the fact that Japanese passives express the idea of a victim to which something is done. Thus, as in English it is strange to say 'What was done to the cake was to be eaten', so (i) below is strange to a Japanese (and hence 21a as well). The only way a Japanese passive of 'eat' makes sense, according to

Akatsuka, is in a context like (ii) below, where the underlying direct object is unmistakably a victim to which something is done:

i. *okashi wa otoko ni taberareta 'The cake was eaten
cake-N top man by eat-passive-past by the man'

ii. senkyooshi wa hitokui ni taberareta
missionary-N top man-eating-race by eat-passive-past
'The missionary was eaten by the cannibals'

[8]For a more detailed treatment of Bengali passives, v. Klaiman 1980a,b. Examples of Bengali passives in the present work are from Klaiman 1980b.

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Functional Correlates of Ergativity in Aguacatec

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Aguacatec [1], like other Mayan languages, exhibits a split ergative verb agreement system and, hence, is usually classified as an "ergative language". In most cases, an intransitive "subject" (or S, employing the terminology of Dixon 1979) and a transitive "direct object" (or O,) are crossreferenced on their respective verbs by means of a set of "absolutive" prefixes while a transitive "subject" (or A,) is crossreferenced by means of a set of "ergative" prefixes, as seen in:

(1) ja kxh-u7l
proximate past 2sAbs-ARRIVE HERE
'you arrived'
(2) ja Ø-uul
prox.past 3sAbs-ARRIVE HERE
'he arrived'
(3) ja kxh-t-il
prox.past 2sAbs-3sErg-SEE
'he saw you'
(4) ja Ø-aw-il
prox.past 3sAbs-2sErg-SEE
'you saw him'

Arguments of stative, equational, and existential predicates are also crossreferenced by absolutive morphemes, whereas the ergative prefixes are used to crossreference noun possessors.

In certain types of subordinate clauses, however, S's are not crossreferenced by the customary absolutive morphemes but rather by the same ergative prefixes that crossreference A's, thus giving the appearance of a nominative/accusative verb agreement system in those environments. For this reason the verb agreement is said to be "split ergative". One environment in which this occurs is in time adverbial clauses in the "indefinite past" tense:

(5) ye aw-uul-e7n,
THE 2sErg-ARRIVE HERE-nominalizer
niin tzun na chin-waan
AND THEN incompletive 1sAbs-EAT
'when you arrived, I was eating'
(6) ye t-uul-e7n,...
THE 3sErg-ARRIVE HERE-nom.
'when he arrived,...'
(7) ye t-il-ool axh,...

THE 3sErg-SEE-active infinitive 2sPro(Abs)
'when he saw you,...'

(8) ye aw-il-ocl Ø,...
THE 2sErg-SEE-act.inf 3sAbs
'when you saw him,...'

Here it can be seen that the verb forms found in the adverbial clauses of (5-8) are actually derived verbal nouns and, thus, the ergative prefixes crossreferencing their respective S's and A's may be viewed as being formally noun possessors. O's are still marked by the absolutive marker Ø in the third person singular (as in 8) or by one of the absolutive independent pronouns in the other person/numbers (as in 7).

Like some, though not all, morphologically ergative languages, Aguacatec also manifests syntactic ergativity in that there is a class of syntactic rules which make reference to the ergative/absolutive relations. For example, the rule which forms cleft sentences in Aguacatec takes a constituent which normally appears after the verb and places it before the verb. In addition, the verb takes the form it would have in a subordinate clause. Thus, for example, in

(9) ja Ø-uul yaaj
prox.past 3sAbs-ARRIVE HERE MAN
'the man arrived'

(10) yaaj m-Ø-u7l
MAN prox.past-3sAbs-ARRIVE HERE
'it was the man that arrived'

it can be seen that the S yaaj, which ordinarily follows the verb as in (9), is placed before the verb in the clefted version (10). Furthermore, the proximate past tense, marked in (9) by means of the particle ja, which is used in main clauses, is marked in (10) by means of the prefix m-, which is used in subordinate clauses. Essentially the same thing happens when an O is clefted in a transitive sentence:

(11) ja Ø-x-tx'aj xna7n b'u7y
prox.past 3sAbs-3sErg-WASH WOMAN RAG
'the woman washed the rag'

(12) b'u7y n-Ø-x-tx'aj xna7n
RAG prox.past-3sAbs-3sErg-WASH WOMAN
'it was the rag that the woman washed'

However, clefting an A is not quite so simple. In order to do this, further changes must be made in the verb, as in

(13) xna7n n-Ø-tx'aj-oon b'u7y
WOMAN prox.past-3sAbs-WASH-suffix RAG
'it was the woman that washed the rag'

Here the verb form is an intransitive stem derived by the suffix -oon which shows absolutive agreement with the underlying O, as seen more clearly in (14).

(14) in n-kxh-b'iy-oon
1sPro(Abs) prox.past-2sAbs-HIT-suff
'I was the one that hit you'

When the O is 3s, however, the intransitive verb form may optionally agree with the underlying A as seen in (15).

(15) in {m- Ø-} b'iy-oon
{n-chin-}
1sPro(Abs) prox.past-{3sAbs-} HIT-suffix
{1sAbs-}
'I was the one who hit him'

This, plus the fact that clefted A's may appear as one of the absolutive independent pronouns (as seen in 14 and 15) demonstrates that the clefted constituent in (13-15) is an "absolutive NP" [2]. Thus, it can be seen that the rule that forms cleft sentences is sensitive to the ergative/absolutive relations in that ergative NP's cannot be clefted; or, using Dixon's terminology, A's cannot be clefted unless they are first put into derived S function. What has just been seen for clefting is also true of relative clause formation and WH-question formation; as can be seen in

(16) ja Ø-w-il xna7n (ye)
prox.past 3sAbs-1sErg-SEE WOMAN (THE)
m-Ø-u7l
prox.past-3sAbs-ARRIVE HERE
'I saw the woman who arrived'

(17) ja Ø-w-il b'u7y (ye)
RAG
n-Ø-x-tx'aj xna7n
prox.past-3sAbs-3sErg-WASH WOMAN
'I saw the rag that the woman washed'

(18) ja Ø-w-il xna7n (ye)
n-Ø-tx'aj-oon b'u7y
prox.past-3sAbs-WASH-suff
'I saw the woman who washed the rag'

(19) na7 m-Ø-u7l
WHO prox.past-3sAbs-ARRIVE HERE
'who arrived?'

(20) na7 m-Ø-Ø-b'iy yaaj
WHO prox.past-3sAbs-3sErg-HIT MAN
'who did the man hit?'

(21) na7 m-Ø-b'iy-con yaaj
WHO prox.past-3sAbs-HIT-suff MAN
'who hit the man?'

Dixon (1979) attempts to set up a universal typological framework for explaining ergativity in the world's languages. According to this framework, morphological ergativity is just one of a number of possible ways by means of which a language can distinguish between the A and O of a transitive sentence. In Aguacatec, then, A's and O's are distinguishable both by the VSO word order and the verb agreement, which crossreferences A's with ergative prefixes and O's with absolutive prefixes. The S, which occurs only in intransitive sentences, and is therefore easily distinguished from the A's and O's, is generally crossreferenced by an absolutive prefix, thus manifesting morphological ergativity. We have also seen that there are a few environments in which S's are crossreferenced by means of an ergative prefix; however, it can be seen that A's are still clearly distinguished from O's here also. Syntactic ergativity, on the other hand, depends on the notion of "pivot". According to Dixon, some syntactic rules universally treat A's and S's alike. There is, however, a class of "generalized transformations" (in the sense of Chomsky 1957), which operate to form coordinate and subordinate constructions. Depending on the language, these rules may treat S's and A's alike, in which case it is said that the rules operate on an "S/A pivot", or they may treat S's and O's alike, in which case there is said to be an "S/O pivot". A language with an S/O pivot is said to have ergative syntax. Of the rules we have seen in Aguacatec, relative clause formation clearly involves the subordination of one clause to another. It was also noted that even in clefted sentences and WH-questions the verb takes the form it would have in a subordinate clause. Thus, these rules too can be viewed as cases of one clause (the one with the verb) being subordinated to another (consisting of the clefted or questioned constituent). It appears, then, that all three of these rules involve generalized transformations. It has also been seen that all three of these rules operate in terms of an S/O pivot. Aguacatec, therefore, could be fit reasonably well into Dixon's framework and can be said to have ergative syntax.

In another recent treatment of ergativity, Plank (1979) attempts to support the position that ergativity

"ultimately has to be accounted for in semantic and pragmatic rather than superficial morpho-syntactic terms." (p.4). In particular he makes the admittedly speculative claim (p.15) that in an "ergative construction" the "transitive patient" (= O) is the "grammaticalized topic", whereas in an "accusative construction" the grammaticalized topic is the "transitive agent" (= A). We shall now turn to an examination of certain functional notions in Aguacatec such as theme, contrastiveness, and given/new information. It will be seen that ergativity in Aguacatec is manifested in additional ways beyond those discussed by Dixon. Furthermore, it will be seen that these facts support Plank's position that ergativity must be accounted for in semantic and pragmatic terms. However, it will also be seen that Plank's specific claim that the O of an ergative construction is the grammaticalized topic does not hold for Aguacatec.

In looking at texts in Aguacatec one often finds the enclitic particle tz appended to certain words, though this particle seldom, if ever, occurs in eliciting sentences from an informant. When examples of it are pointed out to them in texts, native speakers generally claim that the particle does not have to be there but otherwise seem to be unable to explain what difference it makes if it is there. If nothing else this seems to indicate at least that this particle is optional. Though at first sight it seems to occur "scattered here and there" throughout a text, it is actually placed regularly according to a simple rule. Given that simple sentences consist of one or more of the following elements:

(22) (PARTICLES)+PREDICATE (+PARTICLES)+$\left\{\begin{matrix}A\\S\end{matrix}\right\}$
(+PARTICLES) (+O) (+OTHER CONSTITUENTS)

the particle tz, if it occurs at all, will be appended to the rightmost element of (22) excluding "OTHER CONSTITUENTS". The appearance of being scattered here and there is due to the fact that some of the elements of (22) are optional and some may not appear overtly even if present. For example, an A, though obligatory in a transitive sentence, may be pronominalized, in which case it appears only as an agreement marker on the verb. All of this suggests that whatever the function of tz may be, it probably refers to the clause as a whole and not just to the constituent to which it is cliticized.

As a first approximation to the function of tz, consider its use in the following excerpt from a text:

(23a) b'een tilool Lu7 ye teele7n tzaaj
HE-SAW-IT PEDRO THE ITS-LEAVING HITHER
chichoojc7n kob'ox ajpyaaj.
THEIR-PAY SOME MERCHANT
'Pedro saw some merchants(travelling salesmen) receiving their pay.'

(23b) xe7te7n tzun-tz tan xtxumle7n
HIS-STARTING THEN-tz TO ITS-BEING-THOUGHT
juun tajtzaa7ql,
ONE HIS-IDEA
'So starting to have an idea,'

(23c) niin tzun b'een ii7-tz tan k'otle7n
AND THEN HE-WENT HE-tz TO ITS-BEING-DUG
juun jul tzi b'ee7;
ONE HOLE AT-EDGE ROAD
'he went to dig a hole at the side of the road;'

(23d) niin kyaaj kyeen tq'ool q'aaq'-tz tk'u7l jul
AND HE-LEFT-IT FIRE-tz IN-IT HOLE
'and he left a fire inside the hole;'

(23e) kyaaj kyeen tq'ool sii7-tz;
HE-LEFT-IT FIREWOOD-tz
'he left firewood;'

(23f) niin tzun paqxij-tz.
AND THEN HE-RETURNED-tz
'and then he returned.'

(23g) ej ma ye kyopoone7n ye
AND WHEN THE THEIR-ARRIVING-THERE THE
e7 ajpyaaj qale7 xmuqe7-t
plural MERCHANTS WHERE IT-WAS-BURIED-particle
ye q'aaq',
THE FIRE
'And when the merchants arrived where the fire had been buried,'

(23h) niin tzun e7kuu7-tz
AND THEN THEY-DESCENDED-tz
'they sat down.'

Here it can be seen that the protagonist of the story, Lu7 Tzuu7 'Pedro Tecomate', is the subject of each of the principal clauses in (23a-g) (where "subject" is taken to mean 'either A or S'). Furthermore it can be seen that tz appears in each of these clauses except the first one. In (23g) the subject changes to 'the merchants' and tz does not appear. In (23h), however, the merchants are still the subject and tz reappears. Thus, it seems that tz functions as a "same subject" marker. This, in fact, accounts for most of the occurrences of tz remembering, of course, that native speakers judge its use to be optional and, thus, not every instance of same subject is marked.

There are, however, some occurrences of tz which cannot be characterized this way. For example, in the

same text, after telling how the merchants went crazy over what they saw, we find:

(24) tocke7n tzun chiycol ajpyaaj-tz
ITS-ENTERING THEN THEIR-WORD MERCHANT-tz
te7j
ABOUT-IT
'So the merchants, starting to discuss it,...'

Here, although we continue to talk about the merchants, tz cannot be interpreted as indicating same subject because ajpyaaj is not the subject but rather the possessor of the subject chiycol, which is here introduced for the first time. This suggests that perhaps tz does not mark same subject but rather same "theme", where theme is taken, following Kuno (1976), to be something like "what the sentence is about". As might be expected, the theme is usually the subject; however, there are some cases such as in (24) where this is not the case.

Another problematical example is

(25) ej niin tzun b'een naawloon tan
AND THEN HE-WENT NAAWLOON TO
je7se7n tzaaj chcklaat xe
ITS-BEING-RAISED HITHER CHOCOLATE IN
chikcc7k ye eequm kanteel
THEIR-CRATES THE CARRIER CANDLE
niin kuu7 q'aaq'-tz ta7n
AND IT-DESCENDED FIRE-tz BY-HIM
'And so the "naawloon" went to take the chocolate from the crates of the candle carriers, and he made a fire.'
(lit. '...fire descended by him.')

Here the subject of the last clause is q'aaq' 'fire', and tz is appended to this. However, this is the first time that the fire has been mentioned; therefore, tz cannot be marking q'aaq' as same subject. However, it seems clear that the subject of the first clause, naawloon, is the theme of that clause, and it seems likely that it continues to be the theme of the second clause in spite of the fact that it is not the subject but rather an oblique agent. Thus, once again tz can be taken to mean same theme. Another similar example is (26) from a passage about what a beekeeper did one day when he went out to get honey.

(26) niin cck tan telse7n tzaaj,
AND HE-ENTERED TO ITS-BEING-TAKEN-OUT HITHER
nooje7n t-etz tzuu7-tz tan kaab',

ITS-FILLING-UP 3sErg-Gen GOURD-tz BY HONEY
'And he began to take it (honey) out, the gourd filling up with honey,...'

Here, though the subject of the first clause is understood to be the agent of the action of the second clause, no agent is overtly expressed in that clause, neither as a subject or as an agent. Nevertheless, the beekeeper seems clearly to be the theme throughout the entire paragraph from which (26) is taken. Therefore, it does not seem unreasonable to assume that tz in (26) indicates that the beekeeper continues to be the theme in the second clause in spite of the fact that he is not explicitly mentioned [3].

We might consider another possible interpretation of these data, however. It might be that tz does indicate same subject but refers to deep subject rather than surface subject. This could perhaps account for all of the examples we have seen as long as we assume sufficiently abstract deep structures and rules for deleting underlying subjects. Alternatively, we could take tz to mean same agent. However, example (27) should show that tz must be taken to mean same theme.

(27a) poro xhchiwutz niin ajpyaaj ye
BUT IN-FRONT-OF-THEM THITHER MERCHANT THE
jee7n xtx'aanuul tiib' t-etz chi7b'aj
ITS-ROASTING 3sErg-Gen MEAT
tzwutz ye xaaruu7;
IN-FRONT-OF-IT PITCHER
'But it was right in front of the merchants that the meat roasted before the pitcher;'

(27b) xhchiwutz niin ye tooke7n xtxooliil
HIS-BEGINNING-TO-LINE-IT-UP
Lu7 ye 7waj te7j xaaruu7
PEDRO TORTILLA ABOUT-IT
'it was right in front of them that Pedro began to line up the tortillas around the pitcher;'

(27c) xhchiwutz niin ajpyaaj-tz ye jee7n
MERCHANT-tz ITS-RISING
sib'eel t-etz 7waj tan stz'e7e7n.
ITS-SMOKE 3sErg-Gen BY-IT ITS-BURNING
'it was right in front of the merchants that smoke came up from the tortillas from their burning.'

Here the tz in (27c) cannot be taken to mean same subject nor same agent since ajpyaaj is neither a subject nor an agent at any level but rather is the head of a locative noun phrase. Nevertheless, ajpyaaj does seem to be the theme throughout (27). Therefore, we can

conclude that there is a notion of discourse theme which is relevant to Aguacatec syntax and which is distinct from, though closely related to, the notion of subject. Furthermore, we can conclude that tz is an optional marker of the fact that a clause has the same theme as the previous clause.

Even this characterization of tz is not completely correct. We should note four complications that must be dealt with in any complete treatment of the use of this particle: (1) It is not always true that tz means 'same theme as the previous clause' since certain types of clauses are typically ignored in looking back at the "previous clause". Some instances of this can be found in the examples we have already looked at. One type of clause that is ignored is an object complement clause. Thus, when tz appears in (23b), it ignores the preceding object complement ye teele7n tzaaj chichoojo7n kob'ox ajpyaaj in (23a) and instead refers back to the theme of the matrix clause b'een tilool Lu7. In the same way, "purpose clauses" such as tan k'otle7n juun jul tzi b'ee7 in (23c) are ignored. Examples of this can also be seen in (23b), (25), and (26). Though adverbial clauses are generally not ignored in this way, they are ignored if they are embedded within another subordinate clause. Thus, the adverbial clause (23g) contains another adverbial clause qale7 xmuqe7t ye q'aaq' embedded within it and is itself embedded within the matrix clause (23h). The tz in (23h) ignores the most deeply embedded clause in (23g) but not the less deeply embedded clause ej ma ye kyopoone7n ye e7 ajpyaaj. All of this suggests that tz may operate under some kind of "command" type constraint such as has been used in explaining pronominal anaphora in English; however, this needs further study. (2) The second thing to note is that direct quotations are generally ignored in the same way as the clause types just discussed. (3) The third thing to note is that tz does not always refer back to the theme of the previous non-ignored clause. In some cases a clause with a particular theme may introduce a new theme near the end and then the next clause may contain tz if its theme is the same as this newly introduced theme. An example may be seen in:

(28a) niin kuu7 tq'ool-tz wi
AND HE-PUT-IT-DOWN-tz ON
txa7x ch'im tzwutz ye
GREEN GRASS IN-FRONT-OF-IT THE
xaaruu7 xhchiwutz e7
PITCHER IN-FRONT-OF-THEM plural
ajpyaaj.
MERCHANT

'And he put it on the grass before
the pitcher in front of the merchants.'
(28b) na chitze7een niin e7
THEY-WERE-LAUGHING THITHER plural
ajpyaaj-tz te7j
MERCHANT-tz ABOUT-HIM
'The merchants were laughing at him.'

Here, tz in (28a) indicates that the theme of that clause, Lu7 Tzuu7, is the same as the theme of the previous clause. However, at the end of that clause, the ajpyaaj 'merchants' are reintroduced; and tz appears again in (28b) indicating that the ajpyaaj continue as the theme of that clause. (4) The fourth thing to note is the above mentioned optionality of tz. It appears that tz tends to be used more often when the possibility of ambiguity may arise and less often otherwise. Thus, it tends to be used less often in non-third person discourse than in third person discourse with two or more participants mentioned. Even in this latter situation, tz seems to be used less often when the third person participants are consistently mentioned by name than when they are consistently pronominalized.

A full treatment of these details is beyond the scope of this paper, however. For our purposes here, it is sufficient to observe that the use of the particle tz is based on some notion of theme. Then, looking at examples of the use of this particle we can note some interesting facts about the distribution of themes in Aguacatec. We have seen that in most cases themes are subjects, that is, A's and S's. We have also seen that there are some cases where the theme is not the subject but rather some other constituent such as possessor of the subject as in (24), oblique agent as in (25), and head of a locative phrase as in (27). We have also seen a case in (26) where the theme does not even overtly appear in the clause, though it is understood to be the agent. What has never been found, however, in any of the texts that I have looked at, is a case where an O was a theme. Therefore, given that A's and S's are included in the set of possible themes, and O's are excluded, it can be said that themes in Aguacatec are distributed on a nominative/accusative basis. Furthermore, given that the notion of theme used here corresponds to Plank's notion of topic, it can be seen that Aguacatec does not conform to Plank's hypothesis that O's are grammaticalized topics in ergative constructions. In fact, in Aguacatec, O's are the one thing that can never be themes (or "topics" in Plank's terminology).

We will now turn to the examination of another morpheme, the relational noun -eetz. A relational noun

is a possessed noun stem which functions much like prepositions do in some other languages to indicate, e.g., locatives, oblique agents, datives, instruments, etc. The possessive prefix is coreferential with the head NP. The basic meaning of the relational noun -eetz is 'genitive', and may occur in constructions like

(29) xh-cheej (t-etz) yaaj
3sErg-HORSE 3sErg-Genitive MAN
'the man's horse'

(30) (q-etz) qa-cheej ~ qacheej qeetz
1pErg-Gen 1pErg-HORSE
'our horse'

As suggested by the use of parentheses in (29) and (30), -eetz is optional in these constructions. When -eetz is used it indicates contrastiveness in the same way as would adding heavy stress to the possessors in the English translations [4]. Sometimes -eetz is used without a head NP as a possessive pronoun as in:

(31) ye ka7l ya7stzun t-eetz
THE HOUSE THAT-THEN 3sErg-Gen
'the house is his'

(32) ej niin tzun jee7 tq'ool t-eetz wi txa7x ch'im
AND THEN HE-SET-IT 3sErg-Gen ON GREEN GRASS
'And he set his on the grass'

In (32), though not necessarily in (31), it seems that -eetz is also contrastive, indicating that of the possible things (in this case, pitchers) that we could be talking about, it was the one that belonged to him that he put on the grass. There are other uses of -eetz, however, that are not related to possession, as seen in

(33) ej jalchaan, niky' loo7 oor
AND DAWN WHAT dubitative HOUR
tiky'le7n t-etz Lu7,
HIS-HAVING-PASSED 3sErg-Gen PEDRO
kyiky'e7n-t ky-etz
THEIR-PASSING-particle 3pErg-Gen
ajpyaaj
MERCHANT
'and at dawn (who knows at what hour Pedro moved on?) the merchants moved on'

Here tetz Lu7 cannot be understood as 'Pedro's' nor 'of Pedro'; similarly kyetz ajpyaaj cannot mean 'the merchants'' nor 'of the merchants' [5]. It seems clear,

however, that the the use of -eetz in (33) has one thing in common with its use in (29), (30), and (32), namely, that it indicates contrastiveness. That is, what Pedro did is being contrasted with what the merchants did. Because of this, the English translation can be appropriately read with heavy stress on 'Pedro' and 'merchants' as indicated in (33).

Stress in English has other uses, of course, besides indicating contrastiveness. For example, in

(34) We got home late last night and found our front dóor open.

the heavy stress does not seem to indicate contrastiveness since the door is not being compared with anything else; but since we expect the front door to be closed, our surprise at discovering this unexpected situation is indicated by the heavy stress on door. In Aguacatec, -eetz is used in an analogous way:

(35) ma kyopoone7n, qopij taane7n
BUT THEIR-ARRIVING-THERE OPENED ITS-FORM
t-etz jul.
3sErg-Gen HOLE
'But when they arrived, the hóle was open.'

In fact, it seems that -eetz can generally be translated as heavy stress in English. However, the converse is apparently not true. For example, heavy stress can also indicate new information in English, as in

(36) Once upon a time there was a kíng. And
(new)
he lived with his family in a large cástle.
(given) (new)

However, -eetz is never used to introduce new information in Aguacatec unless it is specifically contrastive.

If we now examine the distribution of -eetz we find that it can be used with almost any NP. For example, we have seen -eetz used with noun possessors as in (29-30), and S's in (26) and (33). It also occurs with oblique agents, as in

(37) ...juun sweerte7j ntx'amx
ONE THIS-LUCKY-THING IT-WAS-CAUGHT
w-eetz wa7n
1sErg-Gen BY-ME

'(look at)...this lucky thing that I caught'

Examples of -eetz used with O's are extremely rare, but they do exist. One example was seen in (32), and two more can be seen in (38) and (39).

(38) niin b'aaj kyeen chitxooliil ye ky-etz
AND THEY-RELATED-ALL-OF-IT THE 3pErg-Gen
ky-ajb'il
3pErg-DESIRE
'and they related all of their wishes'

(39) kun piil ye w-eetz
GO TRY THE 3pErg-Gen
'(if you think your life is tough...)
go and try mine!'

Examples of -eetz used with A's are also fairly uncommon. One example is in the following, which is a common formula for beginning a story:

(40) at-Ø juun yool
EXIST-3sAbs ONE WORD
Ø-w-iit-naq w-eetz
3sAbs-1sErg-HEAR-remote past 1sErg-Gen
'there is a story that I have heard'

Here, however, it does not seem that -eetz is contrastive: it would not be appropriate for me to read the English translation with heavy stress on the pronoun 'I', singling myself out from the set of possible hearers of stories. The weetz in (40) seems to be functioning merely as some kind of non-contrastive pronoun in support of the ergative prefix on the verb. It should be remembered that the ordinary independent pronouns in Aguacatec are absolutives and are never crossreferenced by ergative prefixes. Another example is seen in

(41a) niin tzun b'een b'eq'ool,
AND THEN HE-SWALLOWED-HIM
'And then he (the animal) swallowed him
(the patrón),'

(41b) niin aaj junt tiirtz xe a7 chij.
AND HE-WENT ANOTHER TIME-tz IN WATER quotative
'and he went back into the water, they say.'

(41c) i tzun b'eene7n tilool t-etz
Focus THEN HIS-SEEING-IT 3sErg-Gen
moos ye b'eene7n t-etz
SERVANT THE HIS-GOING 3sErg-Gen
patroon tan txuk,
PATRÓN BY-HIM ANIMAL

'when the servant saw that the patrón had been taken off by the animal,'

(41d) niin tzun aajtz lajqe7l...
AND THEN HE-WENT-tz QUICKLY
'he (the servant) went quickly...'

In (41c) patroon is the S of the intransitive verb b'eene7n, and tetz is apparently used with this NP because of the unexpectedness of his being carried off by the animal. This use of -eetz, then, is like that seen previously in (35). It can also be seen in (41c) that tetz is used with moos, which is the A of the transitive verb b'eene7n tilool. Once again, however, the use of -eetz with this A does not seem to be for indicating contrastiveness. The servant is not being singled out from the set of possible viewers of this event; in fact, it is clear that he is the only one who could have possibly seen it. What -eetz seems to be doing here is signalling a shift to a new theme. It is clear that the animal was the theme in the preceding lines, and it appears that the servant becomes the theme in (41c) as demonstrated by the fact that the same theme marker tz appears in (41d). Not all cases of theme shift are marked by -eetz in this way (cf. the theme shift in 28), but it does seem that the majority of instances of -eetz used with A's do indicate theme shift as in (41). Whether the few other instances, such as in (40), can also be considered theme shift is not clear; however, what is clear is that -eetz never seems to be used to indicate contrasitiveness with A's. If an underlying A is to be made contrastive, it must be either clefted, as in (13), or made into an oblique agent of a passive and be preceded by -eetz as in (37).

It appears, then, that unlike thematization, which operates on a nominative/accusative basis, contrastiveness as marked by -eetz operates on an ergative/absolutive basis since S's and O's are included in the set of things that can be made contrastive, while A's are excluded. It should be remembered, however, that even though O's may be contrastive, as seen in (38) and (39), there seems to be a great reluctance to do this in practice. Usually underlying O's which are to be contrastive are first put into derived S function as was seen in (41c) with tetz patroon.

We shall finally take a very brief look at the introduction of new information. New information is often introduced by means of the "existential predicate" at 'there is/are; to be in a place' followed by a quantified noun phrase. The most common quantifier is the number juun 'one', which also functions much like an indefinite article. An example of this construction was seen in (40). Arguments of at are always

crossreferenced by means of absolutive suffixes. New information can be introduced in numerous other ways, however. For example, in (23a) kob'ox ajpyaaj 'some merchants' is introduced as the possessor of an S. In (23c) juun jul 'a hole' is introduced as the possessor/S of a "passive infinitive". In (23d) q'aaq' 'fire' is introduced as an O. In (25) q'aaq' 'fire' is introduced as an S. What is never found, however, is new information introduced as a surface A; ergative subjects of transitive verbs are always given NPs. Thus, since S's and O's may be new, but A's never may be, it can be seen that new information, like contrastiveness, but unlike thematization, is distributed on an ergative/absolutive basis.

It has been seen, then, that if we examine functional notions such as contrastiveness and new information, we find that ergativity is manifested in Aguacatec in other ways besides verb agreement and choice of syntactic pivot. Furthermore, it appears that Plank's claim that ergativity can be accounted for in pragmatic terms is true, at least in Aguacatec. In this conection, it should be noted that one of the ergative syntactic rules we have seen is that which derives cleft sentences, and it is clear that clefting is another way of indicating contrastiveness. Furthermore, looking at the morphology of relative clause formation and WH-question formation, it appears that these two rules and the clefting rule are one and the same rule. This is not entirely unreasonable since cleft sentences, relative clauses, and WH-questions all deal with identifying a particular member from a set of possibilities; and this is essentially what contrastiveness is all about too. Thus, it makes sense that these rules, which all seem to involve contrastiveness, should operate on an S/O pivot since, as we saw in the discussion of -eetz, contrastiveness in general is restricted such that it can apply to S's and O's but never to A's. It is also interesting to note that the reluctance to make O's contrastive with -eetz seems to have spread to relative clause formation. We saw in (17) that O's may undergo relativization; and while (17) is a perfectly acceptable sentence, there seems to be a tendency not to use this construction but rather put the underlying O into derived S function before relativizing it, thus forming sentences like

(42) ja Ø-w-il b'u7y (ye) n-Ø-tx'aj-x
prox.past-3sAbs-WASH-passive
t-an xna7n
3sErg-Agent WOMAN
'I saw the rag that was washed by the woman'

As for the ergative verb agreement, we might speculate that this too can be accounted for in pragmatic terms. We have seen that thematization in Aguacatec has a nominative/accusative basis, but the verb agreement system does not seem to be based on this as it apparently is in some other languages. The reason for this might be as follows: Surface A's in Aguacatec seem to be subject to numerous restrictions, as we have seen. They may or may not be themes, and they may be given, but they may never be new nor contrastive. O's may not be themes, but they may be either given or new and either contrastive or non-contrastive. Surface S's, unlike the others, seem to be under no restrictions whatsoever. They may or may not be themes, may or may not be contrastive, and may be either new or given. Thus, since O's have fewer such restrictions on them than do A's, there is a sense in which they bear a greater "family resemblance", in the sense of Rosch and Mervis (1975), to S's than do the more marked A's. And it may be at least in part for this reason that S's and O's are categorized in the same way in the verb agreement system while A's are treated differently, thus giving rise to morphological ergativity [6].

FOOTNOTES

[1] Aguacatec is spoken by about 15,000 people in the "municipio" of Aguacatán, Department of Huehuetenango, Guatemala. The sources of the examples given in the paper are: exx. (1-21, 29-31, 42) from the author's field notes; exx. (23-24, 27-28, 32-33, 35) from a text entitled "Juun Xtxoolb'il ye Xhe7n ku7n B'anaq Lu7 Tzuu7 Tyeemp Tzaaj" collected by Gaspar Méndez López of the Proyecto Lingüístico Francisco Marroquín, Huehuetenango, Guatemala; ex. (25) from an untitled text collected by Gaspar Méndez López of the PLFM; ex. (26) from a text entitled "Yi Aj Cabinl Tu Yi Umul" in McArthur (1973:12-13); ex. (37) from a text entitled "Lu7 Tzuu7 nin Paalee7" collected by Guillermo López Pérez of the PLFM; ex. (38) from a text entitled "Yi Jale'n Quipisio' E' Tx'i'" in McArthur (1973:31-34); ex. (39) from a text entitled "El Hombre Y El Zopilote" in Shaw (1972:279-282); exx. (40-41) from a text entitled "Aj Ranch Tc'u'l Txuc" in McArthur (1973:17-19). All examples are cited in a practical orthography developed by the PLFM (examples from McArthur 1973 and Shaw 1972 have been respelled to conform to this orthography). The symbols correspond to those used by most americanists with the following exceptions: b' = /ɓ/, ch = /č/, j = /h/, ky = /kʸ/,

tx = /ʧ/, tz = /ʦ/, x = /ʃ/, xh = /ʂ/, 7 = /ʔ/, VV = long vowel, ' = glottalization of previous consonant (except in b', see above).

[2] An "absolutive NP" is one that can trigger absolutive agreement with a verb. Similarly, an "ergative NP" is one that can trigger ergative agreement with a verb.

[3] There is actually nothing strange about this considering that there are clauses in English, such as those which have undergone "EQUI-NP Deletion" among others, which are "understood" as having the same subject as the previous clause in spite of the fact that no subject is explicitly mentioned.

[4] See Chafe (1976) for a discussion of contrastiveness. Note that in (29) possession is marked both by tetz and by the possessive prefix on the possessed noun. There is another construction, similar to (29), in which -eetz is obligatory and in which there is either no possessive prefix on the possessed noun, or there is a possessive prefix which is not coreferential with the possessor of -eetz. This construction is used when the relation between the possessed noun and the genitive is not, strictly speaking, one of possession. In such cases, -eetz is not contrastive:

(i) juun maap t-etz tnum
ONE MAP 3sErg-Gen TOWN
'a map of the town'

(ii) na eel qa-txuum t-eetz
IT-LEAVES OUR-KNOWLEDGE 3sErg-Gen
'We know about it' (lit. Our knowledge of it leaves')

Note that the vowel of -eetz shortens when followed by its head noun. The use of -eetz illustrated in (i-ii) corresponds to the way its cognates are used in other Mayan languages. The use illustrated in (29-30) is apparently an innovation in Aguacatec.

[5] Actually, given that the verb forms tiky'le7n and kyiky'e7n in (33) are nominalizations, one might argue that -eetz does have something to do with possession even here. However, the nominalized verb forms in (33) result from the clefting of adverbial phrases before verbs in the indefinite past tense. If the verbs had been in some other tense, they would not have been nominalized; however, -eetz could still be used here.

[6] Farrell Ackerman has pointed out to me that, since all Mayan languages have split-ergative verb

agreement, one can not legitimately make the claim being made here unless it can be shown that other Mayan languages distribute themes, new information, and contrastiveness in the same way as Aguacatec such that these distributions can be reconstructed for Proto-Mayan. Otherwise, one would have to claim that each Mayan language developed ergative verb agreement independently for different reasons, which is not likely. My impressions of the few other Mayan languages that I know something about suggest that it is likely that these functional parameters are distributed as in Aguacatec. However, further investigation is obviously required to resolve this issue.

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The Abstract Consonant in Seri*

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0. Introduction

An important issue within phonological theory has been, and continues to be, the question of abstractness. In this paper a case is presented for positing an abstract consonant in Seri, a Hokan language of northwestern Mexico. It will be shown that the motivation for this analysis is multiple and that by standard criteria such a solution is preferable to a concrete analysis. The identity of the consonant cannot be determined, however. This fact makes the abstract analysis for Seri especially significant as it means that various proposed constraints on underlying forms cannot be maintained. The significance of these facts for nontransformational frameworks will also be discussed.

1. Regular verbs

The forms in (1), cited with third person singular subject and object (where applicable), illustrate the four groups into which the verbs often divide themselves. The grammar of Seri repeatedly pays strict attention to the root-initial segment. Therefore there is no question whatsoever what the URs of the morphemes are, in spite of the complicated allomorphy. The verb forms in (1) are representative of the language; other inflectional prefixes which pattern similarly to those in (1) could be cited (see Marlett 1981).[1,2]

(1)	Root	Neutral /t-/	Irrealis /si-/	Distal /yo-/	Infinitive
a. Short low vowel					
'sew (basket)'	-ap	i-t-áp	i-sí:-p	i-yó:-p	i?á-p
'used up'	-eme	t-éme	sí:-me	yó:-me	iké-me
b. Consonant					
'look for'	-ka:	i-t-ká:	i-s-ká:	i-yo-ká:	i?a-ká:
c. Round vowel, intransitive					
'arise'	-otx	t-ótx	s-ótx	yátx	ik-ótx
d. Other vowel					
'stir'	-o:nɬ	i-t-ó:nɬ	i-s-ó:nɬ	i-y-ó:nɬ	i?-ánɬ
'raw'	-is	t-ís	s-ís	y-ís	ik-ís
'pound'	-a:fk	i-t-á:fk	i-s-á:fk	i-y-á:fk	i?-á:fk
'hear'	-i:	i-t-í:	i-s-í:	i-y-í:	i?-é

The rules needed to account for the allomorphy in (1) are given below. First, Short Low Vowel Deletion (2), illustrated by most of the forms in (1a), deletes a stressed low vowel when it follows a prefix vowel, the latter lengthening (and sometimes harmonizing) under certain conditions.[3]

(2) Short Low Vowel Deletion: $V_1 + \begin{bmatrix} +lo \\ -lng \\ +str \end{bmatrix}_2 \Rightarrow [+str]_1 \ \emptyset_2$

Second, Coalescence (3) merges two o's into a single short a if the clause is superficially intransitive, as in the distal form of 'arise'.

(3) Coalescence: $V_{[+rd]1} + V_{[+rd]2} \Rightarrow \emptyset_1 \begin{bmatrix} +lo \\ -lng \end{bmatrix}_2$

Many verbs occur in pairs: transitive, with an object nominal implied or expressed; and detransitivized, without such an object nominal. The detransitivized forms of nonderived verbs are marked with the morpheme /-o-/, which immediately precedes the root. Consonant-initial and short low vowel-initial roots are illustrated by the forms in (4).

(4)					
'point at'	(T)	i-t-tís	i-s-tís	i-yo-tís	i?a-tís
	(D)	t-o-tís	s-o-tís	ya-tís	ik-o-tís
'swallow'	(T)	i-t-ám	i-sí:-m	i-yó:-m	i?á-m
	(D)	t-ó:-m	s-ó:-m	yá-m	ik-ó:-m

Note that Coalescence (3) has applied in the derivation of the forms yatís 'he pointed' and yám 'he swallowed' from underlying /yo-o-tis/ and /yo-o-am/.

Third, Vowel Deletion (5) applies elsewhere when two vowels are juxtaposed, as in most of the forms of (1d).

(5) Vowel Deletion: $V \rightarrow \emptyset \ / \ \_\_\_ + V$

Fourth, i-Deletion (6) results in the vowel of the irrealis prefix (and of other prefixes) being lost before a consonant.

(6) i-Deletion: $i \rightarrow \emptyset \ / \ C \ \_\_\_ + C$

Finally, the 'transitive' allomorph of the infinitive prefix carries an ablaut trigger which lowers and shortens a morpheme-initial high vowel. The rule is given as (7).

(7) Ablaut (morphologically triggered): $V_{[-lo]} \rightarrow \begin{bmatrix} +lo \\ -lng \end{bmatrix} \ / \ + \ \_\_\_$

The detransitivizer /-o-/ also carries an ablaut trigger, as shown by the forms in (8). Ablaut (7) bleeds Coalescence (3).

(8)								
'defeat'	(T)	i-t-íši	i-y-íši	'delouse'	(T)	i-t-ói	i-y-ói
/-iši/	(D)	t-éši	y-éši	/-oi/	(D)	t-o-ái	yá-ai

Vowel Deletion (5) unexpectedly does not apply in the derivation of forms such as toái 'he deloused' from underlying /t-o-oi/. The morpheme /-o-/ must be marked [-Vowel Deletion (5)] under certain conditions. Coalescence (3) also unexpectedly does not apply in the derivation of forms such as yéši 'he defeated' from underlying /yo-o-iši/. A rule deleting the morpheme /-o-/ under certain conditions before the application of Coalescence would give the correct results. (See Marlett 1981 for more details.)

2. 'Irregular' verbs and a concrete solution

There are twenty-some verbs that do not pattern like the verbs discussed above.[4] Their behavior is illustrated by the forms in (9). Their aberrant characteristics will be explained by developing a concrete rule-feature solution which is presented in (10).

(9)	'hard'		ttáX	ssáX	yoáX	ikáaX
	'red'		ttí?Wx	ssí?Wx	yói?Wx	ikái?Wx
	'argue'		ttół	ssół	yóoł	ikáoł
	'suck'		ittótš	issótš	iyóotš	i?áotš
	'feel'		ittí:	issí:	iyói:	i?ái:
	'grind'	(T)	ittíšx	issíšx	iyóišx	i?áišx
		(D)	tóišx	sóišx	yáišx	ikóišx

If these verbs are assumed to have vowel-initial roots, they appear to be exceptions to Short Low Vowel Deletion (2), Coalescence (3), Vowel Deletion (5), and Ablaut (7). They also behave differently with respect to the complication involving the deletion of the detransitivizer /-o-/ which was discussed at the end of §1. A minor rule would be necessary to delete the vowel of the prefix /si-/ before these roots. Finally, a minor rule is needed to account for the gemination which is a notable characteristic of these verbs.[5]

(10)	[-SLV Deletion]	Regular:	/i-yo-ap/	→	iyo:p	'sew'
		Irregular:	/yo-aX/ (?)	→	yoaX	'hard'
	[-Coalescence]	Regular:	/yo-otx/	→	yatx	'arise'
		Irregular:	/yo-oł/ (?)	→	yoół	'argue'
	[-Vowel Deletion]	Regular:	/i-yo-i:/	→	iyi:	'hear'
		Irregular:	/i-yo-i:/ (?)	→	iyoi:	'feel'
	[-Ablaut]	Regular:	/i?a-i:/	→	i?e	'hear'
		Irregular:	/i?a-i:/ (?)	→	i?ai:	'feel'
	re: /-o-/	Regular:	/yo-o-iši/	→	yeši	'defeat'
		Irregular:	/yo-o-išx/ (?)	→	yaišx	'grind'
	Minor i-Deletion	/si-aX/ (?) → ssaX 'hard'				
	Minor rule needed to account for gemination					

3. An abstract solution

The concrete rule-feature solution outlined above has assumed that the geminating verbs have vowel-initial roots. If that assumption is not granted and consonant-initial roots are posited instead, the analysis would be quite different. First of all, the fact that

the behavior of these verbs is not like that of other vowel-initial roots is immediately explained. Second, the geminate consonant clusters can be handled by a phonological rather than morphological rule. With the symbol Q representing the initial consonant of these roots, the following assimilation rule derives ttáX from underlying /t-QaX/.

(11) Q-Assimilation: $Q \rightarrow C_i \; / \; C_i \; [+cns] \; \_\_$

(Q does not assimilate to a glottal stop, as will be seen below.) Third, the consonant-initial root also makes the minor i-Deletion rule unnecessary since i-Deletion (6) deletes prefixal i's before consonants. Thus underlying /si-QaX/ becomes ssáX by i-Deletion (6) and Q-Assimilation. The only extra rule necessary, a rule of absolute neutralization, deletes Q in all other contexts.

(12) Q-Deletion: $Q \rightarrow \emptyset$

By ordering rule (12) appropriately, all of the supposed exceptional behavior of these verbs disappears.

Since the concrete analysis and the abstract analysis make different claims about the phonological makeup of these roots, other evidence may be brought to bear on the question of which of these analyses is to be preferred. In the following sections I will present such evidence.

4. Additional evidence

Many of the prefixes in Seri display a considerable amount of suppletive allomorphy. While some is conditioned completely by syntactic or semantic factors (such as the infinitive prefix), and hence is not of interest here, much of it is conditioned by the phonological shape of the following morpheme. (Even when the suppletive allomorphs are phonologically similar, and especially when they are not, it would not be possible to derive the surface forms from one underlying form without positing totally ad hoc, morpheme-particular rules.) The arguments presented in §§4.1-5 are all of the following form: before consonant-initial stems allomorph X is expected; allomorphs Y and Z occur in other environments; in every case the abstract analysis makes the correct prediction as to which allomorph will occur with geminating verbs. A rule-feature analysis, on the other hand, does not make these predictions and must be complicated to account for each case. It is believed that this is the first time such evidence has been used in the abstractness debate. In §4.6 a final argument of a different type is presented.

4.1. Augment prefix

The augment prefix, a primary use of which is to add a causative meaning to a verb, has several suppletive allomorphs. The spell-out rule, with ordered clauses, is given as (13). Examples are given to the right of each clause.

(13) AUGMENT ⇒

a: [+Ablaut]	/	___ { C / [a: class] }	-a:-pókt	'make be full'
			-á:-?it	< /-a:-a?it/ 'make eat'
k [+Ablaut]	/	___ [k class]	-k-étk	< /-k-i:tk/ 'make drip'
a:k	/	___ V [+lo -lng]	-a:k-ánox	'make burn'
a:?	/	___	-a:?-á:s	'make dissolve'
			-a:?-óiɬ	'make blue'

The abstract analysis predicts that the allomorph which will occur with the Q-initial stems is the allomorph which occurs with consonant-initial stems: -a:-. Such is the case, as shown by the following forms: -á:-ɪ̄ʔWx 'make red', -á:-otoš-ot 'make suck'. The rule-feature analysis would have to mark these verbs as belonging to the [a: class] set of verbs since the allomorph -a:- is not expected before vowel-initial roots.

4.2. Passive prefix

The passive morpheme has two suppletive allomorphs whose distribution is basically determined by the phonological shape of what follows. The spell-out rule is given with examples in (14).

(14) PASSIVE ⇒

p [+Ablaut]	/	___ root[V	-p-éši	< /-p-iši/ 'be defeated'
a:?	/	___	-a:?-kášni	'be bitten'
			-a:?-a:?-ítaX	'be made to burn'

The abstract analysis predicts that Q-initial roots will take the allomorph -a:?- since they are consonant-initial. The concrete analysis predicts that these roots will take the allomorph -p- since it claims they are vowel-initial. The fact that the allomorph -a:?- and not -p- occurs supports the abstract analysis. Note the following forms: -a:?-áXš 'be hit' < /-a:?-QaXš/, -a:?-í: 'be felt' < /-a:?-Qi:/. (These forms also illustrate that the abstract consonant does not assimilate to a glottal stop.) The rule-feature analysis must mark these verbs as [a:? class] for the passive morpheme and the spell-out rule must be complicated accordingly.

The glottal stop of the passive prefix deletes by the following rule which is illustrated by the form ʔ-a:-sánx 'who was carried' < /ʔa-a:?-sanx/ and ʔi-ʔ-a:-kášni 'my being bitten' < /ʔi-ʔ-a:?-kašni/.

(15) ?-Deletion: ? → Ø / ? V ___ C

If it is the case that ?-Deletion applies before Q-Deletion, an additional argument may be made for the abstract analysis. The following examples show that this is indeed the case: ?-á:-otš 'what was sucked' < /?a-a:?-Qotš/, ?-á:-aXš 'what was hit' < /?a-a:?-QaXš/. The rule-feature solution must include an ad hoc minor rule deleting the glottal stop of the passive morpheme when the latter is preceded by a glottal stop.

4.3. Imperative prefix

The second person imperative prefix has a number of suppletive allomorphs. The spell-out rule, with ordered clauses, is given below with examples.

(16) SECOND PERSON IMPERATIVE ⇒

Ø / 1 SG OBJECT ___	i?po-Ø-sánx	'Carry me!'
	i?po-m-ó:kta	'Don't look at me!'
k / ___ NEGATIVE	k-m-ó:kta	'Don't look at him!'
Ø / 3 OBLIQUE ___ V [+lo, -lng]	kó:-Ø-mxk	/ko-Ø-amxk/ 'Take it to him!'
k / ___ V [+lo, -lng]	?e-k-ámxk	'Bring it to me!'
Ø [+Ablaut] / ___ V {[+lo], [+bac]} and the clause is superficially intransitive	átx	/Ø-otx/ 'Arise!'
	á:npX	/Ø-a:npX/ 'Return!'
? / ___	?-í:m	'Sleep!'
	i?-ká:	'Look for it!'

Note that when a glottal stop precedes a consonant at the beginning of an utterance, as in i?ká:, an i is inserted by the rule given as (17). (See Marlett 1981 for details.)

(17) i-Epenthesis: $\emptyset \rightarrow i$ / $\left\{ \begin{matrix} C \\ \# \end{matrix} \right\}$ ___ C C [+son]

Q-initial verbs behave like other verbs in cases where the first person singular object prefix occurs, in negative imperatives, or when detransitivized. Crucially, however, the abstract analysis predicts that these roots will take the allomorph ?- in other cases, never k- or Ø-. One would also expect that i-Epenthesis (17) might apply before Q-Deletion. Note that these expectations are fulfilled in the following data: i?-íšo 'Lift it!', i?-ámWx 'Be shiny!', i?-ótš 'Suck it!', i?-énx 'Play it!'. The rule-feature analysis does not make these predictions and hence these verbs,

or at least some of them, would have to be marked [? class] for imperatives in these situations. The spell-out rule would need to be complicated accordingly. Also, a minor rule inserting i would be necessary.

4.4. Action nominalizer

Under certain syntactic conditions, nominalized clauses occur using the forms shown below. The nominalizer has the following allomorphy, this spell-out rule also having ordered clauses.

(18) ACTION NOMINALIZER ⇒

Ø / ___ { V [+lo -lng]	ʔíː-Ø-fp	/ʔi-Ø-afp/ 'my arriving'
	ʔi-Ø-m-ótx	'my not arising'
	ʔi-Ø-p-étɬa	'my being poked'
C	ʔi-Ø-kóː X̌a	'my babysitting him'
? / ___ PASSIVE	ʔi-ʔ-aː-kášni	/ʔi-ʔ-aː-kašni/ 'my being bitten'
y [+Ablaut] / ___ V [+lo +bac]	and the clause is superficially intransitive	
	i?-y-átx	/ʔi-y-otx/ 'my arising'
	i?-y-áː?šX	'my sneezing'
? / ___	ʔi-ʔ-óːkta	my looking at it'
	ʔi-ʔ-áːfk	'my pounding it'

The abstract analysis predicts that Q-initial verbs will take the zero allomorph, but the rule-feature analysis does not make this prediction. Note that the following data confirm the abstract analysis once again: mi-Ø-ótš 'your sucking it', mí-Ø-išo 'your lifting it', mi-Ø-ótX 'your arguing (pl.)'. In the rule-feature analysis the geminating verbs must be specially marked to take the zero allomorph and the spell-out rule complicated accordingly.

4.5. Object nominalizer

Under certain other syntactic conditions, a nominalization referring to the object of the verb occurs. The major suppletive allomorphs of the object nominalizer are distributed by the following spell-out rule with ordered clauses.

(19) OBJECT NOMINALIZER ⇒

Ø / ___ NEGATIVE	mi-Ø-m-óːkta	'what you didn't look at'
Ø / ___ V [-lo -bac]	m-Ø-íp	'what you straightened'

y / ___ V [+lo +lng]	i?-y-á:šʸi	'what I carried'
o [+Ablaut] / ___	?-o-pí: /?i-o-pi:/	'what I tasted'
	?-o-ái /?i-o-oi/	'whom I deloused'
	?-ó:-p /?i-o-ap/	'what I sewed'

The abstract analysis predicts that affirmative Q-initial verbs will take the -o- allomorph and will not undergo Ablaut. The following data are therefore consistent with this analysis: ?-ó-i: 'what I felt', ?-ó-išx 'what I ground', ?-o-énx 'what I played'. The rule-feature analysis of course does not make this prediction and therefore must be complicated by marking many geminating verbs to take this allomorph when the negative morpheme is not present. The spell-out rule would also have to be complicated accordingly.

4.6. Third person oblique prefix

The Seri verb agrees with, among other things, certain oblique nominals. The third person oblique agreement prefix is /ko-/ but often occurs as k^w in surface forms. The rule accounting for the reduction of ko- to k^w- makes crucial reference to the presence or absence of certain consonants. Before a vowel or a single consonant followed by a vowel, for example, the allomorph k^w- always occurs: an k^w-áišk 'Come in (pl.)!', k^w-yo-pánšx 'he ran like him'. Before certain clusters the reduction of ko- to k^w- is blocked: ko-k-pánšx 'he who runs like him', ko-?-pánšx 'Run like him!'.

The abstract solution predicts that the abstract consonant could block the rule referred to above by being the second consonant of a cluster. The concrete analysis does not make this prediction. The existence of forms such as the following are therefore evidence in favor of the abstract solution: ko-?-áxš 'Hit him with it!', ko-?-íšx 'Pound it with it!'. In the rule-feature solution these roots must be marked as not providing the environment for the reduction rule.

5. Comparison of analyses; Identity question

It has been shown in detail how two different analyses would handle these data. The abstract solution posits an abstract consonant, an assimilation rule, and a rule of absolute neutralization. In the rule-feature solution developed, the geminating verbs must be marked with at least six minus rule features, four minor rules, and five special features to ensure correct suppletive allomorphy. The number of rule features in the concrete analysis is significant and increases proportionately to the number of prefixes considered. (It should be noted that the prefixes involved are inflectional affixes.) The rule-feature analysis is considerably more complex than the concrete counterparts to other abstract analyses that have been proposed.

If the abstract solution is rejected, not only must the lexicon be complicated by marking geminating verbs for numerous exception features, but the complexity of the spell-out rules must be greatly increased, and four minor rules must be added to the phonology. Moreover, to reject the abstract solution is to reject a coherent and unified account of the facts in favor of a solution which claims that the exceptionality of geminating verbs is due to an ad hoc collection of arbitrary exception features (of more than one type). In every case in which new allomorphic alternations were considered, the abstract solution correctly predicted the very facts which complicated the concrete solution.

If one concludes that the abstract solution is preferable, as is concluded here, two other facts should be noted. First, there is no evidence for the abstract consonant occurring anywhere but in root-initial position. Brame 1972 (54) suggests that one condition on abstract segments should be that they have a distribution similar to other root segments. Second, and more importantly, there is no evidence as to what the underlying features of this abstract consonant are, in spite of another condition on abstract segments proposed by Brame 1972 and Kisseberth 1969. There is no gap evidence, no phonotactic evidence, and no evidence from any of the phonological rules to point to what class of consonant it might belong. Therefore there seems to be no way to identify this segment with chameleon-like properties. Kenstowicz and Kisseberth 1977 (57-8) points out that cases of this type have been described elsewhere, but suggests that in those cases there is some doubt that the abstract solution is clearly favored. There are two alternatives. First, one could arbitrarily give this consonant an identity. Such arbitrariness is undesirable, however. Second, one could posit what would be essentially a contrasting archisegment, in violation of constraints proposed in Stanley 1967 (full feature specification) and Postal 1968 (the Naturalness Condition). Therefore if what appears to be the best solution is adopted, certain basic constraints on the framework must be relaxed. Thus the abstract analysis pushes the abstractness issue to its limits, and all the more so because of the number of arguments in its favor.

6. Other frameworks

The preceding arguments for the abstract consonant have been based on the comparison of two analyses within the framework of 'standard' generative phonology. In this section I will briefly demonstrate that the Seri facts are significant, even problematic, regardless of the framework.

Consider first of all the third of Derwing's (1973:207) 'learnability' constraints on phonological systems: 'We choose as basic that one [alternate] of the available candidates for each morpheme which is least specific, i.e. from which the greatest amount of specific phonetic or other information can be extracted ....This form is taken to be the lexical representation most appropriate to the phonological system.' With respect to the root meaning 'feel' in Seri, which has the surface allomorphs -ki:, -ti:,

-si:, -mi:, and -i:, what does this constraint suggest as an underlying form? I am unable to tell. It is also not clear how the suppletive allomorphy would be handled.

For a theory such as 'Word and Paradigm' morphology, the Seri facts are important since Matthews 1972 (370) states that for an element to qualify as a morphophoneme in his system 'it must, first of all, be assigned some set of classificatory features. The more these features are natural rather than arbitrary, the more (ceteris paribus) it is likely to be justified.' Although this framework, which does not entirely reject abstractness, is different from that of standard generative phonology, the problem is the same; the proposed constraints are too strong.

Finally, I will point out two problems which arise upon attempting to analyze the Seri facts in a nontransformational framework in which allomorphs are handled by lexical representations with disjunctive sets (Hooper 1976, Hudson 1980). The verb meaning 'play (violin)' in Seri would be represented as in (20).

(20) / { k / t / s / m / Ø } enx/ 'play (violin)'

The rule accounting for the distribution of the allomorphs is given informally below.

(21) { k / t / s / m / Ø } → { k / k + ___ / t / t + ___ / s / s + ___ / m / m + ___ / Ø / elsewhere }

The first problem emerges when an underlying form contains more than one disjunctive set which are interdependent. Hudson 1980 (122) has termed this situation 'alternation indeterminacy'. Consider the following representation of the imperative form i?énx 'Play it!' in which the lexical forms of the morphemes are juxtaposed.

(22) { Ø / i } { Ø / k / Ø [+Abl] / ? } { k / t / s / m / Ø } enx

The problem is that the choice of allomorph for the imperative morpheme depends on the following segment, and the form of the root-initial segment depends on the resolution of the preceding disjunctive set. While Hudson 1980 suggests some possible solutions for other cases of alternation indeterminacy, it is not clear how the

many instances of this problem in Seri would be resolved.

The second problem which these few facts present has to do with the nature of the lexical forms. If rule (21) is formalized in terms of features, it might appear as in (23) where [αF] is used as a cover term for all features.

(23) $$\left\{\begin{matrix} C \\ [\alpha F] \\ \emptyset \end{matrix}\right\} \rightarrow \left\{\begin{matrix} C & / & C & + & \_\_ \\ [\alpha F] & & \begin{bmatrix} +cns \\ \alpha F \end{bmatrix} & & \\ \emptyset & / & \text{elsewhere} & & \end{matrix}\right\}$$

Therefore the lexical form of 'play (violin)' would be (24).

(24) $$/\left\{\begin{matrix} C \\ [\alpha F] \\ \emptyset \end{matrix}\right\} \text{enx} /$$

Of course, it is immediately apparent that this analysis is essentially just as abstract as that proposed in the standard theory.[6]

7. Conclusion

An abstract analysis for Seri was motivated by demonstrating that otherwise at least fifteen ad hoc complications to the phonology would be required. The fact that the phonetic nature of the abstract consonant cannot be determined synchronically provides evidence that some proposed conditions on abstract analyses and underlying forms are incorrect. It was also demonstrated that frameworks other than standard generative phonology do not escape unscathed by these facts.

Footnotes

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[1]Most of the phonetic symbols used below have their normal values. Those that are exceptional or less standard are the following: e is a low front vowel, X is a voiceless back velar fricative; W is a slightly spirantized voiceless w. Also, for the sake of brevity, some of the rules are presented below in simplified versions.

[2]The prefix /i-/ occurs under certain conditions which are not simple to state. In the finite forms below it occurs when both subject and direct object are third person.

[3]Stress in Seri is assigned to the first vowel of the root. In some cases, including some of the forms in (9) below, the stress shifts in predictable ways to other vowels.

[4]The 'irregular' verbs which I have found are listed below, with the symbol 'Q' representing the abstract consonant that will be proposed. Intransitive verbs: /-Qa?/ 'make whistling sound', /-QamopXa/ 'lost', /-QamWx/ 'brilliant', /-QapXʷɬ/ 'brittle', /-QašaxoX/ 'latticed', /-QašoX/ 'perforated', /-QaX/ 'hard', /-Qi?Wx/ 'red', /-Qi:miX/ 'very much', /-Qoɬ/ 'argue', /-Qo:sx/ 'sprinkle'. Transitive verbs: /-Qaktim/ 'use, fix, touch', /-QaXš/ 'hit (with stick)', /-Qenx/ 'play (violin)', /-Qe:tni/ 'tap', /-Qim/ 'throw at', /-Qi:/ 'feel', /-QimoX̌/ 'think', /-QiXo/ 'lift (heavy item)', /-QiX̌x/ 'grind (to pulp)', /-QotX̌/ 'suck'.

[5]These phonetically long consonants must be interpreted phonologically as geminates and not long consonants since they provide the necessary conditions for i-Epenthesis (17) and another rule inserting o. Also see §4.6.

[6]Other facts of Seri present serious problems for this framework. To account for less esoteric problems in Seri phonology/morphology, this framework would apparently have to resort to extrinsic rule ordering also, among other undesirable things.

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Question Strategies and Hierarchies of Grammatical Relations in Kinyarwanda*

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1. This paper will discuss two strategies for "WH"-question formation in Kinyarwanda and the relevance of certain hierarchies of grammatical relations to these strategies. It will be shown in section 2 below, that in the Bantu language Kinyarwanda, there are two distinct strategies for forming direct Wh-questions. One, involving clefting and relativization, can be applied to any noun. The other, a 'substitution' strategy, substitutes without movement an interrogative for the questioned noun, is distinct from a relative clause-type structure, and cannot be used to question any surface subject. The existence of two strategies, one of which cannot be applied to subjects, results in a situation where subjects have less options open to them than objects. Constructs such as the Relative Clause Accessibility Hierarchy (Keenan and Comrie, 1977) and the Relational Hierarchy (Perlmutter and Postal, 1974, 1977), which will be presented in more detail in section 3 below, claim in general that subject is primary; that is, that there will be no operations which apply to grammatical relations lower on a hierarchy than subjects but do not also apply to subjects. Questioning in Kinyarwanda, therefore, could be viewed as a counterexample to these hierarchies because subjects cannot undergo a process which IS open to objects.

The claim of this paper will be that 1) the two question strategies are distinct both formally and in their communicative function, and that 2) because they are distinct and because of the nature of the hierarchies, only one strategy is in the domain of the hierarchies. It will be argued, then, that Kinyarwanda questions do not constitute a counterexample to the existing hierarchies of grammatical relations. Data paralleling the Kinyarwanda situation from the related language of Ci-Ruri which shows that Kinyarwanda is not an isolated instance of subjects being non-primary will be discussed. Finally, section 4 will conclude the paper with a general summary, with possible explanations for the restriction on subjects, and with questions which could lead to further research.

2. Question Strategies. This section contains data illustrating basic word order, declarative sentence structure, cleft sentence structure, and questions on subjects, direct objects and indirect objects. It also contains declarative relative clause structure, and examples of human and non-human subjects, transitive and intransitive and active and passive constructions.

Kinyarwanda is a Bantu language spoken by approximately seven million people in Zaire, Uganda and Rwanda; its characteristics include the common Bantu system of noun classes and noun class agreement markers, an agglutinative verbal complex, and some use of tone to mark syntactic distinctions of tense, clefting,

relativization, etc. There is some use of inherent lexical tone; the only crucial occurrence of tone is grammatical.

Basic word order in Kinyarwanda is S V IO DO, as shown in (1). Gary and Keenan (1977) and Kimenyi (1978) argue that there is only one object relation in Kinyarwanda which collapses the categories IO and DO. Because this is a controversial claim, and has been argued against by Perlmutter and Postal (1978), for the purposes of this paper we will continue to refer to both DO and IO.

(1) Basic Word Order

umugore	j - a -	haa - je	umwaana	igitaBo
woman	subj tns concord	give asp	child	book
S		V	IO	DO

'The woman gave the child the book.'

Subject concord is obligatorily marked on the verb in prefix-initial position. To question the direct or indirect object, the preferred strategy is to employ a question word - nde 'who' or ici 'what' - in the place of the questioned noun without changing word order; this strategy is shown in (2-3).

(2) Questioning DO

a. umugore jahaaje umwaana igitaBo 'The woman gave the child the book.'
   woman gave child book
b. umugore jahaaje umwaana ici 'What did the woman give the child?'
   woman gave child what
c. umugore jiše umunhu 'The woman killed the man.'
   woman killed man
d. umugore jiše nde 'Who did the woman kill?'
   woman killed who

(3) Questioning IO

umugore jahaaje nde igitaBo 'Who did the woman give the book to?
woman gave who book

It is also possible to cleft DO and IO questions. Non-questioned clefting for S, DO and IO is shown in (4).

(4) Clefting

a. ni - umwaana umugore jahάaje igitaBo 'It is the child the woman gave the book to.'
   is child woman gave (+tone) book
b. ni - igitaBo umugore jahάaje umwaana 'It is the book the woman gave to the child.'
   is book woman gave (+tone) child
c. ni - umugore u - ahάaje umwaana ititaBo 'It is the woman that gave the child the book.'
   is woman rel subj conc gave (+tone) child book

Clefting involves moving the focused noun to the front of the sentence, prefixing the copula ni to the noun, and adding high tone to the verb. Clefted DO and IO questions are shown in (5).

(5) Clefted DO and IO questions

a.	ni - ici umugore jaháaje umwaana is what woman gave child (+tone)		'What is it that the woman gave to the child?'
b.	ni - nde umugore jíše is who woman killed (+tone)		'Who is it that the woman killed?'
c.	ni - nde umugore jaháaje igitaBo is who woman gave book (+tone)		'Who is it that the woman gave the book to?'

Question words can be plural if the speaker has an idea that the person/thing being questioned is plural:

(6) Plural Question Words

a.	umugore jíše Ba - nde woman killed plu who		'Who-all did the woman kill?'
b.	umugore jíše Ba - ici woman killed plu what		'What-all did the woman kill?'

Questioning subjects in Kinyarwanda, however, does not follow the same pattern as questioning objects. As shown in (7),

(7) a. *nde jíše umunhu
who killed man

b. ni - nde u - íše umunhu 'Who is it that killed the man?'
is who rel killed man
subj (+tone)
conc

the subject of a sentence cannot be simply replaced by a question word. Subjects are obligatorily clefted. Furthermore, when the subject is thought to be human, the subject concord on the verb is u-, that used for the human noun class in relative clauses and clefts. (8) illustrates the ungrammaticality which results if the u- concord is not used.

(8) *ni - nde jíše umunhu
is who killed man
(+tone)

Declarative relativization of a human subject is shown in (9). Again, relativization of a human subject must employ the u- concord, as in (9a), not the non-relative j- subject concord as shown in (9b).

(9) Relative Clause Structure

a. ndaBona umugore u - a -háa - je umwaana igitaBo
I see woman rel tns give asp child book
subj (+tone)
conc
'I see the woman who gave the book to the child.'

b. *ndaBona umugore jahaaje umwaana igitaBo
I see woman gave child book

As was seen in (5) and (6), however, clefted object questions do not employ the u- prefix which signals relativization. This is because the u- prefix is only for the human noun class, and the non-humans have a relative clause subject concord which is identical to their non-relative concord.

The obligatory clefting and relativization of subjects holds for human and non-human subjects in questioning both transitive and intransitive sentences. The (c) sentences in (10-13) show the ungrammaticality of the substitution strategy applied to subjects.

(10) Non-human animate--transitive

a. igikooko c - iš - e umunhu 'The wild animal killed the man.'
wild animal subj c. kill asp man

b. ni - ici ciše umunhu 'What is it that killed the man?'
is what killed man

c. *ici ciše umunhu
what killed man

(11) Inanimate--transitive

a. urutare rg - iše umunhu 'The rock killed the man.'
rock subj killed man
conc

b. ni - ici cíše umunhu 'What is it that killed the man?'
is what killed man

c. *ici ciše umunhu
what killed man

(12) Human--intransitive

a. umugore jabḍinje 'The woman danced.'
woman danced

b. ni - nde u - abḍínje 'Who is it that danced?'
is who rel danced
subj (+tone)
conc

c. *nde jabḍinje
who danced

d. *nde u - abḍínje
who rel danced
subj (+tone)
conc

((12d) above shows the ungrammaticality of the substitution strategy on a subject even if the u- and the tone are present as in (12b).)

(13) Inanimate--intransitive

a. urutare rg - aguje 'The rock fell'
rock subj fell
conc

b. ni - ici cj - agúje 'What is it that fell?'
is what subj fell
conc (+tone)

c. *ici cjaguje
what fell

It has been shown above that all subjects must be clefted and relativized in order to be questioned. This is a property of subjects rather than agents for the following reasons: a) subjects of 'agentless' constructions like that in (14) still must obey the strategy, and b) patient subjects of passive sentences also must cleft and relativize, as shown in (15c), whereas agents in passives can follow the substitution strategy, as in (15f).

(14) a. umugore jaguje 'The woman fell'
woman fell

b. ni - nde u - agúje 'Who is it that fell?'
is who rel fell
subj (+tone)
conc

c. *nde jaguje
who fell

d. *nde u - aguje
who rel fell
subj
conc

((15a and b) illustrate declarative passivization.)

(15) a. umunhu jiše umugore 'The man killed the woman.'
man killed woman

b. umugore jiš - w - e na umunhu 'The woman was killed
woman kill pass asp by man by the man.'

c. ni - nde u - íš - we na umunhu 'Who is it that was
is who rel kill pass by man killed by the man?'
subj (+tone)
conc

d. *nde jiš - we na umunhu
who kill pass by man

e. *nde u - iš - we na umunhu
who rel kill pass by man

f. umunhu jiš - we na nde 'Who was the man killed
man kill pass by who by?'

It could possibly be the case that subjects can be directly questioned but that question words simply are prohibited from occurring sentence-initially. That is, when subjects which do not occur sentence-initially are questioned, is the substitution strategy available? The answer, as illustrated by the data in (16) below, is

"no". Even when subjects do not occur sentence-initially, the substitution strategy cannot be followed; the questioned subject must be clefted and relativized.

(16) a. umunsi umwe umugore jaḍgije kwasa inhwi
day one woman went to split firewood
'One day the woman went to split firewood.'
b. umunsi umwe ni - nde uaḍgije kwasa inhwi
day one is who went to split firewood
'Who went to split firewood one day?'
c. *umunsi umwe nde uaḍgije kwasa inhwi
day one who went to split firewood

The data in (16) provide yet more evidence that question strategies in Kinyarwanda must refer to SUBJECT rather than, say, position in the sentence. It has been pointed out by both Fred Householder and John Goldsmith that all of the above assertions about the necessity of referring to subject also refer to preverbal position in the sentence. That this is true does not, however, change the situation with respect to subjects. That is, subjects are always preverbal, and are always exempt from the substitution strategy.

3. Hierarchies. Based on the data presented above, it can be claimed that Kinyarwanda questions constitute a counterexample to the notion of the Relative Clause Accessibility Hierarchy (RCAH) and by extension also to the Relational Hierarchy (RH). This position crucially relies on treating "question formation" in a language as a set of operations unified by their "intent" in discourse.

3.1 First, however, the RCAH and the RH should be outlined and briefly discussed in order to understand the relevance of the question data.

Keenan and Comrie (1977) and Comrie and Keenan (1979) are the major proponents of the RCAH. They were concerned with formulating the regularity they observed in the cross-linguistic distribution of well-formed relative clauses, with making a single generalization about human language. The hierarchy they observed is the following:

(17) Relative Clause Accessibility Hierarchy
S > DO > IO > OBL > etc.

(17) with its associated constraints listed in (18), claims that if relative clause formation applies to a term lower on the hierarchy, it also applies to all terms higher on the hierarchy, and that relativization cannot apply to discontinuous portions of the hierarchy.

(18) Accessibility Hierarchy Constraint (Comrie and Keenan, 1979, p. 653)
a. If a language can relativize any position on the AH with a primary strategy, then it can relativize all higher positions with that strategy.

(18) b. For each position on the AH, there are possible languages which can relativize that position with a primary strategy, but cannot relativize any lower position with that strategy.

Although Keenan and Comrie present their hierarchy as an observation only about relative clause formation, they speculate that, as a construct of universal grammar, the AH should have considerably greater generality than its role in characterizing cross-linguistic patterns in relative clause formation. They mention that a second extension of the range of applicability of the AH is in determining cross-language restrictions on advancement processes. This extension is essentially the Relational Hierarchy of Perlmutter and Postal (1974, 1977) which was arrived at independently and with somewhat different motivation.

Perlmutter and Postal's theory of Relational Grammar crucially depends on the Relational Hierarchy. Relational Grammar, as explained by Johnson (1977), Kimenyi (1978), Trithart (1977), and others, was an attempt to provide a single principled cross-linguistic characterization of transformations such as the Passive by means of reference not to categories such as NP and V and word order, but to the grammatical relations of noun phrase arguments to the verb, such as subject and object. It was argued that 1) a universal description of passive would be the promotion of a direct object to the status of subject and the demotion of the original subject to a status which no longer bore any relation to the verb, and that 2) this characterization would hold for any human language regardless of basic word order or morphology. A universal characterization would then surpass a traditional transformational-generative account of the passive with its necessity for language-specific rules.

The claims of Relational Grammar depend in part on the Relational Hierarchy. As presented in Johnson (1977), Kimenyi (1978) and elsewhere, Relational Grammar claims that there are certain "terms" in grammatical relation to the verb of a sentence--subject (S), direct object (DO), indirect object (IO), and oblique objects (OO)--and that these are hierarchically arranged in the following order:

(19) Relational Hierarchy
S < DO < IO < OO

That is, indirect object has precedence over oblique object, direct object outranks indirect and oblique objects, and subject takes precedence over all other terms. 'Outranks' refers to the output of promotion processes such as passivization, which is said to promote a term up the hierarchy, so that if a language can passivize indirect objects, it must also be able to passivize direct objects. (passivization being a promotion of object to subject). The similarity of the RH with the RCAH cannot be overlooked.

Although Keenan and Comrie discuss only relative clause formation in regard to their hierarchy, and although the Relational Hierarchy was designed to explain certain cross-linguistic generalizations about relation-changing processes (clefting and Wh-questioning are not relation-changing operations; the terms involved do not change their relations to the verb), there is independent evidence from a number of other languages that Wh-questions bear a marked resemblance to relative clauses and/or cleft-focus constructions. Bokamba (1977) discusses questions in Dzamba, a Bantu language, and makes the point that Wh-questions look and behave like relative clauses. A similar claim is made for Ojibwe by Truitner and Dunnigan (1972). Kokora (1976) asserts that Wh-questions in Koyo cannot be syntactically distinguished from other focus constructions (p. 183). Trithart (1977) states that although relativization and cleft are not term-changing, "the relative accessibility of major noun phrases to relative clause formation, as well as to other 'focussing' operations like wh-question and cleft, is found to follow implicational relationships similar to those posited by the Relational Hierarchy." (p.4). Cole et al (1977) group Q-formation, Relativization and Topicalization together as all having the effect of marking an NP the most prominent element in its clause. Keenan and Hull (1973) show that relative clauses, Wh-questions and cleft constructions all are similar; they propose a principle to the effect that logically similar constructions are generally realized in syntactically similar ways.

It should be noted that all discussion of the hierarchies implies a "top-inclusiveness": if any term is to have a strategy or transformation applied to it, AT LEAST subject will be the undergoer. There is no mention of the option of a process applying to a segment of a hierarchy which does not include subject; say, to IO and DO but not to S. Cole et al observe that languages may differ as to how far DOWN the hierarchy a process will go, but no one proposes that subject will be excluded. In fact, Comrie and Keenan (1979) propose a universal, the Subject Relative Universal: All languages can relativize Subjects (p. 652). If, then, Wh-questioning and clefting are foregrounding operations (Schachter, 1973) like relativization, they might be expected to obey the same hierarchies as relativization, and obligatorily apply at least to subjects.

Now that the hierarchies and the theory of Relational Grammar have been presented, the apparent counterexample to them can be discussed. If both strategies for Wh-questions in Kinyarwanda, as presented in section 2, are viewed as a process sharing a communicative intent (a request for information to which an appropriate response would be a noun phrase), a process of "questioning", then they could be considered a serious counterexample to the RCAH and by extension also to the RH because of its striking similarity to the RCAH. That is, as stated above, it has been frequently claimed that questions should be in the same domain as relative clauses and other focus constructions; if this is the case, the

hierarchy governing such a domain would be expected to also govern questions. A counterexample of this sort would require a crucial revision of the RCAH; it would have even broader implications for the RH and Relational Grammar: the theory as a whole would be somewhat discredited if its most basic tenet were shown to be non-universal.

The above problem, however, relies heavily on considering the two question strategies to be a unified set of operations, that of 'questioning'. It will be argued below that the two Wh-question strategies are separate and distinct and must be treated as such by a theory of grammar.

3.2 It was illustrated in section 2 that not only are subjects exempt from the 'substitution' strategy, but the two strategies are quite different: the substitution strategy moves nothing and replaces a noun with an interrogative, while the other operation involves clefting (which includes movement) and relativization. It was shown in section 3.1 that this second strategy in which subjects may participate shares not only in Kinyarwanda but also in other languages both structural and logical (in the sense of Keenan and Hull 1973) properties with other focusing constructions such as clefts and relatives. Furthermore, this second strategy is the one which does NOT violate either the RCAH or the RH: subjects participate as well as objects. Does this strategy, then, functionally have more in common with the other question process, the substitution strategy, or with relative clauses and focus constructions? Syntactically the two question strategies differ. Their only common ground is the general one of all interrogatives: asking for information. The substitution strategy is neither a focusing construction like relative clauses nor a term-changing operation like passivization.

It is the claim of this paper that the substitution strategy is outside the domain of the Relative Clause Accessibility Hierarchy and the Relational Hierarchy because it is distinct from the focusing strategy. Hierarchies may not be able to refer to a general process of QUESTIONING in a language if such a process has two separate and distinct strategies as its component parts. Proponents of the RCAH and of Relational Grammar will have to recognize that languages may differ in how general syntactic processes like questioning are carried out and will have to recognize that perhaps for non-term-changing and non-focusing operations the hierarchies will be irrelevant. That is, a construct such as the Relational Hierarchy may not be without exceptions; it may be a tendency that languages follow FOR MOST PROCESSES rather than an absolute universal. If, however, the nature of the exceptions to the hierarchies can be predicted, the construct retains more of its original explanatory adequacy (c.f. Chomsky 1964) than if exceptions could not be predicted. In the Kinyarwanda question example, then, perhaps the prediction would be that questions which structurally and logically resemble other constructions (such as relative clauses) which DO follow the hierarchy will also be in the domain of the hierarchy.

Conversely, the predicted exception would be a question strategy which bears NO similarity to any other operation which follows the hierarchy. These are testable claims and predictions, and would profit from further cross-linguistic research.

In summary then, it has been claimed that Wh-questions in Kinyarwanda do not constitute a counterexample to the Relational Hierarchy as long as proponents of Relational Grammar recognize the validity of a general process like 'questioning' having separate and distinct strategies, strategies that cannot be unified under the Relational Hierarchy.

One might wonder whether Kinyarwanda is an unusual and isolated example of such restrictions on subjects. Data from the related Bantu language of Ci-Ruri indicates that this is not so. As in Kinyarwanda, questioned subjects must be preceded by the copula ni; interrogative words when replacing subjects cannot stand alone as they can for objects. It may be that other Bantu languages also exhibit this phenomenon, although a preliminary investigation of Swahili, SeSotho, Lingala, Zulu and Dzamba showed that those languages do not operate similarly to Kinyarwanda and Ci-Ruri with respect to questioned subjects.

4. Conclusions. This paper has shown that languages may have more than one Wh-question strategy. If a strategy produces questions which resemble relative clauses and focus constructions, the Relational Hierarchy should be followed. If a language has a question formation operation which does not resemble any other process independently shown to be in the domain of the hierarchy, then the hierarchy would be irrelevant.

As an attempt at finding possible explanations for the questioning restriction, it might be considered that directly questioning subjects might give rise to ambiguity, and that the language prohibits this by requiring subject clefting and relativization. Ambiguity should not arise, however, since only subjects can directly precede the verb; that is, a sentence like *nde jiše umunhu, 'who killed the man?' would never be interpreted as 'the man killed who?' because of the restriction on Kinyarwanda word order.

Another possible explanation concerns word order change. It has been claimed that Bantu languages were previously of the SOV word order; that is, that they were verb-final languages (Givon, 1974; Hyman, 1974). It has further been noted that SOV languages tend to use a substitution strategy for Wh-questions (Japanese is a prime example of this). It may be that the assymetry in questions in Kinyarwanda is an artifact of the word order change which the language has recently undergone (Linda Schwartz suggested these hypotheses). Both of the above proposals are tentative and will benefit from further research.

Other questions for further study might include: "What other kinds of operations are there that might exhibit distinct subparts, subparts that might behave differently with respect to the Relational Hierarchy and the RCAH?", "Why are subjects restricted to only one question strategy?", "What other operations are subjects

excluded from, and do any of these violate the hierarchies?", "Why would a language have more than one strategy for achieving the same intent, say, of asking for information?", and "What other syntactic structures select subjects?"

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Establishing Conversational Cooperation

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Conveyed meaning

Language is essentially a system of communication. In the paradigm case, we intend to communicate precisely what we say. And yet, as philosophers, linguists, and sociolinguists have often noted, in real-life conversations, far more is communicated than is actually expressed in words. For present purposes, we will talk about this level of meaning in a non-technical, catch-all sense as conveyed meaning.

Grice's theory of conversation

The first successful, systematic theory of conveyed meaning was developed by Paul Grice in his famous William James Lectures (1967). In these lectures, Grice develops a notion of conversational implicatures, within a more general theory of conversation. Conversational implicatures are for Grice a special class of conveyed meanings, which can be calculated on the basis of, and defined in terms of, the interplay between two basic notions. One is the notion of what is said, that is, what is strictly and literally meant by the particular words uttered, and which can be fully determined and explicated by a relatively unchanging theory of sentence-meaning. The second notion concerns what Grice calls the Cooperative Principle, which can be paraphrased as, "Make your conversational contributions suitable to the purposes at hand." A conversational implicature is roughly defined as whatever assumptions a hearer must make in order to render what is said consistent with the presumption that the cooperative principle is being observed.

Limitations of Grice's theory

For a number of reasons however, Grice's theory of conversation is only of limited value in studies of naturally occurring conversation. For one thing, and this is often overlooked in the literature in linguistics, Grice developed his theory in an attempt to defend the classical treatment of the so-called logical particles (e.g. "and," "or," "if..., then..."), especially in the face of objections raised by the ordinary language school of philosophy. Grice argued that certain non-logical features exhibited by these particles should be explained, not by an alternative conception of literal meaning, but by a theory of conversation. Grice then was not interested in a full blown, explanatory theory of conversation that would account for all types of conveyed meaning, but only in a theory specific enough to meet his narrower philosophical needs.

A more serious shortcoming in Grice's program lies in the fact that unlike the relatively fixed notion of sentence-meaning, the goals and directions of a conversation vary considerably, not only from one conversation to the next, but from one moment to the next

within the same conversation. And while Grice is well aware of the fluid nature of conversation, the successful application of the cooperative principle assumes that at any given moment in the conversation, the participants are mutually aware of the purposes at hand and hence know what would count as a suitable conversational move.

While this assumption of mutual awareness and consensus poses no problems for an a priori reconstructionist like Grice, for empirically minded linguists and sociolinguists, it raises far more questions than it answers. How do participants know at any particular stage in the conversation what moves are acceptable and what moves are not? What are the factors which enable participants to monitor, predict and influence the evolution of conversational purposes? How do the participants know when the purpose, direction, or topic has changed?

Without answers to these questions, we cannot give a fully explanatory, empirically based account of successful or unsuccessful instances of conversational implicature, as one of the key components in the calculation remains unexplained. Cooperation is possible only when there is some kind of shared purpose; but there can be a shared purpose only when participants successfully convey their own intentions and correctly judge the conveyed intentions of others. Our problem then is to expand Grice's general framework to include a theory of how intentions can be conveyed, and hence how shared purposes can be established and sustained interactively in on-going conversation.

Gumperz' theory of conversational inference

Gumperz' theory of conversational inference addresses itself to precisely these questions. It is an attempt to provide an account of the processes by which participants in a conversation recognize one another's intent and on the basis of which they then respond. Gumperz suggests that participants monitor and interpret conversational exchanges from two perspectives simultaneously, relying both on general expectations about speech activities or routines as well as on a moment by moment reading of conversational cues. By expectations about speech activities, we are referring to a culturally specific repertory of discourse schemata for such things as narrating, debating, lecturing, discussing, chatting, or more specific routines such as getting information from someone. (No taxonomy of these speech activities and routines has yet been adequately worked out.) These schemata constrain the range of possible conversational options with respect to topic selection, turn taking rights and obligations, politeness norms, etc. This level of discourse expectations is akin to Grice's general notion of conversational purpose and direction. And while speech activity schemata or a sense of purpose or direction do channel conversational moves and interpretive options, they are not sufficiently programmatic to determine at any given moment in a conversation, precisely what would count as a suitable move.

In order to translate general expectations into on-the-spot conversational inferences and moves, participants rely on a continual

reading of conversational cues. By conversational cues, we are referring to a range of linguistic and paralinguistic phenomena, such as lexical choice, formulaic utterances, prosody (including pitch contour, vowel coloration, rhythm, stress, pitch register), as well as nonverbal cues (such as nodding and eye-gaze direction). When interpreted in relation to syntactic and lexical choices, these cues serve two functions. First, they contextualize discourse, signaling what the appropriate schema is. Secondly, they provide information about how the discourse is tied together thematically, signalling such things as salience, contrastive emphasis, new versus old information, perspective, or topic shifts (Gumperz, Kaltman, & O'Connor; 1981).

The interplay between Grice's and Gumperz' approach can perhaps be most clearly seen through an illustration. Consider the following brief exchange:[1]

A: Have 'you seen Grice today?

B: No, I haven't.

Using a Gricean perspective, one would say that in answering A's question, B says (albeit eliptically) that he hasn't seen Grice, and conversationally implicates that he doesn't know where Grice is. The generation of the implicature can be rationally reconstructed in the following manner: A expects that B interprets A's question as not merely expressing an interest in B's recent perceptual history but rather as part of a broader attempt to locate Grice. Presuming B to be cooperating in A's endeavor, A can assume that B's negative answer to the question is all B can say in helping A achieve his goal; if he knew more, he would have said so. Therefore, B must not know where Grice is.

In order for an implicature to be generated in satisfying a mutual aim, cooperation must be assumed. But how is it that participants come to have a mutual aim in the first place? In this case, the shared aim (locating Grice) was achieved through B correctly judging A's intention in asking the question. But how was A's intention conveyed? It wouldn't do to say that A's intention was conversationally implicated because B's inference that A was trying to locate Grice was not an assumption required to make A's asking the question consistent with the presumption that A was cooperating over a mutual purpose. Rather it is the very inference made by B which established a mutual purpose over which they could then cooperate.

Gumperz' theory provides a systematic account of how A's intention was conveyed and how a shared purpose was arrived at, focusing on the conversational cues accompanying the words in the question and the schemata these cues evoke. From Gumperz' perspective, one would say that B judged on the basis of A's intonation (unmarked Yes/No question intonation) and facial expression (a serious, imploring look), that A was in need of help that an answer to his question might provide.

The role of conversational cues is especially apparent when compared with a case where the same question is asked with a dif-

ferent set of conversational cues:

A: Have ⸗you seen Gri⸗:ce today?!

B: ^No!

In this case, the cues (emphatic high rises on "you" and "Grice", with vowel elongation on "Grice") lead to a very different assessment of A's intent. Here it appears that A's purpose is not to locate Grice but rather to indicate that A knows something of mutual interest to both A and B, concerning Grice. In this case, when B says he hasn't seen Grice, he does not conversationally implicate that he doesn't know where Grice is. That is, knowing where Grice is is not relevant to A's purpose in asking the question and hence, no such implicature is generated.

Gumperz' approach then attempts to explain how it is that in each case, a separate purpose is evoked and in each case, B's utterance is interpreted against a background of that purpose. He suggests that conversational cues channel interpretation in one direction rather than another, allowing the hearer to identify the speaker's intent and respond in terms of it, and in this way establish a shared purpose over which they can cooperate. Thus whereas Grice provides a theory of how conveyed meaning is possible against a background of shared purposes, Gumperz offers an explanation of how participants come to share a sense of purpose or direction in the first place.

Interethnic communication

Research on interethnic communication by Gumperz (1976, 1977, 1978, 1980, etc.) and his students (Hansell & Seabrook, 1978; Young, 1980; Mishra, 1980) has documented systematic ethnic or subcultural differences in discourse at the level of conversational cueing and discourse schemata. This work suggests that conversational strategies and discourse conventions are acquired as a function of a speaker's long term interactive history as a member of a particular linguistic community and a particular network of associations. Where these networks differ, as among different ethnic or social groups, conversational cueing conventions and discourse schemata differ as well, even in cases where speakers may generally be thought to speak the "same language" and in fact have very similar grammatical intuitions.

Moreover, this work has shown that where participants do not share the same communicative background and expectations, conversational exchanges are often highly problematic, evidencing all the outward signs of lack of cooperation: interruptions, confusion, and misinterpretation of intent. These are of course not cases where participants simply "opt out" of the cooperative principle. Rather, in spite of their cooperative intentions, they are nonetheless unable to come to a mutual consensus as to what the conversational purpose or direction is and what the appropriate moves would be -- all of which is required to make the cooperative principle operative.

From the analyst's perspective, interethnic encounters often provide the clearest picture of the unconscious, systematic nature of conversational processes, highlighting the interactional work that generally goes unnoticed in smooth exchanges. It is in cases of

conversational discord or breakdown that the very processes that fail become highlighted.

But aside from providing useful data for conversational analysts, interethnic encounters are often cases where establishing cooperation is not merely a theoretical problem, but a practical problem with practical consequences as well. Moreover, as Erickson (1975) has pointed out, modern life offers certain "gatekeeping" encounters which determine access to occupation, official redress and educational opportunities. Within such key situations, group specific differences in discourse style assume great importance, because misunderstanding frequently results in misevaluation of ability or denial of access to some social opportunity. The study of interethnic communication in key situations then is of both theoretical and practical significance.

Intra- and interethnic encounters in a first grade classroom

The data that we will look at come from an integrated (half Black and half white) first grade classroom during one such key situation. The activity was called "sharing time" (also known as "show & tell" in some classrooms), where children were called upon to formally describe an object or give a narrative account about some past event to the entire class. The teacher, through her questions and comments tried to help the children structure and elaborate their discourse, encouraging them to be lexically explicit and assume no contextual or background knowledge on the part of the audience. As such, sharing time could be seen as a kind of oral preparation for literacy. However, where teacher and child did not share the same discourse conventions and narrative expectations, cooperation and collaboration were often unsuccessful. As a result, these children did not get the same kind of practice using literate discourse strategies as did other children. We will now examine in detail two examples of teacher/child collaboration at sharing time (one successful, one unsuccessful) in an attempt to study more systematically 1)the processes underlying cooperation, and 2)how such processes related to differential access to learning in this classroom.

Previous analyses of the children's discourse at sharing time (Michaels & Cook-Gumperz, 1979) suggest that Black and white children in this class used different discourse styles in giving narrative accounts, differences which could be traced to differing networks of communication and home-based narrative experiences. The white children tend to use a discourse style which has been called "topic centered," that is, tightly organized discourse, centering on a single topic or series of closely related topics. Prosodically, topic centered turns tended to evidence the following pattern: sustained rising tones were used to establish the scene or perspective. Changing tones (both rise-falls and fall-rises) were used to elaborate, and low falling tones were used in closing. This style closely matched the teacher's own discourse style as well as her notions about what constituted "good" sharing. In contrast to a topic centered style, the Black children (and particularly some of the Black girls) were far more likely to use a "topic chaining" style, that is, loosely structured talk which appeared to move fluidly from topic to topic, relating a series of person-oriented anecdotes. The topic chaining style was generally characterized by an absence of lexicalized connectives relating the

topics other than "and," without any explicit statement of an overall theme or point. While topic shifts were generally signalled prosodically (by means of a high holding pitch followed by a pause), this kind of discourse was difficult to follow both prosodically and thematically for those who, like the teacher, expected the narrative to focus on a single topic with clausal units marked off by sharp rising and falling pitches.

Interactive consequences

With children who used a topic centered style, Mrs. Jones was highly successful at recognizing the child's topic and expanding on it through her questions and comments. In the following example, a single topic, making candles at Day Camp, is introduced and elaborated upon.

1 Mindy: When I was in 'Da:y Camp / we made these/um candle:s /

2 T: You made 'them? /

3 Mindy: And uh / I-I 'tried it with 'different colors / with 'both

4 of them but / 'one just came out / 'this one just came

5 out blue / and 'I don't know /[what this color is /

6 T: 'That's neat-o //['Tell the kids 'how you do it from the

7 very start // Pre'tend we don't know a 'thing about candles

8 ...[OK // What did you do first? // What did you use? //

9 [Flour? //

10 Mindy: [Um ... there's some / hot 'wax / some real hot wax / that

11 you / 'just take a string / and tie a knot in it // and

12 'dip the 'string in the um wax //

13 T: What makes it uh have a shape? //

14 Mindy: Um / you just shape it //

15 T: Oh you shaped it with your hand // mm //

16 Mindy: But you have / 'first you have to 'stick it into the wax /

17 and then water / and then 'keep doing that until it gets to

18 the size you want it //

19 T: OK //'Who 'knows what the string is for? // ...

In this sharing turn, Mindy introduces her topic with temporal and spatial grounding (line 1), while holding up two small candles in her hands. She uses distinctive sharing time intonation (sustained rising tones and vowel elongation)[2], pausing after a low rising tone on "candles." The teacher, whom I will call Mrs. Jones, comes in at this point, saying "You made them" with a high rising contour on "made," signalling pleasant surprise, in the form of an echo question, as if to say "Oh my, did you really make them (by yourself, by hand)?" Mindy does not overtly respond to the question (i.e., she does not produce the cannonical Yes/No response to a Yes/No question). Instead she continues her discourse beginning with "and" in line 3, which suggests that this turn is directly linked to her previous turn. She goes on to talk about the color of the candles, a theme that bears little relation to Mrs. Jones' comment, in that it refers to an essentially peripheral step in the process of making candles. In lines 3-5, Mindy relies heavily on anaphoric pronouns ("it," "them") and deictic forms ("this," "this one"), which are by definition rooted in the context of speaking. There is minimal lexical elaboration, but because she is holding the candles up for everyone to see and gesturing with one hand and then the other, one would have no problem filling in the intended semantic information.

Mrs. Jones waits until Mindy pauses on a low falling tone (on "color") and reiterates her interest in the actual process, but this time, does so more explicitly. She provides a clear and elaborate set of guides for how she wants Mindy to talk about making the candles. "Tell the kids how you did it from the very start. Pretend we don't know a thing about candles." The last remark is of course an instruction to assume no shared knowledge and to be as explicit as possible. Mrs. Jones then pauses and gets no response. She rephrases her instruction as a question, "What did you do first?" She pauses again and follows with an additional clue by offering an obviously wrong answer to the question, which nonetheless suggests to Mindy an example of the type of answer she has in mind. "What did you use? ... Flour?" At this point Mindy responds, building upon the base which the teacher's questions have provided. She describes the materials she used ("hot wax") and the steps involved. In addition to a description of the sequencing of activities involved in the business of making candles, this passage introduces several context-free lexical items ("some hot wax," "a string," "a knot"). The use of lexical items provides explicit information about the activity and the materials used in candle making. This contrasts with the use in the preceding turn (lines 3-5) of anaphoric and deictic items which rely on context for interpretation. Additionally the use of definite and indefinite articles grammaticalizes the distinction between new and old information: "some wax" and "a string" become "the piece of string" and "the wax" (lines 10-12).

When Mindy pauses on a low tone, Mrs. Jones asks a further question about how one goes about shaping the candles (which had a wavy shape to them). Mindy responds somewhat uninformatively saying, "You just shape it." The use of "just" and the low falling pitch on "shape" (giving the utterance unmarked declarative force), conveys that how

how you shape it goes without saying. Mindy thus relies on her listeners to fill in what she left unsaid, that you simply shape candles with your hands. Mrs. Jones evidently has no difficulty understanding this conversational implicature. She begins line 15 with "Oh," as if to say "I see," and then repeats the gist of Mindy's utterance, making the implicature fully explicit.

Several things are notable about this episode as a whole. Most of Mrs. Jones' questions occur when Mindy pauses after a low falling tone. Such cues indicate some kind of closure. Hence Mrs. Jones' questions occur at the end of a complete unit and are not seen as interruptions. Furthermore, the teacher's responses and clarifications build collaboratively on Mindy's contributions. Finally, it is important to note that Mindy's discourse in response to Mrs. Jones' questions and comments is far more complex than the spontaneous utterances produced without Mrs. Jones' guidance.

Thus we can see in this example how cooperation is established and sustained without conscious effort. With a shared sense of narrative style, and coordination in the use and interpretation of conversational cues, participants arrive at a negotiated consensus as to conversational purposes and suitable moves. Teacher and child are able to cooperate, in rhythmically synchronized exchanges, maintaining a high degree of cohesion within and across turns. In this way, the teacher is able to build on the child's contributions and help her produce more focused and lexically explicit discourse.

With many of the Black children, on the other hand, the teacher appeared to have difficulty discerning the topic of discourse and predicting where the talk was going. Her questions were often mistimed, stopping the child mid-clause. Moreover, her questions were often thematically inappropriate and seemed to throw the child off balance, interrupting his or her train of thought. In the following example, we see how a mismatch in narrative schemata and a misreading of conversational cues creates a situation where cooperation ultimately breaks down.

1 T: Deena / I want you to share some- one thing / that's very important //
2 one / thing // from where you are // ... is that where you a:re // ...
3 is that where you were //

4 D: no //

5 T: OK //

6 D: um // ... in the su:mme:r / ... I mean / ... w-when um / I go back to
7 school / I come back to school / in Septe:mber / ... I'ma have a new
8 coat / and I already got it // ... and / ... it's / ... u:m / ... (...)
9 got a lot of bro:wn in it // ... a:nd / ... when- / um / and I got it
10 ye:sterday / ... and when ... I saw it / my um .. my mother was .. was
11 going some .. where / when my .. when I saw it / ... on the cou:ch / and
12 I showed my si:ster / and I was readin' somethin' out on .. on the ba:g /
13 and my bi:g sister said (...)

14 C: um close the door

15 D: my 'big sister said / Deena you have to keep that away / from Keisha /
16 'cause that's my 'baby sister / and I said no // ... and I said the
17 'plastic ba:g / ... because / ... um / ... when / ... u:m / .. sh-when th
18 um .. she was u:m (with me) / wait a minute / ... 'my / cou:sin and her
19 (...)

20 T: wait a minute // you stick with your coat now // I s-said you could tel
21 'one thing // ... 'that's fair //

22 D: 'this 'was 'about my c-

23 T: OK / alright / go on

24 D: this was-

25 D: and today / and yesterday when I .. got my coat / my cou:sin ran outsi:
26 and he (..) ran to 'tried to get him / and 'he / he he start- / ... an' wh
27 he 'get in- when he 'got in my house / ... 'he 'layed on the floor / and I
28 'told him to 'get up because he was cry:in' //

29 T: mm-what's that 'have to do with your coat //

30 D: h-'he ... 'becau- he 'wanted to go outside / but we .. couldn't // (exasper

31 T: why //

32 D: 'cau:se my mo:ther s-wanted us to stay in the house //
33 T: what does that have to do with your coat //
34 D: bec- um uh
35 C: (whispers)
36 D: because / .... 'I don't know //
37 T: OK // thank you very much Deena //
38 C's: (talking)
39 T: OK / do you understand what I was trying to do // Deena / I was trying t
40 get her to stick with one / ... thing // and she was talking about her /
41 C's: coat //
42 T: new /
43 C's: coat //
44 T: coat // it sounds nice Deena //

In this example, Deena begins her turn in line 6, explaining that she has already gotten a new coat that she will be wearing when she returns to school in the fall. Her discourse is rhythmically chunked, and marked by vowel elongation and high holding pitches, with no sharp intonational contours. From our analysis of Deena's other sharing turns and discourse in other settings, it is clear that this is not her typical narrative accounting style. Rather it appears to be discourse that serves to orient or qualify a person-oriented narrative. In line 9, her discourse changes rhythmically and prosodically into typical narrative style, a style we have identified in narrative

accounts during sharing time as well as in peer/peer conversations outside the classroom. As Deena shifts into narrative prosody, there is a corresponding shift in verb tense as well (from future and present tense verbs to simple narrative past). It appears that the early talk about her coat is a preamble or descriptive aside, setting the scene for a narrative account. There is further evidence that the preamble is separate from her narrative in that Deena says, "yesterday" with a marked rise-fall intonational contour. "Yesterday" with this intonational cue is used frequently by the children as a sharing time formula at the very beginning of a narrative account. In Deena's case, however, the formula occurs in the middle of her talk, just as she begins the narrative proper.

It appears that the teacher misses this transition to the narrative proper, seeing Deena's talk about the plastic bag and her sisters as peripheral but still loosely related to the topic of her new coat. But in line 18, when Deena begins to talk about her cousin, the teacher loses the thematic thread completely and interrupts her, telling her to stick with her original topic, her new coat. Deena responds, in line 22, that the talk about her cousin is in fact related to her coat. She even tries to make this connection explicit when pressed, saying, "and yesterday when I got my coat, my cousin ran outside." However, Mrs. Jones is looking for a lexically explicit, thematic connection, not a narrative listing of temporally contiguous events. Mrs. Jones continues to press for an explicit semantic link until Deena gives up and sits down. For Mrs. Jones, Deena's shift from the coat to her cousin was an unsuitable conversational move. For Deena, given her topic chaining schema, it was entirely suitable. Each was working within her own sharing schema, and without a shared sense of topic, direction, and a mutually shared prosodic signalling system, cooperation was unsuccessful.

Moreover, while no consensus as to topic or purpose was ever achieved, thus making cooperation impossible, neither of the participants saw the problem in this way. Mrs. Jones saw the problem as due to Deena's lack of planning, at the level of topic selection. When asked what she made of this and other topic chaining turns, she explained that children like Deena didn't really think about what they wanted to say in advance and were simply talking "off the top of their heads," thinking up things to say as they went along. This is the same response we get when we play topic chaining turns to other middle class informants.

From Deena's perspective, things looked quite different. In an interview with Deena, she reported that she was frequently interrupted during sharing time and felt quite frustrated by this. She sensed that the teacher was simply not interested in what she had to say, explaining, "she was always stoppin' me, sayin', 'that's not important enough' and I hadn't hardly started talking!" During the course of the interview, many of the unstated connections in her discourse were verbalized and clarified as well. Firstly, when questioned about the link between her baby sister and the plastic bag, Deena hesitated momentarily whereupon her 10 year old sister chimed in saying, "My mama say keep plastic out of Keisha's reach, 'cuz she might put it over her head," with which Deena quickly agreed. Secondly, Deena explained the link between her cousin and her new coat, saying that

her cousin was "a bad little boy, and when he came back in the house, he started to put his hands on my coat, and his hands was dirty!!" Thus it appears that for Deena, there was an intended semantic link between the coat and the two sub-anecdotes in the narrative, her baby sister and her cousin. In one case she was protecting a young child from the coat and in the other case, she was protecting the coat from a young, messy child.

Why Deena was unable to make these links explicit during the actual telling is not completely clear. It must be kept in mind however that from the time Deena first mentioned her cousin (line 18) until she sat down, she was interrupted twice mid-clause (lines 20, 23) and questioned three times (lines 29, 31, 33) by Mrs. Jones. There is evidence from other sharing episodes that this kind of questioning with topic chaining children often interferes with their train of thought, causing the child to stop talking or revert to one or two word responses. Deena may have had one idea in mind but was unable to express it in the face of Mrs. Jones' questions.[3] Thus in contrast to the interaction with Mindy, where the teacher's questions helped to focus and expand on the topic, with Deena, Mrs. Jones' questions served to disrupt and cut short the sharing turn. Deena did not get the same kind of practice doing literate-style accounting as did Mindy.

These two examples are not isolated incidents. Rather, they are representative of stable patterns of sharing time interaction over the course of the entire school year. Over time, this resulted in differential amounts of informal practice using literate discourse strategies for Black and white children in this classroom.

We do not mean to imply that the difficulty Mrs. Jones experienced with topic chainers like Deena was due either to prejudice or incompetence. She was, to the contrary, an excellent teacher, highly regarded by both her principal and fellow teachers. The consistent problems that Mrs. Jones had with certain children had to do, not with attitudes, but with automatic, unconscious processes at the level of discourse style, stemming from a systematic mismatch between teacher and child's conversational cueing system and narrative schemata. Such mismatches made it difficult to achieve the kind of consensus needed to make cooperation and synchronized collaboration possible. And as all too often happens in cases where no consensus is achieved, both participants interpreted the other as being somehow uncooperative. Cummulatively, this kind of disharmonious interaction may have serious repercussions for the child, resulting in a pattern of differential treatment and negative evaluation which in their turn, further diminish the student's access to learning opportunities.

Conclusion

In most of the work on conversation, whether philosophical or empirical, cooperation among participants has been seen as a starting point and assumed to be unproblematic. In contrast to this approach, we have suggested that establishing and sustaining conversational cooperation requires on-going interactional negotiation, whereby participants signal and interpret activity schemata and conversational cues in assessing one another's intent. Through our analysis

of sharing time exchanges, we have attempted to document the systematic nature of these processes as well as the conversational basis for breakdowns in cooperation, in those cases where participants do not share the same discourse expectations and signalling conventions.

* * * * * * *

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Endnotes

[1]Prosodic and paralinguistic cues are transcribed using a simplified form of a system developed by John Gumperz and his collaborators, based on the work of John Trim. In this system, speech sequences are first divided into tone groups, that is, continuous intonational phrases. A phase can be marked by a minor, non-final boundary "/" (signalling "more to come") or a major or final boundary "//". Within a tone group we indicate: 1) location of the nuclei (i.e., the syllable or syllables marked by change in pitch) "↘" low fall, "↗" low rise, "↗" high rise; 2) other accented syllables in the tone group, "ˈ" high, "ˌ" low; 3) paralinguistic features such as a) vowel elongation, indicated by ":" following the elongated syllable, b) shift to high pitch register "⌜" or shift to low pitch register "⌞" (both applying to the entire tone group), c) pausing: ".." indicating a break in timing and "..." indicating a measurable pause, d) speech rate: "acc." indicating accelerating tempo and "dec." indicating slowing down, e) loudness over an entire tone group is indicated by "f" (loud) or "p" (soft). Doubling of one of the above symbols indicates extra emphasis.

[2]In giving narrative accounts at sharing time, the children used highly marked, formulaic intonation. This "sharing intonation" was an integral feature of sharing discourse and occurred in no other classroom speech activities. In this classroom, the Black and white children used different but comparable intonation patterns, both clearly identifying the talk as sharing-talk. The contour used primarily by the white children was a gradually rising contour, stretching over the last word or two of a tone group. The accompanying utterance was often a syntactically complete, independent clause where an adult speaker would often use falling intonation. The contour used exlusively by the Black children occurred in exactly the same environments (independent clauses), and was characterized by vowel elongation and a lilting high rise with a mid-fall at the end. For some children, especially for those who used the second

contour, this sharing prosody involved rather sharp pitch modulations, giving the talk an almost sing-song quality.

[3]A more detailed analysis of this sharing turn can be found in Michaels (in press). On the basis of the interview with Deena, it might well appear to some that the term "topic chaining" is something of a misnomer. Further analysis of these turns indicates that these children do not actually skip from topic to topic in a random and unmotivated manner (as the term implies). Rather their discourse often consists of a series of subtly related anecdotes, all linked implicitly to some particular topical event or theme. Thus elaboration is characteristically anecdotal rather than descriptive. It is worth noting that while a topic chaining style does not match the teacher's sharing time expectations, similar styles have been reported among other minority speakers. For example, in a study of a group of Black adolescents in an informal discussion, Fred Erickson (1971) found that connections between themes had to be inferred from a series of concrete anecdotes, a mode of expression he called the "logic of the particular." Similar findings have been reported in a study of speech making styles of Native American college students.

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ANALOGICAL LEVELING AND CHILD MORPHOLOGY: THE CASE OF THE IRISH DEPENDENT

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In the past few years there has been a renewed interest in the influence of child language on language change. This trend is found in phonology (viz. Stampe (1973), Dressler (1974) and Drachman (1976)), and in syntax and morphology (viz. Baron (1977), Slobin (1977) and Bybee Hooper (1979)). The procedure common to many of these investigators has been to observe the order and manner of acquisition of some set of elements by children and infer from these general principles of historical development. Certain cross-linguistic developmental trends taken from Slobin (1973) are particularly suggestive of a connection between analogical leveling and acquisition processes: (1) Children prefer grammatical markers which are systematically related to meaning; (2) when multiple forms performing the same semantic function alternate on the basis of arbitrary formal criteria, children tend to select a single form for use in all environments; and (3) formal alternations are acquired late and tend to be eliminated in favor of more transparent sound-meaning relations. These tendencies correlate well with general principles of morphophonemic change and seem to continue to govern the morphological system in adulthood (Bybee Hooper 1979). In fact Bybee Hooper suggests that "the child's innovations will succeed in producing a change only if the speech community (including the adults) can view the innovation as compatible with the system as internalized in their own grammars." (p.42) Given the similarity of the analogical tendencies in adults and children, the child can not be implicated as the initiator of morphophonemic change solely on the basis of the correlation of acquisition processes with principles of analogical change. In this paper we will present evidence that analogical leveling in the adult system is initiated by the child in the early stages of language acquisition. Our evidence will consist of data from recent changes in the Irish verbal paradigm.

A few verbs in Irish distinguish 'absolute' from 'dependent' stems. Dependent stems occur after a series of particles, referred to as 'conjunct particles'. A list follows:[1]

(1)	ní	negative
	an	interrogative
	nach/ná	negative interrogative

go	complementizer
nach/ná	negative complementizer
go/a	indirect relative (i.e. where the relativized NP is a genitive or the object of a preposition)
nach/ná	negative relative
cá	'where'
mura/muna	'if not, unless'
sula/sara	'before, lest'
a	'all that, the one that'

The environments, then, for dependent stems include all negative contexts, yes/no questions and information questions with 'where', finite complement clauses, indirect relative clauses, and conjunct clauses following mura and sula. Absolute stems occur in all other environments, which is to say they occur in main, declarative, affirmative clauses, in relative clauses where the relativized NP is the subject or direct object, and following the great majority of conjunctions and question words.

Only a few verbs preserve the absolute/dependent distinction. The morphological relation between the stems is synchronically unpredictable; in a couple of cases the stems evolved from different roots. A list of absolute/dependent stems is found in (2). The forms given represent Classical Modern Irish:

(2)	absolute	dependent	
	atá	fuil	'is'
	is	ø	'is'
	dochí	feiceann	'sees'
	adeir	abair	'says'
	dogheibh	faigheann	'gets'
	dobheir	tabhair	'gives'
	doghní	déanann	'does'
	chuaidh	deaca	'went'

No modern dialect preserves all these stem alternations, though all dialects preserve some.[2]

Some examples illustrating the use of the absolute/dependent distinction are provided from Standard Modern Irish:

(3) a. chonaic Seán Seoirse — absolute
saw John George

b. an fear a chonaic Seán, tá aithne agam air
the man rel-part saw John, is acquaintance at-me on-him
'I know the man that John saw'
'I know the man that saw John'

c. cé a chonaic Seoirse?
who rel-part see-past George
'Who saw George?'
'Who did George see?'
d. chonaic Seán Seoirse agus chonaic Maire Seile
see-past John George and see-past Mary Sheila
'John saw George and Mary saw Sheila'

(4) a. ní fhaca Seán Seoirse dependent
neg saw John George
'John didn't see George'
b. an bhfaca Seán Seoirse?
Q saw John George
'Did John see George?'
c. an fear a bhfaca a mhac Seán, tháinig sé
the man rel-part saw his son John, came he
'The man whose son saw John came'
d. tá a fhios agam go bhfaca Seán Seoirse
is its knowledge to-me that saw John George
'I know that John saw George'

The origins of the absolute/dependent distinction lay in the pre-Old Irish period. Pre-verbal particles, including relational words, which in other sentential positions developed into prepositions, various object pronouns, negative and interrogative particles, and conjunctions, attached themselves as prefixes to the verb. For example, the verb berid in (5):

(5) berid
'bears'

can take on various prefixes, as we note in (6):

(6) a. do-bear
to-bear
'brings/gives'
b. ní-ta-bair
neg-to-bear
'does not bring/give'
c. as-beir
out of-bear
'says'
d. ní-beir
neg-bear
'doesn't bear'
e. fu-a-ta-barr
under-which-to-bear-pass
'under which is brought'
f. ma-ni-ta-bair

if-neg-to-bear
'if ___ does not bring'
g. ní-tha-bair
neg it-to-bear
'does not give it'

The morphological effect of the prefixes is two-fold: First, when prefixes are added to the verb, a special inflection is used, the so-called 'conjunct' flexion. Second, and most important for our purposes, the stress may shift.

The rules for stressing verbs in Old Irish have a number of peculiarities, but in essence are as follows: The first syllable of the verb is stressed if there is no prefix or if there is only one prefix. If there is more than one prefix, the second prefix receives stress. So, again looking at the verb berid when the prefix is added as in (6a), the inflection changes--note the final -id of (5) is lacking in (6a)--but the stress remains on the first syllable. When two prefixes are added, as in (6b), the stress shifts onto the second prefix. The position of the stress is summarized in (7); the underlined vowel receives stress:

(7) a. berid (=5)
b. do-beir (=6a)
c. ní-ta-bair (=6b)

When stress shifts off the verb, a number of phonological changes occur, the cumulative effect of which may be quite large. With the exception of the copular verbs, all the absolute/dependent pairs listed in (2) derived from the same historical root and were differentiated by means of these stress shifts and accompanying phonological adjustments.

The forms given in (2) are survivors of a much larger set. In fact, even the most conservative dialect in Modern Irish does not preserve all the absolute/dependent distinctions noted in (2). While the loss of such a distinction is not surprising--it is a morphologically idiosyncratic distinction with a low, or better yet, negligible functional yield--the direction of the change is somewhat surprising. For the surviving absolute/dependent pairs presented in (2) only one verb has generalized the absolute; the rest have generalized the dependent stem.

Consider, for example, the verb meaning 'to see'. The Classical Modern Irish distribution of these forms is given in (8). Only third singular forms are listed:

(8)	absolute	dependent
present	do-chí	feiceann
past imperfective/ past subjunctive	do-chíodh	feiceadh
future	do-chífidh	feicfidh
conditional	do-chífeadh	feicfeadh
past perfective	do-chonnaic	faca
present subjunctive	--	feicidh
imperative	--	feiceadh

The (moribund) present subjunctive and the imperative did not distinguish absolute and dependent form; in Old Irish the imperative had a special stress pattern that resulted in a form like the dependent. Furthermore the verbal noun and participle resembled the dependent:

(9)		
	verbal noun	feicsin
	participle	feicthe

Many of the modern dialects preserve the distinction only in one tense (usually the past perfective). When leveling occurs, with one exception, it is always in favor of the dependent:

(10) West Muskerry (Munster) (O'Cuív 1944)

	absolute	dependent
present	chíonn	feiceann
past imperf.	chíodh	feicfeadh
future	chífidh	feicfidh
conditional	chífeadh	feicfeadh
past perf.	chonaic	faca

(11) Teilinn (Donegal) (Wagner 1959)

present	tchíonn	feiceann
past imperf.	tchíodh	feiceadh
future	tchífidh	feicfidh
conditional	tchífeadh	feicfeadh
past perf.	chonnaic	faca/feaca

(12) Cois Fhairrge (Connemarra) (de Bhaldraithe 1953)

present	feiceann	feiceann
past imperf.	feiceadh	feiceadh
future	feicfidh	feicfidh
conditional	feicfeadh	feicfeadh
past perf.	chonaic	faca

(13) Erris (Connaugut) (Mac an Fhailigh 1968)

present	feiceann	feiceann
past imperf.	feiceadh	feiceadh

future	feicfidh	feicfidh
conditional	feicfeadh	feicfeadh
past perf.	chonaic	faca

The Connaugut and Connemarra dialects represented above preserve the distinction only in the past perfective. In other forms only the dependent survives.

The reason this development might seem surprising is that the absolute form occurs in environments that are usually considered 'unmarked' relative to the environments where the dependent is found. That main, declarative, affirmative sentences and the syntax and morphology that characterize them should be considered as the unmarked type seems to follow regardless of which of the applicable approaches to markedness one accepts. In perhaps the simplest of these approaches, the morpheme-counting approach, dependent contexts typically have an additional morpheme (e.g. the negative or interrogative) and are therefore 'marked' in the literal sense. In the frequency approach to markedness absolute contexts are more frequent botn absolutely (73% to 27%) and specifically for verbs showing absolute/dependent contrasts (e.g. for taim 'I am' 68% to 32%) and are therefore unmarked.[3] In the discourse presupposition approach suggested recently by Givón (1979) main, declarative, affirmative sentences have a smaller degree of presuppposed background than other sentence types and are therefore unmarked relative to dependent contexts.

It has frequently been assumed that unmarked structures serve as models in cases of paradigmatic leveling. Given that this is generally correct, it is surprising that the marked dependent forms should serve as models for the leveling observed in the case of the Irish paradigm.

Owing to the suppletive nature of the absolute/dependent distinction in the synchronic system, the direction of the morphological leveling may not have been a factor of the sentence types in which the absolute/dependent forms occured, but rather of lexical properties of the verbal forms themselves. Zager (1978) has formulated a theory based on the properties of individual words. He proposes that diachronic change is a function of the degree of autonomy of a particular form.[4] Autonomy can be defined as the extent to which a word is likely to be represented in the speaker's lexicon as a whole and independent unit. Bybee and Brewer (1980) have proposed that the degree of autonomy of a given set of forms is the factor which determines the basic-derived relationship and therefore the direction of

leveling.[5] Three factors contribute to the degree of autonomy of a particular lexical item: semantic simplicity, morphophonemic regularity and word frequency in discourse. The absolute dependent stem forms in Irish can not be differentiated on the basis of the first two criteria; neither stem bears more overt semantic marking and neither can be said to be more irregular. The only factor differentiating the verbal forms is frequency. As we have stated, the absolute forms are more frequent than the dependent. For adults, then, the absolute forms should be more autonomous and yet they are not generalized. If, however, we consider the frequency in the linguistic input to children, the results are more consistent with the direction of leveling.

A number of differences exist between the linguistic data base of the child and that of the adult. This is due in a large part to the difference in interaction styles found in speech among adults and speech between adults and children. One such difference is the frequency of occurence of particular sentence types in general discourse. Newport et al. (1977), in a study of fifteen English-speaking caretaker-child dyads, found the following results:

	Mother-Child		Mother-Experiment		
Declaratives	30%		87%		difference
Questions	44%	62%	9%	11%	significant
Imperatives	18%		2%		at $p < .001$

The majority of utterances directed toward the child took the form of a question or an imperative. Speech directed toward adults most frequently took the form of a declarative. In the linguistic input the percentage of questions and imperatives decreases and the percentage of declaratives increases from childhood to adulthood. Similar trends have been found in a variety of languages, including Luo and Samoan (Blount 1977), Kokwet (Harkness 1977) and Hawaiian Creole (Scollon 1976).[6] In Irish these imperative and question forms would be expressed with a dependent verbal form. In the Irish child's linguistic input the dependent form would be most frequent and therefore the most autonomous.

The absolute/dependent distinction exhibits exactly the properties which would lead us to expect the child to simplify the system: First, since there is no one-to-one correspondence between the surface forms and semantic elements, the alternation will be acquired later. Second, the alternation is based on arbitrary formal criteria; therefore, the child is likely to use one of the stem forms in all environments. The factors

which determine autonomy correspond to those which have been found to determine the form which the child acquires first: semantic and grammatical complexity (Bloom and Lahey 1978, Brown 1973, Slobin 1973) and frequency in input (Bowerman 1973, Van der Geest 1977). Therefore, the form the child selects as basic and generalizes to all environments will be the most autonomous; in this case it is the dependent. Owing to the formal complexity involved in the alternation, this analysis will be tolerated by the speech community and eventually incorporated into the adult system. The forms which maintain the distinction will be those for which the absolute forms occur with a higher frequency thus preventing the child from choosing the dependent as basic.

The unusual direction of leveling in the Irish paradigm has provided a framework for evaluating the role of the child in diachronic change. As a result of suppletion in the absolute and dependent forms, the main factor differentiating the stem forms is frequency. As we have seen, frequency favors the dependent form in the child's linguistic data base, but not in that of the adult. This variation in linuistic input makes it possible to distinguish child initiated changes from adult changes. The conditions for leveling the paradigm in favor of the dependent are met only in childhood. Thus, in the case of the Irish dependent we find evidence that the leveling attested in the adult system is a product of the analysis of the child.

Notes:

[1] Apart from conditioning dependent stems, the particles in (1) have another feature in common, namely that they have past counterparts that include -r, which derives from the Old and Middle Irish perfect particle ro. Compare (a) and (b):

(a) ní chreideann sé Séan
neg believe-pres he John
'He doesn't believe John'
(b) níor chreid sé Séan
neg believe-past he John
'He didn't believe John'

Verbs that distinguish absolute from dependent stems, however, use the present form of conjunct particles even when in the past:

(c) ní fheiceann sé Séan
neg see-pres he John
'He doesn't see John'

(d) ní fhaca sé Séan
neg see-past he John
'He didn't see John'

[2]Not surprisingly, the distinction is uniformly preserved in the two copular verbs. For some other verbs, the distinction may only be preserved in the past tense.

[3]Text counts are from the novel Séadna by Peter O'Leary which includes both straight narrative and extensive dialogues.

[4]We choose to discuss the properties of the forms themselves in terms of autonomy rather than markedness because it is more clearly defined and offers the advantage of considering the properties of individual lexical items independent of the paradigm of which they are a part.

[5]Hudson (1974) and Vennemann (1972) have shown that the more basic form is the model for leveling.

[6]In English this interactional tendency results in the child's hearing an uninflected verbal form most frequently, allowing it to be taken as the basic form.

[7]We hope to verify this hypothesis with data from the acquisition of Irish which are currently being collected.

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Transitivity and Foregrounding in the North Caucasus *

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Hopper and Thompson (1980) establish cross-linguistic covariance among a number of tense-aspect, referentiality, and valence properties, labeling the whole Transitivity.[1] Transitivity, they argue, is crucially correlated with, and motivated by, discourse foregrounding. If the relation between Transitivity and foregrounding is indeed a causal one, then we should expect to find that correlation in any language, whether or not we find other instances of Transitivity covariance. In particular, if a language has verbal forms specialized for discourse backgrounding, then we must expect to find lower Transitivity in those verb forms. The lower Transitivity could show up paradigmatically, in the distribution of grammatical categories available to those verb forms; or it could show up syntagmatically, in the text frequency with which the specialized forms exhibited certain Transitivity properties. We could expect, for instance, to find that the verb forms in question were used with objects less often than were verb forms not specialized for backgrounding, or that they paradigmatically lacked object agreement found in other verb forms of the language.

This paper presents an instance of what we would not expect to find: systematically higher Transitivity in verb forms specialized for backgrounding. This claim is based on a survey of prose texts in Chechen, a language of the North Central Caucasian, or Nakh, linguistic family; and it is corroborated by a text from a related language, Batsbi. These languages differ considerably from those surveyed for discourse features by Hopper and Thompson (1980:283ff.), in their verbal morphology, their use of clause chaining, their SOV typology, their pervasive morphological and syntactic ergativity.[2] Of these properties, it appears that the existence of overtly marked clause chaining and its language-specific interaction with narrative structure is responsible, perhaps solely responsible, for the association of high Transitivity with backgrounding.

This study differs from Hopper and Thompson 1980 in the goal and the object of its analysis. It is concerned with describing the morphosyntax and grammatical categories of language-specific verb forms and the relation of this grammatical patterning to discourse organization. (A long-range goal is to determine statistical trends that may be diagnostic for historical and typological classification.) The notion of Transitivity is important in that it provided a hypothesis to test and suggested that certain patternings were typologically interesting; but it is not the object of analysis. For Hopper and Thompson, of course, it is Transitivity that is the object of analysis.

The verb forms in question are specialized for use in clause-chaining constructions. They appear in what are variously called

non-final, or medial, or chained clauses and are usually regarded as nonfinite, while the final, or main, verbs are clearly finite. I will call the chained forms conjunct verb forms (or converbs); the clause headed by a converb is a conjunct clause. The finals I will call variously main and finite.

(1) shows a simple two-clause sequence of conjunct and main clauses in Chechen. The initial zero shows that Equi applies to the coreferential actant in a same-subject conjunct clause.

(1)	Chechen	ø	áravälla	veš́ína	dá	gira
			went out	brother	father	saw
			converb	(dat)	(nom)	main verb

'having gone out, brother saw father';
'brother went out and saw father'

Converbs as a morphological class give every indication of being specialized for backgrounding, in that they have only relative, and not absolute, categories of tense-aspect, mood, and person. While finite verbs have a number of tense-aspect categories which can refer to absolute past, present, and future time, converbs distinguish only what I will call (following Kuryłowicz 1964: Ch. 3) anterior vs. simultaneous aspect categories: anterior converbs have the effect of sequencing the event relative to the following clause and can be rendered 'having VERB-ed'; simultaneous converbs are non-sequencing and can be translated 'while VERB-ing'.[3] (An anterior converb is shown in (1).) These are, as is well known, relative rather than absolute tense categories. In addition, converbs lack evidential categories available to main verbs. These evidential categories refer to the speaker's relation to the event and are thus absolute. To the extent that they mark switch reference,[4] converbs may be said to signal relative person. In short, converbs are designed for identifying events only in relation to other events, which is to say that they are paradigmatically specialized for backgrounding.

The fact that converbs are paradigmatically specialized for backgrounding does not mean that they are paradigmatically specialized for low Transitivity: overall, their inventory of grammatical categories is neutral with regard to Transitivity. (For instance, the aspect categories include both anterior, which is equivalent to Hopper and Thompson's punctual and thus of high Transitivity; and simultaneous, which is non-punctual and thus has low Transitivity.) Below I will show that, syntagmatically, converbs indeed tend to be used for backgrounding; and that furthermore, also syntagmatically, they tend to have consistently and significantly higher Transitivity than main verbs. In other words, verb forms which are paradigmatically specialized for, and syntagmatically used for, backgrounding have high Transitivity relative to verb forms paradigmatically specialized and syntagmatically used for foregrounding. All of this points to deficiencies in the usual approach to backgrounding and foregrounding.

I will use the standard generic term grounding to subsume backgrounding and foregrounding. It proved necessary to distinguish two levels of grounding. Text-level grounding involves the structure of the entire story: introductory, scene-setting, and closing sections, as well as asides, are backgrounding, and the narrative episode or episodes containing plot are foregrounding. Episode-level grounding occurs within episodes: although the entire episode is plot in some sense, some predications actually advance the plot, giving new information, while others add incidental information or restate known events. Plot-advancing clauses are episode-level foregrounding; incidental or old information is episode-level backgrounding. Schematically, the grounding structure of a narrative text is:

text background

text foreground = episode(s):

episode background

episode foreground

The fact that there are two levels of grounding means that it does not suffice to ask simply whether a clause is foregrounded or backgrounded.

The principal diagnostic criterion for types of grounding is the narrative time frame. Text-level backgrounding includes predications standing outside narrative time (asides, morals) and those which establish narrative time (introductory, scene-setting clauses) or move out of it (conclusions). Text-level foregrounding is entirely within narrative time. Thus a clause is episode-level, but not text-level, backgrounded if it gives accessory information (which makes it backgrounded) but is situated entirely in narrative time (which means it is text-level foregrounded). An example is the descriptive sequence given below as (13): the clauses are descriptive, thus not directly plot-advancing, thus background; but all are within narrative time, thus text-level foregrounded. All of these distinctions pertain only to narrative, since no direct speech was analyzed.

Clauses were examined for four Transitivity properties based on but not identical to those of Hopper and Thompson. Aspect is the distinction of anterior from simultaneous, marked overtly only on converbs although contextually available to main verbs as well. In the examples below, converbs ending in -na or -ǯa(-) (Chechen) or -no (Batsbi) are anterior; those in -š are simultaneous. Agency refers to semantic roles rather than (as for Hopper and Thompson) to properties such as human, animate, etc. of their fillers. Since in these tales virtually all participants are humans, no significant differences in animacy, etc. arise within texts. (Even the text-level backgrounded clauses were predicated of humans for the most part.) Semantic role frames do, however, vary systematically, and this is what the criterion of agency reflects.

Valence is the number of terms — syntactically governed actants — in the clause, with the Equi-deleted one restored. Restoration of zeroes allows us to analyze an example like (2)

(2) ∅ having hit his friend, he felt sad

as having a two-place verb in the first (conjunct) clause and a one-place one in the second. Restoration of zeroes is necessitated by language typology. For a clause-chaining language, if we allow Equi to lower the valence, then we have a priori prejudged the issue of valence in backgrounded clauses, since (as will be shown) it is exactly the conjunct clauses that undergo Equi and tend to be backgrounded. (The zeroes are countable in any event by Hopper and Thompson's explicit criterion of restorability: 284.) The restriction of valence to terms alone forces us to regard sentences like (2a)

(2a) ∅ having hit his friend twice yesterday with a stick, he felt sad

as having the same valence structure as (2). Now, plainly the first clause of (2a) is more salient and more suitable for foregrounding than the first clause of (2); and plainly this is due to the addition of the adverbials to (2a). This means that the higher number of actants is associated with foregrounding, as predicted by Hopper and Thompson. However, there are two reasons for not including adverbials in valence for this study. First, proliferation of adverbials as in (2a) does not occur in my corpus. This means that the observation about (2a) may be correct for the interpretation of English sentences, but there is no evidence that it is relevant for the generation of Chechen or Batsbi texts. Second, the decision to exclude adverbials was originally based on practical considerations: there was occasional ambiguity as to which clause an adverbial belonged to; also, since these languages have ad-verbal directional and locative elements which are cognate to preverbs, it was often unclear whether such ad-verbal elements should be regarded as components of verbal morphology or as independent elements filling valence places. Eliminating adverbials from consideration reduced the incidence of unclear cases. The goal of a verb of motion was counted as an adverbial rather than as an object, for the same reasons.

Finally, by transitivity (see again note 1) is meant the analog to Indo-European government of the accusative direct object. In Chechen a verb is transitive if it has an ergative subject; intransitive if it has a nominative subject; inverse otherwise.[5] Higher text frequency of transitives is a Transitivity property. (For Batsbi, which has ergative subjects for many intransitive verbs, the case of the object must also be incorporated into this definition.) (3) gives examples of these verb classes.

The criterion of transitivity is not to be confused with valence: valence counts the number of overt, anaphorically zero, and Equi-deleted terms without asking about verb types, while transitivity is a purely lexical property of verb stems. If a transitive

verb was used without an object (e.g. 'while talking, ...'), that occurrence was still counted as transitive, although the valence was reduced to one place, namely the subject.

(3) Chechen verb classes

transitive:	den	'kill'	+ Ergative	+ Nominative
	tú́oxan	'hit'	+ Ergative	+ Dative
intransitive:	xílan	'be'	+ Nominative	
	dálan	'go out'	+ Nominative	(+ Oblique)
	qíeran	'be afraid'	+ Nominative	+ Ablative
inverse:	diezan	'like'	+ Dative	+ Nominative
	xilan	'have'	+ Genitive	+ Nominative

The four Transitivity criteria are summarized in (4).

(4)

criterion	more Transitive		less Transitive
aspect	anterior		simultaneous
agency	agent subject		other role as subject
valence	high valence		low valence
transitivity	transitive	inverse	intransitive

These four criteria will be used to test the following six Transitivity features of Hopper and Thompson: participants (reformulated here as valence), aspect, volitionality (as agency), agency (reinterpreted here as semantic role), punctuality (as aspect), kinesis (included in transitivity). My four features, and the notion of Transitivity they define, are explicitly language-specific and therefore allow us to decide difficult cases by recourse to formal marking. To some extent they set up in advance covariance among factors other than discourse grounding, thus facilitating the task of testing for grounding-Transitivity correlations alone. They shift the focus of investigation from Transitivity to grammatical categories. (For instance, both transitivity and valence point to language-specific lexical classification of verbs: transitivity is a lexical category; valence refers to terms, and the question of what is a term and what is an adverbial is a matter of lexical specification.)

Three of Hopper and Thompson's Transitivity properties were not surveyed here. Affirmation and mode were not counted because the incidence of negation and marked moods in these texts is too low to provide meaningful comparisons. Individuation of objects was not tested because it presupposes valence and transitivity and describes their unmarked patterns rather than pointing directly to grounding properties.

In all tales surveyed, Hopper and Thompson's correlation of backgrounding and lower Transitivity is strongly supported for text-level grounding. Introductory, concluding, and stage-setting passages contain mostly intransitive verbs and inverse verbs of a stative type such as 'have', typically in an imperfective tense —

low-Transitivity properties. (5) and (6) are typical examples. The verbs are underlined in these and further examples.

(5) Chechen (introduction to text shown in (10) below)

Zurab qoluš dieš vara,
Z. stealing doing was (Aux)

cq'a-a ditan uojla jácara.
(not) once to quit thought was not (inverse)

Zuraban dikin govr jara, ...
Z. (gen) good horse was (inverse)

'Zurab was a thief and had no intention of quitting. Zurab had a good horse...'

(6) Batsbi (introduction to text cited in (12), (13) below)

Bácbi kíko? lamų nax dar.
Batsbi in old mountain people was/were
times

Bar naxn béde co bagino bar.
plains men (dat) except neg see (inverse) was (Aux)

'The Batsbi used to be a mountain people. Only men would ever see the plains.'

As shown in these examples, text-level backgrounding tends to be marked by short, choppy sentences with finite verbs and by the absence of clause chaining. (Another salient marker is the use of verb tenses formed with auxiliaries. These are imperfectives, including progressives and frequentatives. In this corpus, such tenses occur only in text-level backgrounded passages.) This is in sharp contrast to episode-level backgrounding, which, it will be shown, tends to be marked by clause chaining.

It was shown above that in terms of their paradigmatic categories converbs are specialized for backgrounding. Below it will be argued that syntagmatically, too, they gravitate toward backbrounded clauses and become grammaticalized as a backgrounding device. First their Transitivity properties must be established. Text frequencies for agency, valence, and transitivity are summarized in the Appendix. Table 1 of the Appendix shows values for all verbs in the corpus; Table 2 subtracts the verbs 'say', etc. Table 2 was compiled because the verbs 'say', etc. are frequent enough in both backgrounded and foregrounded functions, and both as converbs and as main verbs, that they could level out relevant statistical clusterings. In fact Table 2 does show greater discrepancies between converbs and main verbs in all categories, relative to Table 1. However, Table 2 is not necessarily the more accurate indicator of Transitivity correlations in the corpus:

indirect objects tend to be overt with verbs of saying more often for main verbs than for converbs, and since the overt indirect object counts as a valence place, Table 2 — by removing instances of such objects used with main verbs — is obscuring a Transitivity property of main verbs.

The Appendix counts verbs in text-level foregrounded passages only. (To include text-level backgrounded clauses in the counts would actually increase the differences between main verbs and converbs, spuriously strengthening the claims made below in that it would add more low-Transitivity main verbs like those of (5) and (6). It would vitiate the entire survey, however, by mixing the very levels of grounding which the survey separates.) It counts only texts representing a uniform grammar, one in which conjuncts function as in (7)-(9) below. (The source of (7)-(9) is shown as text 3 of the Appendix.)

The Appendix shows that, of the Transitivity features, main verbs have agent subjects somewhat more often than converbs do, but converbs have higher average valence and are more often transitive. In other words, main verbs are slightly ahead in one Transitivity property, while converbs clearly outrank them for two. Aspect is not compared in the Appendix because converbs and finites have different aspect categories, as mentioned above. In fact, 86% of the converbs in the corpus are in the anterior aspect; and of those that are in the simultaneous aspect perhaps half can be analyzed as adverbial constituents of clauses rather than as independent chained clauses, as is discussed below. Conjunct clauses, then, strongly incline toward Transitivity in aspect, although converbs and main verbs cannot be directly compared for aspect. The remainder ofthis paper illustrates these findings and interprets their relation to backgrounding.

In (7), a passage from a Chechen text, conjunct clauses are clearly being used for backgrounding. (This and following examples are given in translation only.[6] Backgrounded verbs are underlined once, foregrounded verbs twice. The right columns show, first, whether the verb is a converb (C) or main verb (M); second, the verb form itself, with endings normalized by restoration of voiceless vowels; and, third, the tense-aspect category. In the latter connection, it is worth pointing out that evidential categories such as witnessed and inferential lack the usual evidential force in narrative passages.)

(7) Chechen: Selection from 'How Mullah Nasreddin fooled everyone', El'darxanov 1900:22ff. (selection from p. 25)

1	When some time <u>passed</u>	C	jälčaḫ	anterior
2	the man, coming home, <u>found</u>	C	karajna	anterior
3	that his wife, having been <u>tricked</u>,	C	ʕiexa-a jina	anterior
4	had <u>sent away</u> his cart and oxen,	C	digna	anterior
5	and <u>went off</u> after Mullah Nasreddin.	M	vaxana	inferential
6	<u>Going</u>,	C	vädädas	simultaneous
7	he <u>came</u>	M	qäšna	inferential
8	to a man standing with a goathide on his head.			

(7), cont.

9	Going up to him,	C	t'e-a vaxana	anterior
10	he asked him,	M	xăttina	inferential
11	"...?", having said.	C	ălla	anterior
12	"...", that one said.	M	ălla	inferential
13	"...", when hei told himj,	C	ălčah	anterior
14	when hej took off the goathide	C	dʕa-a jeqqina	anterior
15	and looked	C	ḫăžžah	anterior
16	and found	C	karajna	anterior
17	his flock driven off,	C	digna	anterior
18	he acknowledged himself tricked.	M	vícira	witnessed

Much of this passage is recapitulation: earlier in the story Mullah Nasreddin has tricked a woman into giving him her husband's cart and oxen, gone off with them, tricked a shepherd into covering his head with a goathide, and made off with the sheep while the shepherd's eyes were covered. Clauses reporting these known events are old information, thus episode-level backgrounded; and it is exactly these backgrounded clauses that appear as conjuncts: 1-4 and 14-17. (Conjunct clauses 6, 9, 11, and 13 repeat the immediately preceding main verbs and are thus also old information.) The new addition to the plot in this passage is the fact that the woman's husband sets off in pursuit of Mullah Nasreddin, meets the shepherd and explains the situation to him, whereupon the shepherd realizes he has been tricked.[7] Exactly these new developments are reported with main verbs. In this passage, then, episode-level backgrounding takes the form of the reporting of already-known plot, and is neatly correlated with conjunct form.

(8) is a passage from the same text, in which the conjunct clauses are more subtly backgrounded.

(8) Chechen: ibid. (selection from p. 24)

1	When he saw them	C	bajčah	anterior
2	he left the carts and flock,	C	sovcajna	anterior
3	jumped into the nearby river,	C	iqqina	anterior
4	and stood	M	dʕa-hűőttina	inferential
5	leaning as though holding the bank up.	C	taʕajna	anterior

Mullah Nasreddin, driving his stolen cart, has just seen nine carts and drivers approaching. He gets off, jumps into the river, and stands holding the riverbank up. He then persuades the men to hold the bank for him, and steals their carts. Clause 1 repeats a preceding sentence. Although clauses 2 and 3 are new and in some sense involved in the plot, only stood (leaning), clause 4, is crucial to subsequent developments. This clause has a main verb. The others are backgrounded in that they describe minor, unimportant events which explain how Mullah Nasreddin got to the riverbank; and they are conjunct. Clause 5 may well be a phrase,

i.e. a constituent of a clause rather than an independent chained clause: it functions as a manner adverbial to stood. This means it is not merely backgrounded but completely removed from the grounding structure, since only clause predicates participate in the grounding opposition.

(9) is a third passage from the same text, one in which conjuncts are not backgrounded.

(9) Chechen: ibid.

1	Having taken their carts,	C	jäsna	anterior
2	and driven the flock ahead,	C	däqqina	anterior
3	on went Mullah Nasreddin.	M	vaxana	inferential
4	Going,	C	ĺexuš	simultaneous
5	he came to a village,	M	qäšna	inferential
6	sold the carts, oxen, and sheep,	C	düöxkina	anterior
7	kept the goods,	C	ditina	anterior
8	bought a stall,	C	jäsna	anterior
9	laid out the goods,	C	dillina	anterior
10	became a merchant,	C	xilla	anterior
11	and settled down to live.	M	xiʔna	inferential

While the men hold the riverbank, Mullah Nasreddin steals their carts, travels to another village, sells the carts and livestock, purchases a merchant's stall with the proceeds, puts the remaining stolen goods up for sale, and settles down to life as a merchant. Conjunct clauses 1-2 and 6-10 are all reported quickly and without elaboration, but they are all new and all plot-advancing. The decision to make 'went' (3), 'came' (5), and 'settled' (11) main verbs, and the others conjuncts, is evidently not based on foregrounding. The sole function of the main-conjunct opposition here seems to be chunking (paragraphing): a narrative stretch can be broken into manageable chunks by the use of main verbs. The choice of main or conjunct form is arbitrary as far as grounding is concerned, but is motivated by other considerations: here, chunking links into a single chain events which happened in the same place. The sentence consisting of clauses 1-3 happens in one place, 4-5 in another, and 6-11 in yet another.

In (9) there is one conjunct which is not part of the grounding structure: ĺexuš 'going' (line 4). This verb represents a constituent of a clause rather than an independent chained clause: its effect is that of a manner adverbial or other ad-verbal element adding deictic or directional information to the neutral verb 'arrive' of 5. The construction 'going, arrived' appears frequently enought in these texts to be taken as a unit rather than as a clause sequence.

(9) serves to illustrate valence and transitivity patterns revealed in Tables 1 and 2. (9) is atypical of the corpus as a whole in that in (9) all predicates, conjunct and main alike, have agent subjects. All conjuncts are formally anterior and semantically sequenced, with the exception of ĺexuš 'going' in line 4,

which is phrasal. (All but ɟexuš are rendered with perfectives in El'darxanov's Russian translation.) In (9) the main verbs are all intransitives ('went', 'arrived', 'settled'), while all but one of the conjuncts are transitive. Not all clause chains in the corpus have transitive conjuncts and intransitive main verbs, but the Appendix shows that this pattern is frequent. (9) simply exaggerates patterns evident in the Appendix and in the survey of aspect in converbs discussed above.

(10) shows a Chechen text from another source, in which the function of converbs differs from what we have seen so far.

(10) Chechen: Uslar 1888:122ff.

1	Zurab was a thief	M	vara	imperfective
2	and had no intention of quitting.	M	jácara	imperfective
3	Zurab had a good horse;	M	jara	imperfective
4	stolen	C	lač'q'ajna	anterior
5	by someone (it's not known who)	C	xuʔuš	simultaneous
6	it disappeared.	M	jajn	immediate past
7	Zurab looked everywhere for it;	M	lixira	witnessed
8	he couldn't (didn't) find it.	M	karajna	inferential
9	Zurab got sad,	M	xilin	immed. past
10	thought ('did a thought'),	C	uojla jina	anterior
11	said, "..." [compassion]	M	elin	immed. past
12	God came to mind,	M	vieʔan	immed. past
13	he (Zurab) said, "..." [repentance]	M	elin	immed. past
14	Then Zurab became a good, God-fearing man.	M	xilin	immed. past

At the text level in (10) we see intransitive main verbs marking backgrounded clauses: introductory clauses 1-3 all have forms of 'be' (recall that 'have' is simply 'be' with inversion in Chechen).

The narrative consists of a single episode: horse thief Zurab has his own horse stolen; he searches unsuccessfully for it, grieves, experiences compassion for victims of thefts (including his own), repents, and becomes a good man. (His compassion and repentance are expressed in direct speech, omitted in lines 11 and 13.) The plot consists of Zurab's loss (line 6), grief (9), compassion (11), repentance (12, 13), and change (14). These are clearly foregrounded, and they are all main verbs. (I have counted as foregrounded the verbs of speech introducing crucial plot advancements, as in lines 11 and 13.)

Of the non-foregrounded clauses, three (4, 5, and 10) are conjunct. Let us first look at their aspect. The first verb, 'stolen' (line 4), is in the anterior form, and clearly denotes a sequenced event. The next, xuʔuš 'knowing', is in the simultaneous form and does not refer to a sequenced event. Like the simultaneous conjunct 'going' in text (9), ca xuʔuš 'not knowing' is probably best viewed as phrasal than as a genuine chained clause. The sentence in Chechen is: [8]

(11) (=(10.4-6)) Chechen:

iz	ẖan	lač'q'ajna	ca xu?uš	ŕemara	jajn
it	who	stole	not knowing	from herd	disappeared
(nom)	(erg)	(converb)	(converb)		(main verb)

'Stolen by someone, it disappeared from the herd',
'Someone stole it and it disappeared...'

Taken together with ẖan 'who' (erg.), 'by whom', the converb phrase ca xu?uš forms a complex indefinite pronoun 'by it's-not-clear-whom', i.e. 'by somebody'. (Uslar's Russian translation, which attempts to be literal, has byv ukradena neizvestno kem 'having been stolen it's-not-known by whom'.) The third conjunct in the passage is the phrase uojla jina (line 10) 'having thought', lit. 'having done (made) a thought', which is also formally anterior and semantically sequenced. In summary, those conjuncts which clearly function as clauses rather than as phrases are clearly sequenced, and formally anterior.

There are two clauses which are backgrounded yet contain main verbs: 'looked' (line 7), 'didn't find' (8). Unlike the conjuncts, these are not sequenced. Following the disappearance of his horse, Zurab searches unsuccessfully for it. The search and the failure to find the horse are of course not sequenced with respect to each other (since the finding never took place). Nor are they sequenced relative to Zurab's getting sad (line 9, the following clause): he was presumably sad during the search. This means that those backgrounded clauses which are not sequenced are not conjuncts but finite. Apparently for this speaker conjuncts can mark backgrounding only if the backgrounded clauses are sequenced. Main verbs are used for foregrounded events and for non-sequenced episode-level backgrounded events. (They are also used for text-level backgrounding, as in lines 1-3. These clauses, too, are not sequenced.)

Usage in the Chechen texts may be summarized as follows. Overall, conjuncts are favored in backgrounded clauses, but they are not simply a backgrounding device. In the first text (passages (7) to (9)) conjuncts may have only a chunking function, or they may be used for backgrounding. They tend to be sequenced and formally anterior, and to have high valence and transitivity. In the second text ((10)) conjuncts are plainly not a chunking device. They are a backgrounding device, but with aspect conditions on their use: they can be used for backgrounding only if they are sequenced. Aspect, in the form of this sequencing constraint, has changed from an incidental (though salient) property of conjuncts into an essential condition on their use. And backgrounding has changed from a frequent property of conjuncts into their main grammatical function (with the aspect condition entailing that only, but not all, backgrounded clauses will in fact appear as conjuncts.[9] For both text types, conjuncts tend to contain more transitive verbs, and to have a higher average valence, than do main verbs. Summarizing, the grammatical apparatus

marking text-level backgrounding in the first text (choppy sentences, low-Transitivity main verbs) is also used for episode-level backgrounding in the second text.

The related language Batsbi differs from Chechen in having innovated, under Georgian influence, a full set of coordinating and subordinating conjunctions for use with finite verbs. Consequently it has alternatives to clause chaining and choppy sentences. Nonetheless, usage in the text surveyed here, an ethnohistoric narrative, is parallel to that of the second Chechen text. (12) is a narrative episode consisting of sequenced events: the story of a migration is told as a series of stopping points.

(12) Batsbi: 'The Batsbi migration to the lowlands', Deševriev 1953:349ff.

1	The women filled baskets and sacks with food,	C?	duc'doir[10]	witnessed
2	put them on their backs,	C	doxk'ina	anterior
3	drove the livestock ahead;	C	láxk'ino	anterior
4	crossing Qadui Pass	C	sodot'eno	anterior
5	they came to stop at Alaznistavi.	M	dáɣor	witnessed
6	Moving on from there,	C	ḫabino	anterior
7	going up Mount Saq'or,	C	ḫaldilino	anterior
8	they came to Kupra-died-place.	M	dáɣor	witnessed
9	(Aside: No one remembers the route now.)			
10	From Kupra-died-place they came to Tbatani.	M	dáɣor	witnessed
11	From there -- to Alvani.[11]	M	Ø (gapped)	(witnessed)
12	They first founded a settlement in Kakliane.	M	billeno	recent past

The main verbs are: 'came' (5), 'came' (8), 'came' (10), gapped 'came' (11), 'founded' (12). Since this is a migration, it is the verbs of motion and the founding of a village that are foregrounded. The other clauses are conjuncts, and backgrounded in that they convey accessory information: loading up, passing landmarks. All clauses are sequenced. All have agent subjects. Several of the conjuncts, but only one main verb (the last one, in clause 12), are transitive.

In the second episode, (13), the migration continues. (Actually, the narrative is somewhat inexplicit, and it is not clear whether we are dealing with the second phase of the migration or with a transitional lifestyle involving seasonal migration to summer pastures.) The passage is descriptive of life enroute, so all clauses are episode-level backgrounded. Yet all but one are main verbs.

(13) Batsbi (ibid.)

1	In Pankisia they were afraid to go up off-trail.	M	co daḫralo	remote past
2	The people and livestock hid in the bushes.	M	leč'q'laralo	remote past

(13), cont.

3	In camp the people would mow the grass	C	daǰjacino	anterior
4	and make a path.	M	tagboiralo	remote
5	From there they would go to the camp.	M	čuíxralo	remote
6	Around (it) people stood watch over the camp.	M	uittralo	remote

What distinguishes (13) from (12) is that the clauses of (13) are not sequenced: the actions may have been overlapping, simultaneous, or repeated (they are translated here as though repeated), but they do not define a chain of sequenced events. There is one chained clause, which is sequenced: line 3. The remaining verbs are finite. These two passages suggest that there is a sequencing constraint on conjuncts in Batsbi much like that of the second Chechen text: conjuncts are used in (12), where there is sequencing, and not (except for line 3) in (13), which is not sequenced. They are used in clauses which are both background and anterior.

A minimal pair showing that conjuncts have backgrounding functions is (14) and (15):

(14) Batsbi (ibid.)

Macne ɣóruv Ságirta joxǰie,
when stream (erg) S. destroyed (M, immediate past)

éhat duq xalx jaxk'e Áluin.
then much people (erg) came to A.

'When a mountain stream destroyed Sagirta [place name], then many people came to Alvani.'

(15) Batsbi (ibid.)

Ságirta ɣóruv joxǰieno jéxc'at'q'a so da.
S. stream(erg) destroyed (C, anterior) 120 years is/are

'It's been 120 years now since the stream destroyed Sagirta.'
'Since the stream destroyed Sagirta 120 years have passed.'

Both sentences describe the same event: a mountain stream floods and destroys a place named Sagirta. This is a salient event which advances the plot (it triggers further migration). On the first mention (in (14)), when it is new information, it is expressed with a finite verb and subordinating conjunction. On the second mention (in (15)), when it is old information, it is conjunct.

In summary, Batsbi and the second Chechen text exhibit a restriction of conjuncts to backgrounded clauses, with the condition that the backgrounded clauses must be sequenced. For both

of the Chechen texts and for Batsbi, conjuncts center on backgrounded clauses, are or must be sequenced, include more transitives, and have higher average valence than main verbs. In this Batsbi text converbs have an average valence of 2.12, main verbs 1.96, although the text is too short for the figures to be reliable.

I suggest that the higher valence and transitivity of conjunct clauses in Chechen and Batsbi are due to four factors:

Thematization: In these texts, only humans (and an occasional monster or supernatural) have transitive verbs or agentive verbs predicated of them. In Chechen and Batsbi, episodes and clause chains are normally predicated of human participants. This entails that episodes will contain a high proportion of transitive, multiplace, and agentive verbs, although it does not predict differences in transitivity, valence, or agentivity between episode-level backgrounded and foregrounded, or conjunct and main, clauses. In other words, this principle accounts for the high valence and transitivity of conjuncts, but not for the lower figures for main verbs. The next three factors account for the lower valence and transitivity of main verbs.

Final stativation: Episodes, and clause chains, often end on a scene or state of affairs rather than on an event or an action. This means that the final clause is often stative, thus intransitive. Examples are (8), (9), (10). It is obvious that whole texts tend to end on scenes or states; these are text-level backgrounded clauses which serve the function of moving out of narrative time and summarizing it in relation to real time ('and they lived happily ever after', 'and that's why bears have no tails'). But it is interesting that within narrative sections episodes also often end on scenes. The final clause of an episode is clearly part of the plot, thus episode-level foregrounded; it is situated in narrative time, thus text-level foregrounded; yet it is a scene. This tendency increases the frequency of intransitive, one-place foregrounded verbs.

Chunking: Chunking appears to group together events which happen in the same place. This increases the probability that verbs of motion, which are intransitive and one-place, will figure prominently in at least text-level and probably also episode-level foregrounding. In Chechen and Batsbi, with some frequency, the final clause of a chain, or a lone main clause, tends to be a verb of motion. Examples are (12) and lines 1-3 of (9). The decision to organize chunks in this fashion may be language-specific, since there is no obvious reason why it could not be the first clause of each chunk rather than the final clause that contains the verb of motion. Whatever its motivation, this organization increases the number of intransitive and one-place verbs among foregrounded and chain-final, thus main, verbs.

Avoidance of control ambiguities: Main-clause actants control important reference-maintaining devices: Equi, cross-clause reflexivization, switch reference. Identification of targets (conjunct-clause actants) of these processes is usually straightforward,

since the targets are marked by zero or reflexive form; but the identification of controllers (main-clause actants) of the same processes is not straightforward, since controllers are not formally marked and the languages do not restrict control of these processes to particular syntactic relations or morphological forms (for control in Chechen see Nichols 1980). Thus a final transitive clause will contain two potential controllers and may be ambiguous, while a final intransitive clause contains only one possible controller and is unambiguous. To be sure, clause chains ending in transitive verbs do occur in texts and were easy to elicit; but avoidance of control ambiguity may have some statistical effect on the choice of verb type.

These four factors could well account wholly for the high Transitivity of conjuncts and the corresponding low Transitivity of main verbs. This might be taken to imply that there is a positive correlation between Transitivity and foregrounding even at the episode level, but that it happens to be obscured by independently motivated principles of thematization, stativation, chunking, and avoidance of control ambiguities. But such a statement no longer makes a claim for covariance. The fact is that Transitivity properties are not diagnostic of foregrounding in Chechen and Batsbi; on the contrary, at the episode level some of them are diagnostic of backgrounding or of the morphological specialization of verb forms for backgrounding.

Recall that the first Chechen style uses choppy finite sentences in text-level, but not episode-level, backgrounding, and the second style uses them also in some episode-level backgrounding. Recall also that text-level backgrounding tends to involve stative, non-sequenced verbs, and that in the second style it is precisely the non-sequenced episode-level backgrounded clauses which appear as finite verbs. This means that in the second style text-level and episode-level backgrounded clauses begin to look alike: this style is eliminating the formal differentiation of episode-level from text-level grounding. Viewed typologically, this development suggests that there may be languages which do not formally differentiate levels of grounding at all. It could be that in such languages the clustering of Transitivity properties will also follow a simple one-dimensional distinction of backgrounding from foregrounding. The very structure of narrative in such languages could be based on a one-dimensional system of grounding. It may be that the languages surveyed by Hopper and Thompson are of this type, and that this typological fact is responsible for our discrepant Transitivity-grounding correlations. There are two reasons why linguistics has so far been unable to approach this essentially empirical question.

First, most linguistic work has not adequately distinguished grammatical from metagrammatical phenomena. Aspect, agency, valence, and transitivity as established above are grammatical phenomena: they enter directly into language-specific descriptions. Rules refer directly to them: for example, in Chechen, morphological rules for verbal inflection refer to aspect; case-assignment

rules refer directly to agency (and other semantic roles); rules for verbal agreement refer to transitivity; and so on. But the notion of Transitivity is a metagrammatical one: no language-specific rule of grammar refers to Transitivity or assigns it; it is rather a generalization over a number of grammatical patternings.

This means that only grammatical patterning can be empirically described. A statement of its relation to the metaprinciple of Transitivity presupposes empirical description. The present study has redefined grounding and Transitivity criteria, with the goal of analyzing language-specific grammatical structure rather than Transitivity per se. Consequently, in contrast to Hopper and Thompson, it does not simply relate, on the one hand, a single notion of linguistic form/content to, on the other, Transitivity. Rather, it establishes language-specific correspondences between grammatical form and grammatical categories. It then asks which grammatical categories have high Transitivity. Finally, it relates the Transitivity of grammatical categories to grounding at particular levels. The result is an empirical assessment of the relation between grammatical structure, discourse grounding, and Transitivity. Only in this way can Transitivity be refined and tested. A first priority for linguistic typology should be distinguishing grammatical and metagrammatical phenomena.

Second, the one-dimensional view of grounding that seems to be standard in linguistic works was inadequate for analyzing even the uncomplicated narratives examined here. To make sense of the relation between formal marking, Transitivity, and grounding in Chechen and Batsbi it was necessary to distinguish text-level from episode-level grounding. Furthermore, within episode-level clause sequences we had to distinguish clause-level predicates (episode constituents) from phrase-level predicates functioning as manner adverbials (clause constituents), which do not participate in grounding. One can only assume that more complex narrative involves more levels of grounding, within each of which formal marking and clustering of Transitivity properties could be used to different ends. In addition, as suggested above, individual languages and individual narrative traditions may differ in the number of levels used. A first priority for discourse grammar should be clearer linguistic definitions of grounding and levels of grounding, based on close language-specific analysis.

Footnotes

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Foley, whom I thank for communication on a variety of topics (none of them including this paper, however). The distinction of grammar from metagrammar is the insight of Igor Mel'čuk, who has also influenced this study but had no direct input into it. Heartfelt thanks to Orin Gensler for extensive comments and editorial suggestions.

1 The capital T is Hopper and Thompson's. Below I will use the term Transitivity in their sense; but transitivity, without the capital letter, will be used in the traditional sense of government of the accusative direct object and its analogs.

2 The term canonical ergativity is applied to such languages by Kibrik 1979.

3 This does not mean that there are only two converb forms, anterior and simultaneous. Both types, particularly the anterior, subdivide into a number of converb forms translatable 'when...', 'although...', 'before...', 'since...', 'just as...', etc. Many of these are transparently agglutinated forms composed of basic converbs plus case, postpositional, and other endings.

4 Some converbs favor coreference between conjunct and main-clause actants; some favor lack of coreference. The relation of such systems to classical switch reference will be explored in a later paper.

5 The terms subject and object are for convenience only: they refer to what appears as subject or object in most English translations. Word order, control properties, and native intuitions suggest that these do in fact label subjects and objects respectively; of the usual morphological criteria for subjecthood, case is complicated by ergativity and inversion, and there is no verbal agreement in person. Incidentally, I use nominative (following Russian descriptions) rather than absolutive for the unmarked case, on the grounds that it is indeed the citation form.

6 Apart from facilitating exposition, translations make it possible to use such sources as the El'darxanov collection without deliberating over whether, how, and to what extent to normalize El'darxanov's deficient spelling. (The Uslar texts are well written but show dialect differences and thus also require normalization. I have normalized at least the endings in most examples.) The first sentence of (7) (clauses 1-5), transliterated and partly normalized, appears as follows (parenthesized numerals refer to the clauses of (7):

Cẖa xan jăl̆ah, c'a ve?anču stagana šien stérči,
one time passed (1) home coming man(dat) his(refl) oxen

vordan zudan ʕiexa-a jina, digna-a karajna,
cart wife tricked (3) sent (4) found (2)

mól Nesertina t'eẖa vaxana.
M. N. after went (5)

'Some time passed, and the man, coming home, found that his wife had been tricked and had sent off his cart and oxen, and he set off in pursuit of Mullah Nasreddin.'

In my transliteration, c', t', etc. are glottalized; ḥ and ʕ are pharyngeals; ӧ, ӫ are front rounded, ӱ, ӧ̄ are front rounded and long; the acute accent marks length and the absence of the accent means either than the vowel is short or that it is not known to be long.

Readers may observe that the anterior converb in -na (-la, etc.) is identical to the inferential past finite. Although the forms are identical, there is never doubt as to whether the clause is conjunct or main: particles, certain word-order patterns, and the presence or absence of Equi and reflexivization make the clause type clear.

7 In these stories direct speech is usually used to indicate a character's realization of a situation, as well as communication among characters. The realization or communication is plot-advancing, although the speech itself is not. I have therefore counted the preceding 'said', 'asked', etc. as foregrounded.

8 Initial iz 'it' (nom.) is probably not the object of laǯ'q'ajna 'stole' but the subject of the main verb jajn 'disappeared', moved to the beginning of the clause chain as is typical. The object of laǯ'q'ajna 'stole' is Equi-deleted, with overt iz as controller.

9 These statements imply that the first text represents a chronologically earlier stage than the second. In fact the two texts were published at about the same time (1900 and 1888). The evidence for the historical ordering of the styles cannot be presented here.

10 Conjunct if Dešeriev's analysis of the form as participial is correct. The ending is that of the witnessed past, which is used for sequenced foregrounded clauses in the same passage. Therefore if the form is conjunct it must be anterior.

11 Notice that a foregrounded clause may contain a zero verb due to gapping or the like.

Appendix

Text frequencies for agency, valence, and transitivity: Chechen, first style

The three texts summarized in Tables 1 and 2 are the first three texts from El'darxanov 1900. Text 3 is the source of passages (7)-(9) above. Texts 1-2 are not illustrated above. Passages (10)-(11) above are from a text not counted for this Appendix.

All three texts are representative of a single grammatical style, that of (7)-(9): in all three of them, converbs are used for backgrounding and sometimes for chunking, and the aspect constraint, which precludes use of converbs in non-sequenced backgrounded clauses in (10)-(11), is not evident. Text 1 is a didactic folk tale, text 2 an epic myth, and text 3 a humorous story.

Note should be taken of the anomalous figures for valence and transitivity of text 1 in Table 1: whereas for the other texts converbs have higher valence and transitivity, for text 1 converbs

have slightly lower figures in these areas. This is due to the fact that text 1 is a story in which there is no movement from place to place and the narrative involves mostly conversation and other interactions among participants. This means that verbs of speech are very frequent in the text, especially as main verbs; and motion verbs (which tend to be main verbs in other texts) are infrequent. In Table 2, where verbs of speech are removed, the ratios for text 1 are normal.

Tables 1 and 2 show that agency is high for all verbs, and somewhat higher in main verbs than converbs; while valence and transitivity are high for converbs. The discrepancies in valence and transitivity are apparently greater than that for agency. In other words, converbs clearly outrank main verbs for two Transitivity properties, while main verbs slightly outrank converbs for another Transitivity property.

Table 1: All verbs.

Text	Verb type	No. of tokens	Agent subject	Average valence	No. of transitives
1	C	26	19 (73%)	2.08	19 (73%)
	M	11	11(100%)	2.18 *	9 (81%)
2	C	26	22 (85%)	1.50	12 (46%)
	M	25	22 (88%)	1.36	7 (28%)
3	C	35	32 (91%)	1.80	25 (71%)
	M	21	19 (90%)	1.67	12 (57%)
total	C	87	73 (84%)	1.79	56 (64%)
	M	57	52 (91%)	1.63 *	28 (49%)

Table 2: Verbs other than 'say', 'ask', etc.

Text	Verb type	No. of tokens	Agent subject	Average valence	No. of transitives
1	C	18	11 (61%)	2.00	9 (50%)
	M	5	5(100%)	1.80 *	3 (60%)
2	C	21	17 (81%)	1.38	7 (33%)
	M	21	18 (86%)	1.19	3 (14%)
3	C	29	26 (90%)	1.80	19 (66%)
	M	15	13 (87%)	1.27	6 (40%)
total	C	68	54 (79%)	1.72	35 (51%)
	M	41	36 (88%)	1.29 *	12 (29%)

Notes:

C = converb, M = main verb

* marks figures which rise by .01 to .02 if unclear cases are included.

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THE NOTION OF GIVENNESS AND THE USE OF PRONOUNS AND ELLIPSIS*

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Chafe (1976) has characterized the notion of givenness in terms of the notion of consciousness, stating that "given information is that knowledge which the speaker assumes to be in the consciousness of the addressee at the time of the utterance," and that "new information is what the speaker assumes he is introducing into the addressee's consciousness by what he says."

The present study is an attempt to further examine the linguistic significance of the notion of givenness as defined in terms of the notion of consciousness. I will first discuss the question of what givenness is, and then, through the analysis of English and Japanese texts,[1] I will attempt to account for the use of pronouns in English and ellipsis in Japanese in terms of givenness.

What Is Givenness?

There have been different uses of the notion of givenness in different linguistic theories. One definition which is often seen in the literature is based on such notions as recoverability and focus. Another definition characterizes the notion of givenness in terms of "consciousness." Although the latter use is my concern in the present study, I would first like to discuss briefly the notion of givenness as defined in terms of "recoverability" and to point out that this notion and the one which I will be talking about in this paper are to be distinguished from each other.

Halliday (1967, 1970), for example, has characterized givenness on the basis of recoverability. He defines the constituent specified as new as "non-derivable information, either cumulative to or contrastive with what has preceded," and states that what is given is information which is recoverable anaphorically or situationally.

(1) John painted the shed yesterday.
(2) John painted the shed yesterday.

For example, in (1), John, which is the focus of information and is assigned phonological prominence, is said to be new because the implied question in (1) is "Who painted the shed yesterday?" and John is non-recoverable from this implied question. Other constituents in (1) are said to be given. In (2), on the other hand, painted

is said to be new, and the remaining constituents to be given, the implied question being "What did John do to the shed yesterday?"

What is involved here is the value of the information conveyed by an element or elements of a sentence. That is, the element(s) in question may convey either given(or old) or new information, depending upon whether it is informative to the addressee or not. And whether the element(s) is informative or not depends on the implied question, or more appropriately, on the knowledge of a certain proposition that is assumed to be shared by the speaker and the addressee.[2]

The notion of givenness which I will discuss here, on the other hand, involves the status of each item in a discourse. To avoid confusion, from now on, instead of the term 'given-new information,' I will use the terms 'given' and 'non-given' to refer to the status (i.e., givenness) of items, and the term 'old-new information' to refer to the value (i.e., oldness or newness) of the information conveyed by an element or elements of a sentence.

Thus, I would like to say that, regarding each item in a discourse, the speaker makes a judgment with respect to whether it is 'given' or 'non-given,' depending upon whether or not he assumes that it is in the addressee's consciousness at the time of the utterance. As will be seen, in English the choice between the use of a pronoun and a full noun phrase or between the use of a verb and a proform of that verb reflects the speaker's judgment about the givenness of the item. The question is, what kind of items in a discourse are regarded as 'given,' or are assumed to be in the addressee's consciousness? Usually, things in the conversational situation and items mentioned in the immediately preceding discourse are considered 'given,' or are assumed to be in the addressee's consciousness.

(3) Whose car is this?
(4) I told you to finish the homework first.

For example, in (3) and (4), the items referred to by the underlined pronouns are 'given' because they are present in the conversational situation. (This is explained in detail in Chafe (1976).)

(5) 1. Okay, there's a farmer. 2. He looks like a Chicano American. 3. He is picking pears.
:
4. A little boy comes by on his bicycle. 5. He sees that there are baskets of pears there.
:

6. Meanwhile, there are three little boys, up on the road a little bit, 7. and they see this little accident.
:(a story about the boy and
:the three boys)
8. And then he (i.e., the boy on a bicycle) goes off, 9. and that's the end of that story. 10. But then it goes back to the farmer. 11. Finally, he comes down from his tree. 12. He looks at the baskets.

In (5), the item referred to by the pronoun he in Sentece 2 is 'given' because it has been mentioned in the immediately preceding sentence and is assumed to still be in the addressee's consciousness when Sentence 2 is uttered. For the same reason, all the items referred to by the underlined pronouns in (5) are 'given.'

When an item is mentioned for the first time in a discourse (whether the mention is definite or indefinite),[3] or when it is mentioned again in the same discourse after a sufficient interval (bearing a definiteness marker in this case), it is regarded as 'non-given.' For example, in (5), the items referred to by the noun phrases a farmer in Sentence 1, a little boy in 4, baskets in 5 and three little boys in 6 are 'non-given' because they are mentioned for the first time in the discourse. The items referred to by the noun phrases the farmer in Sentence 10 and the baskets in 12 are also 'non-given.' They are not the first mention of these items in (5); they have been talked about previously in the same discourse. However, in Sentences 10 and 12, they are no longer 'given' because they have not been mentioned in the discourse immediately preceding 10 and 12 and are thus assumed to have gone out of the addressee's consciousness by the time 10 and 12 are uttered.

An item which has been mentioned in an earlier sentence, but not in the immediately preceding sentence, may also be assumed to be in the addressee's consciousness. This may occur when the item is important to the discourse and has been talked about for a fairly long time in the preceding discourse, and/or when the intervening sentences in which the item in question is not mentioned are short and/or are not important to the discourse.

(6) ... 1. He (i.e., the boy) puts the bushel basket on the front of his bike, 2. and he drives off with it. 3. He's driving along this road. 4. That's, uh, it's not paved. 5. It's just sort of a dirt road, 6. and it's sort of jutty. 7. And so he's driving along, and

riding his bike along, 8. and he sees another person coming toward him, 9. and it's another little white girl with long braids, brown hair. 10. And he's paying attention to her as she passes him.

In (6), the boy referred to in Sentence 7 is treated as 'given,' although he has not been talked about in the immediately preceding sentence. There are in fact three sentences before Sentence 7 in which the boy is not mentioned. He is, however, treated as 'given' because he is one of the important characters, talked about at length earlier in the story, and because the intervening sentences are not essential to the story. The boy mentioned in Sentence 10 in (6) is also regarded as 'given' because there is only one intervening sentence and because he is important to the story.

As I noted earlier, it is the speaker who makes the judgment about the givenness of items. Thus, this judgment may not always be appropriate. That is, due to his egocentricity, the speaker may fail to make a correct assessment of the state of the addressee's consciousness. In such a case, the judgment reflects the speaker's consciousness, and the expression of givenness becomes inappropriate.

(7) 1. Okay, there's a farmer. 2. He looks like a Chicano American. 3. He is picking pears, 4. and he's just picking them. 5. He comes off of the ladder, 6. and he puts his pears into the basket. 7. A number of people are going by, 8. and one is, you know, I don't know, 9. I can't remember the first thing that, the first person that goes by. 10. Oh, a man with a goat comes by. 11. It seems to be a busy place. 12. You know, fairly busy. 13. It's out in the country, maybe in the valley or something. 14. And, he (i.e., the farmer) goes up the ladder, 15. and picks some more pears.

In (7), with the pronoun he in Sentence 14, the speaker is referring to the farmer. When Sentence 14 is uttered, it is probably the case that the addressee is not thinking of the farmer any more. However, this character is treated as 'given' because he is what the speaker is thinking of. In the same way, in (8) following, the boy on a bike referred to in Sentence 10 is considered to be 'given.' Inappropriate judgments like these are likely to occur in unplanned discourse because the speaker does not have enough time to consider the state of the addressee's consciousness.

(8) ... 1. And he (i.e., the boy on a bike) looks around for the hat, 2. doesn't watch where he's going, 3. and hits a big rock in the road, 4. all the pears fall down. 5. And then there's a shot of three kids, sort of standing by the roadside, 6. and you don't know at first whether they're hostile or not, 7. and you get a shot. 8. Then they're sort of standing there, grinning, 9. and it could, that could be interpreted as a menacing grin, or a friendly grin, or just the way kids are, 10. and they go over to him (i.e., the boy on the bike).

I would now like to discuss briefly the relationship between givenness of items and the oldness or newness of information. It is often the case that a 'given' item conveys 'old information,' and a 'non-given' item conveys 'new information.'

(9) Who did this? (referring to the broken window)
John did it.
(10) This is a library.

For example, in (9), the referents of did this in the question and did it in the answer are 'given,' and these words convey 'old information.' The referent of John in the answer, on the other hand, is 'non-given,' and John conveys 'new information.' Again, in (10), the item referred to by the demonstrative this is 'given,' and this conveys 'old information,' whereas the idea of a library is 'non-given,' and a library conveys 'new information.'

This relationship, however, does not always hold. In other words, a 'given' item may convey 'new information,' and a 'non-given' item may convey 'old information.'

(11) Who took out the garbage?
I did.
(12) This is the library.

In (11), what is referred to by took out the garbage is 'non-given,' but the words convey 'old information.' On the other hand, the referent of the pronoun I in the answer is 'given,' but I conveys 'new information.' Or, in (12), the referent of the demonstrative this is 'given,' but this conveys 'new information,' whereas the referent of the library is 'non-given,' but the library conveys old information.

Givenness of Items and the Use of Pronouns and Ellipsis

In what follows, English and Japanese texts will be analyzed to compare the way givenness is expressed in the two languages. I stated earlier that in English a 'given' item is expressed by a pronoun or the proform of a verb, and a 'non-given' item is expressed by a full noun phrase or a verb. In the case of Japanese, on the other hand, a 'given' item is often (but not always) subject to ellipsis, and a 'non-given' item is expressed by a full noun phrase or a verb.

(13) 1. Otoko no hito desu ka, noofu-san ga ki no tokoro de yoonashi o totte iru wake nan desu. 2. Sorede ne, ano, mittsu, kago ni mittsu gurai totta wake desu ne. 3. De, mada, ano, nobotte totteru wake nan desu.

:

4. De, soko no tokoro ni kodomo ga, ano, chiisai shoogakkoo gurai no ko ga jitensha de kite, 5. de, hitotsu no kago o totte ttchau n desu ne. 6. Sorede, ittchau n desu ne.

:(a story about the boy and three boys)

7. Soko no tokoro de choodo noofu-san ga, ano, ki no ue kara orite kite, 8. sorede, yoonashi no hako o miru n desu. 9. Soosuru to hitotsu tarinai wake nan desu.

1. A man, a farmer is picking pears on a tree. 2. And, (he) has picked three basketful. 3. And (he) is still picking (them), going up (the tree).

:

4. Then, there came a kid, a little shool boy, riding a bike, 5. and (he) took one of the baskets, 6. and (he) went off.

:(a story about the boy and three boys)

7. There, the farmer came down from the tree, 8. and (he) looked at the pear-boxes. 9. Then, one of (them) is missing.

In (13), there is no explicit reference to the farmer in Sentence 2. (In the English translation, ellipted items are put in parentheses.) The farmer in Sentence 2 in (13) is 'given' because he has been mentioned in Sentence 1. In the same way, the farmer in Sentences 3 and 8, the pears in 2 and 3, the tree in 3, the boy in 5 and 6, and the pear-boxes in 9 are 'given' and are not expressed.

On the other hand, the farmer, the tree and the pears in Sentence 1, and the boy in 4, are 'non-given' because they are mentioned for the first time in the discourse. Thus, they are expressed by noun phrases. The farmer and the tree in Sentence 7 and the pears in 8 are also 'non-given' and are expressed by noun phrases. Although these mentions are not the first mentions in the discourse, their referents are considered to be 'non-given' because they have not been talked about in the discourse immediately preceding Sentences 7 and 8.

Although I have up to this point said that, in English, a 'given' item is expressed by a pronoun, and that, in Japanese, it is subject to ellipsis, this is not always the case. As Chafe (1976) has pointed out, when the speaker thinks that the use of a pronoun or ellipsis may cause ambiguity or misinterpretation of the identity of the referent, its use is avoided even when the item in question is considered 'given.'

A possibility of ambiguity or misinterpretation as to the referent of a pronoun or the ellipted item arises when there are two or more 'given' items that are candidates for the referent slot in question. Comparing pronouns and ellipsis, the number of candidates for the referent is more restricted in the case of a pronoun because a pronoun, but not an ellipsis, provides a certain amount of information about the referent, such as its number and person.

Thus, in the case of English, the possibility of ambiguity or misinterpretation as to the referent of a pronoun arises only when there are two or more 'given' items that are the same with respect to the features marked by the pronoun. However, even when there are two or more 'given' items that have the same features, the use of a pronoun may not always cause ambiguity or misinterpretation. When there is no change in the grammatical relations of the items in question in two succeeding sentences, pronouns may be used in the second sentence even when there are two or more 'given' items with the same features.

(14) ... 1. One of them (i.e., the three boys) whitles back to the guy on the bicycle, 2. "Here's your hat," 3. or he, I don't know, 4. and <u>he</u> goes and takes it.

In (14), when the underlined pronoun <u>he</u> is uttered, there are two 'given' items, one of the three boys and the guy on the bicycle. Rather than a noun phrase, however, the pronoun <u>he</u> is used to refer to one of the three boys because he is the referent of the subjects of both the sentence in question and the preceding sentence.

Ambiguity or misinterpretation as to the referent

of a pronoun is, then, most likely to arise when there are two or more 'given' items that are the same with respect to the features marked by the pronoun, as well as when there is a change in the grammatical relations in two succeeding sentences. In such cases, the 'given' items are expressed by noun phrases, rather than by pronouns.

(15) ...1. And then one of the boys finds the hat, lying on the road. 2. And then he whistles at the boy on the bicycle, 3. and the boy on the bicycle stops.

(16) ...1. A little boy on a bicycle who's coming by. 2. And so he starts coming by, 3. and he ends up stopping where the pears are, 4. and looks up at the man who's up the ladder, 5. and the man doesn't know that the little boy is there.

(17) ...1. So he (i.e., the boy on a bike) takes the whole basket, 2. and puts it near his bike, 3. lifts up the bike, 4. puts the basket on the front part of his bicycle.

In (15), when Sentence 3 is uttered, there are two 'given' items, one of the boys and the boy on the bicycle; they are 'given' because they have been talked about in the immediately preceding sentence. In Sentence 3, the referent of the subject, that is, the boy on the bicycle, is expressed by a noun phrase. The use of the pronoun he is avoided because its referent is most likely to be understood as the other 'given' item, one of the boys, that is the referent of the subject in the preceding sentence. In the same way, in (16) and (17), the referents of the underlined noun phrases are 'given' at the time of the utterance, but they are expressed by noun phrases rather than by pronouns because pronouns might cause ambiguity or, more likely, misinterpretation.

As I noted above, pronouns provide some information about their referents. Thus, even when there is a change in the grammatical relations of the items in question in two successive sentences, pronouns may be used if the features of the referents with which they are associated are not the same.

(18) ... 1. And he (i.e., the farmer) sees these three boys approaching, 2. and they're eating pears, 3. and they walk off into the distance, 4. and he's sitting there with a puzzled look on his face.

(19) ... 1. He (i.e., the boy on a bike) comes across another bicyclist. 2. It's a young woman, 3.

and for some reason she catches his attention, 4. and he's turning his head behind him, looking at her.

(20) ... 1. And he's (i.e., the boy on a bike) riding down the road, 2. and he had a hat on, 3. and he almost ran into a girl, 4. and somehow she took his hat, not on purpose, 5. but it came off. 6. So he goes, and looked around.

For example, in (18), when Sentence 2 is uttered, there are two 'given' items, the farmer and the three boys. Since they differ in number, the pronoun they is used to refer to the three boys, although there is a change in grammatical relations between Sentence 2 and the preceding sentence. In the same manner, the underlined pronouns in (18), (19) and (20) are used in spite of the existence of more than one 'given' item at that point in the narrative.

I would now like to turn to the case of Japanese. As I mentioned above, since ellipses convey no information about their referents, when there are two or more 'given' items, their use may cause ambiguity as to their referents. However, as was the case in English, when there is no change in the grammatical relations of the items in question in two succeeding sentences, ellipses may be used in the second sentence even when there are two or more 'given' items.

(21) ... 1. (Otoko no ko ga) jitensha ni notte itt-chattara, 2. jitensha ni notta onna no ko to surechigatte, 3. sore ni mitorete, 4. sorede, ishi ni tsumazuite,

... 1. When (the boy) was riding the bike, 2. (he) passed by a girl who was riding a bike, 3. and (he) was watching it, 4. and (he) tripped on a rock.

For example, in (21), when Sentence 3 is uttered, there are two 'given' items, the boy and the girl. However, the boy that is the referent of the subject in Sentence 3 is not expressed because he is also the referent of the subject in the preceding sentence.

When there is a change in the grammatical relations of the items in question in the two sentences, the use of ellipses for the 'given' items is usually avoided, and noun phrases or pronouns[4] are used instead.

(22) ... 1. De, sono sannin-gumi no hitori ga otoko no booshi o motte sono otoko no ko no ato oi-kakete, 2. soshitara, sono koronda otoko no ko

wa, mangoo o mittsu ka na, mittsu o sono otoko no ko ni oree to shite watashite,

... 1. So one of the three boys, holding the boy's hat, chased the boy. 2. Then, the boy who fell over gave the boy three mangoes to thank (him).

In (22), for example, at the time Sentence 2 is uttered, there are two 'given' items, one of the three boys and the boy who fell over. The speaker refers to both of them by noun phrases because their grammatical relations in 2 differ from those in 1.

As we have seen in Examples (18), (19) and (20), in the case of English, even when there is a change in the grammatical relations of the 'given' items, pronouns may be used if the features of the referents with which they are associated are not the same. In the case of Japanese, on the other hand, since ellipses do not convey any information, when there is a change in the grammatical relations of the items in two succeeding sentences, the use of ellipsis is usually avoided, even when the items in question differ from each other in such features as number and person.

(23) ... 1. Ano, kondo, sono, mangoo o totte ita ojisan ga ki no shita ni orite mitara, 2. sono, hito-kago-goto zenbu dokka ni nakunatte ite, 3. "okashii naa," to omotte koo kangaekonde ita tokoro e, 4. sono sannin-gumi no otoko no ko ga mangoo o kajiri nagara sono otoko no hito no mae o toorisugite itte, 5. sono otoko no hito wa, "mm, chotto ayashii na," to omoi nagara sono kodomo-tachi no ushiro sugata o mite ita.

... 1. Uh, next, the man who was picking mangoes came down from the tree, 2. then, one of the baskets is missing, 3. so (he) thinks, "(It's) funny," 4. then the three boys, eating the mangoes, passed by in front of the man. 5. The man, thinking, "(That's) funny," watches the back of the kids.

(24) ... 1. Otoko no ko ga dondon inaka-michi o hashitte iku to, 2. hantai-gawa kara onna no ko ga yahari jitensha ni notte yatte kuru. 3. Otoko no ko wa, onna no ko no hoo ni ki o tora-rete iru to, 4. surechigai-zama ni michi ni atta koichi ni tsumazuite, 5. jitensha-goto taorete shimau.

... 1. When the boy was riding on the country road, 2. a girl, also riding a bike, came in the opposite direction. 3. The boy was paying attention to the girl, 4. and tripped on a rock on the road, 5. and fell over with the bike.

In (23), the two 'given' items in Sentence 5, that is, the man and the kids, differ from each other in number, but they are expressed by noun phrases because the use of ellipsis may cause ambiguity. The same thing can be said of the underlined noun phrases in Example (24).

It is, however, not always the case that the use of ellipsis in Japanese is avoided when there is a change in the grammatical relations of the items in question in the two successive sentences. When there is a factor that clarifies the identity of the referent, ellipsis may be used even under these circumstances. One such factor is the context of the discourse. Another factor is the form of the verb in the sentence, such as the use or non-use of an honorific form.

(25) Taroo: 1. Okaasan datte itta daro, 2. obaachan wa chotto asobi ni kita dake da tte.
Haha: 3. Taroo!
Taroo: 4. Ore, iya da yo, shiranani hito ga zutto uchi ni iru nan te.
Chichi: 5. Shiranai hito to wa nan da. 6. Omae no obaasan nan da zo.
Taroo: 7. Datte, shiranai n da mon.

Taroo: 1. Even mom (i.e., you) said so, (didn't you,) 2. that granny was just here for a short visit?
Mother: 3. Taroo!
Taroo: 4. I won't have (it), a stranger living here from now on!
Father: 5. A stranger? 6. (She) is your grandmother.
Taroo: 7. But (I) don't know (her).

For example, in (25), the two 'given' items in Sentence 7 are not expressed, although there is a change in grammatical relations between Sentences 6 and 7. This appears to be possible because, from the context, the referents are considered obvious.

(26) 1. Nee, okaasan ni sukoshi uchi no koto tetsudatte itadaita hoo ga ii kashira. 2. Demo, ammari onegai-shite mo, 3. kokitsukatte iru mitai da shi, 4. to itte nani mo nasaranaide kudasai to yuu to, 5. jamamono atsukai-shiteru

yoo ni o-tori ni naru mitai dashi.

1. (I'm) wondering if (it) would improve things if (I) got (your) mother to help around the house a little. 2. Of course, if (I) ask (her) to do too much, 3. (it) would make (it) look as though (I) were working (her) like a slave, 4. but on the other hand, if (I) told (her), "Please don't do anything," 5. (she) might take (it) to mean that (I) am treating (her) like a nuisance.

In Sentence 5 in (26), the 'given item' in question is not expressed because it is not ambiguous from the context as well as from the honorific form of the verb (i.e., o-tori ni naru 'to take').

Earlier, I discussed the speaker's egocentricity in making judgments about the givenness of items. The speaker's judgment about the possibility of ambiguity or misinterpretation as to the referent of a pronoun or the ellipted item may also be egocentric, bringing about an inappropriate expression of givenness.

(27) ... 1. Sorede, mata booshi ga ochite iru no o sono sannin no naka no shoonen ga hitori mitsukete, 2. modotte kite, 3. ageta tokoro, 4. moo yooi-shite ita mitai desu ne, 5. sanko gurai agenakya to yuu koto de, 6. sorede watashite,

... 1. Then, one of the three boys found a hat, 2. and (he) came back, 3. and (he) gave (it to the boy on the bike), 4. then (he - i.e., the boy on the bike) seemed to have prepared (the pears), 6. and (he) gave (them) (to one of the three boys).

In (27), the subject of Sentence 4 is not expressed. The speaker is talking about the boy on the bike, which, however, may not be clear for the addressee because the referent of the subject in the preceding sentence is not the boy on the bike, and because the context is not helpful. The speaker, however, is using an ellipsis because for him the referent is not ambiguous.

In English also, even when there are two or more 'given' items that are the same with respect to such features as number and person, and when there is a change in the grammatical relations in two successive sentences, the speaker may sometimes use pronouns if he thinks that the referents are not ambiguous in context. The addressee, however, may not always be able to follow such pronoun usages. A case of this is shown in Example (28).

(28) ... 1. Then a little boy on a bicycle comes riding past the tree, 2. and sort of goes past the pears in the baskets, 3. and then stops, 4. and looks up at the guy in the tree, 5. he (i.e., the guy in the tree) is still on the ladder, 6. and he is not watching him (i.e., the little boy), 7. so he (i.e., the little boy) puts his bike down, 8 he walks over.

It thus appears, then, that the use of a pronoun or ellipsis is avoided when it is thought it might cause ambiguity or misinterpretation as to the referent. In addition, there seem to be other circumstances under which the use of a pronoun or ellipsis is avoided. For example, when the item to be expressed is a concept related to the 'given' item in question (e.g., a concept in a frame), a pronoun or ellipsis can not be used. Or, in the case of Japanese, when the 'given' item conveys new information, it must be mentioned. These factors, however, must await further study.

Footnotes

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[1]The sources of the examples used in this paper are as follows: Examples (1) and (2) are from Halliday (1967). Examples (5)-(8), (13)-(24), (27) and (28) are part of the data from Chafe's project. Except for (24), all are drawn from oral narratives. Examples (25) and (26) are taken from the script of a T.V. drama called "Tonari no Shibafu."

[2]Chomsky (1971) used the terms 'presupposition' and 'focus' in the sense of 'given-new information' under discussion.

[3]The notion of givenness is distinct from that of definiteness. Like the notion of givenness, that of definiteness involves the status (i.e., definiteness) of each item in a discourse. However, whether the item is definite or not depends on whether it is identifiable for the addressee or not.

[4]A noun phrase may sometimes be used for a 'given' item when the use of even a pronoun may still cause ambiguity. In other cases, the use of a pronoun may be avoided, due to the fact that in Japanese pronouns carry connotations of respectfulness, politeness, etc.

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Language Typology and the Segmentation Problem in Early Child Language Acquisition

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A universal early task for children learning any language is to pick out recurring sequences of sounds from the surrounding language which are predictably associated with some meaning. In a perceptual sense, at least, such recurring sequences will be a child's first "words". These sequences may or may not, however, coincide with the "words" of either the adult speaker's intuitions or the linguist's analysis. Thus, they may be too long, as when a child perceives whole phrases as unsegmented units, e.g. all gone, or what's that, or even open the door (Peters, 1977). Or, they may be too short, as we might infer when the first words of a child learning an inflected language turn out to be uninflected stems. I will call this task of isolating the first perceptual "words" of a language "the initial segmentation problem".

The growing literature on individual differences in language acquisition suggests that not all children solve the initial segmentation problem in the same way. Some of the factors which may affect how a particular child goes about solving this problem include (1) individual differences in cognitive abilities and style, (2) the kind of speech she regularly hears, and (3) certain phonological and morphological properties of the language she happens to be learning. This paper is about the third class of factors, but to provide some needed perspective I will comment briefly about the first two. It should be borne in mind that considering these factors in isolation from each other is only a heuristic device to allow us to focus on them one at a time. In reality, no one factor operates alone, rather they interact with each other in complex ways.

The increasingly large number of studies of the acquisition of a single language, English, has turned up a clear range of differences in learning strategies and cognitive style among the children studied. These differences seem to fall along a continuum, the endpoints of which have variously been characterized as Expressive vs. Referential (Nelson 1973), Gestalt vs. Analytic (Peters 1977), or Noun leavers vs. Noun lovers (Horgan 1980). One characteristic of those children on the Expressive/Gestalt/ Leaver end of the continuum seems to be a propensity to include whole unanalyzed phrases among the first "words" produced. Referential/Analytic/Lover children, on the other hand, seem to stick to smaller early "words" which correspond more closely to single adult words. Since all of these children were learning the same language, English, it can not be varying properties of the particular language being

learned (factor 3) that caused these differences. There may have been some influence from the kinds of caretaker speech the children heard (factor 2), but there also seems to be evidence that some of these differences in strategy were due to individual differences in cognitive style. (See especially Horgan 1980 for a good review.)

Since 1970 the number of studies of the kind of speech (now generally referred to as "caretaker speech") regularly addressed to young language learners has grown tremendously (e.g. Snow & Ferguson 1977). Although many of these studies have been of English, several recent studies have looked at caretaker speech in other languages and cultures (esp. Schieffelin 1979, Ochs 1980a). Certain attributes of caretaker speech may facilitate or hinder the child in finding solutions to the segmentation problem which coincide with word boundaries of the adult language. Thus it is probably the case that the tendency to produce modified repetitions of utterances (including reductions and expansions) gives the child very useful data for performing segmentation as well as morphological analysis. Similarly, the kinds of predictably recurring interactive verbal routines described by Ninio & Bruner (1978: What's that? That's an X), Sachs & Truswell (1978: Where's your nose/toes/...?), and Thomas (1980: What color is that? Red/blue/...) seem to encourage not only segmentation of the novel items in the routines, but the child's participation in the routines, i.e. not only perception but production. The verbal support routines that have so far been identified in caretaker speech for English learners seem particularly to support segmentation of and learning of labels, especially nouns, although there are also routines for learning longer chunks of speech via routines such as Peekaboo and Pattycake as well as nursery rhymes. Schieffelin's study of the Kaluli in New Guinea, however, found none of this support for segmentation of labels. Caretaker support in this culture was focused on language to be used in everyday interactions, especially with third parties (i.e. other than mother and baby). The question of early segmentation is not explicitly addressed in Schieffelin's dissertation, so the question remains open as to how exposure to and encouragement of repetition of sentences appropriate to normal everyday interactions affects success in segmentation.

Before discussing the typological factors affecting the child's success at segmentation I need to acknowledge two methodological points that have an effect on whether we can legitimately discuss the problem at all. One has to do with how, or whether, we can infer how the child <u>perceives</u> language. The chief evidence for how children do this comes from their own linguistic <u>productions</u>. Especially at the very earliest stages of first language learning, a child's perception abilities may be very different from her production abilities. Thus, while production may be heavily constrained by poor articulatory control, and thus limited, e.g. to a single CV syllable at a

time, perception may not be so constrained. Since we have very little evidence on what kinds of perception constraints may exist, and since some children do seem to perceive and produce long chunks of adult speech as units even at the earliest stages (Peters 1980), for the purposes of this paper I have assumed that it is universally the case that children perceive much more complex units than they can produce. Note also that just because a child has failed to produce a particular word or morpheme or sound, this is not sufficient evidence that she has failed to perceive it. This is a very sticky area in which to make inferences, but we should be willing to keep our minds open to the possibility that although certain linguistic markers may not turn up in a child's productive repertoire she may nevertheless use them perceptually as segmentation aids.

The other methodological point concerns the slippery concept of the "word". In some languages, in particular those which have predictably recurring stress on either the first or last syllable of each lexical unit (e.g. Finnish or Quiché), it is very easy to get agreement, both among native speakers and among linguists as to what constitutes a word. For languages which do not have such word-based predictable stress, however, the concept of word may be very hard to get agreement on, especially in languages which have phenomena such as pervasive cliticization and/or strong phrasal stress. In such languages it seems that those "words" which are lexically defined and those "words" which are phonologically defined (e.g. in terms of stress patterns) do not line up very well. In particular, phonological words seem to slop over the edges of lexical words. In spite of the fact that the term cannot be generally defined for all languages, it is nevertheless a useful concept if used carefully in specific situations. In this paper I use this term in specific ways for each language, without relying on any general theory of the word.

The influence of language typology on early segmentation strategies has not been systematically addressed up to now because so much of the work on language acquisition has been done on a single language, English. And such cross-linguistic work as has been done, in the sense of comparing acquisition across languages, has tended to focus on more developmentally advanced stages rather than the isolation of early words. Now English is a more or less isolating language, having relatively little inflectional morphology (as compared to e.g. Finnish or Turkish), and words that are relatively simple (as compared e.g. to Russian or German or Mohawk). Thus it is not particularly surprising that, in general, the early words that English-learning children have tended to isolate have coincided with adult words pretty well. Of course, there have been a few "phrasal words" such as what's that? and lookit! But on the whole there have been few enough of these that most researchers have felt safe in merely remarking on them and then ignoring them. And there have been many early words where the child's

version is shorter than the adult model, such as (gi)raffe.

If, however, one has become acutely aware of the Expressive/Gestalt strategy among English learners (see Peters 1980), and then starts to look at what early words are like across languages, a number of tantalizing tidbits begin to appear. The challenge, then is to make sense of gleanings such as the following:

1. In Turkish, which is highly agglutinative, early words tend to consist of more than one morpheme, and children show awareness of the word-internal morphemic patterning of words, even before they know explicitly how to fill out the patterns (Slobin & Aksu 1980).

2. In SiSwati, which is also an agglutinating language, early words seem to consist of stems rather than whole adult words. Awareness of the morphological patterning within the word does not show up, productively at least, until later (Kunene 1979).

3. In Hungarian and Finnish, which are both inflecting languages, children are likely to begin with either stems or "amalgams" of stem plus inflection (MacWhinney 1974). There is some evidence to indicate that there may be a strategy difference operating here, in that some children may choose to produce stems while some may choose to produce amalgams (Argoff 1976).

4. In Slavic languages, which are more highly inflected than English, but which have portmanteau type inflections (as opposed to the more nearly one form/one function inflections of Finnish and Hungarian), children's early words seem to be stems rather than amalgams (Radulović 1975).

5. In Hebrew, which has interdigitation of morphemes, children of necessity start with whole words (Berman 1980a).

There is as yet no data on how children go about learning polysynthetic languages.

One way of making sense of these observations is to approach them with the hypothesis that certain phonological and morphological properties of the language that a child is learning will work to either help or hinder her in segmenting out adult words and later in segmentation at the morpheme level. In any case, a detailed awareness of these properties in a particular language should precede any study of acquisition of that language, especially any study of the acquisition of its morphemes. What follows, therefore, is a list of such properties as I have been able to identify. For each I have indicated the effect on segmentation which I suspect it to exert, along with an indication of the kind of evidence which I have found that it actually works that way.

A. Stress

1. Predictable location of word stress with respect to word boundaries may be used as a segmentation clue.

In fact Bolinger 1978 has already remarked that this may be one of the main functions of such predictable stress (483). Certainly, studies of the acquisition of languages which have this property show that children rarely make segmentation errors which cross word boundaries (e.g. Hungarian: MacWhinney 1974; Finnish: Argoff 1976; SiSwati: Kunene 1979; Quiché: Pye 1980). The few exceptions that I have found involve clitic-like particles which do not carry stress of their own, e.g. the definite article in Hungarian (MacWhinney 1974). Note that the fact that English, for example, does not possess this property would imply that it would be harder to segment in an adult-like fashion than e.g. Finnish.

Prediction: The existence of predictable stress will tend to prevent the acquisition of units longer than a word, except in cases where word stress is overridden by phrase stress (see A5).

Prediction: If a language has such predictable stress for almost all words, the few exceptions are likely to be involved in segmentation errors.

2. The existence of characteristic word rhythms may allow the extent of a word to be recognized by its rhythmic envelope.

The pervasiveness of the phenomenon of "filler syllables", where children produce phonologically underdifferentiated syllables which seem to serve the function of filling perceived but not yet analyzed slots in words or phrases, attests to the fact that children are sensitive to such rhythmic envelopes. Filler syllables are mentioned in descriptions of the acquisition of such diverse languages as English (Bloom 1970, Peters 1977), Turkish (Slobin & Aksu 1980), Serbo-Croatian (Radulović 1975), Spanish and Cakchiquel (Tolbert 1978), and SiSwati (Kunene 1979).

Prediction: There will be fewer segmentation errors that involve word boundaries in languages that have such regular rhythms.

3. The existence of clitics which affect stress patterns will make word boundaries harder to find.

Thus, clitics are probably part of what makes segmentation hard in languages such as French and English. Guillaume 1927 cites examples in French of cliticized pronouns which were evidently perceived as parts of verbs beginning with vowels: tu la l'ôtes, moi la l'ai vue, il la l'ouvre. In English some of the most common segmentation errors involve particles that behave like clitics: lookit, wanna, woulda. In Hungarian the definite article (a/az) precedes its noun, does not carry stress, and is joined to its noun by absence of juncture. Although segmentation errors which cross word boundaries are uncommon in Hungarian they do occur with the definite article: az ebed → azebed (MacWhinney 1980, 26-7).

Prediction: A clitic will tend to be perceived as an integral part of the "host" word.

4. Segmentation will be facilitated to the extent that phonological words and lexical words coincide.

This property is related to A3 (clitics). Other causes for such mismatch may include former "words" that have lost their independent status and are now affix-like but not really clitics in that they do not have the same privileges of movement as clitics. In a language with vowel harmony, such near-affixes may still be independent enough not to undergo vowel harmony (Anatole Lyovin, personal communication). (See C2 below.)

5. Segmentation will be facilitated to the extent that word-stress is not altered by phrase stress.

I suspect, but don't currently have the documentation to support, that the over-riding of word stress by phrase stress is another reason that French is hard to segment despite the fact that in citation form French words have the "helpful" property of regular word-final stress (A1). In English, formulaic phrases (such as look at that, my turn, that's mine, which are in fact probably lexicalized by adults as units, Fillmore 1979) tend to be stressed as if they were in fact single words. Thus, it is not surprising that children should acquire many of these phrases as units (see, e.g. Peters 1980, Wong Fillmore 1979, Clark 1977).

Prediction: Phrasal articulation of lexicalized chunks is particularly likely to cause segmentation problems.

6. A property that needs investigating is the relative influence on segmentability of stress-timing vs. syllable-timing.

B. Pitch and Tone

1. The existence of characteristic pitch envelopes (as in pitch-accent systems where there is one pitch peak per word) may act as a segmentation aid.

Thus, the Japanese pitch accent system, where pitch drops can occur only once per accented word (see e.g. Goldsmith 1974) could provide segmentation clues in a way that the purely lexical tones of a language like Mandarin would not. Certainly, children are sensitive to pitch contours: it has long been observed that they acquire the intonation contours of English very early. Some children even seem to adopt a strategy of acquiring the "tunes" of words or phrases before they acquire the segments (Peters 1977). In SiSwati it was observed that the first agreement markers to be acquired by one child were copulative markers characterized by a lowering of the tone of the nominal class prefix. In fact, the first form that these markers took was a segmentally underdifferentiated a-, but it was recognizable by the low tone that it carried. It is thus as

if the child was trying to produce the correct tonal envelope even before she had differentiated the various class prefixes segmentally (Kunene 1979, 256). Not only is this strategy reminiscent of the "tune before the words" strategy found in English, but it can also be argued that the characteristic low tone of the copular construction could have been used as a segmentation marker by the child, even before she started producing it.

C. Phonemics and Morphophonemics

1. The existence of characteristic word-initial or word-final allophones may help in boundary location.

Thus if, e.g. word-initial stops are more tense, or more aspirated than stops in other positions, or if gottal stop occurs only as an onset marker, these features could serve as segmentation clues. Such allophonic variants, however, may be subject to neutralization in rapid speech, with lexicalized formulaic chunks being particularly vulnerable.

2. Word-internal vowel harmony should be an aid to perception of word boundaries, although it will tend to obscure word-internal morpheme boundaries.

The vowel harmony in Hungarian, Finnish, and Turkish undoubtedly contributes to children's success in segmenting these languages at adult word boundaries, although this is not the only property these languages have which helps with segmentation.

Prediction: If there are affixes which do not harmonize they will tend to be perceived as separate words.

Prediction: Conversely, if there are free functors which do harmonize, they will tend to be perceived as parts of the words they occur with. In Turkish, Ekmeci 1979, describes some conflations which involve harmony and which one would predict would be difficult to segment:

e.g. ne 'what' + için 'for' → niçin 'why' (105-6).

3. The existence of "heavy" sandhi (e.g. metathesis, epenthesis, deletion, diphthongization or fusion of vowels) at morpheme boundaries will tend to obscure these boundaries and make segmentation harder.

In particular, phenomena such as French liaison with its epenthetic consonants, are expected to be particularly hard to deal with. Grégoire 1949 describes a 2-year-old boy who makes a number of attempts at saying arbre 'tree' in a single conversation. They include: le beau z-abe, le beau t-arbe, un petit n-arpe, au l'arpe. Clearly the child is having segmentation problems with this word which begins with a vowel, and these problems are aggravated by liaison. In English, rapid articulation (sloppy speech) tends to obscure morpheme

boundaries especially in lexicalized phrases such as that's a girl → attagirl or all gone → ahgone.

Prediction: Languages which are "purely agglutinative", i.e. with no sandhi at morpheme boundaries, will be easy to segment. To date this is supported by evidence from Turkish (Ekmeci 1979, Slobin & Aksu 1980) and SiSwati (Kunene 1979) where children have minimal difficulty finding morpheme boundaries.

4. The existence of any resyllabification processes which cross word or morpheme boundaries will tend to obscure such boundaries.

In his study of the acquisition of Quiché, Pye 1980 found such resyllabification hindering accurate segmentation. Thus, when a morpheme of the shape VC precedes a vowel stem, VC'VC, it resyllabifies as follows (' = stress):

C + VC + VC'VC → CV-CV-C'VC
k + aw + il'oh → ka-wi-l'oh 'you see it'

and the child first produces wil'oh, splitting the morpheme aw in the middle (88).

Prediction: Infixing, which radically alters the syllable pattern of a stem, can be expected to cause difficulty with morphological segmentation. This difficulty, however, will manifest itself in the form of perception of morphologically complex structures as units, rather than in the form of assigning morpheme boundaries in the wrong places.

Prediction: The existence of any kind of "bottom up" rhythmic restructuring of a sentence or phrase along purely syllabic or metric lines will tend to obscure lexical boundaries. For instance, the existence of the kind of "accent measure" that Schütz has documented for Fijian may have such an obscuring effect, at least at first. In the following Fijian example the lexical units are shown on the left while the metrical units are shown on the right:

(1) sa: toka → sa:.toka 'she resided'
(2) sa: totoka → sato.toka 'she is beautiful'

In example (1) the metrical units coincide with the lexical boundaries, but in example (2) they do not. (Schütz 1976)

D. Morpheme and Word Structure Properties

1. The existence of distinctive canonical shapes for words and morphemes, especially when coupled with distinctive stress or pitch patterns, should make boundaries easy to find.

It is not clear whether few (vs. many) canonical shapes makes segmentation easier or harder. Thus it has been pointed out to me that although English has a very high number of

canonical shapes, those for the beginnings of words may be sufficiently distinct from those for the ends of words that segmentation is facilitated. It has also been pointed out to me that the fact that Hawaiian has relatively few canonical shapes may make segmentation of this language harder (Irwin Howard, personal communication). On the other hand, the distinctive penultimate stress of Hawaiian, coupled with simple canonical shapes, may make segmentation easier. (Unless it has metrical restructuring like Fijian.) It is clear that careful perception studies are needed. It is also clear that these properties do not work in isolation, but interact in complex ways.

Prediction: Words which have rare or exceptional canonical shapes (within a particular language) are more likely to be involved in segmentation errors. An example of this can be seen in SiSwati where nouns consist of class prefix + stem and the most common shape is CV + CVCV. Nouns of the form CV + CV may be perceived instead as Ø + CVCV, as evidenced by the addition of a "superfluous" prefix. Thus, one child produced li-lutshi 'straw', evidently having perceived lu-tshi as Ø-lutshi and added the prefix li- (Kunene 1979, 71).

Also from SiSwati comes another example at the morpheme level. The nominal class prefixes are generally of the shape CV, with only two exceptions, in- and tin-. The child studied by Kunene seems to have perceived these according to the (C)V-canonical pattern, i.e. as i- and ti-, and to have considered the nasal to be a part of the stem. (Evidence for this is inferred from the child's choice of corresponding plural or singular classifier.) (Kunene 1979, 213-216.)

MacWhinney has suggested that in Hungarian segmentation, a line of last resort (when no well-known root is recognized) may be to "attempt to preserve simple phonological structures such as CV structure" and he gives the example of the name Szlávik Attila which was segmented as Szlávi Katijja [Katilla] (1974, 342-343). Such a strategy could also explain Hungarian children's common missegmentation of the variant of the definite article which occurs before words beginning with vowels, viz. az + V... is perceived as a + zV..., as in

az ebéd → a zebéd (339-343).

2. If stems and affixes have distinct canonical shapes, word-internal segmentation will be easier for the child to figure out.

This is true for Turkish and SiSwati, although it is not the only helpful property these languages possess. In any case, children seem to have little segmentation difficulty in these languages.

3. It will be easier to locate the boundaries of morphemes which consist of integral numbers of complete syllables than of those which consist of only parts of syllables.

This property characterizes Turkish and SiSwati, which indeed seem to be easier to segment than languages like English and French which have morphemes that consist only of single consonants.

In his summary of findings concerning the acquisition of the inflectional morphemes of Quiché Pye 1980 (87) proposes a four-level saliency hierarchy, whereby those morphemes which rank high will be easier for the child to acquire than low-ranking morphemes, viz. (1): the morpheme is entirely included in a stressed syllable: r-'il; (2): the morpheme consists of a whole syllable but it is not stressed; (3) the morpheme is occasionally split over a syllable boundary; (4) the morpheme is always split over a syllable boundary (as in the example in C4 above). Note again that in actuality these properties do not operate in isolation to affect segmentation: Pye's saliency hierarchy involves not only the attribute of syllabicity, but the interaction of syllabicity with stress.

4. Morphological agreement phenomena which produce alliterative or rhyming concord may provide clues for segmentation.

In Bantu languages agreement is very regular in that it (almost) never crosses classes and it is thus consistently alliterative. Such predictably recurring alliteration could serve as a useful segmentation clue. Note that just because a child fails to produce these concords right away is not sufficient grounds for inferring that the child does not use them as (perceptual) segmentation clues. As to rhyming concord, for it to be useful as a segmentation marker it would have to be predictable enough to be a reliable clue. Thus in inflectional systems like those in many of the Indo-European languages, due to the existence of several inflectional classes which can mix and match, agreement does not result in rhyme predictable enough to serve as a segmentation aid.

5. Interdigitation of morphemes will preclude segmentation until enough interdigitated chunks have been acquired that the pattern can be extracted.

In Hebrew it has been observed that the inflection patterns of the language (where the inflections are suffixes or affixes) are acquired earlier than the productive interdigitation patterns (Berman 1980a, 1980b).

6. Portmanteau or fused morphemes (where an unsegmentable (sequence of) phoneme(s) carries multiple semantic functions) may be particularly confusing to deal with. On the other hand, the one morpheme-one meaning situation will be much easier for the learner to handle.

Here we can contrast the ease of acquisition of the inflectional systems of Russian and Turkish, where the former is reported to take up to age 8 to acquire (Slobin 1966, 140-1) whereas the latter seems to be acquired by age 2 (Slobin & Aksu

1980). The difficulty with the Russian inflectional system does not seem to be so much one of segmentability (since Slobin reports that "the Russian child has no apparent difficulty in discovering morpheme boundaries" 1966, 137). It is rather caused by homonymy and lack of one-to-one correspondence between inflectional forms and their functions. It would be nice to be able to contrast the situation in these two languages with what happens in the acquisition of languages like Eskimo.

7. Affixes which are obligatorily and regularly attached, to pro-forms as well as substantives, will be more easily perceived as segmentable than irregularly or variably applied affixes (see Slobin 1980, 19).

Thus the Kaluli ergative marker is a suffix which can have two forms, -e or -me, and is applied only under certain conditions, whereas in Samoan the ergative marker is regularly preposed to pro-forms as well as to full forms (Ochs 1980b). One might predict from this that the ergative marker would be acquired earlier in Samoan than in Kaluli. This is another case, however, in which various factors interact. It turns out that in Samoan caretaker speech the ergative rarely occurs, so a potential test case melts away.

This last serves to emphasize the fact that none of the properties proposed above operate in isolation. Rather, they interact in complex ways. The only advantage of listing them one by one is to focus our attention on them one at a time. The next step should be to try to look at their interactions.

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Topicalization, Focus-Movement, and Yiddish-Movement: A Pragmatic Differentiation*

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1.Survey of the literature. Ever since its appearance in Ross 1967, the syntactic construction exemplified in 1 and described in 2 has been the subject of much discussion in the fields of both syntax and discourse:

(1)a. Beans I don't like. (Ross 1967:168)
b. That book I got from you'll never guess who.

(2) $[\,[X_1]_{S\ NP}\ \ [\ldots[X_2]_{NP}\ldots]_{S}\,]$,
where X_1 and X_2 are coreferential,
X_2 is a gap/trace, and
X_1 is nonvocative.

Even in Ross 1967, however, it was noted that this syntactic description holds for what, on intuitive, dialectal, and/or distributional grounds, seem to be different constructions. Thus, for example, Ross distinguishes sentences like 1 from sentences like 3, which he prefixes with a Star of David, meaning grammatical only 'if Yiddish' (p. 267):

(3)a.✡ Egg creams you want, bananas you'll get. (Ross 1967:267)
b.✡A finger I wouldn't lift for him!

This distinction is maintained in Hankamer 1971, where sentences like 1a,b are called Topicalizations, while sentences like those of 3 are called Yiddish-Movements. Similarly, Jackendoff 1972 distinguishes between Topicalizations and what he calls 'Yiddish dialect' constructions, and Jerry Morgan has distinguished Yiddish-Movement from 'Goy-Movement'.[1] On the other hand, Gundel 1974 separates 'Topic Topicalizations' like 1a,b from 'Focus Topicalizations' like 4a,b; Chafe (1976:49) likewise notes these two types, calling the first a Topicalization 'with two foci of contrast', the second a Topicalization with a 'single focus of contrast'. More recently, Reinhart (To appear:18) remarks that 'NPs fronted by topicalization...can receive focus intonation.'

(4)a. A certain monkey I saw. (Gundel 1974:187)
b. Macadamia nuts they're called.

The Boolean sum of these repeated two-way distinctions is a three-way distinction, between what I shall call Topicalization (e.g. 1; henceforth TOP), Focus-Movement (e.g. 4; henceforth FM), and Yiddish-Movement (e.g. 3; henceforth YM).[2]

2.Motivation for differentiating them. It still remains to be esta-

blished that there is a theoretical motivation for differentiating between these three constructions. Our mere intuition that they are different does not entail a formal distinction. It is true that they differ intonationally, or at least TOP and FM/YM do, as indicated in 5, but that is not an obvious reason to consider them different constructions, any more than the intonational difference between 6a and 6b is a reason to posit two passives:

(5)a. Macadamia nuts I can't afford. (TOP)

b. Macadamia nuts I think they're called. (FM)

c. Macadamia nuts I should buy yet. (YM)

(6)a. I was told by him to put it there.

b. I was told by him to put it there.

The motivation comes rather from three other factors. First, as noted by Gundel (1974) and Reinhart (To appear), at least two of the constructions differ in discourse function, and I shall present evidence below that all three differ. Second, they differ dialectally: TOP (e.g. 5a) and FM (e.g. 5b) are grammatical for all speakers, while YM (e.g. 5c) as noted by Ross and others, is grammatical only for 'Yiddish dialect' speakers. Third, they differ distributionally; for all speakers, for whom 1b and 4b are grammatical, a reverse of the intonation contours results in ungrammaticality, as in 7:

(7)a. (*)That book I got from you'll never guess who.

b. (*)Macadamia nuts they're called.

Likewise, 3b, grammatical only for YM speakers, is ungrammatical for all speakers, YM speakers included, when intoned as a TOP sentence, as seen in 8:

(8) (*)A finger I wouldn't lift for him.

3.The differentiation. As is clear from 2, the three types cannot be distinguished in terms of their left-to-right grammatical form, at least not obviously. Rather, I shall argue that what they differ by is what kinds of information their various parts represent and what relations these must bear to the preceding discourse. For ease of exposition, let us call the leftmost NP, X_1, 'the NP', what is left 'the clause', and the proposition that the whole sentence represents 'the proposition'. I shall try to show that each of the three constructions is subject to two sets of constraints, one on

what kind of information the NP represents and another on what kind of relation exists between the proposition and the context. Let us now look more closely at each of the three constructions, beginning with TOP.

3.1.TOP. First, I shall give evidence that, in TOP, (i)the NP must be referential, i.e. must represent an entity, (ii)the NP must represent an entity that is already evoked in the discourse or else one that is in a salient set-relation to some entity already evoked or saliently inferrable in the discourse, and (iii)the proposition minus the information represented by the constituent receiving tonic stress must represent old information, the tonically stressed constituent representing new information. The notion of old information will be made more precise below. First, consider:

(9)a. I didn't think you would leave.
b. I told Mary that I wasn't chosen.
c. I brought some books with me.
(10)a. You I didn't think Ø would leave.
b. Mary I told Ø that I wasn't chosen.
c. Some books I brought Ø with me.
(11)a. I didn't think there would be a fight.
b. I resented it that I wasn't chosen.
c. I brought few books with me.
(12)a.*There I didn't think Ø would be a fight.
b.*It I resented Ø that I wasn't chosen.
c.*Few books I brought Ø with me.

The difference in grammaticality between the sentences of 10 and those of 12 cannot be attributed to any obvious syntactic difference but correlates rather with a semantic difference: the NPs in 10 refer, or 'represent entities', while those of 12 do not. This does not seem coincidental: in the corpus of 56 tokens of TOP in Terkel's (1974) Working, all the leftmost NPs represent entities. This suggests the following preliminary hypothesis:

(13) Preliminary Hypothesis I: The NP in TOP must represent an entity.

However, it turns out that not all TOPs in which the NP is referential are felicitous, as seen in 14 and 15:

(14)a. A: You want to see Stardust Memories?
B: I saw Stardust Memories yesterday.
B': Stardust Memories I saw Ø yesterday.
b. A: You see every Woody Allen movie as soon as it comes out.
B: No--I saw Stardust Memories (only) yesterday.
B': No--Stardust Memories I saw Ø (only) yesterday.
(15)a. A: Why are you laughing?
B: I saw Stardust Memories yesterday. It was

very funny.
B':#Stardust Memories I saw Ø yesterday. It was very funny.[4]

b. A: Sue told me that you had been away.
B: Yeah. Oh, by the way, I saw Stardust Memories yesterday.
B':#Yeah. Oh, by the way, Stardust Memories I saw Ø yesterday.

Although Stardust Memories is referential in all the sentences of 14 and 15, only in the contexts of 14 are the TOP sentences felicitous. One difference between 14 and 15 is that, in the former, the NP represents old information in the discourse, an evoked entity in 14a and an inferrable entity in 14b, whereas, in 15, the NP represents new information in the discourse (an 'unused' entity, following Prince 1979, 1981). This suggests that the hypothesis be revised as follows:

(16) Preliminary Hypothesis II: The NP in TOP must represent either an entity that is already evoked in the discourse or one that is inferentially related to some evoked entity.

However, consider the following:

(17)a. I went to his house and I rang the bell.
b.#I went to his house and the bell I rang Ø.
(18)a. That newspaper infuriates me. I think I'll write to the editor.
b.#That newspaper infuriates me. The editor I think I'll write to Ø.

In 17, the bell is inferentially related to his house (Clark and Haviland 1977; Hawkins 1978; Prince 1979, 1981), but TOP in 17b is infelicitous. Likewise, in 18, the editor is inferentially related to that newspaper, but TOP is infelicitous in 18b. Now compare the following naturally-occurring tokens:

(19)a. 'I have a recurring dream in which...I can't remember what I say. I usually wake up crying. This dream I've had maybe three, four times.' (Terkel 1974:118)
b. Q: 'Do all the long-haired guys bug you?'
A: 'I don't want my son to have it. Now, the sideburns I wear because I do TV commercials and stuff. I'm in the modeling field.' (p. 191)[5]
(20)a. 'Then I make a schedule of what's to be done during the day. I try to assign as many tasks as possible to my staff, so I can reduce my work. I need two or three additional people.

A couple who are not pulling their weight I'm in the process of replacing. This is very painful.' (p. 587)

b. '...these guys knew they were being followed and they still continued the same shit. People like that you have no sympathy for.' (p. 212)

On the basis of data like 17-20, it is necessary to constrain further the notion of 'inferentially related' as follows:

(21) Hypothesis re NP in TOP: The NP in TOP must represent either an entity that is already evoked in the discourse or else one that is in a salient set-relation to something already in the discourse.

For example, in 19a, we find an entity, this dream, that has been explicitly introduced into the discourse, and, in 19b, an entity, the sideburns, that is taken to be salient in the extratextual context, or what I have elsewhere called 'situationally evoked' (Prince 1981). In 20, on the other hand, a couple who are not pulling their weight represents an element (here subset) of an already evoked set, my staff. In 20b, people like that represents a set of which these guys represents an element (also subset). Set-element inferences like that in 20a are far more common than element-set inferences like that in 20b, but both do occur.

Now consider the following:

(22)a. '[I graduated from high school as] an average student. My initiative didn't carry me any further than average. History I found to be dry. Math courses I was never good at. I enjoyed sciences...Football was my bag.' (p. 590)

b. 'Sunday I was taking paper and pasting it together and finding a method of how to drop spoons, a fork, a napkin, and a straw into one package. The napkin feeder I got. The straw feeder we made already. That leaves us the spoon and the fork.' (p. 516)

Note that the underlined NP in 22a, history, is not evoked and is not in a set-element or element-set relation to any already evoked entity. However, it is inferrable, via a set-element inference, from a set that is not mentioned but that is itself saliently inferrable from the high school 'frame'. Put differently, if a hearer did not know that associated with high school is a set of courses or subjects and that history (and then math courses, etc.) represents an element of that set, then, I claim, s/he could not process this text effectively. Likewise, in 22b, upon hearing the napkin feeder, a hearer must infer a set of parts of the device that the speaker is planning to construct and must infer that the napkin feeder (and then the straw feeder) is an element of that set. Thus,

examples like those in 22 are accounted for by the Hypothesis, their peculiarity being that the relevant set is not explicitly evoked but must be saliently inferrable from the prior context.

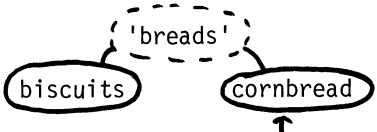
Now consider a still more complex case, ostensibly where an element-to-element inference is at work:

(23)a. 'Most of the time I make biscuits for my kids. Cornbread you got to make. I don't mean the canned kind.' (p. 165)

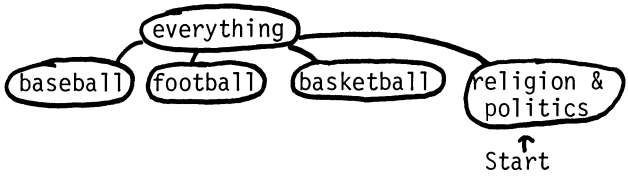
b. 'A barber, he has to talk about everything-- baseball, football, basketball, anything that comes along. Religion and politics most barbers stay away from. Very few barbers that don't know about sports.' (p. 315)

c. 'I can't really hate the colored fellow that's working with me all day. The black intellectual I got no respect for. The white intellectual I got no use for. I got no use for the black militant who's going to scream 300 years of slavery to me while I'm busting my ass.' (p. 6)

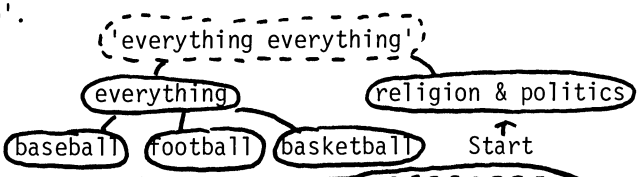
(24)a.



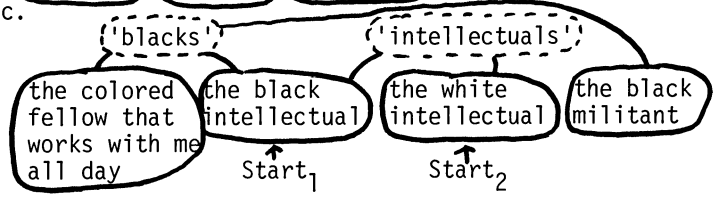
b.



b'.



c.



Obviously, to infer one element from another element is in effect to infer a set of which both are elements, and that is exactly what seems to be going on in cases like 23. That is, upon hearing cornbread in 23a, the hearer 'looks back', finds biscuits, and infers

the appropriate set of which both cornbread and biscuits are elements, as illustrated in 24a. In 23b, the situation is somewhat less clear: at first blush, one might think that religion and politics are elements of the set evoked by everything, as illustrated in 24b. Under that analysis, however, the speaker would be overtly contradicting himself--barbers have to talk about everything, which includes two things they do not talk about. In another analysis, illustrated in 24b', religion and politics lie outside the set or scope of everything, and a new set, 'everything everything', is inferred, which includes one subset of things one has to talk about, and another which one avoids. The last sentence in 23b is perhaps significant: the speaker seems to be telling us explicitly that the 'everything' mentioned earlier is in fact the set of sports. In 23c, the situation is fairly complex: upon hearing the black intellectual, the hearer 'looks back', finds the colored fellow that's working with me all day, and infers a set of which each is an element, presumably the set of blacks. Next, upon hearing the white intellectual, the hearer 'looks back' again, is unable to use 'blacks', finds the white intellectual, and infers a new set of which each is an element, presumably the set of intellectuals. Note that the speaker continues on the subject of blacks, leaving the interval about intellectuals as a parenthetical, as illustrated in 24c.[6]

Sentences like those of 22 and 23 all have two features in common. First, at least according to the analysis presented here, they involve co-elements of a set, and, second, they all have the flavor of a list. (In 23c, there are two lists.) The first feature, I claim, is prerequisite to the second: to understand items as belonging to a list, one must infer that they are co-elements of some single, independently namable, set.[7] Consider 25:

(25)a. I saw Jimmy yesterday and I sent regards to Miss Lillian.
b. Jimmy I saw yesterday and Miss Lillian I sent regards to.

In 25a, the hearer is assumed to be familiar with both Jimmy and Miss Lillian and, therefore, to know that there exists a special relation between them (son-mother). The same is of course true for 25b, but here there is an additional relation: Jimmy and Miss Lillian are also co-elements of some set, perhaps the set of people that the speaker was to get in touch with. Admittedly, these are rather subtle intuitions; perhaps 26 is a bit clearer:

(26)a. I used to live in Philadelphia and I often went to Atlantic City.
b. Philadelphia I used to live in and Atlantic City I often went to.

In 26a, it is easy (for someone who is familiar with the area) to take the sentence as an asymmetric coordination (Schmerling 1975), i.e. to understand the first clause, I used to live in Philadelphia,

as the setting for the whole sentence, i.e. while living in Philadelphia, the speaker often went to Atlantic City. This understanding does not seem to be available for 26b; rather, we find a symmetric coordination, a listing of the speaker's relation to two (Eastern) cities. This, I claim, is forced by the TOP construction which requires us to construe Philadelphia and Atlantic City as co-elements of a single set and, since more than one element is evoked, induces a list understanding.

Now, if we consider the examples in 22 again, we see that, in addition to being lists, they also exemplify the phenomenon of contrast, claimed by Chafe (1976) to be the function of TOP. Contrast, it turns out, is not a necessary effect of TOP, as seen in, for example, 19a, but rather obtains just in case (i)a list understanding is induced, and (ii)a salient opposition is inferred in the new information represented in the clause associated with each element.[8] Contrast is clearly not inferred, therefore, in cases like 19a, where the NP represents simply an evoked entity and not an element of a stated or saliently inferrable set.

Let us now turn to the second set of constraints on TOP, those concerning the relation between the proposition and the context. Consider first the case where the NP represents an already evoked entity, e.g. 19. The propositions conveyed by 19a,b are presented in 27a,b, respectively:

(27)a. I've had this dream maybe three, four times.
b. I wear the sideburns because I do TV commercials and stuff.

In both cases, it turns out that, if one constituent is replaced by a variable, the resulting open sentence is already known in the discourse:

(28)a. I've had this dream X/some number of times.
b. I wear the sideburns for X/some reason.

That is, in 19a, since we have just been told that the speaker has had a recurring dream, we know that she has had this dream some number of times. Likewise, in 19b, since it is salient in the extratextual context that the speaker wears sideburns, and, since the wearing of sideburns is assumed to be an intentional, controllable act, we know that he wears them for some reason. The new information in 19a,b, then, is not a proposition but the value of some variable in an already known proposition. Note further that the constituent representing this new information is just the one that receives tonic stress. This suggests the following preliminary hypothesis:

(29)Preliminary Hypothesis III: The open sentence resulting from the replacement of the tonically stressed constituent in the proposition by a variable represents old information.

But now consider the situation where the NP represents an entity that is in a salient set-relation to something already known or saliently inferrable, e.g. 22b. It cannot be the case that it is already known that the speaker is in some state with respect to the napkin feeder, which is what 29 would predict, since the average hearer has never even heard of a napkin feeder. What is presumed to be known is that the speaker is in some state with respect to whatever goes into making the desired device. Thus it seems that the hypothesis must be modified for set-element cases:

(30)Preliminary Hypothesis IV: First, if the NP represents an element of a set, replace it in the proposition by that set, yielding a new proposition. Then, in all cases, the open sentence resulting from the replacement of the tonically stressed constituent in the (new) proposition by a variable represents old information.

Thus, in 22b, upon hearing the first TOP sentence, the hearer must consider as known not 31a but 31b:

(31)a. I am in some state with respect to the napkin feeder.
b. I am in some state with respect to the set of things that will make up the device.

Note that the same open sentence, 32b, will be needed for the TOP sentence immediately following, The straw feeder we made already, as well as for the non-TOP final sentence, That leaves the spoon and the fork.[9]

But now consider 32 and 33:

(32) A: What do you take on hotdogs?
B: I eat hotdogs with mustard.
B': Hotdogs I eat with mustard.
(33) A: I hear you eat lots of hotdogs.
B: Yeah. I eat hotdogs with mustard. I think it's the mustard I really like.
B':#Yeah. Hotdogs I eat with mustard. I think it's the mustard I really like.

In both 32B' and 33B', the NP, hotdogs, represents an evoked entity. In both cases, assuming mustard is tonically stressed, the open sentence is 34a or 34b, depending on whether the constituent filling the open sentence is an NP or a PP, respectively:

(34)a. I eat hotdogs with X/something.
b. I eat hotdogs Xly/in some way.

In both cases, the open sentence represents generally known or

plausibly inferrable information.[10] However, 32B' is more felicitous than 33B'. The difference seems to be that, in 32B', the open sentence represents not just generally known or plausibly inferrable information but information that is taken to be salient/given, i.e. assumed to be in the hearer's consciousness (Chafe 1974, 1976), at the time of hearing the utterance, whereas, in 33B', the information, though plausibly inferrable, is not salient/given. Thus, 30 must be revised as follows:

(35)Hypothesis re Proposition in TOP: First, if the NP represents an element of a set, replace it in the proposition by that set, yielding a new proposition. Then, in all cases, the open sentence resulting from the replacement of the tonically stressed constituent in the (new) proposition by a variable represents salient/given information.

Space does not permit a full discussion, but it should be mentioned that these phenomena are nicely handled by a modified version of Wilson and Sperber's (1979) model of ordered entailments. That model was intended to account for presupposition but in fact is applicable only to those presuppositional phenomena that correlate with marked syntactic constructions, e.g. it-clefts, or with marked stress; it does not, as Wilson and Sperber realize, relate to other presuppositional phenomena, e.g. existential presupposition correlating with definiteness. The necessary modification of their model is that the appropriate variable cannot be determined purely on the basis of syntax, as they have claimed, but is sensitive to semantic information. Thus, in 23c, the first TOP, repeated in 36a, requires not simply 36b to be treated as given/salient (Wilson and Sperber's first background entailment) but rather 36c:

(36)a. The black intellectual I got no respect for.
b. I am in a state with respect to blacks.
c. I {am in an attitudinal state with respect to / have opinions about} blacks.

Of course, even 36b is semantically-based: English has no true proverb; some verbs ('statives') must be replaced by something like be in a state with respect to, while others ('actives') must be replaced by something like do something to, and the basis for choosing one or the other is semantic and not syntactic.

There remains much to be said about TOP, but I shall now turn to Focus-Movement.

3.2.FM. Consider the FM sentences in 37:

(37)a. 'With Sabre being so valuable, you were allowed no more than three minutes on the telephone. You had twenty seconds, busy-out time it was called, to put the information into Sabre.' (p. 83)

b. 'Now they're coming out with a hydraulic crane. Cherry pickers they're called. They're so very easy to upset...' (p. 50)
c. 'You usually didn't get much rest on Sunday, had to cook for ten children on Sunday. I've raised ten and I had eleven. Three meals a day I cooked on Sunday. I got so I couldn't cook like I used to.' (p. 40)
d. 'This is a student who went here two years. [silently but visibly counting blocks of courses on transcript] FIVE semesters she was here.' (KLM, 3/21/80)

In contrast to the situation in TOP, here the NPs, or rather the stressed constituent within the NPs, represent not entities but rather attributes, or, more precisely, values of attributes: in 37a, b, names for entities, or, put differently, the values of the attribute be called X, and, in 37c,d, the cardinality of a known set, or, put differently, the values of the attributes cook n meals a day on Sunday, be here n semesters. The clause in a FM sentence appears to be equally and relatedly constrained: it represents some entity and some attribute (taken together with the unstressed constituent of the NP, if any).[11] But consider 38:

(38)a. They just bought a dog. FIDO they named it.
b.#They just bought a dog. FIDO they wouldn't name it.

From data like 37 and 38, it appears that the fact that the entity in question has the attribute in question must be either explicitly stated in the discourse, as in 37c,d, or else must be saliently inferrable from what is in the discourse, e.g. 37a,b, akin to the situation in TOP. For example, if one hears that some individuals have bought a dog, it is not only plausible but also salient/given, i.e. appropriately in the hearer's consciousness, that they named it something. In contrast, while it may be plausible/inferrable that they wouldn't name it something, it is certainly not salient. Thus, upon hearing 39, one may unexceptionally ask 40a but hardly 40b:

(39) They just bought a dog.
(40)a. What did they name it?
b.#What wouldn't they name it?

Thus the following hypothesis is suggested:

(41)Hypothesis re FM: The (tonically stressed constituent within the) NP represents the value of an attribute and it is new in the discourse. The open sentence resulting from the replacement of that constituent by a variable conveys the information that some entity has some attribute and it represents salient/given information in the discourse.

3.3.YM. Turning now to Yiddish-Movement, consider 42:

(42)a. 'She works with me. Twenty years we've been here almost. They demand more from a hairstylist and you get more money for your work.' (p. 317)
b. EFP: 'What did she see in him?' [him = the Scarsdale diet doctor]
FCC: 'Eleven million! ELEVEN MILLION he made, on the Scarsdale diet!' (3/13/80)
c. 'Could not maintain an erection in the Promised Land! At least not when I needed it, not when there was something more desirable than my own hand to stick it into. But,...you can't stick tapioca pudding into anything. Tapioca pudding I am offering this girl! Wet sponge cake!' (Roth 1967:291)

From data like 42, it appears that YM is similar to FM but operates over a wider domain: what is represented by the NP may be other than the value of an attribute (e.g. an entity), it may be already given in the discourse and simply repeated for rhetorical effect (e.g. 42b,c), and the proposition resulting from the replacement of the NP by a variable need not represent salient/given information. For example, it is not salient/given, in 42a, that the speaker has been in the same location for almost n years. Note that, without almost, 42a would qualify as an instance of FM, the open sentence being We've been here n years, which is salient/given here.[12]

Even YM, however, is not entirely unconstrained; consider:

(43)a. Q: How's your son?
A: Don't ask! A sportscar he wants!
b. Q: How's your son?
A:#Don't ask! A sportscar he stole!

In 43a, YM is felicitous when it can be assumed to be general shared knowledge, but not necessarily salient/given, that a son, or at least this son, wants things, which happens to be a truism in the general YM-speaking population. The YM in 43b, in contrast, would be felicitous only if it were assumed to be general shared knowledge that a son, or at least this son, steals things. Thus, the following hypothesis is suggested:

(44)Hypothesis re YM: The NP, which receives tonic stress, represents new or, in the case of rhetorical redundancy, given information. The open sentence resulting from the replacement of the NP in the proposition by a variable represents minimally generally known/plausible information.

4.Summary. In conclusion, then, TOP, FM, and YM all crucially involve the marking of old/new information: TOP picks up on some

evoked or set-inferrable entity that figures in an open sentence representing given/salient information and closes that open sentence with some new information. FM adds or changes the value of some attribute which closes an open sentence, the open sentence conveying the information that some entity has that attribute and representing given/salient information. YM, more like FM than like TOP, differs in being relatively unconstrained with respect to what can be focal and what kind of 'oldness' is required of the open sentence. Further, TOP differs from both FM and YM in that it places new information after old information, the usual order in English, whereas FM and YM place new information before old information. All three have characteristic intonation contours. A more detailed account is presented in 45:

(45)Inferencing Convention for OSV Constructions:

I. TOP:

Upon hearing an OSV construction have a Fall-Fall intonation contour, where NP_i is in leftmost position, infer that NP_i represents some entity E_i and that the entire proposition P_i minus the tonically stressed constituent C represents an open sentence P_j. Then,

A. Search the context for some stated or inferrable E_i. If it is there, infer that P_j is given/salient and fill in the new information represented by C. If not,

B. Search the context for some relevant stated or inferrable E_j, where $i \neq j$, representing a set. If it is there, infer that E_i is an element (member or subset) of E_j. Form a new open sentence P_k by replacing E_i by E_j in P_j and infer that P_k is given/salient. Add the new information represented by C. If not,

C. Search the context for some relevant stated or inferrable E_k, where $k \neq i$, representing an individual. If it is there, infer that E_k is an element of E_i and that P_j is given/salient. Add the new information represented by C. If not,

D. Search the context for some relevant stated or inferrable E_l, where $l \neq i$, and infer E_m, such that E_i, E_l are co-elements of E_m. Form a new open sentence P_l by replacing E_i by E_m in P_j and infer that P_l is given/salient. Add the new information represented by C. (Note that E_m can later serve as E_j, in which case P_l should be identical with P_k.)

II. FM:

Upon hearing an OSV construction with a Fall intonation contour, representing proposition P_i, with NP_i in leftmost position, infer that the (tonically stressed constituent within) NP_i represents the value V of some attribute, A. P_i minus V represents an open sentence P_j, where P_j represents the information that some entity has A and where P_j is given/salient. Add or replace the value of A represented by V.

III. YM:

Upon hearing an OSV construction with an emphatic Fall intonation contour (and accompanied by a dorsal display of the speaker's raised right hand[13]), representing P_i, with NP_j in leftmost postition, infer that NP_j represents some E_j or V and that P_i minus E_j/V represents an open sentence P_j, where P_j is generally known or plausibly inferrable. Add or replace or simply reflect with affect on the information represented by E_j/V.

Notes

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1.This is a personal communication from Georgia Green. I have been unable to locate any written reference.

2.These names are chosen simply for convenience and should not be understood as conveying that the constructions have anything to do with either topichood or movement.

3.The term referential is used here in the sense of 'evoking an entity', not in the sense in which it is used in Donnellan 1966, where it is opposed to attributive. Both Donnellan's referential and attributive descriptions are referential here. See Webber 1979:2-12ff. for discussion.

4.The symbol # is used to indicate 'infelicitous discourse'.

5.Simple page numbers following examples henceforth indicate Terkel 1974.

6.The question of how one chooses the appropriate set is a most complex one; for example, the black intellectual and the white intellectual are co-elements of many sets, e.g. humans, literates, vertebrates, animates. Intuitively, in this case, it would seem that the most immediate set (in one's knowledge-store) of which both are elements is chosen. However, consider the following:

(i) I'll tell you what I think. Robert Redford I like, Paul Newman I could watch forever, and Steve McQueen was fantastic, but the rest are all lousy.

To know who the rest are, one must know which set is to be inferred. If it is the set of blond actors, then the speaker has not asserted, for example, that Robert De Niro is lousy, or Liv Ullman; if it is the set of actors, then he has said something about De Niro but not about Ullmann; if it is the set of acting individuals then he has said something about both. Obviously, the key issues here are relevance and the structure of human knowledge, two domains about which little is known.

7.The set must be independently namable to avoid the trivial case

where, for any [a], [b], [c], one infers the set {a,b,c}.

8.What constitutes a 'salient opposition', of course, depends on intentions and on the matter of relevance and cannot be determined on textual grounds. For example, 26b is constrastive if the difference between living somewhere and going there often is relevant; on the other hand, if the difference is not relevant, 26b is not contrastive. Imagine, in the first case, that A has just said to B:

i. Did you ever get to Philadelphia when you were living in Atlantic City?

If B then responds correctively with 26b, it will be contrastive. On the other hand, suppose that A says:

ii. I'll give you $10 for every Eastern city that you're really familiar with.

If B then responds with 26b, there is no contrast: no salient opposition is intended between living in a city and going to one often, each being simply evidence of real familiarity with the place.

9.When more than two co-elements are enumerated, it is quite common for those after the first two to appear in a non-TOP sentence, e.g. 22a, 23c. One also finds lists of two where the first is non-TOP and the second is TOP, e.g. 23a, ?23b. What we have not found, however, is TOP--non-TOP--TOP, where only one set/list is intended.

10.One may argue that 34a cannot be known, since the speaker may put nothing on his hotdogs. However, nothing is also something: I eat hotdogs with nothing or I eat hotdogs plain are fine as answers to 32A. See Wilson and Sperber 1979 for a discussion.

11.Note, in 37d, the only new information is five, although the NP is five semesters. If English had no syntactic constraints like Ross' (1967) Left-Branch Constraint, we would predict that 37d would be: (i) Five she was here semesters.
It is the case, however, that, although the whole NP is in leftmost position, only the subconstituent representing new information receives tonic stress. (Here and elsewhere where the data were collected orally, stress is indicated with capitals.)

12.The speaker of 42a happens to mention later in the passage that he is Jewish.

13.I thank Bonnie Webber for calling this fact to my attention.

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Voice In Fictional Discourse

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1. In a 1976 Modern Language Notes article, literary theorists are criticized by their cohort Stanley Fish for the misuse of theories from other disciplines. Fish explains that "[l]ike Transformational Grammar before it, Speech Act theory has been sacrificed to the desire of the literary critic for a system more firmly grounded than any afforded him by his own discipline. The career of this desire," Fish continues, "always unfolds in two stages: (1)the system or theory is emptied of its content so that the distinctions it is able to make are lost or blurred, and (2)what remains, a terminology and an empty framework, is made into a metaphor."

Although for immediate purposes the misapplication of Speech Act theory need not concern us, the joining of Transformational Grammar and literary study, which also provokes Fish's solicitude, will be treated in this paper as not always misguided and, in select scholarship, not "emptied of its content."

Yet more to the point just now is Fish's censure of terminology made into a metaphor. For the use of "voice" in the title of this paper is not meant to refer to the grammatical active and passive, as might have been assumed by an unsuspecting reader of the title. Instead "voice" is used here and in other scholarship as one of the names of the source of sentences of fictional discourse. "Source" itself is a moot term for this function, as are "narrator," "speaker," "self," "subject," and, of course, "voice." Any incidental connection of the comments here to the conventional linguistic sense of "voice" as the relation between subject and action indicated by the verb form is unintentional and probably only metaphorical. Yet the concept "voice" is not designedly meant as a metaphorical extension of the grammatical term.

2. With these clarifications and confessions made, we can turn to the question of what connection there is between grammar and the study of fictional discourse. The terms "voice," "speaker," "subject," and "self" are, loosely speaking, notational variants associated with the point of view of fictional sentences. Quotation marks and other graphic conventions dispel most problems about who is saying what in fictional texts. Representations of thought, perception and other problematic facets of point of view, however, have recently received the attention of such linguists as Kuroda, Fillmore, Benveniste and Banfield. Their observations draw attention to discrete linguistic constituents in sentences

which suggest various ramifications on language theory. Several early twentieth century linguists -- Bally, Curme, and Jespersen -- also recognized the significance within language theory and grammar of fictive sentences expressing various characters' thoughts.

The syntax of these utterances has lately been described in terms of marked features by Doležel and Hamburger and in terms of the constituent relationship between clause and parenthetical by Reinhart. A case has also been presented for a transformational generative analysis of reported speech, thought and perception. In a Foundations of Language article from 1973, Banfield presents arguments for the nonderivability from direct and indirect discourse of sentences of the free indirect narrative style used for representing nonquoted speech and thought. Unique phrase structures describing utterances of free indirect style are presented; they account for deviant expressive, exclamatory and incomplete root constructions. Examples of such constructions are, respectively: What a thrill it was to be in Iran!, Oh was he furious!, and Strange that Mary should be so envious.

Pausing momentarily, we see from the preceding bibliographical review that an interface between literary and linguistic theory may be detected in the study of point of view and specifically in what has been referred to as style indirect libre, erlebte Rede and narrated monologue. Banfield's term for the style is Represented Speech and Thought, which I likewise will adopt in this paper.

3. Against this background of scholarship we need to take stock of what has been gained by the introduction of transformational generative theory to the scrutiny of narrative style. The published research on point of view fails to reach consensus on the explanatory power of the structural description assigned by the grammar to sentences which shift a work's point of view from neutral narration to an interior view of one character. Consider this example from Lawrence's story, "The Horse Dealer's Daughter."

(1) He could see the stables and the outbuildings distinctly, as they lay towards him on the slope. Well, he would not go there many more times!

We recognize that the passage shifts from expository, summarized description in the first sentence to a person's thought in the latter sentence. The conversational style interjection in sentence-initial position suggests the utterance is a direct representation of

thought. The construction is not simply an elided version of a narrative sentence of indirect discourse, because the derivation itself would be ungrammatical: *He thought that well, he would not go there many more times. If the utterance were a direct quote simply rendered without the conventional punctuation marks, the pronoun and verb would not be shifted and the sentence would instead read: Well, I will not go there many more times.

That these unembedded expressive constructions occur in fiction is not unremarkable. The rendering of consciousness in so direct a manner has been a stylistic and esthetic boon in modern literature; psychoanalytic and philosophical associations with represented consciousness may also be pursued.

The most exacting of the work on Represented Speech and Thought is that which is specifically syntactic, and significant syntactic claims have been evinced from Represented Speech and Thought as data. Exclamatory, expressive and incomplete sentences were mentioned above as having phrase structures not generated by the standard rule, S→NP VP. Subject-predicate inversions in sentences of Represented Speech and Thought are also not to be analyzed as generated by this rule and then altered by transformation. If they were generated in this manner, they would be subject to recursion; however, embedding them would produce ungrammatical utterances. These forms are in evidence in this passage from "Little Herr Friedemann" by Mann.

(2) Were it not better to take one last look and then to go down into that quiet water; after a brief struggle to be free and safe and at peace? Ah, peace, peace -- that was what he wanted! Not peace in an empty and soundless void, but a gentle, sunlit peace, full of good, of tranquil thoughts.

None of these sentences, in fact, are structures which may undergo recursion.

Offering similar evidence in her 1973 article, Banfield proposes several refinements on the root phrase structure rule of the base. These rewritten rules generate directly the non-root-structure-preserving utterances found in Represented Speech and Thought. For the left-most symbol, Banfield adopts the notation "E," which is analagous to the double-barred S concept developed out of Chomsky's "Remarks On Nominalization." For the sake of brevity I will not expound the argument further than the comments already made. These suggest the impact on formal syntactic theory of sentences of

Represented Speech and Thought. They most notably have been cited as evidence for a broader base in the lexicon of the phrase structure grammar.

4. In the preceding section it was proposed that Represented Speech and Thought is a valuable narrative device which is distinguishable by unique syntactic features. The syntax of the sentences, moreover, constitutes extending evidence for formal linguistic theory.

These implications for both disciplines co-exist peacefully. Yet there are also literary and linguistic implications of point of view devices which have caused theoretical disputes. Many of these disputes pertain to the formal status of the voice in sentences representing thought. The loose definition of voice as a narrative role associated with speaker, self or narrator itself poses problems: are these several but equivalent names for a single notion? If not, may some or one of them be present in an utterance when the others are not?

The term "voice," to dwell once more on the rubric, is convenient as part of a title in that it vaguely refers to all of them. But for the same reason the term is symptomatic of the lack of consensus about speaker and self in narration. In Banfield's analysis, the two are separate entities. In every fictional sentence there is a single self, subject-of-consciousness, or point of view to which the expressive elements in the sentence are assigned. In some sentences representing thought (e.g., those in (2) above), there are no linguistic signs of a speaker or narrator, and these then have only a self. The subjective elements of these sentences occur in third person form and refer to the character, not the author or narrator, if there is one. First person forms of Represented Speech and Thought do occur, but in these there are no linguistic forms attributable to a hearer -- no vocatives or adverbs such as "confidentially."

One of the implications of such a perspective is that since there is no addressee and no ostensible speaker of the sentence of Represented Speech and Thought, the so-called performative analysis from Ross's study of declarative sentences is invalidated. This view is corroborated by Kuroda and Benveniste in similar refutations of strict communication or discourse models of language use. In such views the term "discourse" is inappropriate for fiction; "narration" is a preferred alternative. So we see once again how controversial even the title of this paper is when conventionally held assumptions are called into question. Assumptions that all fictional sentences have a narrator

and that the fictional sentence is, like discourse, communication between an addressor and addressee are not borne out by formal syntactic analysis.

5. Exception has been taken to the principle that a sentence in a work of fiction may have a self but no narrator. Dillon and Kirchhoff, Cohn, Chatman, and Pascal contend in various ways that the diction of some sentences of represented thought may seem inappropriate to the character whose point of view is represented. In these cases, the arguments go, another consciousness is present in the sentence, that of the narrator who has chosen the words which seem inconsistent with the character. Pascal gives the name "dual voice" to this phenomenon. The eloquent thoughts of the foolish Emma Bovary of Flaubert's novel are typical examples.

The dual voice position is countered by Banfield in two ways: with an analysis of sentence parentheticals and with the introduction of the concept of nonreflective consciousness.

Parentheticals are phrases such as "she observed" which sometimes appear within sentences of Represented Speech and Thought . They attribute the content to a subject-of-consciousness without implicating an embeddedness relationship between the utterance and the attributing clause. Syntactic argument shows that since parenthetical subjective elements not coreferential with expressive elements in the main utterance do not occur, an analysis positing a second self or narrator for such sentences is untenable.

In respect of other of the disputed cases which cannot contain parentheticals, Banfield holds that the character's thought be considered nonreflective. The attitudes or states of affairs reflected in these representations fall within the character's, or self's, ken. The choice of wording, however, belongs to the exigencies of the author giving expression to these particulars, but not to a separate narrative personality.

It is not clear that Banfield's response to her critics can account for all the cases which may raise questions. The following example presents the thoughts of Tess D'Urbervilles in the Hardy novel.

(3)

[Angel:] "...We will not trifle -- life is too serious."
[Tess:] "It is. Perhaps I saw that before you did."
She was seeing it then. To decline to marry him afterall -- in obedience to her emotion of last night -- and leave the dairy, meant to go to some strange place, not a dairy; for milkmaids were not in

> request now calving-time was coming on; to go to some arable farm where no divine being like Angel Clare was. She hated the thought, and she hated more the thought of going home.

While some of the phrases here seem appropriate to the awareness of Tess, a humble, inarticulate earth-goddess figure throughout the novel, others, such as "in obedience to her emotion" and "arable," are examples of diction not likely a part of Tess D'Urbervilles' command of language. There are no parentheticals in the sentences of represented thought to warrant a syntactic argument to dispel a second speaker analysis of the passage. At the same time, a reading of the words as products of Tess's nonreflective thought would be incorrect, since the two narrative sentences framing the portion representing her thought make specific reference to her very reflectiveness and conscious pondering of her predicament with her suitor.

I do not mean with this single example to champion the cause of either a multiple or single self interpretation. In fact, even a great quantity of data could not enable a choice to be made; the will to take a stand finds only cross-purpose. This is because there is a third matter regarding point of view, along with the formal status of the voice and the adequacy of the structural description, on which consensus has not been reached. The third consideration must be the theoretical goals motivating the separate arguments. This consideration is superordinate to the other two -- divergent goals make it impossible for the theorists of each persuasion to be satisfied with the observations of the others.

To explain this further, suppose we try to say the most innocuous thing about those sentences, as in the passage from Tess of the D'Urbervilles, where the strict linguistic structure and the vocabulary suggest different interpretations of voice. If we grant first that there is no explicit speaker of the sentences, we might still concede, "There's something else there" -- something colors the representation of thought and makes it more complicated. For the scholar who conjectures a second voice, it is the something else which is of interest; it suggests the ironies, empathies and stylistic subtleties that seem to be the proper objects of study and not to be dismissed. To the structural linguist, the something else is extraneous because it falls outside of the range of what is formalizable. The formal generative grammar, once taken as a suitable

model for the study of literary as well as everyday language, may undergo necessary revisions to best explain the data. Nonetheless, these rewritings of phrase structure rules take place within the framework of a systematic, predictive theory.

Literary scholars of point of view, on the other hand, may concern themselves with aspects of fictional texts which elude the assignment of a generative notation. Their observations do not, however, produce only ad hoc principles applicable to idiosyncratic texts. Careful taxonomies based on varieties of actual literary representation and not grammatical categories have appeared in the literature: McHale has posited a continuum of types of represented speech, while Reinhart has recently done the same for represented thought. Their studies delineate the classifications of phenomena that share a referential function; the theoretical apparatus is descriptive, not predictive.

6. This account of the rift between a generative and a functionalist or interpretive approach to the study of point of view in fiction roughly reflects the movements in contemporary linguistics which sent former standard theorists to generative semantics, discourse analysis, and pragmatics. But after going on at length to depict the connection between formal syntactic theory and fictional texts, I do not intend to conclude that the two are only profitably pursued as individual disciplines. For our understanding of the regularities defined by the formal model may assist our appreciation of aspects of a work of fiction which transcend formalization. The prose of Jane Austen, in Emma, for example, makes abundant use of Represented Speech and Thought, both in the canonical forms and in complexly subtle variations. We appreciate the sophisticated narration of the variations because they seem to be plays on the canonical forms we have learned to distinguish.

In (4), versions of the thoughts, words and interests of more than one self are craftily incorporated in a richly ironic thumbnail sketch of the recent engagement of Miss Hawkins to Mr. Elton.

(4) (a) The charming Augusta Hawkins, (b) in addition to all the usual advantages of perfect beauty and merit, (c) was in possession of an independent fortune, (d) of so many thousands as would always be called ten; (e) a point of some dignity, as well as some convenience: (f) the story told well; (g) he had not thrown himself away -- (h) he had

> gained a woman of 10,000 l. or thereabouts; (i) and he had gained her with such delightful rapidity -- (j) the first hour of introduction had been so very soon followed by distinguishing notice; (k) the history which he had to give Mrs. Cole of the rise and progress of the affair was so glorious -- (l) the steps so quick, (m) from the accidental rencontre, to the dinner at Mr. Green's, and the party at Mrs. Brown's -- (n) smiles and blushes rising in importance -- (o) with consciousness and agitation richly scattered -- (p) the lady had been so easily impressed -- (q) so sweetly disposed -- (r) had in short, (s) to use a most intelligible phrase, (t) been so ready to have him, (u) that vanity and prudence were equally contented.

This paragraph summarizes Mrs. Cole's version of Mr. Elton's report of the events. Overt allusions to the process of reporting are made (f;k), but even phrases which we suspect represent the diction choices of Mr. Elton and/or Mrs. Cole are rendered without quotation marks (such delightful rapidity, (i); distinguishing notice, (j)). The narrator echoes fragments of characters' reports and synthesizes a dissolve of voices. Syntactic fragmentation results from this conflation of points of views, as in portions (m)-(q), where a cumulative donation of details is suggested. Here we get the impression of Mrs. Cole's romanticized reworking of parts of Mr. Elton's account obtruding on the narrated summary.

The central portion, (h)-(q), contrasts with its framing portions. While the center portion gives way to the enthusiasm of Mr. Elton and his raconteur, in the earlier and later sections there is evidence of an editorializing voice. In (b) the epithets "charming" and "perfect" intimate subjectivity, for they are not objective classifications like 'yellow', but judgements. Whoever's evaluations they represent -- Mr. Elton's, his friends' or society's-at-large --, the semantic collocation of these with another epithet, "usual," reduces the portrait of Miss Hawkins with a wry and ironic incongruity which none of the immediate parties involved would exploit, In (r) and (s) phrases pertaining to the discourse context of the narration evoke the self-consciousness of the speaker's role. Interestingly, the discourse terms appear within an utterance ((p)-(u)) that also echoes Mr. Elton's

phrases, or at least his interests (easily impressed/ sweetly disposed).

The unclear assignment of a single self per utterance and the semantic indications of a collapse of narration and Represented Speech and Thought thus complicate a formalization of point of view for this portion of Emma. Space does not permit further analysis of this or other passages. However, two not necessarily contradictory conclusions might be drawn from the discussion and data presented. First, the regularities exposed by a formal account of point of view provide a background against which we may assess what is keenly inventive in nonformalizable text phenomena. Deflecting from this principle of interpretation is a second consideration which enlightens the study of Emma: the playful uncertainty in the representation of point of view is a global textual concern and theme as well as a syntactic device. The misjudged signs and realities deployed by the narrative style provide most of the essential wit and expectation in the novel. Further research may discover analagous interactions of syntax and interpretation in fictional texts.

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Piman Song Syntax: Its Historical Significance[1]

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Piman song syntax is archaic in nature. It is verb-final, which is the archaic Uto-Aztecan neutral word order. As is typical of ritual codes, it is reduced; it lacks categories that are ordinary or even fundamental in the spoken language.

The particular phenomenon that I wish to address here is what has been termed auxiliary by Uto-Aztecan and Tepiman linguists. I will hereafter use the shortened form aux to refer to this constituent.

This aux in modern spoken Piman is an obligatory constituent that marks subject, aspect and tense. While the tense and aspect markings in the aux are also coded on the predicate, subject is encoded obligatorily only on the aux.

This paper will examine the correlation between relatively fixed word order and lack of an obligatory aux in some varieties of Piman. Modern song Piman and colonial Pima Bajo show relatively fixed word order and lack a stable morphological aux. Modern spoken Piman, on the other hand, has the opposite situation. I will try to explain the significance of this correlation.

The basic problem is that clitics, originally an optional syntactic category, became the basic means of marking nuclear arguments in modern spoken Piman. I will now present a developmental sequence into which song Piman and modern spoken Piman fit. This developmental sequence is as follows.

(a) (unattested, reflected in Piman song syntax) only full nominals occur (no clitics); there is no case system, or only a marginal one (limited to pronouns); word order (SOV) is used to track subject and object.

(b) (unattested, Proto-Uto-Aztecan times) one of the nuclear categories (here, the object) developes proclitic pronominal forms which attach to the predicate; these object clitics become obligatory; word order is retained.

(c) (attested; Nevome, ca. 1630-1657) subject clitics develope on the model of the object clitics; subject clitics are optional and may appear as a separate aux word; word order remains SOV.

(d) (unattested, but important; perhaps attested in 1774 for Papago) subject clitics become obligatory as an aux; clitic pronominals and aux are now used as the basic means of tracking subject and object; word order is probably in flux.

(e) (attested; modern spoken Piman) the basic (syntactically obligatory) way of marking nuclear arguments is by clitics and aux; word order is now variable and apparently sensitive to context of speech act.

I will first sketch the nature of argument marking and word order in modern spoken Piman. I will then discuss the syntax of song Piman. The diachronic development of the system in modern spoken Piman will then be briefly considered.

Syntax in Modern Spoken Piman

Subjects are marked in modern spoken Piman by a set of personal pronominals that occur in a morphological constituent called aux. This clause-level constituent is made up as follows.[2]

(1) conjunction + person + aspect + tense

The person markers are: an- ('I'), ap- ('you'), a-/'o ('he/she/it'), at-/ac- ('we'), am- ('ye') and a-/'o ('they'). Aspect is either -t ('perfective') or zero ('imperfective'). Tense is either -o ('future') or zero ('non-future'). If the conjunction is present, the aux must be clause-initial. Otherwise, it may occur in a variety of positions, although it is most frequently found in second position.

Examples (2a) and (2b) show that subject marking with the aux is not syntactically equivalent to expression of the subject with a full nominal.

(2a) cikp an-t
worked I -PERF
'I worked.'

(2b) cikp an-t a:ni
worked I -PERF I/me
'It was me that worked.'

The independent pronoun occurs for emphasis, not as the primary means of marking the subject. This is done by the aux constituent. Piman song syntax supports this claim, but before it can be considered, it is necessary to first consider how the object argument is marked.

As shown in (3), objects are marked by pronominal prefixes to the verb.

(3)

ni-	'me'
m-	'you'
Ø-	'him/her/it'
t-	'us'
~~im~~-	'you'
ha-	'them'

The third person singular is the unmarked category (zero representation).

It should be noted that word order variability in modern spoken Piman has some discourse functions. The order of the nominals xmay have discourse salience. Given a VSO order (where S and O are full nominals and not clitics or affixes), Saxton and Saxton (1969) account for permutability (fronting of nominals) by such discourse factors as emphasis or reply to a question.

(4a) (mua a -t g Panco g wisilo)
killed 3sg-PERF DET P. DET calf
'Pancho killed the calf.'

(4b) Wisilo a -t mua g Panco
calf 3sg -PERF killed DET P.
'The calf is what Pancho killed.' (Saxton and Saxton, 1969:145)

(4c) Panco a -t g wisilo mua
P. 3sg-Perf DET calf killed
'Pancho's the one, the calf is what he killed.' (Saxton and Saxton, 1969:145)

A full study of the pragmatic function of word order variability in modern spoken Piman remains to be done. It should be noted that some syntactic contexts still favor verb-final orders (subordinate clauses) and some favor the opposite order; this latter possibility will be discussed below.

Piman Song Syntax

In contrast to the syntax of modern spoken Piman, the word order of song Piman is remarkably rigid. Song Piman is in many ways a reduced code. Underhill (1946:36) noted that in Piman song language, tense and number distinctions were not usually expressed,

and the subject could be omitted. Bahr and Haefer (1978:94) note "suffixing, 'particles' [locatives, for example], and auxiliaries" are frequently lacking from the syntax of Piman songs. Note that songs generally have rigid word order (where the sample is a clause unit correlated with a musical phrase) and almost never have an aux.

Songs were sampled from Saxton and Saxton (1973), Densmore (1929) and Bahr and Haefer (1978).[3] Clause units usually have three constituents, and they usually follow the orders given below in (5).

(5)
	O	S	V
	S	O	V
	S	A	V
	S	V_1	V_2

S = subject; O = object; V = verb; A = adverbial

Over 100 clauses were sampled. Lines that were realized by more than one musical phrase were not included because they are complex sentences and beyond the scope of this analysis.

In order to show how this analysis works, I will illustrate with examples from Densmore (1929; numbers 21 and 67).

(6a)
21.1	S	O	V
21.2	S	A	V

(6b)
67.1	S	O	V
67.2	S	A	V
67.3	A	V_1	V_2
67.4	Topic	A	Predicate

Additional study of Piman song syntax would be helpful.

The Development of the Aux Category

In this concluding section, I will present three arguments which will support the developmental sequence outlined above. The first discusses extreme divergence in modern spoken Piman from the older SOV word order. The second argument will show that the aux was not a unitary entity in colonial Pima Bajo (Nevome), although it tended to be so. The third argument will account for the sudden appearance of the third person imperfect marker for non-future tense 'o in modern spoken Piman.

Point One: Verb-Initialness

The SOV order of song Piman is the most neutral word order in the Uto-Aztecan family and reconstructs for the ancestor (Langacker, 1977:24). This order is virtually the only one to be found in colonial Pima Bajo (ca. 1630-1657), and is not prevalent in modern Pima Bajo of the same environs (Onabas, Sonora, Mexico) ca. 1960; please refer to Table I.

Basic word order is variable in modern spoken Piman. One account of the syntax of modern spoken Piman posits an underlying or neutral order of VSO (Saxton and Saxton, 1969:115), where S and O refer to full nominals. An alternative account (Hale, in Hale, Jeanne and Platero, 1977) posits SOV as the basic order, but must provide for verb-initial contexts which are frequent and favored in some cases.

Among these favored verb-initial contexts are questions and imperatives. Verb-initial contexts are in complete violation of the older verb-final convention. Examples (7) and (8) illustrate these contexts in modern spoken Piman.

(7) n-a -t ma: g Panco g Hosi g wisilo
Q-3sg -PERF gave DET P. DET H. DET calf
'Did Pancho give Jose the calf?'
(modern spoken Piman)

(8) oig ma:k g Hosi g wisilo
IMP give DET H. DET calf
'Give Jose the calf.'
(modern spoken Piman)

Similar contexts in colonial Pima Bajo (Nevome) require that the word order be SOV, as shown in (9) and (10).

(9) n-ap -ta hucudoi oui tohoi?
Q-you -PERF any woman wanted
'Have you wanted some woman?'
(Nevome)

(10) Joan ga vaita co Zuaki buy himu-na
John IMP call and Z. to go -COND
'Call John, so that he can go to Zuaque.'
(Nevome)

It may be seen that the Nevome word order remains SOV.

Point Two: Developmental Status of the Nevome Aux

It is significant that in Nevome there is an aux-like trend. However, aux is not yet a stable, unitary phonological entity. Its constituents may be discontinuous, absent, or reversed in order. An example of discontinuity and an absent aux is shown in example (11), which is Nevome.

(11) n-apimu ni-nunaspa durhu io vopohi
Q-ye me-near from FUT run(pl.,PERF)
'Will you run from my presence?'

In (11), the future marker is separated from the rest of the aux and the perfective marker does not appear (in modern spoken Piman, the future marker must be accompanied by a perfective marker in the aux with a perfective predicate). The future marker is again used alone in example (12), which is also Nevome.

(12) oi asp -io usi -aba
soon maybe-FUT plant-be time for
'Soon it will be time for planting'

In Nevome, the perfect aspect marker may occur with the full, non-clitic form of the subject pronoun, which could never happen in modern spoken Piman. This is shown in (13), in the second clause.

(13) dod-amu -ki amu-guguba-na
OPT-PASS-EVID ye -beat -COND

coiva teop -urha pima apimu ta si-vapki-ma
because church-in NEG ye PERF S-enter-ma
'Would that you would be beaten because you did not want to enter the church.'

It is also possible for the future marker to occur in front of the perfect marker, as seen in (14).

(14) va -t -igui usi -ab -cada
already-PERF-EVID plant-time for-PAST

io t' -igui padre divia
FUT PERF-EVID priest arrived
'The priest arrived when it was already time to plant .'

Nevome lacked a consistent morphological aux of the sort that modern spoken Piman utilizes. The clitic forms of the colonial stage are still to be considered as allomorphs of the full pronoun forms, which is not the case in modern spoken Piman.

Point Three: Modern Piman 'o.

Modern Piman 'o has no analogues in Nevome, despite an overall similarity in the structure of the maximal aux in both varieties. A shortened form of the subject form of the demonstrative 'that' (Nevome hugai) or a shortened subject form of 'this' (Nevome ida) should have developed as a subject clitic.[4] Both developed short forms, but these are used in modern spoken Piman as full nominals. The demonstrative 'that' is the unmarked choice for third person representation in both modern spoken Piman and Nevome; the only specialized development of it is the modern Piman determiner hɨg/g.

Third person marking in Nevome was accomplished by the use of full nominals. Once the aux became the essential subject marking device, a potential ambiguity arose. Since tense, aspect and third person may all be zero, there is no way of marking third person singular subject with imperfective non-future verbs, especially if the most likely candidate (Nevome hugai) were on its way to becoming a general determiner.

I suggest that 'o arose from Nevome co ('and') and that the modern Piman a- ('third person perfective') was modeled after the stem vowel of the Nevome subject pronouns: ani('I'), api ('you'), atim ('we'), and apimu ('ye'). This suggests that in Piman varieties there was a strong attraction of subject, perfect and future clitics toward the conjunction and front of the clause. It remains to integrate this observation with the notion of AUX in Uto-Aztecan (Steele, 1979) and in universal grammar (Akmajian, Steele and Wasow, to appear).

Conclusion

It has been long known from Indo-European studies to more recent work that a case system is usually equivalent to fixed word order. Word order variability, both in languages with relatively fixed word order and in so-called free word order languages must be viewed as functional. Recent work in syntax has suggested that discourse factors can account for much of this variability. The expression "free word order" shows a syntactic bias; from a pragmatic point of view, the particular order a clause takes in a "free word order" language is not free.

We have seen that variability in modern spoken Piman is sensitive to discourse factors. We have also seen that song Piman has a rigid syntax; it is also functional. A relatively rigid syntax in songs is used to foreground the semantic content of the song. The rigid order is also characteristic of ritual Piman speech (Underhill, 1946:34).

One might speculate that the function of variability in Nevome word order will show some similarity to the function of word order in modern spoken Piman. A study remains to be done on this matter. The overall picture, however, is one of Piman being originally sensitive to syntactic functions and becoming more sensitive to pragmatic functions. This has consequences for the writing of grammars and the study of how language change occurs. In a shift from syntactically governed word order to more pragmatically sensitive word order, one must posit social selectional factors that operate during the unattested stage (d) sketched above at the beginning of this paper. Ultimately, it must be recognized that people change grammars; grammars don't change people.

Notes.

1. The Piman language is a member of the Tepiman branch of the Uto-Aztecan language family. It consists of Pima Alta (Papago and Pima dialects) of southern Arizona and Pima Bajo in central Sonora, Mexico. The term Nevome refers to colonial Pima Bajo (ca. 1630-1657) known from documents. The term Piman will be used here in a more restricted sense to refer to modern Papago and Pima dialects. The term song Piman will refer to modern Papago and Pima song language.

2. Abbreviations include the following: 1 = first person, 2 = second person, 3 = third person, A = adverbial, COND = conditional, DET = determiner, EVID = evidential, FUT = future, IMP = imperative, IMPERF = imperfective, NON-FUT = non-future tense, O = object, OPT = optative, PASS = passive, PERF = perfective, pl. = plural, Q = question, S = subject, sg. = singular, SUBN = subordinate and V = verb.

3. Inclusion of texts from Russel (1908) would have been desirable. Further study of Piman song syntax is merited, and would certainly include this wealth of material as well as the more recent materials of Bahr and others.

4. Piman (modern spoken Piman, Pima Bajo and Nevome) lack specialized third person pronouns; demonstratives are used for this.

Table I Modern Pima Bajo data from Hale (1966).

	Transitive		Intrans.		Stative	
	V-	X-	V-	X-	V-	X-
number	17	174	13	123	23	39
percent	4.3	45	3.3	31.6	6	10

There is a total of 389 examples in the sample that were counted, with a total of 100.2%. Interrogative and imperative clauses were not counted; equational, possessive, essive and impersonal clauses/ predicates were also not counted. V- is verb or stative initial and X- is other initial.

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PERCEPTION AND THE CHOICE OF LANGUAGE IN ORAL NARRATIVE: THE CASE OF THE CO-TEMPORAL CONNECTIVES[1]

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Everyone who speaks English knows what conjunctions like *when, while* and *as* mean. Recent studies of the acquisition of conjunction have relied on this implicit knowledge in investigating the ontogeny of these forms and the relations they mark[2]. This lack of rigor was in part due to the paucity of theoretical linguistic research on the connectives. But even had there been wide-scale investigation into this area, we would not have an accurate model of adult usage with which to compare early utterances. Since theoretical linguistics generally assumes as its focus the study of artificially constructed, isolated sentences, it does not provide a suitable framework for the study of language in use.

With English subordinate clauses, as with many other linguistic structures, artificial data give a distorted picture of adult oral use. First of all, this kind of data implicitly exemplifies the written rather than the spoken language[3]. Moreover, studies based on artificial data can give no information about the frequency[4] of a given form, or about a speaker's preference for one form over another in a given referential and discourse situation. These studies, then, cannot take into account the role of context in this preference, particularly the context provided by the entire linguistic frame of which a given sentence is a part. Thus, assumptions that, *e.g.*, subordinate clauses are freely positionable[5] within the sentence, or that co-temporality has a more or less unified underlying semantics, have not been tested against the backdrop of the speaker's consciousness at the time of utterance.

These kinds of assumptions are questionable, particularly with regard to oral narrative. Bowditch (1976:61-2) has pointed out the importance of

> investigating the belief systems of the participants in the narrative situation in order to understand why the surface structure of the text is as it is ... An analyis which is simply syntactic or even "semantic" will never be able to explain the *choices* which speakers make between seemingly indistinguishable alternatives and will necessarily consign much real-world linguistic behavior to a garbage can marked "stylistics" and glossed "random".

The data we are about to examine demonstrate that real-world linguistic behavior is far from random, but is guided by situation-bound rules for choice.

The data for the present study come from adult narratives collected as comparison data in a larger work on the development of conjunction in children's language (Silva 1981). Twenty-six adults[6], were asked to "tell a story" about three sets of story pictures, series of interrelated illustrations which develop a common theme (see fig. 1). The results were startling. Not only did the adults attribute the same content to the pictures, but they also tended to use the same or similar language to describe this content. Moreover, they tended as a group to choose one connective over another in describing particular relationships between events. These narratives provide clues to the way perception structures language, particularly with respect to time.

The Story Pictures: Rationale

The story picture narrative task was chosen as an elicitation technique in order to eliminate memory factors[7] and to provide the experimenter with exact knowledge of the referential situation. The pictures (see fig. 1) portray common themes familiar to children: a mother in a frenzy of cleaning prior to the arrival of company, children teasing each other, and girls playing "dress-up".

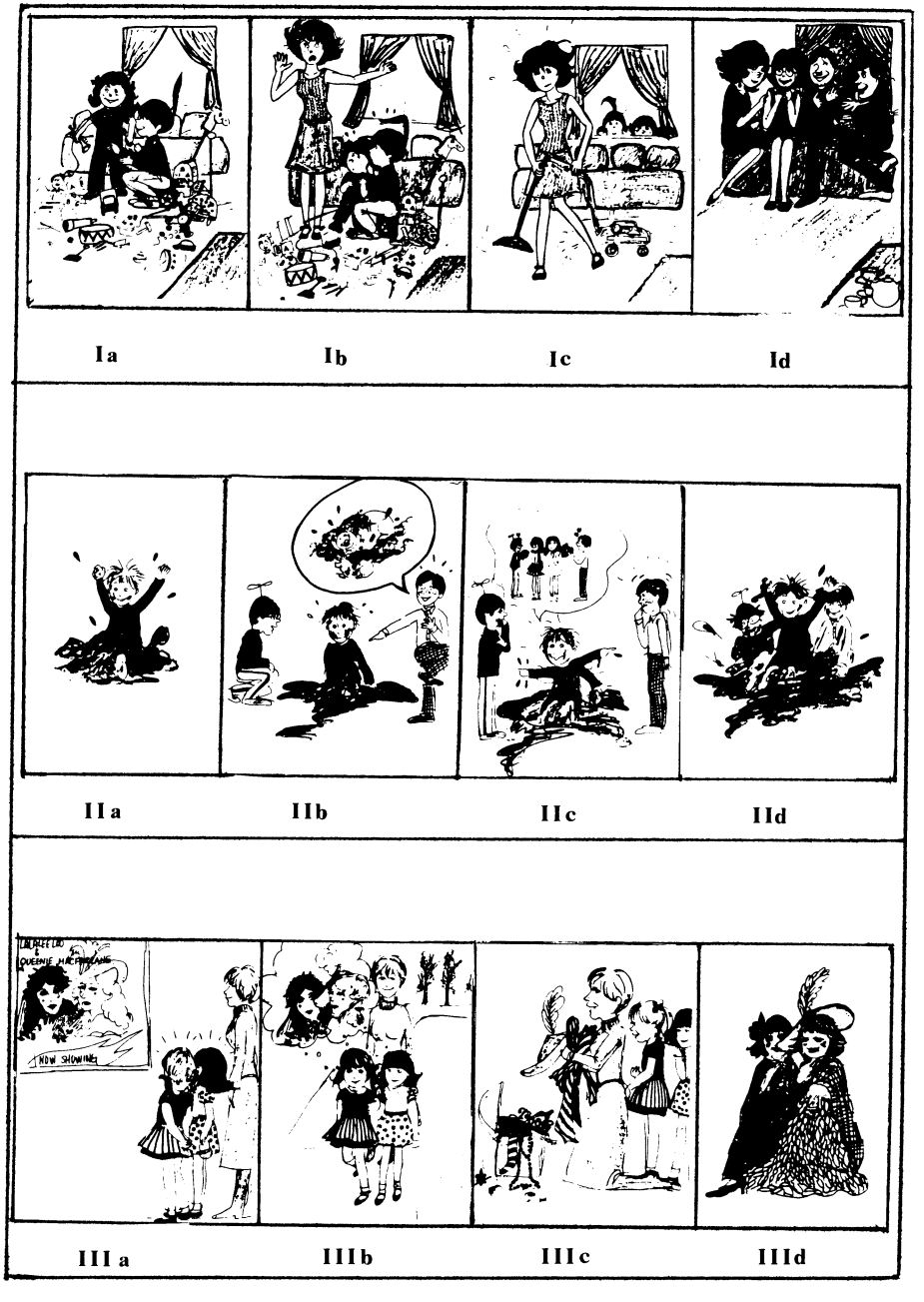

Figure 1: The Story Pictures

More importantly, the sets of story pictures have differing temporal and spatial structures. The story for set I begins in daylight, ends at night and occurs in a single location. The story for set II lasts no longer than a conversational turn or two. For set III, the events occur over the course of a day, but the location shifts from place to place. Moreover, for I and III in particular, certain frames depict simultaneous relations. As we shall see, this temporal structuring has an important effect on the choice of temporal constructions found in the narratives.

Narratives resulting from the interpretation of story pictures better lend themselves to analysis than do naturally occurring narratives. Since each illustration indicates only the highlights of a potential story, subjects must themselves supply background information. Individual frames thus serve as the experimental equivalent to the the perceptual peaks of experience--those parts of any situation that emerge out of the stream of perception because of their cognitive or affective salience[8].

Although the story picture narrative task is somewhat artificial in that the referential situation is visible to both story-teller and listener alike, the fact that children and adults often "read" story books together somewhat attenuates this potential drawback. In these book-sharing situations, the adult reads the text while the child looks at the vivid illustrations. Furthermore, the story picture task requires the subject to create a story about somewhat ambiguous circumstances; although the experimenter can see the pictures, she cannot have advance knowledge of the subjects' interpretation of those pictures. The resulting narratives are thus fairly comparable to those occurring in real contexts.

In general, the adults followed order of presentation and expressed depicted material in main clauses, while often expressing interpolated material through subordination. This strategy should not be confused with backgrounding and foregrounding per se; although temporal clauses commonly background information, they may also be used to highlight it, as in the case of *when*.

When: the Postposed Cases

Our first clue to how language reflects consciousness lies in the *when* clauses that subjects produced. Although *when* can occur with a variety of aspects[9], the most common predicates occurring with *when* in the adult narratives expressed punctual aspect in the subordinate clause (see table 1).

Table 1: Distribution of *when* Clauses

ASPECT	PREPOSED		POSTPOSED		TOTALS	
punctual	19	(54.3%)	8	(22.9%)	27	(77.1%)
stative	5	(14.3%)	1	(2.9%)	6	(17.1%)
durative	1	(2.9%)	0		1	(2.9%)
habitual	1	(2.9%)	0		1	(2.9%)
TOTALS	26	(74.3%)	9	(25.7%)	35	(100%)

The majority of these *when* clauses are indeterminate as to whether they indicate co-temporality or sequence. In fact, *when* seems to be indifferent to this distinction, highlighting instead the contingency of events, a function which leads to causal or adversative readings of *when* clauses in certain cases[10].

More surprising, however, is the finding that there are certain constraints on the positional freedom of *when* clauses. That is, although several speakers chose to use a *when* clause to convey certain information, it was almost always the case that these clauses occupied the same position in their respective sentences. Thus we find nearly identical clauses in two or more narratives of the same set of pictures, but we do not find that in one instance the *when* clause is postposed and in another, preposed. Instead, postposed and preposed clauses always relate different information. For

example, we never find the *when* clauses of (1) and (2) preposed:

(1a) One day, Johnny and Susie were playing in the living room with all their toys *when* their mother came and told them that she was having guests that evening and she didn't want to clean up their mess (Ia&b).

(1b) A little girl and boy were playing in their family room *when* their mother came in and noticed the big mess all over the floor (Ia&b).

(2a) One day Freddie was playing in the mud and was getting very dirty *when* his two friends came along (IIa).

(2b) There was a boy playing in the mud having a great time making a mess of himself and not having anything to worry about *when* two of his friends came by who were dressed nicely and clean (IIa).

The *when* clauses in (1) and (2) mark a middle ground between "sequence" and "simultaneity"; that is, the action of the main clause is perceived to be ongoing before the action of the *when* clause, but it is not the case that the main clause action must cease immediately upon the onset of the *when* clause action. There were no preposed cases of this type of *when* clause. Let us see why this is so.

The relevant parameter is the structure of perception itself. In the four cases of (1) and (2) above, the clause order follows the perceived or presented order of events. This strategy is also evident in sentences produced by other subjects who used coordination, as in (3), or juxtaposition, as in (4), to maintain presented order, thereby achieving the same effect:

(3) In the morning, these two children were playing. They made a rather great mess, and their mother came in and said that she was gonna have a party later in the evening and she didn't want the mess.

(4) Two children, a girl and a boy, are playing in a living room with toys scattered all over the floor. Their mother comes along and bawls 'em out.

One subject apparently ignored the first frame altogether:

(5) Mom went out to go shopping, and she came home and the kids had made a mess in the living room and she was furious, so she told them to get out.

It is theoretically possible for the subject to have said something like "After Mom came home from shopping, she discovered that the kids had made a mess in the living room," but this general strategy never appeared in the data. *After* constructions were relatively rare and, with one exception, occurred only with participles or predicative nouns, not with fully specified clauses, an indication that the main function of *after* in narrative discourse is to restate old information in abbreviated form in order to relate it temporally to a second event. The full clause *after* strategy may be too difficult for spontaneous oral production due to the degree of preplanning it requires. Notice that in (5) the subject specified a context for Ia ("Mom went out to go shopping", an explanation for why the mother is nowhere to be found) and moves immediately to Ib, an illustration which demonstrates the "mess" just as accurately as does Ia. Thus this subject, like all the others, uses a perceptual basis for the choice of language and narrates the frames as they are presented.

In (1)-(2), the *when* clauses introduce the complicating action, logically following the main clauses. In each case, the *when* clause allows the subject to make a smooth transition to the next frame. A reversal of clause order would not permit this shift. In the narrative context, therefore, reversal of this kind of clause is disallowed.

Another dimension of perception is hidden behind these postposed *when* clauses. In each case the time lapse between the two frames which the subject connects is perceived as brief. That is, the subject describes an ongoing activity which is more or less

disrupted by the sudden appearance of other individuals who criticize the activity. As we shall see, the apprehension of this kind of circumstance was never expressed through preposed *when* clauses.

Preposed When

The narratives exhibit a preponderance of preposed over postposed *when* clauses (see table 1), and provide strong evidence that subjects tend to use preposed *when* clauses to introduce a new frame. For example, fourteen subjects (53.8%) responded to IIIc by using a *when*-clause-initial utterance of the form "when they got home," as typified by (6):

(6) And so *when* they got home, they got their mother to get out some of her old clothes and they dressed up in them.

Only one subject chose to postpose this clause, with somewhat awkward, albeit not ungrammatical, results[11]:

(7) So, she opened the trunk in the attic *when* they got home and took out her false eyelashes and all her old jewelry and feathered hats and long dresses.

Four subjects used a *when*-clause-initial structure to describe Ib as in (8a-d):

(8a) *When* her mother came home from work she found the toys scattered all over the room.

(8b) And *when* their sister Julie came home she was just so upset because she had planned to have the living room nice.

(8c) *When* their mother came down, she really panicked because all these toys were covering her nice clean floor.

(8d) *When* the mother came home, she discovered the mess and became very angry and scolded the children.

The *when* clauses of (6) and (8a-d) are informationally similar, follow the perceived order of events and, like the postposed sentences of (1)-(2), cannot be moved to the alternate position without destroying narrative cohesion[12], primarily because they introduce the adult female who is the subject of the main clause. In all the utterances having a preposed *when* clause with a punctual predicate, the main clause also has a punctual predicate ([8b] is a possible exception; the subject, however, intends "got upset").

These utterances indicate greater temporal distance between the events of frames (a) and (b) than do (1)-(2). For (8a-d), the preceding utterance was marked by sentence final intonation. Thus each of (8a-d) introduces a new "thought" distinct from the previous one in a way that (1)-(2) cannot. Subjects varied as to how they perceived the time lapse between (a) and (b). The subjects who produced (1) and (2), saw the events as closely related in time. Subjects who produced (8a-d) perceived a greater temporal distance. The *when* clauses of (1) and (2) tie frames (a) and (b) together; those of (8) keep them apart. Both kinds of sentences, however, maintain presented order.

In both types of sentences, the *when* clauses, having punctual predicates, create episodic shift. In postposed cases, they set the stage for the next frame. In preposed instances, they provide the context for interpreting the present frame, thus filling the episodic gap. This phenomenon holds only for strictly temporal uses of *when* clauses in the narrative context. *When* clauses having punctual aspect and causal readings may be freely positionable, but there are insufficient data to confirm or disconfirm this hypothesis. *When* clauses with stative or habitual aspect also seem freely positionable, for obvious reasons: a state holds throughout the main clause action; recurrence cannot create episodic shift.

In Merleau-Ponty's (1963) sense of perception, we can say then that the preposing or postposing of a *when* clause depends in the last analysis upon the structure of perception (or consciousness) itself. Perception is not an isolable experience; if the focus is visual, it is never solely visual, but always set against the ground of experience. A speaker tends to maintain in narration the perceptual order of events for reasons which are interconnected and inseparable: his own visual processing organized against the ground of time and experience, and his implicit knowledge of the requirements of communication, set against the ground of his status as a member of a community. The linear presentation of events is a preferred mode for narration, not only because it is simpler for the speaker to produce, but also simpler for the hearer to comprehend. The clausal structures we have thus far examined demonstrate an advance over simple chaining in that they serve explicitly to highlight or background certain elements of the discourse.

The next clue to how perception structures narrative language lies in the hitherto unexplored distinction between *while* and *as,* the "simultaneous" connectives.

While and As

Another surprising finding with regard to temporal connectives involves the use of the "simultaneous" connectives *while* and *as.* Although the semantics of *while* have been examined in depth (Heinämäki 1974), no one to my knowledge has investigated the use of *as* as a temporal connective. Thus the high frequency of temporal *as* in the narratives was unexpected since *as* has not been addressed in linguistic research and is sometimes excluded in lists of English connectives[13].

At first glance, *as* seems to be synonymous with *while.* Not only does *The Oxford English Dictionary* define temporal *as* as "while"[14], but some examples from the narratives indicate synonymy:

(9a) Well she ends up cleaning up the living room *as* the kids watch through the window outside (Ic).

(9b) She's got a vacuum cleaner and is just tidying up very quickly *while* the little boy and girl are sort of watching her through the window (Ic).

(10a) and in a panic [the mother] takes out the vacuum cleaner, cleans up the toys and quickly cleans the room *as* the children look from outside (Ic).

(10b) So she vacuumed up the living room *while* the children looked in the window (Ic).

Since subjects freely varied between *as* and *while* to mark the simultaneous relation in Ic, we are initially at a loss to explain why this free variation does not hold for the simultaneous relation in frame IIIb. An analysis of the data yields three categories of responses to IIIb (see table 2).

Table 2: Responses to IIIb

TEMPORAL MARKING	TOTALS	
as	11	(42.3%)
on/all the way home	11	(42.3%)
nonspecific in aspect	3	(11.5%)
quantifier	3	
progressive	3	(30.8%)
progressive & quantifier	3	
simultaneous relation unmarked	4	(15.4%)
TOTAL	26	(100%)

The first category includes all the cases in which the subject chose a temporal clause marked by *as.* There were eleven responses (42.3%) in this category, as typified by (11):

(11) so *as* the mother and the two daughters walk home, the two daughters are constantly thinking of the two women in the picture.

The second category of response to the simultaneous relation illustrated in IIIb involved the use of the somewhat idiomatic adverbial phrase, *on/all the way home,* as exemplified by (12a&b):

(12a) Well, on the way home that's **ALL** they could think about was .. how dressed up these two ladies were.

(12b) And all the way home, they kept on looking at each other and they knew they were both thinking about the same thing.

Of the eleven responses in this category, only three were nonspecific as to aspect (see table 2); the eight other responses marked continuity either through use of a quantifier, as in (12a&b) above, or used the progressive verb form. The third category of response excluded any reference to simultaneity whatsoever. Only four subjects fit into this category.

Why is it that subjects felt free to select either *while* or *as* for Ic, but never once selected *while* for IIIb? The answer lies in the differing perceptions of the two illustrations.

Looking at table 2, we find that 84.6% of the subjects chose to describe IIIb in temporal terms, with one-half of these subjects choosing the *as* clause construction, and the other half choosing the adverbial phrase construction. Of those subjects choosing the adverbial phrase, 72.7% marked the events of "going home" and "thinking" as not only contemporaneous, but also continuous or uninterrupted by using the progressive aspect, or a quantifier indicating duration, or both. Some of the subjects who used *as* clauses also used progressive aspect and quantifiers, as exemplified by the use of the word *constantly* and the progressive in (11) above. But in all cases in which subjects produce an *as* clause in response to IIIc, we find that they seem to cognize the events as strictly contemporaneous. That is, these subjects perceive that the activities share more or less the same interval and that the performance of one activity does not interfere with the performance of the other. The clauses have the same subject who carries out both processes in the same time period; one can think and walk at the same time. We are thus led to suspect that the perception of uninterrupted simultaneity leads to the choice of *as* to mark subordinate clause constructions.

It would be easy to assume that *as* clauses must share the subject with the main clause, but (9) and (10) indicate the opposite. To account for the free variation in (9) and (10), we must examine more closely the illustrations to which they are a response. We then find that although the mother's cleaning is contemporaneous with the children's peeking, we are not certain that either event continues uninterruptedly during the same period. That is, "cleaning" and "peeking" can be cognized either as continuous or non-continuous. Cleaning may involve many discrete actions; one can peek, stop peeking, and peek again. If the subject conceives the events as strictly cotemporal, she chooses *as;* if she conceives that one of the events may be interrupted while the other continues, she chooses *while.* Having different subjects in the main and subordinate clauses increases the chance of the latter possibility. One example demonstrates that it may be enough for one event to be absolutely uninterruptible:

(13) *As* that night arrived, the guests commented on how well-kept her house was (Id).

Nightfall, sunset and other natural processes are definitely beyond the bounds of human intervention. Notice that if we substitute *while* for *as* in (13), the result is unacceptable.

There is yet another category of clauses taking temporal *as:*

(14a) *As* they were walking home, two girls and their mother passed a poster showing two beautiful women in hat and costumes with make-up on (IIIa).

(14b) *As* a mother and her two little girls were passing down the street they happened to come upon a poster for a movie (IIIa).

(14c) One day *as* two little girls went shopping with their mom, they were walking by the movie house and they noticed an advertisement for a movie that was now showing (IIIa).

In (14a-c), the events are not strictly co-temporal in the same sense as (11). Yet, like (11), there were no cases of *while* appearing in the data in this instance[15]. As in (11), the main and subordinate clauses of all three cases of (14) have the same subject. But unlike (11), the verbs of the two clauses are also closely related. That is, the verbs share a semantic category. In (14), "passed" is accomplished through the "walking" of the *as* clause. Since walking as the means of locomotion has been established, passing entails walking. In (14b), the verbs operate in the same way: locomotion = walking, therefore, "happened to come upon" entails walking. The same holds true for (14c). In English, "go shopping" is an idiomatic verb implying locomotion of some sort. Here, the "walking" of the main clause implies that locomotion was necessarily on foot; once again, the verbs refer to the same physical activity, although in each case the activity of the main clause is a subset of the activity of the subordinate clause. Thus the predicates cannot interrupt each other; they are instances of the same ongoing activity. Since the predicates of the main clauses are punctual, we must assume non-interruptibility to be a more important criterion for the choice of *as* than is sharing an interval.

In all cases of subordination using *while* and *as,* the subordinate clause never refers to the central focus of the pictures. The main clause is reserved for this function instead. Thus, like *when* clauses, *while* and *as* clauses are never used to describe perceptual peaks.

A final remark about *as* is in order. That it is related to German *als,* there can be no doubt. They have the same Germanic root and more or less the same meaning. Lederer (1969) tells us that *als* can only occur with the past tenses or with the narrative present, which actually refers to the past. We may find that temporal *as* has the same restriction on use, and that it too is a narrative connective, possibly because two events have to be in the past before we can decide definitively about interruptedness. John Davis (personal communication) points out that there is an exception: a news correspondent holding a microphone and facing a TV camera says, "As I am speaking to you right now, a fire is raging across the street." Of course in this instance, the correspondent knows that he is not going to stop speaking until the director cuts to another scene or to a commercial break. Needless to say, the newsworthy fire is not about to go out.

Summary and Conclusions

We have found evidence in the adult narratives that choice of clause position in the case of *when* and choice of connective in the case of simultaneous relations are by no means arbitrary, but are structured in part by perception. That is, there is a strong tendency for speakers to remain faithful to the presented order of events, regardless of the syntactic options open to them, in order to produce a cohesive passage interpretable by others. In the case of *as* and *while,* we find that speakers are unconsciously sensitive to the fine temporal details of events, although it is equally true that having devices in the language allowing such precision facilitates this discrimination.

Two levels of perception--the individual and the cultural--are involved, dynamically interwoven and inseparable. Thus in narrative sentences, clause order and choice of connective in certain instances are more restricted than they are in the case of isolated sentences. To those who argue that any of the *when* clauses we claim to be immobile can be moved given the appropriate context, we answer that changing the context changes the rules. The complexity of language is even greater than we had imagined.

In an article entitled "Grammar and Meaning", Richard Ohmann contends that a drawing put before twenty-five individuals will elicit twenty-five idiosyncratic but equally adequate responses. It is true that the responses will not match each other word for word. It may also be true that a single drawing may lack sufficient contextual depth for a uniform interpretation across subjects. But if we take a *set* of pictures and place them before twenty-six individuals, as we have done in this study, we find that the interpretations are more than similar; clause order and choice of connective are identical among many of the subjects. This interpersonal similarity is fostered in part by the consciousness of the speakers, by the conventions of the language, by the cultural familiarity of the story theme, and by the level of description we choose as a basis for analysis. Language structure viewed against the ground of the referential situation and narrative strategies provides a window into perception itself, especially in the case of the perception of time.

NOTES

[1] This paper has profited from discussions with Dan Alford, Wally Chafe, Pat Clancy, John Davis, and Larry Morgan. I also thank Orin Gensler and Eve Sweetser, who commented on an earlier version of this paper. All errors are, needless to say, my own. I owe a special debt of gratitude to Christine Yamate who drew and helped design the story pictures used in this study.

[2] Bloom, Lahey, Hood, Lifter, and Fiess (1980:244), *e.g.*, describe the temporal relation as a single category of early conjunction, defining it as "a dependency between events and/or states which involved temporal sequence or simultaneity." Clancy, Jacobsen and Silva (1976) used a more refined temporal category, but their characterization of *when* is not rigorous, and they do not clearly distinguish between the various simultaneous relations which are marked by different connective particles.

[3] That spoken and written language represent vastly different registers is becoming increasingly apparent (*cf.* Ong 1979).

[4] The lack of fequency data may have invalidated the findings of Bloom *et al.* (1980) and Clancy *et al.* (1976). Adult frequency counts of connectives from Wally Chafe's pear stories and from the adult narratives reported in this paper reveal an order of descending frequency (*when, as* [temporal], *after* [rarely clausal], *while, before,* and *until*) matching the proposed order of acquisition which Bloom *et al.* and Clancy *et al.* posit for English (I am indebted to Pat Clancy for this observation). The cognitive complexity argument put forward by these investigators seems to be vitiated by the adult frequency findings. Although one may wish to argue that even among adults, low frequency may be due to cognitive complexity, acquisition data from Polish (Smoczynska) and Japanese (Clancy 1980) are not quite comparable to the data from the Western European languages and Turkish. It may be that cognitive complexity is not a matter of what the underlying semantics of a particular connective is, but how the use of a particular connective reflects cognitive organization, not on the sentence level, but in the interaction between sentences (*cf.* Halliday and Hasan, 1976). It may be impossible to

choose between cognitive complexity, frequency and appropriateness of use in any given language as the determinant of the observed order. We may also need to rethink our notions about translatability; *e.g.*, the word translated from another language into English as *after* may have semantics similar to English on the lexical level, but may serve very different functions on the discourse level. It may be difficult, if not impossible, then, to determine a valid *universal* order of acquisition.

[5] An exception to this assumption is found in Sopher (1974), who contends on the basis of sentences occurring in English fiction that classifications of clauses by connectives are erroneous and that clauses fall into categories of movable and non-movable types, regardless of the connective.

[6] These subjects were students in psychology or linguistics at the University of California, Berkeley. All were native speakers of English, and none were told in advance the object of the study.

[7] This is essential, particularly with regard to children. Silva (1976) found that since children apparently lack organizational skills, their memory of complex events is often limited.

[8] Experience does in fact work this way. Take, *e.g.*, the case of jokes. In each retelling, speakers change background details but retain those highpoints of the story that are crucial for making the punchline work.

[9] The aspectual constraints on the use of *when* have been examined in detail elsewhere (Heinämäki 1974). We are using a slightly different categorization of aspect in this study because it is more suitable to the observed data.

[10] For example: "And the little girls were just really pleased when they saw all the stuff to play with (causal reading, my data)", or "And what could I possibly do then, but say that I *was* enjoying myself--*when I wasn't* (adversative reading, Sopher 1974: from Charles Dickens)."

[11] The sentence would be better if the subject had intonationally marked the clause as an afterthought by pausing slightly after "home", but she does not and the result is the oral equivalent of a run-on sentence.

[12] One could, of course, think of a context in which postposition of these clauses would be the unmarked case, perhaps in answer to a question or in some other non-narrative situation. Nevertheless, that finding does not vitiate the argument that preposition is preferred for this type of clause in narrative. The evidence indicates a need for an appeal to factors beyond the isolated sentence in order to account for the high degree of inter-speaker agreement.

[13] See, *e.g.*, Jordan (1974) who gives a fairly comprehensive list of English conjunctions to aid in a practical purpose--technical writing. Absent from the list of simultaneous sentence subordinators is *as,* although the particle is included in its causal sense.

[14] The *OED* entry for temporal *as* is as follows: "at or during the time that; when, while; at any time that, whenever. Introducing a contemporaneous event or action."

[15] A possible exception to this rule is the case of *while* + present participle. Although there were only two cases of this construction in the data, one of them directly breaks our "rule": "One day while walking home from school with their mother, Sue and Jill walked by a theatre and saw a poster for a movie." However, the *-ing* form may already signal continuity. Furthermore, **as* + present participle is ungrammatical, so *while* may not have any contenders for its slot. There is of course the case of present participle constructions without an introductory connective, but on close examination, we find that many instances of these constructions cannot be replaced by a fully clausal construction introduced by a connective. An examination of these forms is beyond the scope of this paper, although they did abound in the data.

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The Historical Development of the Akha Evidentials System

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0. Introduction. Evidentiality is discussed as a pragmatic and as a grammatical category by Jakobsen (1957), Whorf (1956), and Woodbury[1] (MS). Jakobsen (1957:4) terms evidentiality

> ...the verbal category which takes into account three events —the narrated event, the speech event, and the narrated speech event, namely *the alleged source of information about the narrated event* [italics mine]. The speaker reports an event on the basis of someone else's report (quotative, i.e., hearsay evidence), of a dream (revelative evidence), of a guess (presumptive evidence) or of his own previous experience (memory evidence).

Jakobsen's description of evidentiality as dealing with the "alleged source of information about the narrated speech event" suggests that, among other things, evidentiality also includes whether a statement reports a real, actual event or not, i.e., evidentiality deals with questions of the referentiality or non-referentiality of statements.

Manifestations of evidentiality are distributed throughout the grammar of modern English. Quotative evidence: Quotatives are used in a number of ways to indicate indirectly acquired knowledge. A direct quote purportedly reports an actual speech event verbatim e.g., *Jane said, "My work is finished."* An indirect quote, while also the report of an actual speech event, is not verbatim e.g., *Jane said that she had finished her work.* A third class of quotatives, in contrast to the direct and indirect quotations above, is not the report of an actual speech event; instead, it reports a commonly or generally held belief e.g., *They say (that) most psychiatrists are a little crazy.* Other similar constructions using various 'sense' verbs also exist which also report indirect knowledge in a way largely parallel to the above use of *They say...* e.g., *I hear..., I see..., I understand (that)...* Notice that the contrast between the referentiality of the direct and indirect quotations and the non-referentiality of the third set of examples is mainly, although obviously not exclusively, a consequence of the tense of the main clause verb. Presumptive evidence: A wide range of syntactic and morphological devices are used to acknowledge not just the presumptive character of a statement but also to record a comment on the degree of probability. Of course the most obvious indication is the certainty implied by the omission of any comment at all on probability. Syntactically, comments on probability can be indicated by embedding a statement under a variety of main clause verbs e.g., *I think (that)..., It seems..., I suppose (that)*

..., I feel (that)..., It appears (that)..., It looks like... Morphologically, modals and adverbs both show probability e.g., *That might be him now, She's probably here already*. Referentiality: Whether a statement is referential or not is often indicated in the verb system, in the modals, or in the use of determiners. In fact, one of the most basic and pervasive dimensions of the verb system is the indication of referentiality e.g., *He plays football vs. He is playing football*. Other sometimes quite subtle evidential distinctions can also be made. For example, the presence of must in the sentence *'The toast must be burning'* (*'cf. 'The toast is burning'*) signals more than just the indirect nature of the speaker's knowledge; it also signals that the statement about the toast was a product of logical induction. English is, in short, the possessor of a fine range of devices that indicate evidential distinctions. Evidentiality marking—found throughout the grammar as one dimension of various assorted other systems—is an integral part of the semantics and, on closer inspection, the grammar of modern English.

1.0 Akha sentence particles. Akha[2] has an elaborate system of sentential particles, one of the functions of which is to indicate evidentiality distinctions. The centrality of evidentiality to the system is acknowledged by the fact that Egerod and Hansson (1974:227) begin by dividing the sentential particles into two sets: the 'sensorial' particles, which specify how the speaker's knowledge was arrived at, and the 'non-sensorial' particles, which do not. And, while evidential distinctions can sometimes be found elsewhere in the grammar, it is in the sentential particles that it is most salient.

1.1 The ubiquitous ə [eu]. The most frequently used particle in Akha is the ubiquitous è ~ é [eu ~ eu_v]. Its range of functions includes: the subordination of one noun to another, as in possessive, genitive, and other noun-modifying constructions; the marking of the citation form of the verb; the subordination of verbs to nouns in relative clause constructions; and, the termination of utterances, which are most typically in the declarative mood.

As with a number of the Akha particles that we will examine, a semantically-significant tonal alternation exists between a low-toned variant marking past tense è [eu_v], and a non-low-toned variant marking non-past é [eu]. Lewis' dictionary has three entries under eu:

-eu used in the following statements; declarative positive, declarative negative, and in questions demanding an explanation (it tends to be a bit scoldy in the latter)

-eu_v this signifies strong assertion that what is said is true

-eu_v much the same as -eu, but tends to be used more with; 1. negative statements 2. about something in the past

Interestingly, it is the variant tonally-marked for past tense -eu_v which carries with it the "strong assertion that what is said is true". This might simply be a pragmatically-predictable consequence of the past tense marking. Originally the particle -eu appears not to have had any more of an evidential flavor than

the certainty implied in any unqualified, declarative statement. Instead, the 'assertive' flavor now found in -eu$_v$ may have originated secondarily from a combination of this 'implicit' certainty and the certainty associated with all past events.

Historical notes: Akha -eu, reconstructed at the proto-Lolo-Burmese (PLB) level as *way^3, is described in Bradley (1979a:254):

> There is one particle, probably of considerable antiquity, which occurs both after nouns and after verbs. This particle, 'declarative'/'genitive' *way^3, occurs in every language for which there are any significant data available on particles. Its functions include the subordinating of one noun to another, ...; the subordinating of verbs to nouns, in a relative-clause-type relationship; and the termination of an utterance in a declarative mood.

And, although particles—particularly sentence-final particles—present unique problems of reconstruction e.g., the tones seem quite susceptible to the influence of sentence-final intonation, Akha -eu is without question phonologically cognate to the rai'/rai of Written Burmese, the rgh^5 of Fraser's Lisu, and the ubiquitous ve of Black Lahu (Matisoff 1972a). However, with the exception of Black Lahu ve, which is the only particle to be both phonologically cognate and functionally parallel to Akha -eu, it is a particle other than the cognate one which is the functional counterpart; for example, the functional counterpart is tai'/tai not rai'/rai in Written Burmese and a not rgh^5 in Lisu.

At the proto-Loloish and, presumably, proto-Lolo-Burmese stages, Bradley's characterization of *way^3 as essentially a 'nominalizer' is quite accurate. Bradley then equates this PLB *way^3 with PTB *-ki or *-gi, which Benedict—on the basis of a more than sufficient data base—establishes as a genitival (subordinating) suffix. However, it is not clear to me that PLB *way^3 should be equated with this particle.[3] Nonetheless, on the basis of such extra-Lolo-Burmese evidence as Sherpa way 'have', Akha -eu < PLB *way^3 must at least be related to an earlier PTB copular *way. The independent question of whether the sentence-final manifestations of Akha -eu < *way^3 should be analyzed as essentially copular or essentially nominalizing I will leave to those with more faith than I have in the discreteness of functional categories.

1.2 Other particles. Aside from the quotative, which will be mentioned below, the other particles of Akha aline themselves along several crosscutting dimensions: expected—non-expected; sensorial—non-sensorial; non-past—past. The non-sensorial particles, which do not specify how the speaker's knowledge was arrived at, are further subdivided into two sets depending upon the person of the subject. For example, in a declarative statement, if the subject is first person, the pertinent particle from set X is used; otherwise, the particle is chosen from set Y. For a question, if the subject is second person, the pertinent particle from set X is used; otherwise, the particle is chosen from set Y. This alternation, I suspect,

correlates with the fact that questions—especially yes-no questions—are to a large degree confirmatory in nature; in fact, Lewis notes several places that a certain particle is used in a question when the speaker anticipates an answer which will use it. And, for indirect reference, if the subject is third person, the pertinent particle from set X is used; otherwise, the particle is chosen from set Y. The sensorial particles, which do specify how the speaker's knowledge was arrived at, distinguish between visual and non-visual. For these particles, the expectation—non-expectation dimension often shifts to non-surprise—surprise, all the time—intermittently, and luckily—unfortunately, a range that seems to have its own not totally unexpected logic to it. Another dimension mentioned above as crosscutting all the particles is non-past—past with non-past correlating with a high tone and past correlating with a low tone. This correlation of tone and tense is not etymological but I have not yet been able to reconstruct the conditioning factors. With the sensorial particles the notion of non-past—past often comes to include direct—indirect. The Akha particles are represented in Chart 1.

	Expected		*Non-Expected*	
Non-Sensorial:	*X*	*Y*	*X*	*Y*
non-past	má	mɛ́	é	á
past	mà	mɛ̀	è	à
negative:				
non-past	mà...má	mà...mɛ́	mà...	mà...a
past		mà...a		
Sensorial:				
visual:				
non-past	ŋáa		ŋá	
past	ŋàá		ŋà	
non-visual:				
non-past	mía		nja	
past	mìá		njà	
Prediction of the future:	*X*	*Y*		
	njá	ḿ		

Chart 1: Akha Evidential Particles
(Adapted from Egerod and Hansson 1974: 227-8)

The interpretation of the chart is obvious both from its own arrangement and from the text immediately proceding it. What is not obvious is how these particles fit in with the rest of the grammar synchronically and where they developed from diachronically. Each particle will now be discussed in this light.

1.2.1 Non-sensorial. These particles, which deal with statements in which no indication is given about the source of the evidence, are crosscut both by a dimension of expectation and by the X/Y person distinction discussed above. The person dimension is only of peripheral interest to questions about the origins of the current semantic system, but the dimension of expectation—non-expectation is interesting. Although I am not yet positive of the etymology of the first pair on Chart 1 i.e., má ~ mà, the most likely association is with the general PLB nominalizing particle *ma^3, a particle which occurs in Lisu marking some relative clauses and some subordinate clauses. And, of course, its development into a non-sensorial marker of the expected is not surprising; the nominalization of the expected is quite common. The other non-sensorial expected particles i.e., mé ~ mè developed out of an erstwhile copula and still realized as such in the form mè of Karen. Within Lolo-Burmese it has a number of excellent cognates including the sentence-final aspectual particle of Burmese mai'/mai. The semantics of the Akha particles are foreshadowed in Okell's (1969: 354) description of Burmese mai'/mai as being "future, or assumptive". There is a strong parallel here with English *will*, at least in its manifestation in sentences like *I'll go to San Francisco tomorrow*, in that a future state is being assumed. Originally, the contrast between má/mà and mé/mè, which at least in part was the artifact of cooccurrence constraints between particles and personal pronouns, may also have included a realized/unrealized dimension with the 'realized' being marked by the nominalizing *ma^3 and the 'unrealized' being marked by the provenience of the modern mé/mè. This distinction would have then been leveled by whatever mechanism it was that imposed a tonal past—non-past distinction on all the Akha particles.

The non-expected, non-sensorial particles é/è and á/à come from sources somewhat parallel to the sources found for the expected counterparts discussed above. é/è is cognate with Tibetan yin and Sherpa 'in and, I suspect, Burmese yaŋ/raŋ [yiñ] 'if', despite the difficulties presented by the spelling of the final rime. In contrast to the 'assumptive' future of mai'/mai, yaŋ/raŋ represents a 'speculative' future, a distinction that might be represented in English by the difference between *He'll go to Fresno tomorrow* and *He could go to Fresno tomorrow*. The other member of the non-expected, non-sensorial pair is á/à. And, while at one point Egerod and Hansson (1974:265) gloss áa as 'exclamation', etymologically these seem to be just the reflexes of the PTB third person pronoun. Its presence in this paradigm is more by default than by design i.e., it started out as a third person pronoun which developed into a relatively neutral sentence-final particle. Any additional meaning it may have acquired is no doubt due more to the meanings of the other particles that it has been thrust into opposition with than to any inherent meaning of its own. The X/Y distinction between the uses of é/è and á/à is the remnant of earlier cooccurrence constraints within the verb paradigm; in both Tibetan and Sherpa the cognates

of the é/è are restricted to use with the **first** person. The semantics of the é/è also seem to be preserved in Sherpa, where use of the cognate form 'in (Woodbury MS:11) "entails that the speaker is unsure of the proposition, and found out perhaps by hearsay".

1.2.2 Sensorial. The sensorial particles, which indicate the speaker's source of evidence for the statement, are divided into visual and non-visual. The core of all four forms of the visual particle is ŋa. The tonal variation not only correlates with the past—non-past distinction but is also found with the majority of the particles on the chart functioning the same way. The expected, non-past and past forms are without question composed of two morphemes: ŋáa > ŋá + a and ŋàá > ŋà + á. Historically, the ŋa is the wide-spread first person pronoun of Tibeto-Burman in general and of Akha in general. In this specific environment it must have arisen from one of two sources: either it arose from the reinterpretation of a post-verbal first person agreement marker—a conclusion that in one sense simply begs the question of where it came from—or it arose out of the semantics and syntax of embedding a clause under *ŋa 'I' plus a verb of perception or cognition i.e., it arose out of the syntax and semantics of a Tibeto-Burman SOV equivalent of a structure such as *I see that...* or *I know that...* The expected—non-expected dimension corresponds to the presence or absence of the nominalizing -a/-á; since it is not uncommon to treat expected or given material in nominalizations, the development of -a/-á from a nominalizer into a marker of the expected is at least plausible.

The two expected, non-visual particles can, like their visual counterparts, be divided into two parts: mía > mí + a and mìá > mì + -á. As with their visual counterparts, the tonal variation signals the past—non-past distinction and the presence of the nominalizing -a/-á marks expectation.[4] The essence of the marker, however, is contained in mi-, which has direct cognates in mi[4], a concessive particle found with both nouns and verbs in Lisu and most likely pei mai'(lui') of Burmese which means (Okell 1969:381) "although, in spite of..." Thus, the basic difference between the visual and the non-visual expected correlates with an earlier distinction between what was known through personal experience and what was simply conceded to be true.

The two unexpected, non-visual particles are monomorphemic. In addition the non-past member of the pair nja lacks the anticipated high tone associated elsewhere with the non-past. The particle itself relates to the new topic marker of Lisu, which contrasts with the old topic marker. Other forms look and feel related such as the auxiliary verb nja 'able to' and the sentence particle njá 'will'. However, the connections if any remain unclear.

1.2 Quotative. The last evidential particle to be discussed in this paper is one not included on the chart: the quotative djé, which is cognate with Phunoi cè, Bisu tsì/kyì, and Mpi tçe[1]. It

derives from a verb meaning 'speak' and, as in English, can be used either to report indirect knowledge or to indicate the hearsay nature of the knowledge.

2.0 Conclusion. Although it would be grossly inaccurate to say that the origins or even the semantics of the Akha evidential system are well understood, certain things are already clear. While an examination of extra-Lolo-Burmese languages such as Sherpa and Lhasa Tibetan (Kitamura 1977) makes it clear that part of the evidential system evolved from distinctions present in the langauge family perhaps as far back as proto-Tibeto-Burman, it is equally obvious that other parts of the modern system represent independent innovations within the history of Akha itself. And, although too many small pieces remain to be filled in by further comparative, historical, and synchronic studies for us to be sure about all the parts involved in the system, any adequate understanding will have to go beyond simple descriptive studies into the pragmatics involved.

A different sort of conclusion also has come out the work on Akha evidentiality. These have to do with the surprising comparability of this system with the distinctions expressible in English: the differences are far more in the differing degrees of covertness and obligatoriness in expression than in the set of distinctions themselves.

Notes

This paper is of necessity somewhat speculative and certainly preliminary in nature. Part of this is due to the fact that there are no handbooks nor etymological dictionaries nor comparative grammars for these languages. For these things I offer no apology. However, for those whose papers I have read and probably to some degree misunderstood, I do apologize but with the hope that you will point out the errors to me.

[1]This introduction owes most of its content and some of its form to Woodbury (MS). This is also the source for any references to Jakobsen (1957).

[2]Unless otherwise designated, Akha forms are cited in the notation used in Egerod and Hansson (1974), often followed by the forms used in Lewis (1969) in brackets.

[3]Benedict reconstructs a Tibeto-Burman genitival (subordinating) suffix PTB *-ki or *-gi on the basis of such forms as Written Tibetan -kyi- ~ -gyi- ~ -yi- ~ -i which has a range of functions quite similar to those found with PLB *way[3]. However, elsewhere (Thurgood 1981:40-41) it has been argued that the semantic similarity is due to the semantics of an earlier juxtaposition *way + *-ki, with the subsequent loss of the *-ki.

[4]The various a morphemes found throughout the chart and referred to throughout this paper all appear to be descended from the PTB *a third person pronoun. Although it has been analyzed as having

a range of functions which includes nominalizer, conjunctive adverb, copula (sentence-final), and sentence particle, it is quite easy to characterize syntagmatically: it occurs clause finally.

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A Study of Communication Errors

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Recurring disasters in air traffic control, man-machine aspects of nuclear power technology, and military operations demonstrate the need for an applied theory of communication.

We have developed a model of communication based on the analysis of a hundred errors similar to those above. Although the philosophical and linguistic literatures are full of studies of such failures, we know of no previous attempts to investigate them through the systematic collection of empirical data. The most closely related work is Donald Norman's study of slips of the mind and the literature on speech error analysis.

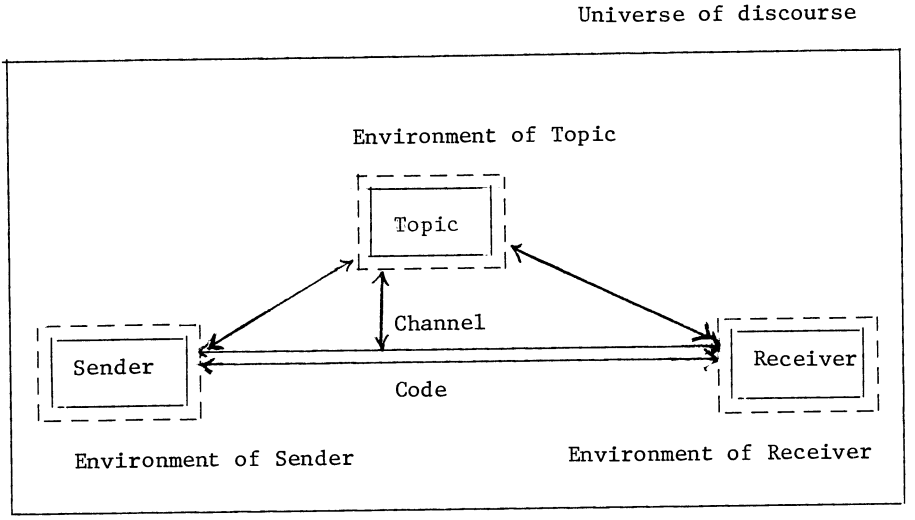
In a paper entitled "Slips of the Mind and an Outline for a Theory Action," (Norman 1974), Norman treated errors of action in a systematic manner. For a number of reasons, however, his taxonomy is not directly applicable to the cases we have studied. His "slips of selection," for example, include actions that are immediately and easily correctable. Examples of these slips are buckling your watchband, for instance, instead of your seat belt, or intending to put your toothbrush in a glass, but placing it where your hairbrush belongs. The main difficulty, however is that action is a broader domain than communication. Four our needs, his framework is incomplete, and some of his categories are inessential.

Good representations of the large body of literature about speech error analysis are the anthologies edited by Victoria Fromkin: Speech Errors as Linguistic Evidence (Fromkin 1973) and Errors in Linguistic Performance (Fromkin 1980). This literature is concerned with how erroneous linguistic forms are spoken, written, heard or uttered by hand signals; these are, however, considerably different from communication errors. A correct form may lead to a communication error, while an incorrect form may not because it is still easy to understand. Nevertheless there is some common ground among these methodologies.

Now let us consider models of communication errors. According to our basic model of communication, the causes of error are connected with the performance of a sender who encodes a message about a topic and sends it via a channel to a receiver who decodes it. The sender, the topic and the receiver each function in an environment that may disturb the process of communication. Other factors closely related to the elements mentioned may also contribute to communication failures. Some of them are easy to define in a general way, while others may be peculiar to a specific communication situation. For example, a message may be too unspecific about what happened when a ship was sunk. This type of influencing factor is hard to capture by general rules describing sources of communication errors. The communication may be verbal or nonverbal, and the interaction real or expected.

In the figure below, arrows represent interactions and both represent elements that are present in the communication process. In this basic model, both the sender and receiver are single individuals, or single groups of individuals. It is necessary to assure

The Basic Model of Communication



that the environment of the sender, topic and receiver are distinct, since these elements can belong to different space-time and/or cultural spheres. Furthermore the topic can be an abstract or concrete entity, while, of course, the sender and receiver must always themselves be a concrete object. This means that the environments that the sender, object and receiver are embedded in are totally different. For example, the sender could be an ancient Egyptian writing about the topic of Babylonian gods, and the receiver could be a modern archeologist reading the text. Neither does the universe of discourse need to be that of total reality: all this could happen in the world of a novel where an archeologist reads the text.

This model of communication is in principle falsifiable as any scientific theory should be. For example, if there existed no case where the topic could interact with the channel, then this model would be false. However, experience shows that there are many such cases. If the topic is an enemy and the channel is radio transmission then the topic could disturb the radio transmission between the sender and receiver, i.e., interact with the channel.

Let us consider some factors that contribute or whose absence contributes to communication errors:

Sender Related Factors
1) Model of self and environment of sender
2) Model of topic and environment of topic
3) Model of receiver and environment of receiver

Receiver Related Factors
1) Model of self and environment of receiver
2) Model of topic and environment of topic
3) Model of sender and environment of sender

Encoding/Decoding Related Factors
1) Redundancy/Repetition 2) Form e.g., phonological, graphemic
3) Ambiguity

Channel Related Factors
1) Time 2) Channel Capacity 3) Noise

Other Characteristics
1) Feedback 2) Age of information 3) Possible absence of non-verbal communication 4) Prestige of channel

External Restrictions
1) Environment of sender 2) Environment of topic 3) Environment of receiver

The models here are models in the mind of the sender and receiver. Both the sender and receiver have models of each other and of the topic, but such models are neither explicit, complete, nor accurate.

If a message contains no redundancy or repetition, it naturally increases the risk of communication error. Errors arising from the phonological similarity between "air crew" and "air screw", for example, led to the renaming of air screws as propellors in many contexts. Thus the form of a message may contribute to uncertainty. Ambiguity and its effect on the reception of a message are a well-known problem; time availabe, channel capacity, and noise also affect communication efficiency. Likewise, feedback on communication is clearly important. For example, the age of information is crucial in rescue operations, since a message might be delayed by atmospheric conditions. Non-verbal communication often comes into play, since it can often correct false impressions. The prestige of the channel is also often significant: since national television advertisements are too expensive for very small companies, customers assume that nationally advertised products are made by large, reliable firms.

A simple illustration of the application of the model is appropriate here. In 1964, the captain of the USS Navaro handed a junior officer the inspection and survey report for the ship and

its machinery, with immediate instructions to take this to the ship's office and "burn it". Conscious of the importance of this argument, the officer borrowed a cigarette lighter from the ship's office chief and carefully watched the flames as he burned the document in a garbage can. After the chief's shouts of alarm, the officer quickly learned that "burn" is a navy term for making a photocopy. This is an example of a common type of cognitive error in communication. The charred report on this ship illustrates a source ambiguity that is frequent in military communication. The sender and receiver possessed conflicting ideas of what kind of activity the verb "burn" referred to. Although the transmission of the phonological from was successful, the speaker's intention obviously did not carry over to the receiver, i.e., the semantic message was lost.

Multiple senders and receivers pose special problems. To decompose all multiple senders and receivers into single senders and receivers would lead to unnatural results although it could be done. One could view each interaction in terms of a single sender/receiver pair, though such a move would not yield much of importance. A more useful approach would be to study some typical situations involving multiple senders and receivers. One of the most typical situations that comes in mind is that in which the receivers are unspecified. Consider, for example, a newspaper article or a TV speech. The audience consists of multiple receivers whose exact identity the sender typically does not know. Famous communication mistakes in this category include the radio broadcast of the War of the Worlds. People who switched on their radios after the beginning of the program thought the play was real and panicked. This communication failure consisted in not making the listeners aware that the alarming reports were mere fiction. Naturally, since the radio station had no specific receiver in mind, it could not expect when it broadcasted the program that everybody would start listening at the same time. Nevertheless, that is exactly what the radio station seems implicitly to have assumed. This common sense analysis shows that special demands have to be met by media supplying information to the public; which represents a large number of unspecified receivers. In diplomatic or military communication, for example, an adversary may represent another potential receiver who may decode an important message. Thus, in military and diplomatic correspondences, messages are sometimes coded to present or delay their use by unintended additional receivers. In animal communication, certain birds must solve the problems of giving predator warnings to other birds of their species without revealing their own locations. Such calls give less position information than predator mobbing calls for which location information is essential to the message. All these can involve multiple senders or receivers.

In any of our communication models, the encoding done by the sender and the decoding done by the receiver are executed at many levels. Both encoding and decoding are typically performed at the

graphemic/phonological, syntactic/morphological, and semantic/pragmatic levels. Various interactions between these levels naturally occur. To reiterate, the phonological similarity between air screw/air crew leads to difficulties. Hence the term "air screw" was replaced by the word "propeller" in many contexts. Again the phonological similarity between the words "larboard" and "starboard" lead to semantic/pragmatic decoding difficulties. Therefore "larboard" was replaced by "port" in modern nautical terminology. Not all confusions lead to replacement of terms: pranksters induce inexperienced sailors to misinterpret "male buoy" as "mail buoy". In a different type of level confusion, the graphemic form CG4 suggested to Koreans the phonological form "commanding general 4." However, Americans intended the reading "carrier group 4." The handwritten graphemic form 7 suggests the semantic reading of "seven" in America, but means "one" in Europe, where the handwritten seven has a slash: 7̸. The handwritten letter õ is read like the printed letter ö in, for example, Swedish, but as printed ô in Estonian. The reason is that in Estonian handwriting one has to differentiate between ö and ô by writing ö and õ respectively. This contrast is not necessary in Swedish handwriting, since the Swedish alphabet does not contain the letter ô. Hence the graphemic handwritten form õ suggests different phonological forms in different languages. Thus encoding and decoding at different levels can go wrong and lead to communication errors.

THE SOCIOSTYLISTICS OF MINORITY DIALECT IN LITERARY PROSE

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Most linguists in the 1980's would not agree with Bloomfield's view that written language is a "direct representation of speech" (1933:21). They would prefer to regard it as a special register of language (cf. Halliday 1978), characterized by its own syntactic and pragmatic constraints. These special constraints derive from a number of factors, including lack of immediate interactional feedback, lack of direct access to gesture and tone of voice, presence of visual, graphic cues, and so forth. However, few linguists other than those engaged in studies of literacy or of linguistics in education appear to be particularly interested in the extent of the differences between written and spoken language, or in the degree to which these differences may potentially lead to problems in communication. In this paper I will discuss an extreme case of the difference between written and spoken language: the case of dialect use in minority, especially Afro-American, literature. Although linguists do not often consider literature as a locus of criterial examples, preferring to attempt to illuminate literary analysis with linguistic tools (cf. Sebeok 1960, Freeman 1970, Banfield 1973, Kiparsky 1974, Kuroda 1976, Traugott and Pratt 1980), it is one of many varieties that needs to be subsumed under the emerging sub-field of sociolinguistics known as "sociostylistics".

One of the key concepts in recent studies of linguistic pragmatics is that of "indexicals", the various kinds of pointers used in language to key what is said to the context, whether linguistic or non-linguistic. The subset of indexicals known as "shifters" or "deictics" (cf. Jakobson 1971, Fillmore 1971, Silverstein 1976) key what is said to the context of speaker and addressee (I vs. you vs. third person or "other") or to place of utterance (here vs. there), time of utterance (now vs. then), place in the text (latter vs. former, above vs. below), and so forth. They also key what is said to the social status of speakers and hearers, whether already known to exist or established by the speech act. Thus tu-vous and other categories such as indicative vs. subjunctive, perfective vs. imperfect and so forth can be used as social deictics (Brown and Levinson 1978). Use of dialect vs. standard can have a similar function to the use of tu and vous, (cf. Gumperz 1976), except that dialect operates at a higher level of discourse than the pronouns. The use of non-standard dialect indexes a social status which is socially or educationally inferior (in this case it is the language of those addressed with low-status tu), or it can function dynamically and signal familiarity and in-group solidarity (equivalent to the intimate tu). Standard dialect, on the other hand, indexes either social or educational superiority (in which case it is the language of those addressed with high-status vous), or it can signal public, non-intimate relationships

(as is the case with distant vous). In other words, dialects, whether regional or social, can reflect the norms of the speakers statically or can be used dynamically to define relationships.

As has frequently been said, deictics signal a speaker's orientation, or "point of view". While the study of point of view is fairly recent in linguistics, it has a slightly longer tradition in literary criticism. But for the most part, linguists and literary critics have not meant the same thing by "point of view", nor have they thought it possible that they might mean the same thing. I will suggest that in fact considerable insights can be gained on both sides if what is traditionally known as point of view in fiction is treated as a set of deictic phenomena.

Literary critics have tended to focus on individual parameters of what they call point of view. Best known among these parameters are first vs. third person narrative (e.g. Brooks and Warren 1961), present vs. past tense (e.g. Hamburger 1973), and to some extent colloquial vs. formal style (e.g. Bridgman 1966). A somewhat different set of parameters, telling vs. showing (e.g. Lubbock 1921) and discours vs. histoire (cf. Todorov 1966) have been developed, and have been shown by different critics to coincide in different ways with the other parameters (for a summary, see Ringler 1981). In general, histoire, the "story" (or sequence of "propositions") is aligned with showing ("pure", objective statement, in which the speaker/narrator is only minimally involved, if at all), and also with third person past tense. Discours, on the other hand, is associated with telling, and is considered to be either the mode of representation (the way the proposition is uttered or written), or a mode of representation. In the latter case, discours and telling are associated with "subjective" language, and aligned with first person present tense. The issues are enormously complex (cf. among **others** Booth 1961, Chatman 1978, Cohn 1978 on supposed presence or absence of narrators, types of narrators and so forth, and Weinrich 1971 on types of tense) and cannot be gone into here, but a linguistic perspective may illuminate them without grossly oversimplifying them. As any theory of pragmatics tells us, the speaker/narrator's point of view can never be totally absent. "Pure" statement, and "absence of a narrative voice" are impossibilities; there can be no narrative that is pure showing, none that is pure histoire. Discours must be the way of representing the story, not a way. A narrative may involve more or less of the speaker's point of view and the hearer/implied reader's presence may be more or less indexed, but almost no utterance (other than a generic) can totally exclude the speaker/narrator (or implied author). For example, in English, a tense-marker must be present on the verb, and therefore a deictic relationship is necessarily set up between speaker/narrator and hearer/implied reader. Furthermore, the parameters of person, tense,

and style can all be accounted for in terms of proximal and distal deixis, as outlined in Figure I:

Proximal	Distal	
	Middle Distance	Remote
1st pers. narr. (I)	2nd pers. narr. (you)	3rd pers. narr. (he/she)
Present (now)	Future (then)	Past (then)
Colloquial	Casual	Formal

FIGURE I[1]

The usefulness of claiming that point of view in fiction is a general deictic phenomenon, rather than a property of one particular parameter, is that we can readily see the possibility of any individual work involving different categories either throughout the work or in sub-parts. Thus a narrative could be third person past tense formal or first person past tense formal, or third person present tense colloquial, and so forth.

The deictic relations discussed so far conform in general to those observed in everyday use. When we turn to use of dialect, however, we find a radical difference. In every-day life, use of the minority dialect or of the minority language rather than the standard frequently indexes intimacy and in-group solidarity (cf. Gumperz 1976, LePage 1977, Muysken forthcoming, Rickford 1980). In literature, however, the indexing is reversed. Standard dialect is the norm for written language--so much so that we hardly know how to represent regional and social dialects. In a classic paper entitled "A Theory of Literary Dialect", Ives (1971) has pointed out that the use of dialect (as opposed to colloquial language) is a distancing phenomenon. Dialect is often used by mainstream writers for humor. It is also used for realism. If it is used for realism one might expect that "dialect" (understood as non-standard in some sense) belongs in the "proximal" column. But Ives emphatically points to the opposite alignment:

> When representing a dialect these authors [for example Joel Chandler Harris, Mark Twain, Marjorie Kinnan Rawlings]$_{ECT}$ have been acutely conscious that they were depicting something peculiar...The characters who speak "dialect" are set off, either socially or geographically, from the main body of those who speak the language. (Ives 1971:147)

In other words, the standard is proximal, the dialect is distal, or "other". Ives' paper is an important study of how dialect is represented. It also touches on the question of the reliability of dialect writing as linguistic evidence, a topic recently investigated at far greater depth by Sullivan (1980) with respect to drama. Neither Ives, nor Sullivan, nor indeed most authors considering the use of dialect in literature really come to grips with the fact that dialect is one of the key devices that can be

used to create point of view in fiction. Nor do they address the question of the role of standard vs. non-standard dialect in the writing of non-establishment authors, especially those minority writers whose language has a distinctly politico-cultural function, such as Black English. Some important steps in this direction have, however, been made by people working on minority languages rather than minority dialects, for example, on pidgins and creoles in standard contexts, or on the development of distinct varieties of African or Indian English. Among the most recent of such studies are Angogo and Hancock (1980) on West African literature, and Jean D'Costa (1980) entitled "The West Indian novelist and language: a search for a literary medium".

One might suppose that the task of the minority writer would in essence be to change the establishment identification of standard with Proximal, and non-standard with Distal as in 1):

1) Proximal: Standard Distal: Non-standard

to the identification of non-standard with Proximal and standard with Distal as in 2):

2) Proximal: Non-standard Distal: Standard

If so, the search for a literary medium might not be hard. But as we shall see, the switch from 1) to 2) cannot be made without loss of identity as a minority writer.

The history of fiction by Black writers tells us much about the search for a medium and about the difficulties of switching from 1) to 2). One of the first major Black writers, Charles Chesnutt chose to use a White Northerner as the narrator of tales as told to him by a former Black slave in his collection called The Conjure Woman, in direct imitation of Joel Chandler Harris' Uncle Remus stories. Chesnutt was faced with a turn of the century audience expecting standard English narrative. How could he have represented a Black narrator, even in third person, using Standard English and not betray his own values? Some recent writers like Toni Morrison and Alice Walker solve the problem by using the standard language throughout, but with imagery, vocabulary, and rhythms of Black English (BE); in other words, they have chosen not to use dialect to any extent, even in the dialog. Others, like Toni Cade Bambara in her short story "Gorilla, My Love", and Al Young in his novel Sitting Pretty have explored turning the tables and have developed narrative in a variety of written BE that is recognizably BE, but more standard than the dialog, as in these brief excerpts:

> ...Not that Scout's my name. Just the name Granddaddy call whoever sittin in the navigator seat. Which is usually me cause I don't feature sittin in the back with the pecans. Now, you figure pecans all right to be sittin with. If you thinks so, that's your business.

> But they dusty sometime and make you cough. And they got a way of slidin around and dippin down sudden, like maybe a rat in the buckets. So if you scary like me, you sleep with the lights on and blame it on Baby Jason and, so as not to waste good electric, you study the maps. (Bambara 1960:13-14).

> A hour coulda oozed by or maybe just a minute or two. I got off into one of them things where you kinda dead but you still alive, I mean, you be dreamin funny little untogether things, things that sorta mean somethin the moment you dreamin em but they keep changin and meltin into somethin else. Yet at the same time all this be happenin it still look like you wide awake and keepin tracka what's goin on in the room you settin in only that's parta the dream too. (Young 1976:7-8).

In Al Young's Sitting Pretty, it is the standard speakers who are clearly odd, and indexed as "other" by their pomposity.

Bambara and Young's narratives are, it is important to notice, 1st person narratives. Wherever there is a contrast between the language of the narrative and the language of the dialog, a certain distancing necessarily takes place, and a fair degree of code-switching can be observed. First person narrative allows for a more subtle distinction between the narrative and the dialog because of the traditional connection between first person and colloquial style. When first person narrative is itself partially dialectal, the identification of dialect with "other" becomes blurred. Many instances of this can be found in William Faulkner and most especially in novels like Ken Kesey's Sometimes a Great Notion where as many as five different points of view expressed by five different voices, some first person, may interlock. This is what makes it possible for Al Young to partially move toward identifying Proximal with dialect.

The use of third person narrative in the dialect is, however, extremely restricted. The only author I am aware of who has used third person BE narrative is June Jordan in her novella His Own Where about two Black teenagers' retreat into a private world where making love in a grave-yard symbolizes both the positive qualities of jointure between the teenagers and alienation from the rest of the world. The first paragraph clearly indexes BE, with the invariant iterative-habitual marker be in otherwise it be embarrassing:

> First time they come, he simply say, "Come on." He tell her they are going not too far away. She go along not worrying about the conversation. Long walks take some talking. Otherwise it be embarrassing just side by side embarrassing. (Jordan 1975:1).

Can this be considered to be "dialect literature", "dialect in literature", or a diverging new literary language? Note the spelling is standard, hardly what one would expect in "dialect literature". It is the syntax and morphology (and also the semantics and the rhythms) that are BE. Furthermore, there is virtually no distinction between the narrative and the dialog. It appears that June Jordan is in fact experimenting with a new minority literary language in which BE is used as a standard that functions like Standard American English--that is, as a language which is proximal.

Virtually no writers have followed Jordan's example. It is tempting to blame the publishers, who are notoriously unwilling to promote minority language; and it is tempting to blame politics or even the authors' nature desire to reach wide audiences. But the problem is really a sociolinguistic one. If a non-standard dialect has the social role of supporting and reaffirming a particular subidentity within a culture, then it will of necessity be at odds with itself as a minority dialect if it comes to be a new standard (that is, a language suitable for written third person narrative, or, in the extremest case, non-literary prose: the medium, in other words, of public rather than private language). In her book Give Birth to Brightness, Sherley Anne Williams has identified the Black hero as different from the White hero because he symbolizes "the distinctive fusion of rebellion and [italics mine]$_{ECT}$ group consciousness" (1972:214), working against mainstream society and wedded to the subculture (p.206). Integration within his group as a subculture is an essential goal of the Black hero. The linguistic problem is that if BE were used for third person narrative that identity would be lost not by acculturation, but by establishment of a linguistic norm or standard which is truly "other" because it is separate, and not a subpart of the whole. This is in part surely why many minority writers seeking to legitimize Black culture as a full-blooded, fully visible but subcultural entity, choose not to use dialect.

A particularly telling example of the use of SE as the medium of the minority voice can be found in Henry Roth's Call It Sleep, where the many languages of the Lower East Side of New York City play a large role. Yiddish, the language of home, in-group and respect, is represented in Standard English. English, however, is represented in a vast array of dialectal varieties from Yiddish-English to Italian-English, to street-gang English, all indexing an alien world.

Studies of code-switching, whether from one language to another, or one dialect to another, have in the past focused on such variables as who the addressee is or what the topic is. In discussion of diglossia (cf. Ferguson 1959) some reference has also been made to genre as a variable. To my knowledge, in no case has a double bind of the sort discussed in this paper been a major issue. It is hoped that sociolinguists will pay closer attention to double binds in the choice of language varieties in their search for an accurate account of strategies and problems of communication.[2]

NOTES

1) The "Middle Distance" and "Remote" sub-categories of Distal deixis correspond to the distinction between Latin iste (close to second person), and ille (associated with third person). In literary narrative, second person and future tense are rare, and almost entirely restricted to recent experimental novels in which the spatio-temporal coordinates are deliberately scrambled. An excellent example is to be found in Fuentes' novel The Death of Artemio Cruz. In this novel the dying Artemio Cruz recounts his experiences on his death-bed in first person present tense, looks back to his past actions in third person past, and recounts the interpretations and consequences of those past events in the second person future. (I am indebted for this example to Mary Pratt.)

2) As Jane Falk pointed out in discussion of this paper, the double bind operates on readers as well as narrators--in so far as "majority" readers might become totally involved in the minority point of view expressed by the third person narrative, they would lose their identity as members of the majority to whom the fiction is in part addressed, and again the dynamic outlined by Williams would be lost.

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"YES, HE HASN'T" AND A FEW OTHER NOT'S IN TURKISH

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Negation is marked in various ways in Turkish: with the predicate değil in sentential negation, with the suffix -mE in verbal negation, with the predicate yok in existential negation[1] and with the suffix -sIz in the so-called affixal negation[2]. I will limit my discussion in this paper to negation with the predicate değil in verbal sentences[3] and the suffix -mE. The discussion is an attempt to show that a proper analysis of negation necessitates an understanding of certain pragmatic considerations involved in the interpretation of utterances.

I will first discuss answers to negative questions, which are discourse bound in Turkish:

(1) Ali gel-di-mi
come-past-Q
'Has Ali come?'
a. evet gel-di
yes come-past
'Yes, he has.'
b. hayır gel-me-di
no come-NEG-past
'No, he hasn't.'

(2) Ali gel-me-di-mi
come-NEG-past-Q
'Hasn't Ali come?'
a. evet gel-di
'Yes, he has.'
b. hayır gel-me-di
'No, he hasn't.'
c. evet gel-me-di
'yes, he hasn't.'
d. hayır, gel-di
'No, he has.'

Let us consider (1) as a plain information question. All the sincerity conditions are met. The speaker does not know if Ali has come and believes that the hearer does. The hearer cooperates with the speaker and supplies the appropriate answer, either (1a) if it is the case that Ali has come or (1b) if it is the case that Ali has not come. Thus the hearer expresses mere facts, either affirmative or negative, in his answers. Both the speaker and the hearer have a neutral, unbiased attitude in the discourse. (2) is problematic in that both the question and the choice of the appropriate answer depend on the assumptions of the speaker in asking and on the intentions of the hearer in answering.

Let us again consider (2) as an information question too, uttered with the appropriate prosodic pattern. Yet, it incorporates some assumptions or expectations on the part of the speaker. Contrary to (1), the speaker does not have a neutral attitude in the discourse. Prior to the discourse, depending on background information or shared experience, or simply context, the speaker assumes that Ali will come, let us say, at a certain time. Later conversational clues or contextual inferences force him into suspecting the validity of his previous assumption. Thus in uttering (2) the speaker does not question the propositional content of the utterance, but rather questions his negative attitude, his doubt as to the validity of his prior assumption. Now the hearer in giving (2c) as the answer first signals his involvement with the speaker's negative attitude. The hearer in fact agrees with the speaker that he is right in suspecting his initial assumption or belief. Then he asserts the proposition, which is negative in this instance and which implicates that the speaker's assumption is cancelled. In giving (2d) as the answer the hearer first notifies the speaker that he is wrong in his negative attitude toward his initial expectation or feeling. He then expresses the proposition, which is, in this instance, affirmative and which implicates that the speaker's expectation is actualized. In (2a) and (2b), contrary to (2c) and (2d), the hearer disregards the speaker's biased attitude; he simply states the bare facts, affirmative and negative, respectively.

I will call the semantic function of evet 'yes' and hayır 'no' in (2a) and (2b) "forward reference" since they express polarity agreement with the following proposition and the semantic function of evet and hayır in (2c) and (2d) "backward reference" since they implicate hearer involvement with the preceding attitude. Thus (2) is a typical case of speaker-hearer interrelationship in discourse where the speaker has a biased attitude and where the hearer figures this out from the speaker's question and then indicates in his choice of utterances his involvement with or neutrality toward the speaker's biased attitude.

Now, let us consider the following utterances:

(3) Ali gel-miş
come-past
'(It is the case that) Ali has come.'

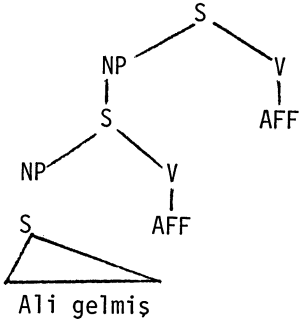
(4) Ali gel-me-miş
come-NEG-past
'(It is the case that) Ali has not come.'

(5) Ali gel-miş değil
come-past NEG
'It is not the case that Ali has come.'

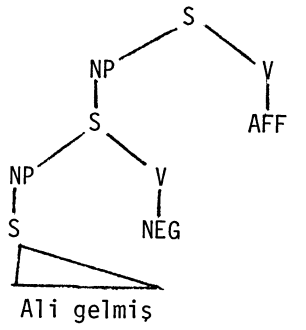
(6) Ali gel-me-miş değil
come-NEG-past NEG
'It is not the case that Ali has not come.'

Tree representations of these four utterances are given below to facilitate explanation:

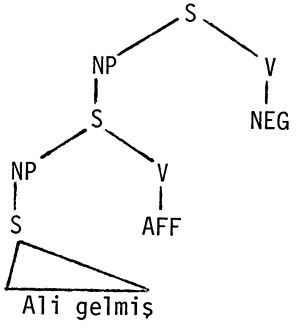
(3) Ali gelmiş.



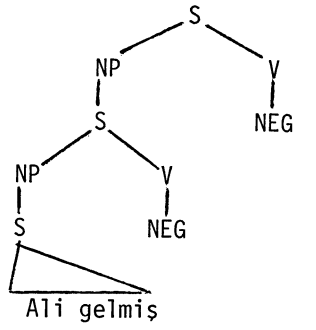
(4) Ali gelmemiş.



(5) Ali gelmiş değil.



(6) Ali gelmemiş değil.



In order to satisfactorily account for these four utterances (3-6), in our predicate analysis of Turkish, we have to posit an abstract affirmative operator (AFF) as well as an abstract negative operator (NEG) in the semantic representation or logical structure of utterances: AFF, reading as 'it is the case that S' and NEG, reading as 'it is not the case that S', plus other logical structures resulting from the interplay between these two polarities either as the higher, external operator or the lower, internal operator. (3) and (4) are neutral affirmative and negative propositions, respectively: (3), with AFF as both the external and the internal operator, which, being the unmarked polarity, is lexicalized as zero in both cases; (4), with AFF as the external operator, again lexicalized as zero, and NEG as the internal operator, which is lowered into the verbal predicate of the embedded sentence and actualized as the suffix -me[4]. (5) and (6) are again problematic and may be accounted for in terms of discourse features, such as the preceding speaker's affirmative or negative assertions, claims,

beliefs or implications and the present speaker's rejections to or denials of these, which may be re-represented or copied in the form of embedded sentences.

I have mentioned the processing of (3) and (4) briefly. In the processing of (5), AFF, the internal operator, will again be lexicalized as zero, but NEG, being the external operator, will be lexicalized as the predicate değil. In the processing of (6), the internal NEG will be lowered and actualized as the suffix -mE as in (4), and the external NEG will again be lexicalized as the predicate değil, as in (5). This explanation shows that while AFF has no surface reflexes, NEG has two surface reflexes: değil, the external negative marker[5] and -mE, the internal negative marker.

Both (3) and (4) may normally be used as discourse initial or unbound utterances: they may not pragmatically implicate backward reference. (5) and (6), on the contrary, may not normally be used as discourse initial utterances. They may often occur in discourse as contradictions, rejections or refutations of prior utterances, assumptions or beliefs. They may connect utterances to prior discourse: they have backward reference. (5) carries with it the implication that prior to its utterance, one of the participants in the discourse utters or implies (3). The speaker of (5) negates this, using the external negative marker değil[6].He may continue with (4), thus making his rejection to the preceding affirmative assertion or implication stronger:

(7) Ali gel-miş değil gel-me-miş
come-past NEG come-NEG-past
'It is not the case that Ali has come;
(on the contrary) it is the case that
he has not come.'

In a similar fashion, (6) implicates that prior to its utterance, the preceding speaker utters, claims or implies (4). The present speaker refutes this by using değil. He may continue with (3), thus making his denial of the preceding negative assertion or implication more explicit:

(8) Ali gel-me-miş değil gel-miş
come-NEG-past NEG come-past
'It is not the case that Ali has not come;
(on the contrary) it is the case that
he has come.'

In a casual speech situation, discourse participants, in their hurry to get the message across as briefly as possible, may delete parts of utterances, compensating for those, in return, prosodically, lexically, etc. This may syntactically disguise the distinction between utterances which are negative propositions and utterances which are contradictions or denials of affirmative propositions, making them look alike superficially. This may cause ambiguity or misinterpretation in discourse. Yet, on demand or when

necessary, the speaker may furnish the full form to clarify the distinction.

Turkish, like any other natural language, contains utterances which are superficially affirmative and yet demand or necessitate a negative interpretation, or vice versa. Such utterances are more commonly used in casual or informal speech situations. Discourse participants seem to prefer them to render the illocutionary force of the propositional content of their utterances more striking, to make the discourse more effective, more vivid, to break monotony of expression, to arouse surprise, interest in the discourse participants, and some other similar important communicational details. Notice that all the (a) sentences below will be interpreted as the (b) sentences:

(9) a. Bunu senin yanına koyarım ben!
'I'll let you get away with this!'
b. Bunu senin yanına koymam ben!
'I'll not let you get away with this!'

(10) a. Böyle bir adama gel de güven!
'Come and trust such a man!'
b. Böyle bir adama güvenemezsin.
'You cannot trust such a man.'

(11) a. Bekle sen daha. Gelir o!
'Wait a little longer. He'll come.'
b. (Boşuna) bekleme. Gelmez o!
'Don't wait (in vain). He won't come.'

(12) a. Bunu ben mi demişim?
'Have I said that?'
b. Ben böyle şey demedim.
'I have not said such a thing.'

(13) a. O böyle işlere girer mi hiç?
'Would he ever get involved in such things?'
b. O böyle işlere girmez hiç.
'He never gets involved in such things.'

(14) a. Bilseydim anlatır mıydım ona?
'If I knew, would I have told him?'
b. Bilseydim anlatmazdım ona.
'If I knew, I wouldn't tell him.'

These superficially affirmative utterances (9-14) are all implicitly negative. None of them possess any negative markers in their surface structure. Yet, each one must have a negative operator in its logical structure for the assignment of the appropriate interpretation. (9a), for instance, when uttered with necessary prosodic reading, will have the illocutionary force of a the threat. (12a), which is in the form of an affirmative question, is neither an affirmative proposition nor a question in the logical structure. When uttered with the appropriate exclamatory intonation and stress, it will have the illocutionary force of a refusal or denial of a prior accusation.

Now, let us consider the following superficially negative utterances, where all the (a) sentences will be interpreted as the (b) sentences:

(15) a. Boşuna bu kitabı okumadık!
'We didn't read this book in vain!'
b. Bu kitabı bir amaçla okuduk.
'We read this book with a purpose.'
(16) a. Sen sanki gülmedin!
'As if you didn't laugh!'
b. Sen de güldün.
'You laughed too.'
(17) a. Başıma çok işler açmadım!
'I didn't get myself into a mess!'
b. Başıma çok işler açtım.
'I got myself into a mess.'
(18) a. Düşene kim gülmez ki!
'Who won't laugh at someone falling down.'
b. Düşene herkes güler.
'Everybody laughs at someone falling down.'
(19) a. Onlar da selam vermez mi?
'Won't they also salute?'
b. Onlar da selam verdi.
'They saluted too.'
(20) a. Aldırmasam ya!
'I shouldn't care!'
b. Aldırmıyorum.
'I do care.'

In all of these utterances (15-20)[7], there is a surface negative marker. Yet, they are all implicitly affirmative, which means that none of them has a negative operator in its logical structure. (17a), for instance, whose implication is (17b), has the illocutionary force of self-accusation or self-criticism. Presenting this illocutionary force in a negative construction helps to make the illocutionary force more effective and to impress the hearer more strikingly. (18a) is a rhetorical question actually. In the original text, it was immediately followed by Herkes güler! Everybody laughs! , thus revealing the illocutionary force of (18a) explicit, which is, as given in (18b), an assertion.

In spite of certain peripheral lexical or syntactic clues and prosodic properties present in the utterance, when deprived of context, such deep negatives and affirmatives become difficult to analyze. Because of the opaque or idiomatic nature of constructions in most cases, we have to refer to pragmatic considerations or conversational implicatures to understand their real meanings.

Notice that the utterances below will demand different readings depending on syntactic, semantic or pragmatic properties:

(21) Bunu senin yanına bırakırım ben.
a. 'I'll put this near you.'
b. 'I'll not let you get away with this!'
(22) Bekle, bekle. Gelir o.
a. 'Keep waiting. He'll come!'
b. 'Don't wait. He won't come.'
(23) İsterse gelmesin.
a. 'If he feels like, he shouldn't come.'
b. 'How dare he not come!'
(24) Ne göreyim! Kız bulaşıkları yıkamamış mı?
a. 'What shall I see? The maid has washed the dishes.'
b. 'What shall I see? The maid hasn't washed the dishes.'
(25) Hiçbirşeyim kalmadı.
a. 'I got recovered totally.'
b. 'I have nothing left.'

Each of these utterances may have both an affirmative reading and a negative reading. The interpretation will be based on available clues from the construction itself and the discourse. (21), for instance, will be assigned the analytic reading (21a) if the speaker has some concrete object in his hand and has a neutral attitude toward the proposition and the hearer. (21) will be assigned the idiomatic reading (21b) if the speaker has an emotionally negative or angry attitude toward the hearer concerning some prior unpleasant act or discourse. (24) is interesting in that the same negative question will be assigned an affirmative-assertion interpretation when uttered with surprise and pleasure, as in (24a), and a negative-assertion interpretation when uttered with disappointment and complaint, as in (24b). If the speaker used kızım 'my daughter'instead of kız'the maid'in the utterance of (24), it would be interpreted only affirmatively because of the implication of endearment in the word kızım, which sounds incompatible with anger.

Obviously, prosodic features reflecting anger, sarcasm, challenge, etc. play a very important part in the appropriate interpretation of such utterances.

As previously mentioned, structural ambiquities resulting from deletions in embedded constructions with external and internal negation add to the complexities:

(26) Aliyle zengin olduğu için evlenmemişti.
a. 'It was not because he was rich that she married Ali.'
b. 'It was because he was rich that she didn't marry Ali.'
(27) Çocuklar şehre kadar gidip ekmek almamışlar.
a. 'The children didn't go downtown and they didn't buy bread.'
b. 'The children went downtown but they didn't buy bread.'
(28) Kütüphaneye gitmeden sana sordum.
a. 'Rather than go to the library, I asked you.'
b. 'Before I went to the library, I asked you.'

If we restore the deleted fragments of the utterances, we will cancel the ambiguities implied by (26-28). (26), for instance, will have two full forms as (26a) and (26b):

(26) a. Aliyle evlenmesinin nedeni (Alinin) zengin oluşu değildi.
'It was not the case that it was because he was rich that she married Ali.'
b. Aliyle evlenmemesinin nedeni (Alinin) zengin oluşuydu.
'It was the case that it was because he was rich that she didn't marry Ali.'

In (26a) we have an actualized reading: she did marry Ali; the reason was not his being rich but was something else. In (26b), on the contrary, we get a non-actualized reading: she did not marry Ali; the reason was his being rich. In the logical structure of these constructions, both of which obviously contain embedded sentences, the sentential constituent o Aliyle evlenmiş 'she married Ali' is immediately commanded by the internal AFF and the top-most sentence has the external NEG as its predicate in (26a) while in (26b) it is the other way around: O Aliyle evlenmiş 'she married Ali' is immediately commanded by the internal NEG and the top-most sentence has the external AFF as its operator. In both (26a) and (26b) the embedded clause zengin olduğu için 'because he was rich' has AFF as its commanding operator.

Now while the wide scope of negation (26a) will be realized as değil in the surface structure the narrow scope of negation (26b) will be reflected as -mE in the surface structure. Of course, when NEG in (26a) is lowered from its external position to an internal position replacing AFF, (26a) and (26b) become exactly alike in the surface structure and hence, the ambiguity of (26). The ambiguity in (27) will be resolved if external negation is restored as the commanding operator of both of the conjuncts, as in (27a):

(27) a. Çocuklar şehre kadar gidip ekmek almış değiller.
'It is not the case that the children went downtown and bought bread.'
b. Çocuklar şehre kadar gittiler, ekmek almadılar.
'It is the case that the children went downtown but they didn't buy bread.'

In (27b), the external operator commanding both conjuncts is affirmative. While the internal operator commanding the left conjunct is still affirmative the internal operator commanding the right conjunct is negative. In (27a) neither of the conjuncts is actualized; in (27b) only the left conjunct is actualized. (28) is ambiguous again, depending on the actualization or the non-actualization of the proposition in the subordinate clause; that is, if there is no internal negative operator commanding the subordinate clause, this will produce (28a). If on the contrary there is an internal negative operator commanding the subordinate clause, this

will yield (28b). When producing these utterances, in order not to create ambiguities in discourse, the speaker may resort to prosodic features such as pause or intoration in addition to other surface structure phenomena.

As a conclusion, I would like to stress the fact that without bringing in pragmatic principles to the analysis, the study of the syntactic and semantic properties of negation seems impossible. All kinds of linguistic and contextual phenomena have to be incorporated in the analysis in order to arrive at valid conclusions.

FOOTNOTES

[1] In Turkish, existential sentences behave differently as to negation. In affirmative existential constructions we use the predicate var 'there be, have, exist', which is replaced with yok in negative existential constructions.

(1) a. Ali-nin para-sı var
Gen money-Poss have
'Ali has money.'
b. Ali-nin para-sı yok
Gen money-Poss have-not
'Ali doesn't have money.'

Yok is also used like hayır 'no' in sentence initial position as a negative sentence connector.

(2) yok iste-me-m
no want-NEG-1sg
'No, I don't want (any).'
(3) yok henüz hiç-bir haber yok
no yet none-a news there-be-not
'No, there's no news yet.'

Notice also the use of double negatives in (3).

[2] In affixal negation, the suffix -sIz is normally added to nouns or adjectives to form negative words. In some adjectives, it replaces the suffix -lI to render them negative.

(4) imkansız gid-e-mez-sin
impossible go-can-NEG-2sg
'Impossible, you can't go.'
(5) insan-lar mut-suz
human-pl happy-NEG
'People are unhappy.'

[3] Since the negative suffix -mE can only be used with verbal predicates, in order to negate sentences with non-verbal predicates, we can use only değil. Thus Turkish exhibits a distinction in the negation of sentences with verbal versus non-verbal predicates, as it does in the negation of existential constructions.

(6) a. Ali okul-da
school-Loc
'Ali is at school.'
b. Ali okul-da değil
school-Loc NEG
'Ali isn't at school.'
(7) a. Ali gel-di
come-past
'Ali has come.'
b. Ali gel-me-di
come-NEG-past
'Ali hasn't come.'

[4] The verbal negative marker -mE has phonologically conditioned variants, such as -me, -ma, etc.

[5] The external negative marker değil also functions as the negative connector in coordinated constructions.

(8) Ali değil Can gel-di
NEG come-past
'Not Ali but Can came.'
(9) Aile-ye Ali değil Can bak-ıyor
family-Dat NEG support-Asp
'Not Ali but Can is supporting the family.'

Notice that the logical structure of both (8) and (9) contains two coordinated sentences, the left conjunct being negative and the right one being affirmative. After the deletion of identical constituents, we obtain the given surface constructions.

(8) a. ((Ali geldi değil)(Can geldi))
(9) a. ((Aileye Ali bakıyor değil)(Aileye Can bakıyor))

[6] Negative utterances with the external predicate değil also seem to implicate the speaker's reverse-decisions, after-thoughts, self-corrections, etc. in the form of embedded sentences, with slight change in the prosodic pattern.

(10) Sana hiç inanmamış değilim; sadece biraz şüphe ettim. Hepsi o kadar.
'It is not true that I didn't believe you at all; I was only a little suspicious. That's all.'

(11) Seni yalnızca seviyor değilim; beğeniyorum da. İnan buna.
'It is not such that I only love you; I also appreciate you. You must believe this.'
(12) Bundan sonra hikayelerinizi bile okuyacak değilim.
'I don't believe I will read even your stories any longer.'

[7] Some of the utterances above (9-20) contain polarity items, those expressions or words which are normally restricted in their distribution in affirmative and negative constructions. Yet, in such superficially affirmative and negative utterances their distribution seems to reversed. For instance, the expression in (9), bir şeyi bir kimsenin yanına koymak 'to let someone get away with something' is a negative polarity expression, but used here in an affirmative utterance.

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THE LEXICALIZATION OF LINGUISTIC ACTION

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0. INTRODUCTION

Linguistic explanation procedures are characterized by a typically expansionistic mentality. Just consider this year's BLS Call For Papers. I quote:

> "This year [...] we especially encourage submissions in which arguments for a particular solution or explanation include evidence from another level of description. For example, a paper on syntax may consider semantics or pragmatics, an article on acquisition may seek explanation in terms of cognition, a typological study may look to processing factors, a phonological problem may have reference to physiological phenomena, a grammatical problem may find a solution in socio-cultural factors, etc."

It seems to me that it was hardly necessary to call for papers of this kind. The examples are representative for what is common practice in linguistics today. I dub this practice 'expansionistic' because, if we regard the scale phonology-morphology-syntax-semantics-pragmatics as a hierarchy of levels of linguistic description, we can say that whenever arguments for a particular explanation include evidence from another level of description, this 'other level of description' is invariably higher up on the scale or completely outside the scale on a higher level of generality. The view is even explicitly defended that such explanation procedures are necessary, and it is this view that dominated the semantic criticism of transformational grammar and that has caused the avalanche of pragmatic writings. In this paper I want to draw the attention to an area of research which may force us to take a few steps down in search for evidence in order to avoid circular theorizing.

1. PRAGMATICS: THE DEAD END OF LINGUISTICS ?

The area I am talking about is pragmatics, which has blessed and complicated linguistics by bringing in social structures, cultural patterns, cognitive notions (especially in the current gestaltist trend), psychology in general and, occasionally, even parapsycho-

logy. But pragmatics is not only the universal benefactor which offers linguists a way out whenever they get stuck. There are also purely pragmatic notions which, themselves, require clarification and explanation. The most central one is the concept *linguistic action*.

The main problem of pragmatics seems to be that, by definition, it is the all-encompassing highest level of the hierarchical structure of linguistics. And since linguists, due to the common explanation procedure sketched in the introduction, have never learnt to go back to a lower hierarchical level to gain insight in their object of investigation, the notion of linguistic action has been exclusively subjected to a theoretical, speculative approach.

I call an approach theoretical when it is based on a preconceived framework of abstract and general concepts. To clarify this with respect to pragmatics, a few illustrations are needed.

Take, for instance, attempts at classifying speech acts. In addition to Searle's five-fold division into representatives, directives, commissives, expressives and declarations (see Searle 1976), there are not only those linguists and philosophers who propose slight modifications of this classification, but also some who maintain, quite seriously, that the number of separate classes is more like five or six hundred, while others contend that there are exactly three basic speech act types from which all the others can be derived. Thus, pragmatics has its splitters and its lumpers. The attitude of the splitters is based on some postulated principles of scientific taxonomies such as absolute discreteness; the lumpers are mainly trying to assign a basic function to a couple of grammatical forms. Both splitting and lumping can be theoretically justified. This is not a problem in itself, but it becomes one as soon as we realize that as many classifications can be proposed as there are theoretical points of view. For, what can we learn from such an uncontrollable growth of theories and speculations ? The source of the evil is the largely theoretical approach to which the notion of linguistic action has been subjected.

There are many more pragmatic questions to which, for the same reason, only contradictory and mostly unilluminating answers are to be found in the linguistic literature. Some examples: Is there such a thing as illocutionary force, as opposed to meaning ? How essential are perlocutionary effects to the description of speech acts ? Are explicit performatives direct or indirect speech acts ?

All this does not mean that the theoretical approach has not produced anything worthwhile. It has; see, e.g. Habermas (1979). But theorizing becomes too easily circular. And if there is no way of breaking out of the circle -- which there isn't if the only possible direction of explanation is upwards -- then we must conclude that pragmatics is the dead end of linguistics, in which

case the avalanche of pragmatic writings can only be expected -- in keeping with common avalanche practice -- to cover up what it is falling on top of, viz. what is interesting in language as a form of social behavior.

2. AN EXPLANATORY WAY BACK: LINGUISTIC ACTION VERBIALS

Dead-end streets are only dangerous when they are, at the same time, one-way streets. Fortunately, for linguistics there seems to be an explanatory way back. I am not proposing anything remotely similar to what the paleoanthropologist Basil Cooke did, when he spent almost a decade studying the pedigrees of fossilized pigs in order to learn about humanity's family tree. So, what do I mean ?

Social action is by definition 'meaningful' in the sense that the participants associate it with a frame of concepts. An understanding of this conceptual framework is of vital importance for our insight into the action itself. Similarly, before we can generalize about universals of linguistic action, we should investigate how speakers of different languages in different cultures conceptualize it. Thus, a *conceptual approach* to supplement the predominantly theoretical approach is necessary.

But conceptualizations cannot be studied directly. We can, however, make the approach *empirical-conceptual* by taking an indirect route, e.g. via the comparative study of *linguistic action verbials* (i.e. verbs and verb-like expressions used to describe linguistic action) in different languages, on the assumption that words somehow reflect conceptualization habits. Such an empirical-conceptual, *lexical approach* to linguistic action would be an example of reversing the direction of explanation in linguistics: results of lexical-semantic investigations would function as evidence for or against statements about a pragmatic notion.

I would like to dwell much longer on the justification of the approach (see the first chapter of Verschueren 1979) and the lexical-semantic principles involved (see the second chapter of Verschueren 1979), but limitations of time oblige me to stick to the cursory presentation of some preliminary types of results and of perspectives for further research.

3. PRELIMINARY TYPES OF RESULTS

3.0 The major result of lexical research in the domain of linguistic action so far is the gratifying conclusion that it was not a complete illusion to believe that a one-sided theoretical approach involved the dangers of inventing distinctions which are not really there (see 3.1), of neglecting aspects of linguistic behavior which *are* there, and very prominently so (see 3.2), and of proposing theoretical constructs which may or may not reflect

reality, but usually not in the symmetrical fashion proposed (see 3.3). Moreover, it has become clear that linguistic action verbials reflect cultural attitudes (see 3.4) and are linked with matters of cognitive salience (see 3.5).

3.1 First, on the most trivial level, it follows from lexical research that the categories of speech acts which are usually distinguished are not reflected as conceptually distinct in the lexicalization of linguistic action in natural languages. The absence of diffuseness would not even be defended by the most ardent of theorists, but the extent to which non-diffuseness is absent, only becomes clear when having a close look at sets of lexical items.

More interestingly, lexical research can offer evidence showing defects in common definitions of classes while at the same time suggesting improved versions. Consider, for example, the class of expressives the point of which is, according to Searle's definition, that a certain psychological state is expressed (which must be different from the belief expressed in representatives, the wish expressed in directives and the intention expressed in commissives). But the expression of a psychological state, in itself, does not set expressives apart from other types of speech acts. Compare:

(1) I am sorry that you could not come over for a visit
(2) I am sorry for having been so rude to you
(3) I am sorry that your father died

Also compare the way in which these acts can be described:

(1') S said/stated/claimed that he was sorry that ...
(2') S apologized for having been rude
(3') S commiserated/condoled H's father's death

Though all three are expressions of regret, act (1) is normally described as a representative (there isn't even any way in English to describe (1) *as an expression of emotion* except with "S expressed his regret that ...") whereas for (2) and (3) we have explicitly expressive descriptive verbs available. Studying the lexicalization vs. non-lexicalization pattern of these and many other examples has led us to the hypothesis that what sets the traditional class of expressives apart from other speech acts is the extent to which the emotion or attitude expressed is relevant to the hearer.

3.2 Second, linguistic action verbials draw our attention to aspects of verbal behavior which are usually neglected or even completely ignored in the linguistic and philosophical literature. The most striking example is probably the area of linguistic

silence, the absence of speech. Natural language lexicalizations transform this seemingly marginal aspect of linguistic behavior into an essential one. There are hundreds of words and expressions to describe being silent. Silence is not just the absence of sounds. It is gradable and characterized by a certain intensity. Compare TO BE SILENT with TO BE SILENT AS THE GRAVE, or TO BE MUM AS AN OYSTER, NOT BREATHE A WORD, or TO FORSWEAR SPEAKING. Silence can have a propositional content so-to-speak: one can BE SILENT ABOUT STH., KEEP STH. SECRET, KEEP STH. IN PETTO, SMOTHER STH. Linguistic silence occurs in a certain context: one can FALL SILENT or KNOCK IT OFF, or one can simply NOT GET A WORD IN EDGEWAYS. Silence has its causes and its motives, and it can be TOMBLIKE, SOLEMN or even PREGNANT. It is, therefore, high time to study it more seriously than has been done so far (as in the few ethnomethodological studies of pauses in conversation).

3.3 Third, lexicalization patterns can show theoretical constructs concerning aspects of linguistic behavior to be wrong or misleading. For instance, in the area of deviations from the truth, there are not just simple acts of lying, but also deviations along a quantity scale of truth (with at one end TO EXAGGERATE and at the other TO UNDERSTATE) and a quality scale of truth (with at one end TO SLANDER and at the other TO WHITEWASH). Theoretically, these four poles should be of equal importance. However, in the lexicalization of linguistic behavior, the understatement-pole is underrepresented in comparison with the others; in fact, in some languages such as Dutch, there is even a clear gap (which can only be filled with a pun on OVERDRIJVEN, the equivalent of TO EXAGGERATE, viz. the non-existent word 'ONDERDRIJVEN'). This asymmetry in what looks like a symmetrical structure requires further investigation.

A second example is taken from the area of the directives. Often it is claimed that WARNING is negative ADVISING. Upon closer examination, however, this symmetrical relationship on the directionality scale of directives (with at one end attempts to direct someone towards doing something, and at the other attempts to make the hearer not do something), distorts reality. A first surprising fact about this scale is that the two extremes are not occupied by TO ORDER and TO PROHIBIT. These two are not exclusively positive and exclusively negative, respectively, because it is possible to order someone not to do something and to prohibit someone not to do something (which is equivalent to obliging him or her to do something). An exclusively positive directive would be TO INVITE (in its original sense of asking someone to come over to your house) and related acts; an exclusively negative one is TO VETO. TO ORDER and TO PROHIBIT are slightly closer to the center of the scale and could be called intrinsically positive and negative, respectively: TO ORDER is intrinsically positive

because it is positive if combined with a positive propositional content and negative if combined with a negative propositional content; TO PROHIBIT is intrinsically negative because it is negative when combined with a positive propositional content and positive when combined with a negative propositional content. To come back to the acts of WARNING and ADVISING, whereas TO ADVISE describes an intrinsically positive directive (in the same sense as TO ORDER does), TO WARN is not in the same sense an intrinsically negative directive; the negativity of WARNING is not as strong as that of PROHIBITING though it would probably be true to say that TO WARN may be more frequently used to describe negative directive acts than to describe positive directive acts. Thus, TO WARN is not just the negative counterpart of TO ADVISE; it has to be placed considerable further towards the center of the scale.

3.4 That linguistic action verbials reflect cultural attitudes is hardly surprising. One illustration should be sufficient. Consider the following verbials: TO ASPERSE, TO BACKBITE, TO BADMOUTH, TO BESMEAR, TO BESMIRCH, TO BLACKEN, TO CALUMNIATE, TO CAST A SLUR ON, TO CAST ASPERSIONS ON, TO DEFAME, TO DEFILE, TO DENIGRATE, TO DISPARAGE, TO DRAG THROUGH THE MUD, TO GIVE A BAD NAME, TO LIBEL, TO MALIGN, TO RUN DOWN, TO SLUR, TO SMIRCH, TO SPEAK ILL OF, TO SPEAK SLIGHTINGLY OF, TO SULLY, TO TARNISH, TO TRADUCE, TO VILIFY. All of these are associated, in varying degrees, with untruthfulness. In fact, apart from TO CRITICIZE and a few others, I cannot think of any linguistic action verbials which contain 'to say something bad or unfavorable about someone or something' as part of their meaning, and which are not, in all or most of their uses, associated with untruthfulness. This is in sharp contrast with the large set of verbials meaning 'to say something good or favorable about someone or something' without being associated with a lack of truthfulness (such as TO PRAISE, TO LAUD, TO GLORIFY, etc.). Thus the lexicon reflects a usually unconscious value judgment which is entirely in keeping with Freud's observation that "society makes what is disagreeable into what is untrue".

3.5 There is also a clear link between the cognitive salience of certain forms of language behavior and the way in which they are lexicalized (or not lexicalized). For instance, every language contains a large number of routine expressions. For some of those, we have descriptive linguistic action verbials at our disposal, such as TO APOLOGIZE, TO COMMISERATE, TO CONGRATULATE, TO GREET, TO THANK, etc. But for others, English does not offer words to describe them. Just think of expressions such as "Never mind" (in response to an apology) or "You're welcome" (in response to an act of thanking). Such forgotten routines are consistently less

important in the lexicalization of linguistic action; an expression such as "You're welcome", for instance, does not play a separate role: it is part of the thanking ritual as a whole. Thus, the lexicon does not even make forgetting into a totally whimsical activity.

4. PERSPECTIVES FOR FURTHER RESEARCH

These types of preliminary results are based on comparative investigations of a few sample areas of linguistic action (see Verschueren 1979 and 1981a). Since every language contains thousands of linguistic action verbials, picking out such sample areas was one way of coping with a nearly impossible task. The alternative, and the logically next step, is to restrict our topic of investigation to a single level of the hierarchical structure which also characterizes the linguistic action part of the lexicon, viz. the level of what could be called *basic linguistic action verbs* (a notion for which a tentative definition is offered in Verschueren 1981b). Such a restriction would make a very extensive investigation in two stages possible:

I. A comparative investigation of the *sets of basic linguistic action verbs* available in a large number of languages, from which, hopefully, 'synchronic implicational universals' can be deduced with respect to the development of the lexicalization of linguistic action (similar to those found for color terms in Berlin & Kay 1969, and for plant and animal terms in Brown 1977 and 1979).

II. A detailed comparison of the *semantic dimensions* needed for the description of the basic linguistic action verbs in a small number of languages (preferably representatives of the different stages of development which may have been discovered as synchronic implicational universals), from which *universal principles of the lexicalization of linguistic action* might be deduced.

Such an investigation would considerably deepen our insight into the nature of linguistic action itself, e.g. by settling some issues which have been raised in recent theorizing about 'basic speech act types'. Moreover, the results could later be employed as a universal starting-point for further detailed examinations of individual languages (with respect to their linguistic action verbials in general) and for small-scale comparisons. All these investigations, taken together, could be regarded as a possible empirical basis for discussing universals of linguistic action.

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