REPORT 12

SURVEY OF CALIFORNIA AND OTHER INDIAN LANGUAGES

PROCEEDINGS OF THE 50TH ANNIVERSARY CONFERENCE

June 8-9, 2002
University of California at Berkeley
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Lisa Conathan and Teresa McFarland, Editors

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THE SURVEY AT AGE 50
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1. INTRODUCTION

This year is the 50th anniversary of the Survey of California and Other Indian languages. For those 50 years, the Survey has been a central component of the Department of Linguistics here at the University of California at Berkeley (although it was actually founded some months before the department itself). The Survey is a research unit which provides funding and motivating force for the study of American Indians, a gathering place for students studying American Indian languages, and an actively growing archive, visited by scholars and Native Americans alike. Throughout its 50 years, the Survey has had just three directors: first, Mary Haas; next, Wallace Chafe; and now myself. The Survey also puts out the “Survey Reports,” of which this is the twelfth. Another function of the Survey is to hold meetings a few times per semester, always in the evening at someone’s home, where we have dessert (or lately, a whole supper), and then a speaker presents his research. This has been a tradition for the lifetime of the Survey.

Berkeley has been in the forefront of the linguistic documentation of California Indian languages for over 100 years. For the first half of the century, this work was primarily carried on by the Department of Anthropology. Beginning in 1952 with the founding of the Department of Linguistics and the Survey of California and Other Indian Languages, intensive fieldwork has been carried on by the Department of Linguistics. As a result of this long tradition, UC Berkeley has put out hundreds of dissertations, monographs and articles on California Indian languages, and also boasts four great archives with rich written and recorded linguistic materials – at the Survey of California and Other Indian Languages, the Bancroft Library, the Hearst Museum, and the Berkeley Language Center.

As Murray Emeneau and Mary Haas, two key figures in the founding and shaping of the Linguistics department, both saw, California Indian languages are in the last stages of language decline. The Survey was founded in order to provide support for the documentation of American Indian languages, with a special emphasis on California. Haas told her students that “a dictionary, a grammar, and a body of texts” was the minimum documentation that should be created for every language, and imbued in them the passion to fulfill that goal. Students and scholars working under the auspices of the Survey have always been expected to house their fieldnotes, or copies, in the Survey archive. The Survey also has an agreement with the Berkeley Language Center (formally called the Language Lab) to lend sound recording equipment and provide tapes (or CDs) to students and faculty doing fieldwork on American Indian languages, and the originals or copies of the resultant recordings are housed there. Between the Survey, the Bancroft Library (where the fieldnotes from the early Anthropology faculty are housed, along with mission materials and other forms of documentation on American Indian languages), and the Berkeley Language Center and the Hearst Museum (both sound recording archives), there are few if any bigger collections of California Indian language and music anywhere.

At least 35 of the languages for which materials have been collected now have no speakers left at all, and another 50 have only a few elderly speakers. For languages with no speakers, the only place the language remains is in the publications, fieldnotes and recordings made by linguists; and the Survey played a huge role in producing those materials.

This summer the Survey put on a workshop and a conference, in celebration of its
50th anniversary.

2. THE BREATHE OF LIFE WORKSHOP

Starting in the 1990's, the Linguistics Department has teamed up with a California Native organization, The Advocates for Indigenous Language Survival, to put on a biennial workshop for California Indians. Originally dubbed "The Lonely Hearts Language Club," this event is now known as the "Breath of Life Language Workshop." This year was the fifth biennial event, and close to 50 native people representing 20 different languages came for an intense week, to tour the archives and get basic training in phonetics, grammatical analysis, and techniques for finding "useful language" in the materials here to use for language revitalization purposes. 25 mentors - graduate students and faculty, and a few advanced undergraduates - worked individually with each language group to help them learn how to pronounce their language and begin the process of learning the grammar and making language materials. Lectures were given in the mornings on phonetics, grammar, language learning and teaching methods, and materials development. After lunch, the participants were given tours of the archives, where archivists had gathered materials on the languages of the participants, for their use for the week. After that, there were afternoon optional workshops and tutorials, or continued work in the archives. "Homework" consisted of preparing three presentations over the week - the first to read a paragraph out loud from some text in their language; the second to present some interesting aspect of their grammar; and the third a project of their own choice.

Projects this year included, among others: a powerpoint presentation of photos of the relatives of the Obispeño Chumash participant with her two nieces, with each calling the person by the appropriate kinship term; for the Wiyot participant and her graduate student mentor, the first known Wiyot conversation to be held in over a century; from the Mutsum group, a children's picture book about the colors and their meaning in traditional Mutsum culture, all written in the language; from one Acjachmem (Luiseño) participant, a new song; from another, a poem; and a Mattole traditional tale, told aloud. Another tale from the Barbareño Chumash participants, told bilingually. A speech in Northern Pomo from the participant from Point Arena, to convey the intensity of his feelings about finding the documentation on his language. All these and others were presented as the first session of a larger conference held during the final weekend (see below).

A number of participants have developed long-term relationships with their mentors and are working on advanced projects with them such as dictionaries, user-friendly grammars, and language curricula. Several graduate alumni, now professors in other universities, traveled back to Berkeley this year to mentor in this workshop. "Breath of Life" has become a favorite event for many of our graduate students and faculty, as well as for Native Americans from around the state.

3. THE FIFTIETH ANNIVERSARY CELEBRATION OF THE SURVEY

The Survey of California and Other Indian Languages celebrated its 50th anniversary this year, and marked the event with a conference held in Dwinelle Hall on June 8 and 9. While everyone was welcome to participate, invitations were specially sent to the graduate alumni (many of them now professors emeritus!), who did fieldwork under the auspices of the Survey during its 50 years of existence. The conference began with presentations by California Indian participants in the preceding Breath of Life Language Workshop. What better way to celebrate our birthday than to see our fieldnotes and publications being used and deeply appreciated by the children and grandchildren of the people who were our consultants?

Saturday afternoon, we heard a moving talk by Daryl Baldwin, linguist and Miami tribal member, on how he worked with Miami language materials to learn to speak his language. The last native speaker of Miami died in 1962; now Baldwin has become
conversationally proficient, and has made it the language of his home - and therefore of his four children. He now has a position at Miami University and is heading a growing language revitalization movement in the Miami community. Baldwin credits Dr. David Costa with first organizing the Miami materials in such a way that anyone could make sense of them. Costa wrote his Ph.D. dissertation on Miami here in our department (19**).

Baldwin’s talk was followed by a presentation on J. P. Harrington and his views on fieldwork, by Prof. Kathy Klar; and we were then honored to hear a keynote address by Emeritus Prof. Murray Emeneau, now 98 years old, who gave a fascinating autobiographical account of the founding of the Linguistics department and the Survey, in which he played a key role.

Another high point of the conference was a panel discussion of the Survey by alumni and past faculty, moderated by Prof. William Shipley, who was among the early Ph.D.’s from the department and who brought many of the rest of us into linguistics through his introductory course that he taught at Berkeley for years before going to UC Santa Cruz.

Brent Galloway, Margaret Langdon, Shirley Silver, Robert Oswalt, Mauricio Mixco, Mike Nichols, Tom Larsen, Wally Chafe and William Jacobsen were among those who talked about their memories of the Survey, their fieldwork, and their subsequent careers.

On Sunday, talks on California and other Indian languages were given by 16 linguists from around North America, many of them trained at Berkeley. Current students and faculty also gave papers, showing an unbroken line of Americanists being trained here for the 50-year history of the Survey.

4. THIS VOLUME

This volume consists of a set of papers coming out of the Summer 2002 celebration conference.

4.1. CALIFORNIA...

After this preface, we begin the volume with a set of brief memoirs about the Survey and of fieldwork under Survey auspices. This section is introduced by one of the early graduates of the Program, William Shipley, now Prof. emeritus at U.C. Santa Cruz. Before going to Santa Cruz, he taught a wonderful introductory course in Linguistics here at Berkeley for some years, which I took as an undergraduate student in 1963, and is probably one of the main factors that led to my being a linguist today. Several other people in this volume could say the same thing. The next memoir is by Robert Oswalt, one of the early students in the department (1950’s) and a long-time friend and associate of the Survey.

Next Len Talmy, now at Buffalo with a lively group of colleagues including several others from Berkeley, discusses his fieldwork in the 60’s and 70’s with the Atsugewi language. Another student from that era was Brent Galloway, who writes about his memories of the Survey in the 60’s.

A student in the early 70’s was Katherine Klar, now an instructor for the Celtic Studies Program. She recalls the years when the originals of many of the fieldnotes of John Peabody Harrington were housed in the Survey. She has spent the last several years working on a biography of this eccentric linguist who collected so much material from so many languages, and for this volume she includes a paper about his own descriptions of his fieldwork.

George Grekoff was a student here in the 50s. Upon his death in 1999, his materials came to Berkeley. Lisa Conathan, a present student and chief editor of this volume, used the Grekoff collection in Survey archives to research her paper “Split intransitivity and possession in Chimariko.” Jeff Good, also currently a student, used the Survey archives extensively to research his contribution, “The vowel systems of California Hokan.”

A second contribution by Robert Oswalt is his fascinating "Interjections in
Kashaya," a paper that had been presented at the 2001 Hokan-Penutian Conference but was not included in the Proceedings of the conference.

Marianne Mithun was a valued faculty member in the Linguistics Department in the '70's and '80's before she went to U.C. Santa Barbara along with her husband Wally Chafe, another of our long-time faculty members and former director of the Survey. One of her passions since going to Santa Barbara is Chumash, and she presents here a discourse-level study of rhetorical nominalization in Chumash.

Sean O’Neill is another linguist who has been active in the study of California Indian languages. His present paper is an ethnolinguistic study of the languages of Northwestern California. On the other end of the state, Sheldon Klein writes a history and defense of his earlier work on Kawaiisu, presenting in the process some interesting points about the history of linguistic theory and acknowledging Mary Haas’s earlier reading of his work.

4.2. ...AND OTHER INDIAN LANGUAGES

As students go on to become faculty in different parts of the country, their research often focuses on communities in those areas. Jon Dayley, who received his degree from Berkeley and then took a position at Boise State in Idaho, has been working for many years with the Shoshoni, and writes about their fascinating "poetry songs." Tom Larsen went to Portland, where his interest in Northwest Coast languages was developed. He contributes a paper on Chinook Jargon.

Also from the Northwest Coast is a paper by Marie-Lucie Tarpent on the contested "Penutian" language phylum, a phylum originally proposed by Edward Sapir. Sapir was affiliated with Berkeley on an occasional basis long before the establishment of the Linguistics Department, when he came to California for fieldwork. Later he was the mentor of Mary Haas, who came to Berkeley during World War II, and eventually founded our department.

We end the volume with Pam Munro and Larry Gorbet’s excellent contribution. They were never affiliated directly with Berkeley, but are instead the "intellectual grandchildren" of Mary Haas (and therefore great-grand-children of Sapir), through the mentorship of Mary’s student Margaret Langdon, who founded a small dynasty of her own at UCSD. Pam and Larry’s paper is about directionality and related phenomena in Chickasaw.

This set of papers well represents the intellectual legacy of the Survey of California and Other Indian Languages. The Survey today is an active center for graduate students, faculty, visiting scholars and Native Americans to study the languages of California and the Americas in general. We expect the Survey to continue to grow and develop in keeping with theoretical, technological and practical opportunities and needs, and to serve in the documentation, analysis, and revitalization of Native American languages for many decades to come.
Fieldwork and the Survey: Remarks from the panel discussion

William Shipley
Robert Oswalt
Leonard Talmy
Brent Galloway

California ...

Kathryn A. Klar
*John P. Harrington's field work methods: In his own words*

Lisa Conathan
*Split intransitivity and possession in Chimariko*

Jeff Good
*The vowel systems of California Hokan*

Oswalt, Robert
*Interjections in Kashaya*

This paper was presented at the 2001 Hakan-Penutian conference.

Marianne Mithun
*Rhetorical nominalization in Barbareño Chumash*

Sean O’Neill
*Northwestern California ethnolinguistics: A study in drift*

Sheldon Klein
*Tying loose ends in Kawaiisu phonology:
Some comments on Zigmond, Booth & Munro (1990)*
And Other Indian Languages

Jon Dayley
Special language in Shoshoni poetry songs 98

Tom Larsen
Blue munk: Towards an alayysis of causatives and the like in Chinuk Wawa 108

Marie-Lucie Tarpent
A pan-Penutian database of materials for comparison and reconstruction:
   Its organization, uses and current results 119

Larry Gorbet and Pamela Munro
Directionality and affectedness: Semantic extension in Chickasaw applicatives 137
Our coming together on the fiftieth anniversary of the Survey was, for me, not only a time of joy at seeing old friends but also an affirmation of just what a seminal enterprise the Survey turned out to be. I rejoice that so many of us are still around, especially Murray Emeneau, our mentor and one of the architects and founders of the Department of Linguistics and of the Survey itself.

There are many other reasons for rejoicing. Among them is one which I find the most exciting, gratifying and fulfilling. When I was a graduate student, learning Maidu in the summertime from my great teacher, Maym Gallagher, many of the young Maidu people with whom I came in contact expressed puzzlement and disdain when they found that I was learning the old language of their ancestors. Happily, this attitude has been entirely reversed among the young Maidu people whom I know today. Like most of the other young Native Californians, my young Maidu friends are profoundly interested in resuscitating as much of their heritage as is possible. This makes the Survey results into a linguistic treasure of incalculable value to them without which the languages would have, to a great extent, completely disappeared. Now it won't happen. Isn't that wonderful!

My further hope is that our recent reunion will not be the last one.
EXPERIENCES WITH THE SURVEY OF CALIFORNIA INDIAN LANGUAGES

ROBERT L. OWSWALT

Ever since my childhood in the Philippines, I have been interested in languages of all kinds. However, the exigencies of World War II directed me into the physical sciences. By the year 1954 I was established in a career at the Lawrence Berkeley Laboratory and considered my interest in languages as a spare time hobby. Then, that year, I noticed in the UC catalog that a newly formed Department of Linguistics was offering courses on topics of interest to me. I made an appointment to speak with Professor Emeneau on just what the new department would require and what it would offer, and came away satisfied that this was the field I was most interested in.

I applied and was accepted as a graduate student to begin study in September, 1955. I needed the year to withdraw from my preceding life. It was a radical adjustment: My first child was born that same month and my wife quit work to be a fulltime mom. I continued in my fulltime job, as much to maintain health insurance at a time of heavy medical requirements as to continue earning the salary. In addition, we had constructed and moved into a "shell" house, one with outer walls and roof as protection from the weather while finishing the flooring and interior walls. Something had to give, and I soon quit my paying job. The GI Bill and personal savings would be enough to keep us going for a few years.

I am not sure that, at this point, I knew of the work of the Survey of California Indian Languages, but I soon learned in classes what the situation was. I was amazed that there were several dozen native California languages holding on to life, each with only a few speakers. I saw each language and dialect as a priceless heritage, evidence of the history and culture of its speakers, evidence that was fading into irretrievable loss. The Linguistics Department had a large preponderance of its graduate students collecting material on some of these moribund languages, but the urgency was so great that the programs at UCB and elsewhere needed to be stepped up. I felt it a worthwhile dedication of my life to save from oblivion one or several languages.

By the spring term of 1956 I was deemed ready for fieldwork. Professor Haas, head of the Survey, had heard that the Southwestern Pomo, of the Sonoma Coast, were Mormon, and concluded that they might be offended by a smoker, and assigned me, as one of the rare nonsmokers around, to try the situation.

An anthropologist recommended that I contact Essie Parrish, Indian doctor and spiritual leader of the Kashaya (as the Southwestern Pomo call themselves). I did considerable scouting around and eventually found her living with her family in a primitive cabin in the middle of an agricultural field in Alexander Valley, northwest of Healdsburg. When I explained to her what I wanted to do – collect traditional stories and prepare a grammar and dictionary of Kashaya – she immediately understood these goals to be goals she wanted for her people. Neither of us were

2
thinking in terms of reviving the aboriginal way of life or language, but in terms of preparing references which future Kashaya descendants could consult for information on their ancestral customs and language.

The Survey of California Indian Languages provided fieldworkers with a car, a credit card for car expenses, a tape recorder and other supplies, and reimbursed certain living costs. In the summer of 1956 I rented a house in Healdsburg for my family and we caravanned there with the University car and our own car loaded with all the stuff needed when there is a baby to be cared for. From that house I drove out daily to wherever Essie Parrish or some other knowledgeable elders were camped with their families, ready to pick whatever crop was ripe: beans, hops, or various fruits. This initial summer of fieldwork yielded an analysis of the segmental phonemes, featuring four series of stops in seven positions of articulation (plus laryngeals), lots of vocabulary, and some morphology and simple syntax.

The summer of 1957 Essie Parrish was staying on the Reservation near the Sonoma Coast. I tried to find lodging reasonably close, but the closest was 30 miles north in Anchor Bay, where a 20-foot by 120-foot chicken house had been divided into a finished kitchen, a sparsely equipped living room, and about five cubicle “bedrooms”, containing neither windows nor electricity. By this time we had a second child. The place proved livable for a family of four. We also had a stream of visitors, linguists and others, coming up from Berkeley and as far as the east coast, to check out the situation. Some spent the night camped in one of the cubicles of the chicken house.

The summer of 1958 Essie again stayed on the Reservation. I gave up trying to find a house for my family and moved alone to the Reservation, setting up a sleeping cot in the one classroom, vacated for the summer break. I am grateful to the resident teachers, the Trouettes, for allowing me to use the facilities in their quarters, whether or not they were home.

From these two summers on the Reservation, I was learning, besides the language, more of what was going on in tribal affairs. I became an appreciative observer of the four-night ceremony ending with a feast on July 4 and was allowed to tape many hours of their singing.

From Essie Parrish I learned the ethical code of the Indian doctor: Go to help, to the best of your ability, anyone who seeks your help. This was a wonderful attitude, and I didn't want her to change a bit, but it did interfere with the linguistic work. At that time there was no phone service to families on the Reservation and I would not know the situation until I arrived from Anchor Bay. Frequently Essie was off on a doctoring call for an indefinite period. Or she might be just returned from an all-night session and so sleepy and groggy that she couldn't think straight. We made do and I would find someone else to work with. Or I would take long hikes through the dark forests or the openings along the ridge tops to get a feel of what the aboriginal Kashaya homeland was like. On occasion, I would drive around with someone who could add to my collection if Kashaya place names. But the main effort of these two summers was on transcribing the many texts that I had taped and following up with elicitation to clarify new morphological and syntactic structures. In this way was uncovered the elegant reference tracking
system now called "switch-reference", as well as many other complexities in the polysynthetic verb.

In later years, Essie would visit my home for one or two weeks at a time, and work on the Kashaya Dictionary could proceed much faster without all the distractions. She thoroughly enjoyed these visits, calling them her vacation. Before her first visit I had been a little apprehensive about how to keep her from being bored in the periods when I had to go to work on campus. But Essie handled this perfectly: She brought her basketry materials with her and whenever there was a lull, brought them out and proceeded to weave. As we ate the evening meal together, she would talk of her early life, so different from one in the neighboring population. The whole was a life-shaping experience.
During a series of summers in the 1960's and 70's I worked on Atsugewi, a Hokan language spoken in northern California by a people who migrated annually between Mt. Lassen and Burney. I mainly worked with a native speaker named Selina LaMarr, then in her 70's and 80's. She was a remarkable person, and much of my pleasure in doing fieldwork was simply from being in her presence. She had a philosophical perspective of fine-grained benign bemusement that suffused her personality.

Atsugewi – now virtually gone, but I will still use the present tense – is a polysynthetic language with a seemingly rare morphological pattern. The verbal word typically includes a central verb root referring to a kind of object or material – the “Figure” – as moving or located. An example is *-qput-*, ‘for dirt to move or be located’. Such a root is followed by one of some fifty suffixes that specify the Figure’s path with respect to some reference object – for example, *-ict* ‘into liquid’. And the root is preceded by one of some two dozen prefixes – most with a CV shape – that specify the kind of event that caused the Figure’s motion or location. Examples are *ca-* ‘as a result of the wind blowing on [the Figure]’ and *ma-* ‘for a foot to act on [the Figure]’.

Such forms might elsewhere be called “instrumental prefixes”, but I term them “Cause prefixes” because they not only specify some kind of entity impinging on the Figure, but also the way in which that entity behaves – that is, they specify the whole of a causal event. Thus, four different prefixes – *cu-*, *uhr-*, *ra-*, and *ta-* – all refer to a linear object as instrument, but one moving in four different ways to impinge on the Figure: axially into it, circumpivotaly onto it, obliquely along it, and laterally through it. In addition to these three morpheme classes, the verbal word must include a set of inflectional affixes and can include many other morphemes of a range of semantic categories.

In terms of her gifts as a consultant – the reason I ultimately chose to work most with her – Mrs. LaMarr had the ability to take some whole complicated scenario that I would set up in English and find the Atsugewi phrase that would best evoke the same scenario. In this holistic match-up, she would sensitively vary each individual morpheme within the polysynthetic verb to reflect the particulars of the depicted situation. However, in contrast with this ability with overall scenarios, she had no apparent sense of the internal morphological structure of the polysynthetic verb. And so it was that, for the first month or so of my fieldwork, I was not aware of the Cause prefix system. At best, I had started to think that there were initial verb roots with meanings like ‘to do with the foot’, or ‘for the wind to blow’. At one point, though, the system gelled in my mind and I realized that these forms were instrumental or causal prefixes.

Some months later, I started to work with another speaker, Hatty Christie. The first thing I asked her about her language was how to say “I pushed him away”. She answered as follows: “Well, if you were doing it with your hands, you’d say sviqwariv. Now, if you were doing it with your shoulder, you’d say swheqwariv. Of course, if you used your feet, you’d say sinaqwariv.” So, if I had begun my fieldwork with her, I would have had the morphological analysis of the Cause prefix system handed to me.
Thus, I found that speakers differ individually as to which aspects of language they have the greatest conscious access to. The first Atsugewi speaker I worked with had a subtle holistic sense for the entire composition, while the second speaker was spontaneously aware of word-internal morphology. This small experience selected for recounting here – excerpted from my work with a remarkable language and some remarkable people, – holds suggestions both for the practice of fieldwork and for our understanding of linguistic cognition.

BRENT GALLOWAY

S.I.F.C., University of Regina

Having gotten hooked on Amerindian languages with my first course in linguistics at Berkeley with Bill Shipley 40 years ago, I'll give some recollections on what it was like in the Department and the Survey between 1962 and 1977 in regard to work on Indian languages here. Many wonderful classes and professors stimulated a drive in many of us to work on and help save endangered Amerindian languages as a life’s work. As I progressed from being an undergraduate student (1961-1965) to being a graduate student (1966-1977) I gradually met many faculty and grad students who were doing work on a variety of Indian languages, both in California and beyond. Having a desk in the Survey room allowed us to keep abreast of each other’s work, to form lifetime networks, and to be encouraged and socialize both with faculty and other students involved in this exciting work.

As Bill Shipley introduced me to linguistics in the first course, he also talked about his fieldwork with Maidu (with its implored stops) and how urgent it was working with some of the last native speakers to do complete scientific descriptions of these endangered languages. He also gave us examples from Natchez, the language studied by Mary Haas, including words such as [wɔnˈhɛtəhnuː-ɾiʃ] and [ʔut'ɔtʰəhəhnuː-ɾiʃ], which not only were phonologically interesting but were duals with other interesting morphological properties. He also showed us the scientific methods of descriptive linguistics, including then especially Sidney Lamb’s stratificational grammar. Jesse Sawyer brought in Mrs. Laura Somersal, one of the last fluent speakers of Wappo, a language he was working to preserve. Wally Chafe exposed us to the interesting semantics of Iroquoian languages he was working on, including a semantically based sketch of Onondaga and his own interesting semantic theory. Murray Emeneau taught us the elegant scholarship of Sanskrit and the beauties of reconstructions of Proto-Indo-European, but he also did not neglect to bring in fascinating examples from the other Indian languages, such as Tlingit’s vowel-less words such as [ɪpčkt] ‘they the women are coming out of the water toward me’ (which he pronounced again for you in his account of the founding of both the Survey and the Department of Linguistics 50 years ago).

As I started taking graduate classes I met Mary Haas and learned of the possibilities of reconstructing proto-languages of Amerindian language families, as well as her fieldwork with Nitinat, Natchez and Thai. She also gave us the techniques of semantic domain analysis, componential analysis, and complex environmental factors involved in predicting meanings of words. From Terry Kaufman we learned about fieldwork on Mayan languages and reconstruction of the grammar as well as phonologies of proto languages. Harry Hoijer was visiting for a year and I sat in on his Proto-Athabaskan class.

When I completed my comprehensive exams for the Ph.D., I approached Mary Haas as to what Indian languages had never been described by a scientific linguistic grammar, and she mentioned Panamint Shoshone was in need of such description. When I found out that its speakers lived in Death Valley and I planned to do fieldwork in the summer of 1970 I asked if there were any undescribed languages in danger in the Pacific Northwest. She advised me to write Larry Thompson at the University of Hawaii and to attend the Salish Conference that summer in the Northwest. Larry wrote me a wonderful letter, listing all the Northwest Coast languages needing modern linguistic grammars, and giving me an idea of which were most endangered.
So I set out in my car and drove north to Oregon to check out the names of speakers Dell Hymes had mentioned in an article. I found that the last speaker of Lower Umpqua had died 13 years before (1957) and that the last speaker of Siuslaw has died 7 years before (1963). So I drove to Vancouver, B.C., took a ferry to Vancouver Island, drove to the northern tip where I got a ferry for Prince Rupert then drove to Kitimat Village to check out Kitimaat (Northern Wakashan). The Skeena River en route was spectacular with thousand foot waterfalls coming down the steep mountains on both north and south. The village had two white people only in it, both missionaries, and the Kitimaat people still used dugout canoes, some motorized. Shortly after I arrived I was directed to Emmon Bach and Reed Bates who had been working on Kitimaat for several years. They welcomed me to also work on the language and introduced me to two speakers, Rufus Gray and Micah Shaw (who was trained to be a full-time story-teller for the village). I made tapes with both of them, but realized that Emmon Bach had the language well in hand and there were about 500 speakers still left, including people in their teens and twenties. So I drove south to the next language on the Thompson list, Chilliwack Halkomelem. There I located a speaker who was eager to work. There were about 80 to 100 speakers but there was no grammar except a sketch from 1902 and a 1960 word list. So my life's work began.

It was suggested that one of the big attractions to doing this work was that there was good support for fieldwork expenses by the Survey as well as a desk in the Survey room. But I think during those days, most of us got into that work because the atmosphere at Cal, in the department, and in the Survey was electric. We could be part of a team saving endangered languages, and in the process being the very first to describe them scientifically and in detail. The Peace Corps and other avenues gave opportunities for service in adventurous locations, but the Survey did too. And Mary and her colleagues also impressed upon us the ethics of continuing to work toward helping the Indian people save whatever language we described in our grammars. This is also something most of us carried on with and has provided very exciting occupations or off-duty work for most of us.

Since I was a perpetual student in the department, taking as many linguistic grad courses as I could, I became acquainted with some of the first and second generation of Survey workers, such as Bill Shipley, Harvey Pitkin, Sidney Lamb, Margaret Langdon, Len Talmey, some of whom were my profs, gave guest lectures, or were T.A.s for me. My generation of Survey workers I became acquainted with included Catherine Klar, John Davis, Marv Kramer, Geoff Gamble, Jon Daley, and Marc Okrand, and heard about their work with Chumash, Shiammon, Kootenay, Yokuts, Mayan languages, and the extinct Mutsun Costanoan which Marc wrote a grammar of from field notes and Harrington recordings. Several years later I saw Marc at a Conference on Amerindian Languages in Washington, D.C. and asked him the story behind his hugely successful work inventing the Klingon language for Star Trek (which has some of the sounds of Mutsun). But there is one question I still want to ask him about, and that is, did the name Worf have an origin also related to the Sapir-Whorf hypothesis. In teaching about Klingon in my semantics and phonetic classes (one lecture each) if the class is on Halloween, I have been known to don a Star Trek outfit and Klingon mask myself (remembering Cal Zoology prof Richard Eakes who donned costumes and lectured as Darwin, Mendel and others) and deliver the lectures as Worf, adopted son of an earth family that were descendants of Benjamin Lee Whorf. (Some explanation has to be found since there is no /f/ in Klingon.)
JOHN P. HARRINGTON'S FIELD WORK METHODS:
IN HIS OWN WORDS

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1. INTRODUCTION. During the early 1970s, the Survey room was one of three main loci of work on the papers of the then recently deceased John Peabody Harrington (1884-1961). One of Mary Haas's earlier graduate students, Catherine Callaghan, undertook to do a preliminary inventory of the papers at Berkeley. Other portions of Harrington's papers resided in the National Anthropological Archives at the Smithsonian Institution and the Department of Anthropology at the Santa Barbara Museum of Natural History. The Berkeley and Washington portions of the papers were united in the mid-1970s in Washington, after which a series of newly minted Ph.D.s spent either a post-doctoral year (Geoffrey Gamble, Marc Okrand, Kathryn Klar, Kenneth Whistler) or a short-term residency (Katherine Turner) at the Smithsonian, continuing their own research and assisting Elaine Mills in her monumental task of organizing the disparate fruits of Harrington's half a century of field research. Other students (including Richard Applegate and Jon Philip Dayley) in the Survey at the time worked with Harrington's notes as well, and researchers from other institutions were frequent visitors. His legacy is now available for perusal on some 500 reels of microfilm.¹

One of the many problems faced by the first students and scholars to tackle Harrington's original notes was that so many of the bunches of paper seemed to lack any order, and where there was some order, the system was clearly idiosyncratic. We noticed early on that parts of certain language collections were in Berkeley, with additional material to be found in Washington. (We knew little about the Santa Barbara holdings at the time.) We joked wistfully and often about holding a "seance" just to ask Harrington exactly what he had been up to. We never had any real guidance from Harrington himself, in the form of a description of how he had envisioned his field work.

While doing biographical research recently, I came across some lecture notes that Harrington had made while he was teaching in his summer school classes in San Diego ca. 1914-15. The notes reproduced below represent what he taught his linguistics students about how to conduct field work; they provide insight not only into his methodology, but into his ideas about what field work should ideally accomplish.

¹ The numbers after each entry from the microfilms or quote therefrom refer to the frame numbers on Part VIII, Reel 22 of the Harrington microfilms. * marks an indication in the notes of Harrington's use of visual aids. Notes are reproduced exactly as found. [ ] indicate author's comments.
Harrington's most famous student during this period was Carobeth Tucker, who would within a year became Mrs. John P. Harrington, and who would collaborate with her husband on numerous projects over the next four years. Reading the lecture notes along with Carobeth's description of that period in *Encounter with an Angry God* confirms the earnestness with which she describes Harrington as approaching his all-important mission to "save, save the lore" (Laird: 2ff., 80).

There remains no specific record concerning Harrington's own training in field technique, but we can infer that it took place over a period of approximately ten years (1902-1912) and once fixed, scarcely varied. He noted in his own *Curriculum Vitae* that as early as 1902 he had worked with the Indians of Santa Ynez.² He studied formally at Stanford University with Henry Rushton Fairclough from 1902-05, though his primarily Classics curriculum would seem to have offered little opportunity for work with non-written languages. His studies in Germany in 1905-06, however, especially his work with Franz Nikolaus Finck, probably had a deep impact on his methodology. Finck, an Indo-Europeanist by training, had also worked extensively with Caucasian languages, Armenian, Gypsy (Rom), and Irish Gaelic. Finck endorsed the principle of working synchronically with the most remote, unknown dialects of modern languages (such as Aran Islands Irish, for which he wrote a grammar) in order to illuminate the earlier history of the language families involved. Whether Harrington had approached field work this way prior to his German Wanderjahr we can't know; if so, Finck's broad experience and encouragement confirmed him in his ways. If Finck's ideas were new to the young Harrington, he endorsed them wholeheartedly and made them his own. Had Finck not died a sudden, untimely death in 1910, Harrington would likely have returned for further study with him. In such a case, it is interesting (but ultimately useless) to speculate on the course his subsequent career would have taken.

Back in the United States, Harrington had little patience with the niceties involved in getting an advanced degree, such as enforced residency on a university campus for any great period of time, so he set out to find individuals and sources of support which would essentially leave him alone to do his field work. Among his influences at the time was Matilda Coxe Stevenson, a legend in her own time among the Southwest tribes she worked with. Harrington became her protégé; she believed, rightly or wrongly, that she was getting information no one else had access to and had to proceed in relative secrecy in order to protect her sources. Though of a considerably steeier disposition than Harrington, in this regard (as with Finck and field methodology) she either reinforced a pre-existing tendency of Harrington's or planted the seeds of a new necessity in him. The discernible influence on Harrington was his work with Gerald and Ina Cassidy, artists whom he met in Santa Fé, New Mexico, and with whom he began to conceive his grandiose schemes to thoroughly research all the languages of the Americas and issue comprehensive publications based on that work. By the time Harrington began teaching

² Harrington's *Curriculum Vitae* is among the personal papers in the Department of Anthropology archives, Santa Barbara Museum of Natural History.
summer school in San Diego in 1914, his field work methods were fixed, and he scarcely wavered in them for the next two decades at least.

In part, Harrington's methodology developed as a reaction to the Boasian tradition of field work. Boas had many students, but Harrington probably thought him a linguistic parvenu, with training (and an ear for fine distinctions of sound) far inferior to Harrington's own. Both would have agreed that "[i]f primitive languages are worth recording at all, they are worth recording right" (0591). In Harrington's case, however, that meant complete dedication to the field part of the work. "Hurried work or work continued for a short time is quite useless" (0809L). He lived this principle throughout his life, as far as possible. Sapir's brilliant success with his Takelma Grammar after less than two months of intensive field work confounded Harrington; to Sapir he wrote admiringly but a bit archly: "I often look over your Takelma paper – the sketch of the language. I think it is a remarkably good piece of work considering the time you spent on the language."\(^3\) Harrington recommended six months just to familiarize oneself with the sounds of an unwritten language! (0651R-0652L).

2. **Outline Summary of Harrington's Lecture Notes.** A rough outline of Harrington's teaching on field work, reconstructed from his notes, looks like this:

I. Introductory remarks.
   A. Old methods of recording "primitive languages." (0590R)
   B. New method: "Experimental phonetics." (0591-0592L)
   C. "Informants." (0629LR)

II. Slip-file method.
   B. Notebooks. (0631L, 0633L)

III. Text method. (0644-0645L)

IV. Handwriting and printing (i.e. publishing) considerations. (0645R-0647L)

V. What & how to collect. (0648-0649)

VI. What to look for. (0650-0651)

VII. Concluding remarks.
   A. Interference from one's native language. (0651-0652R)
   B. Areal characteristics of sounds. (0653L)
   C. Hurried work useless. (0809L)
   D. Summary of general requirements for field work. (0809R)

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\(^3\) Harrington, John P. Letter to Edward Sapir, January 7, 1912. In the archives of the Canadian Museum of Civilization.

0590R

The ear and the eye and the morphological connections of words are a great help [sic] in the studying of language. But after all, by the old methods one usually ends by recording not the actual sounds spoken by the native, but the best imitation of these sounds which the record can make. Our record

0591

If primitive languages are worth recording at all, they are worth recording right. All the other sciences make use of measuring instruments in making accurate measurements. So must the science of language. Experimental phonetics has become an indispensable part of the investigation of languages and the experimental method is fast superseding [sic] all others. The crude and (over)

0592L

The old subjective method of divining and guessing at the character of foreign sounds and of recording them writing them down inaccurately as they happen to impress one, is being superseded [sic] forever by the careful experimental method. What chemistry is to alchemy, the experimental method of studying languages is to the medieval, barbaric, haphazard method which still prevails at the present day.

0592R

The word or sentence should be written on as many slips as it contains elements or combinations of elements. On each slip one or more elements which should be underlined and in classifying the slips the underlined elements should are the ones referred to.

0629L

The natives are the only people who know the language perfectly. Good work and accurate records can be made only by the assistance of good, intelligent natives.

It is quite safe to refer difficult phonetic and other questions to natives for decision.

One native is never sufficient. One should do extensive work with several informants.

0629R

Method is most necessary in this work, if one is to attain results that are worth while.

No native of any speaking any language can be expected to be able to analyze words. The native can freely translate what a long cluster of coalesced elements means. Attempts at analysis irritate and disgust him.

0630L

The most gifted student cannot remember words well enough to make any other system than a slip-system practical in this work.

0630R

All recordings of primitive unwritten languages should be made on slips of paper.
According to von der Gabelenz handbooks notebooks have almost no use in the work of recording unwritten languages. If they are used, it is the common experience of scholars that they what they contain must be copied on slips before it is sorted.

The advantage and of slips is that they are detached and free.

The use of notebooks in recording unwritten languages should be confined to recording of connected texts. Any The Each word and group of words in the text should be slipped according to the usual method and fully explained.

Notes Notes and slips, should never be written with pencil, but to be kept for permanent reference should never be written with ordinary pencil, but with ink or with indelible p in solid ink pencil. However, if the entire material on the slips is to be immediately worked over and published, pencil the 궁 of pencil and news stock may be used.

Size of slips – 4-1/2 x 2 inches in usually sufficient size.
Also bigger and smaller.

Since a great number of slips are [sic] required, thin and cheap paper should be used. The railroad manila (show) is well adapted to this purpose. The thinnest and coarsest quality of this paper costs only 5-1/2 cents a pound. News stock is also practical. This costs 4-1/2 cents a pound.

There
A word or sentence sh
An element, word
There is no occasion to be economical of paper. A word As many slips be filled as are possibly will possibly [sic] be needed in the for the complete classification, analysis and understanding of every sound, element, word and sentence.

Occasionally very larger or very smaller slips should be employed. Occasionally Sometimes sheets the size of a letter paper are used to advantage.

The slips should be cut in a paper cutting machine to ensure their being of the same size.

When one does linguistic work in remote parts of the earth, it is important to have the slips small and light and have the writing on them proportionally small and neat.
Sample Slips Illustrating the Method of Studying the Morphology of Language

[Sample files slips are included here.]

Mohave.

[Sample file slips are included here.]

There should be one slip for each syllable. Since elements or syllables. Since syllables are elements are usually coalesced with other elements all groups one should write also write slips containing the likely combinations of elements, which seem to the recorder to be likely to be construed together.

Each slip should contain a reference to the language, informant or other source from which the linguistic facts which it bears were obtained.

Each slip should also contain the translation of the words it bears.

Additional information concerning the use or uses of an element should also be given on the slip.

Of course

Features of the language which occur in identical form a second or third times [sic] need of course not be slipped but once. However, nothing no labor or even a not even that occasioned by possible duplication should be avoided at the sacrifice of accuracy.

The slip method must be developed by the investigator according to the peculiarities of the language he is studying, the aims of his particular investigations, and according to the dictates of common sense.

The sorting of slips should be done in a large, windless appartments where the work will be undisturbed. Many large tables are most convenient, although it often becomes necessary to resort also to placing slips on the floor. The sorting of many thousands of slips is a most tedious and laborious task. To many it is mere drudgery. (over)

It cannot well be done by anyone other than the collector. It is easy and interesting to record words on these slips by the thousand. The sorting however takes about many times as long as the recording.

[some type of scribbles at bottom of page, as if JPH were re-using paper]
The slips should be filed away after they have been sorted and used in analyzing the language. This is well done in pasteboard shoeboxes. Wire clips or stiff cards as with projecting above the general level can be used in indexing them. The slips can be best be stored in drawers.

Another method which involves less work than that described above, consists [Large space with notes such as 'fader' etc. again as if JPH were re-using paper.] is the following: texts are recorded with word-for-word and also free translation. These texts are then published. (over)

The words or sentences are then cut apart and pasted on slips, the element (for the) or elements for the investigation of which the sentence slip is prepared, being in each case underlined. This system has grave faults. One of these faults is that the texts ought not to be printed till carefully analyzed, which is impossible with this system.

Handwriting. This must be clear and legible. Printing of the letters is often best. Diacritical marks should be made carefully. and

In preparing linguistic work for the printer neat hand writing or printing out of letters is preferable to typewriting. The reason for this is that the typewriter cannot write the strange sy characters and diacritical marks. These have to be added by hand as and the typewriting [sic] letters are so small that the work is usually untidy. Besides this the (over)

Typewriting and later adding of the marks, etc., in requires much unnecessary time and trouble.

What and How to Collect.

The investigator must determine what to collect from his growing knowledge of the language he is recording. A Perhaps the best method is to pages obtain short texts and then get grammatical material based on each element, word and construction of the texts.

All languages seem to distinguish nouns. Get as many usages as possible.

In working out the verbs, the persons, numbers, tenses, modes, etc., should be elaborated in great completeness, taking many verbs as the basis for such work. Also, the kind of directions, extent, manner, frequency of action should be investigated.
The adjectives will often be found to resemble either noun or verb.

Prepositional
Adverbs are usually expressed by verb affixes and prepositions by noun affixes.

Interjections
Conjunctions are usually few.
Interjections should receive careful attention. Men's, women's and children's sign [?] other points deserve attention.

What to Look For
However well gifted and well trained the student may be, he will find the first recording of an unwritten language most difficult at first.

It is a common experience to think one hears variations of sound which the native does not recognize at all. Still a more common experience is to even identify two or more sounds which the native considers entirely distinct and separate. These fluctuations and inaccuracies in writing often continue after one is very familiar with a language.

One thinks he hears the sound "d", and writes d to indicate this sound. Later he discovers another sound in the language which differs from this first sound and which is more properly indicated by the symbol d. D is therefore adopted for this second sound and the writing of the first sound has to be changed to t. And so with many other sounds. It usually takes about 6 months of constant study and practice before [sic] one can be sure of the sounds.

We always hear our native sounds in a foreign language. This is even true of bird language. Tell of Indian.

Sounds similar even in languages not akin when languages are contiguous. Explain. Therefore sounds are "identified" and alphabetic symbols are applied.

Hurried work or work continued for a short time is quite useless.
Phonetic training, familiarity with many languages, a good ear and a good memory for words, quickness of observation and ability to get along with primitive peoples are necessary to successful recording and study of primitive languages.

4. CONCLUSION. Whether the notes reproduced above would have helped us a great deal with any specific language we worked on in the Survey Room in the 1970s is questionable. I think, however, it would have compelled all of us to recognize that the notes had been acquired and compiled based upon certain principles, and that insofar as possible, we should seek to restore that original order when dealing with separated and disorderly masses of material. Here on paper, at least, Harrington looks a great deal more organized than we thought of him as we opened those moldy, dusty boxes in the Linguistic Department storeroom thirty years ago. We would also have understood that the excessive amount of paper the man used was not only part of the madness, but of the method. ("There is no occasion to be economical of paper" (0634L).) And we would have been able to discuss with Mary Haas, a student of Edward Sapir, how Harrington's vision of field work differed from that of her mentor and her mentor's mentor.

REFERENCES


SPLIT INTRANSITIVITY AND POSSESSION IN CHIMARIKO

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1. INTRODUCTION. This paper concerns two points about Chimariko pronominal inflection that are clarified by material and analyses contained in the notes of George Grekoff. The first concerns the distribution of the 'active' subject marker. Considering the complete corpus of available Chimariko data leads to a better understanding of some of the obscure points in Dixon's (1910) grammatical sketch. One such point of obscurity led to a misunderstanding in Sapir (1920). Sapir claimed that the 'active' markers, when suffixed, indicated subjects of $S_0$ ('stative' or 'objective') intransitives, and when prefixed, subjects of $S_A$ ('active' or 'subjective') intransitives, a generalization that is not entirely accurate.

The second point in this paper concerns the distribution of the same pronominal markers on possessed nouns. Pronominal markers distinguish two types of possession, and can be considered to mark an alienable/inalienable distinction. When Dixon's material is augmented by Harrington's and Sapir's, it becomes clear that 1) several nouns can be inflected as either alienably or inalienably possessed, 2) there is significant variation in which nouns are in the inalienable class and 3) the alienable/inalienable distinction is not semantically predictable — though many inalienable nouns are body parts, this semantic designation is neither necessary nor sufficient for classification as inalienable.

Chimariko is classified as Northern Hokan and was spoken in Northwestern California in the area along the Trinity River 'from the mouth of the South Fork up as far as Taylor's Flat at French Creek' and possibly along the South Fork (Dixon 1910:295-6). Their neighbors included the Wintu, Karuk, Shasta and Hupa.

The data for this paper is largely drawn from the notes of George Grekoff. Although Grekoff was not employed as a linguist, he worked on the Chimariko language continuously from the time he was a student of Mary Haas in the 1950s to his death in 1999. The language was no longer spoken by the time he began to work on it, so his work was based on material collected by Dixon, Sapir and Harrington, among others. He meticulously analyzed the corpus of available Chimariko material, standardizing the orthography and developing extensive analyses in Stratificational Grammar. The orthography used in this paper is Grekoff's, and may not be entirely representative

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1 Current and future Chimariko scholars owe tremendous gratitude to George Grekoff for his lifelong commitment to studying the language and the large collection of notes and other material he left to the Survey of California and Other Indian Languages at UC Berkeley after his death in 1999.

The most complete published source on the Chimariko language is Dixon (1910), and in addition Sapir's material was recently published in his *Collected Works* (Sapir 2001). This material consists of word lists from several speakers who were not entirely fluent. Despite this, the data is valuable because of the phonetic accuracy in which it is recorded, which provides a basis for comparison with the Dixon material. Dates of major Chimariko fieldwork are given for reference in (1).

(1) *DATES OF MAJOR CHIMARIKO FIELDWORK - FIELDWORKER AND CONSULTANTS*

<table>
<thead>
<tr>
<th>Year</th>
<th>Worker(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1889</td>
<td>J. Curtin</td>
</tr>
<tr>
<td>1901-2</td>
<td>A.L. Kroeber (T.², Friday)</td>
</tr>
<tr>
<td>1902</td>
<td>P.E. Goddard (Sally Noble)</td>
</tr>
<tr>
<td>1906</td>
<td>R. B. Dixon (Polly Dyer, Friday)</td>
</tr>
<tr>
<td>1920-1</td>
<td>C. H. Merriam</td>
</tr>
<tr>
<td>1921-8</td>
<td>J. P. Harrington (Sally Noble, Abe Bush, Lucy Montgomery, Saxy Kidd)</td>
</tr>
<tr>
<td>1927</td>
<td>E. Sapir (Saxy Kidd, Abe Bush, Martha Ziegler)</td>
</tr>
</tbody>
</table>

Grekoff not only gave a more modern analysis of many aspects of the language than Dixon, but thoroughly incorporated data from all available sources, including the substantial Harrington material, which proves to be in many ways the most reliable extant record of the Chimariko language. The Harrington notes consist of approximately 2200 pages that include a rehearing of earlier wordlists as well as texts and ethnographic observations.

Some notes on terminology: the term S is used in this paper to identify the single argument of an intransitive verb. S can be divided into subtypes Sa and So, as in the usage of Sapir (1920). In split-intransitive languages, Sa arguments are those that pattern as active or unergative, often inflected like the subjects of transitive verbs, while So pattern as stative or unaccusative, often inflected like the objects of transitive verbs. Fluid S verbs are those that have an argument that can pattern either with Sa or So, depending on semantics or context. In Chimariko, I will refer to three classes of verbs: Sa-inflecting, So-inflecting, and Fluid.

Indices are included at the end of the paper, listing all the intransitive verbs, and relevant nouns (kin terms, body parts and words derived from body parts) for which there is sufficient evidence to determine their inflection type.³

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² Full name not recorded.
³ Some words of caution regarding the forms cited in the indices: Often, words are attested in in several different ways, e.g. sileychumuni, sileyumuni 'arm pit'. The status of aspirated and glottalized segments, and the velar/uvular/glottal contrast in particular are often obscure from the data, and I have made no attempt to standardize or correct.
Regarding citations, unless otherwise noted, data is compiled from Grekoff's notes. Since the data is culled from disparate locations in the notes, no specific folder or page number is given. Most of the verbs referred to in this paper, however, can be found in some form in the dictionary file slips (file numbers 001.002-001.005).

2. Split intransitivity. As introduced above, there are two sets of verbal affixes in Chimariko, which appear both prefixed and suffixed. The sets will be referred to as set I and set II, and are used with S\textsubscript{A}-inflecting and S\textsubscript{O}-inflecting verbs, respectively. These are illustrated in (2).

\begin{center}
\begin{tabular}{llll}
(2) & (Set I) & /y-ama/ & /kow-\textpi/ & (Set II) & /\textchuh-iman-damu-t/ & /\textchele?-\textchi-t/ \\
\multicolumn{2}{l}{yema} & kow\textpi & \textchuhmandamu & \multicolumn{2}{l}{/\textchele?-\textchi-t/} \\
\multicolumn{2}{l}{1(I)-eat} & holler-1(I) & 1(II)-fall-down-TENSE & \multicolumn{2}{l}{black-1(II)-TENSE} \\
\multicolumn{2}{l}{‘I eat.’} & ‘I holler.’ & ‘I fell down.’ & \multicolumn{2}{l}{‘I am black.’} \\
\end{tabular}
\end{center}

The set I affixes are used with many verbs that can be classified as active, or unergative either in terms of lexical aspect, agentivity or control, such as ‘I eat,’ and ‘I holler.’ The set II affixes are used with many verbs that can be classified as stative, non-agentive, or uncontrolled, such as ‘I fell down,’ and ‘I am black.’ The verbal affixes can be either suffixed or prefixed. Though there is a tendency for the sets to align with semantic parameters associated with the active/stative opposition, there are exceptions to semantic generalizations involving agentivity, aspect or control. Descriptions of split intransitivity typically involve the consideration of several different factors, whether lexical categories (Merlan 1985) or semantic attributes of arguments (Van Valin 1990, Mithun 1991). In Chimariko as well, no single attribute characterizes the split, but some generalizations can be made. I will not attempt a complete account for the distribution of S\textsubscript{A} and S\textsubscript{O} verb classes here, though I will indicate some apparent generalizations.

There are two relevant parameters in the discussion about the distribution of pronominal affixes: affix type and affix position as prefixed or suffixed. As shown by the examples in (2), both sets of affixes can appear prefixed or suffixed. These two parameters will be discussed in §§ 2.1 and 2.2.

2.1. Affix type. Examining the types of verbs that fall into each inflection class, it is clear that the distribution of S\textsubscript{A} and S\textsubscript{O} inflection in Chimariko reflects patterns found in many other languages, but that there are also some peculiarities.

It has been noted (Merlan 1985) that split intransitive languages usually have a minority class and a majority class, and that while the minority class is coherently characterized according to verb forms, but have deferred to Grekoff's representations. The segment represented by R is of uncertain quality and occurs only in the digraph tr. A schwa (a) represents a vowel of indeterminate quality, and words beginning with schwa are alphabetized by their first consonant.
type, the majority class is not. It is not immediately clear if Chimariko has a majority and a minority class. I have found 63 $S_A$-inflecting intransitive verbs, 54 $S_O$-inflecting verbs, and 7 fluid verbs. Interestingly, if one were to assume that the $S_O$-inflecting class is the minority class, many of Merlan's observations would prove true, for example that the minority class contains verbs of bodily functions or processes (such as verbs of vocalization, $S_O$-inflecting in Chimariko), and that $S_O$ minority classes tend to be associated with descriptive predicates (in Chimariko, most descriptive predicates such as color and shape terms are $S_O$-inflecting). It is not true, however, that the minority class is associated with animate subjects, as Merlan observed for Dakota, Seneca, Arikara and other languages.

The $S_O$-inflecting class is more easily characterized than the $S_A$-inflecting class. The $S_O$ verbs can be characterized as 1) descriptive predicates (e.g. *imæ'ul* 'be dried,' *la* 'be weak,' *men* 'be white'), 2) bodily functions or processes (using the terminology of Merlan 1985), especially uncontrolled ones (e.g. *leč* 'hiccups,' *laplap* 'blink,' *q'e?* 'choke'), 3) verbs of vocalization, many of them with repetitive reduplication (e.g. *lax...mu* 'cry out, howl,' *wo?wo?* 'bark,' *?ew?ew* 'utter warcry'), or 4) uncontrolled events, states and activities, usually malefactory and describing sickness, fear and pain (e.g. *ic'ama* 'hurt, ache,' *qhol...?ma* 'have a miscarriage,' *xitR* 'get scared, be startled'). This characterization is informal, yet demonstrates that the set of $S_O$-inflecting verbs in Chimariko can be characterized in terms of lexical category of the verb. There is no single semantic element (e.g. volitionality, control, agentivity), however, that can adequately include all the $S_O$-inflecting verbs. Additionally, since the $S_A$-inflecting class is more heterogeneous than the $S_O$-inflecting class, and in fact includes verbs of category 1 (descriptive predicates, e.g. *p'ola* 'be alone,' *letRetRi* 'be spotted,' *?elomtu* 'be hot') and verbs of category 4 (uncontrolled (usually malefactory) events, states and activities, e.g. *šiłk'i* 'bleed,' *wi* 'get burnt,' *hic'a* 'be sick'), the categories outlined above, to the extent that they are useful, can be considered descriptive (but not exclusively) of the $S_O$ inflection type.

In sum, the $S_O$-inflecting class can be defined according to lexical categories, while the $S_A$-inflecting class is more heterogeneous and cannot be thus defined. This is consistent with a pattern associated with $S_O$-minority languages in Merlan (1985).

2.2. AFFIX POSITIONING. According to Dixon, lexical aspect intersects not only with affix type, but also with affix position. In §2.1 it was seen that lexical aspect is not reliable as a predictor of inflection type, since descriptive predicates and other states can be either $S_A$ or $S_O$-inflected. In this section I will show that lexical aspect cannot reliably be correlated with affix position either. Dixon's comments in (3) summarize his observations:
‘It will be seen that two wholly different forms are given in both singular and plural for the first person. In the use of one or the other of these, there is a fairly clear distinction in use. The first type, tc (Çh, here, set II), is never employed with verbal stems indicating action or movement, but with those, on the contrary, which indicate a state or condition. On the other hand, whereas the second form, i, y (?i, y, here, set I), is invariably used with the former class of verbal stems, it is also employed with the latter, but is then always suffixed’ (Dixon 1910:325, emphasis added).

Dixon observes that set II generally correlates with stative, and set I with active, but that the set I markers can be suffixed (never prefixed) to stative verbs. A survey of all the verbs compiled by Grekoff shows that this observation is largely correct. Stative verbs rarely or never have prefixed set I markers - when stative verbs have prefixes, they are set II. I have found only one possible counterexample. Additionally, transitive verbs almost always have prefixed subject marking, although there is one counterexample (?o?o- ‘rock something, e.g. a baby’). It is not correct, however, that suffixed set I markers occur only with stative verbs — they also occur with verbs that clearly have ‘active’ semantics, e.g. controlled activities such as k’of...hu ‘flee,’ and lu?le ‘be swift, move fast.’ This calls into question a direct association of set I affix position with lexical semantics (that set I affixes are prefixed to active verbs and suffixed to stative verbs). It is just that conclusion, however, that Sapir drew when he read Dixon’s description.

Sapir (1920) has some very insightful comments on Dixon’s grammatical sketch, including a reanalysis of Dixon’s morphological segmentation of vowel-initial verbs and nouns. Sapir came to the conclusion that, as suggested by Dixon’s description, the positioning of the set I affixes as prefixed or suffixed was sensitive to lexical aspect or agentive semantics (that is, the opposition of active vs. stative verbs), but that no such observation could be made about the set II affixes. According to Dixon’s observations, the set II affixes, whether prefixed or suffixed, always occurred with stative-type verbs, while the positioning of set I affixes depended on the lexical semantics of the verb. Dixon did not make any specific observation about the distribution of set II prefixes vs. suffixes.

Working from Dixon’s data4, Sapir described a system in which subjects of transitive verbs and S₁ arguments are indicated by a prefixed set I marker, S₀ arguments are indicated by a suffixed set I marker, and objects of transitive verbs and S₀ arguments are indicated by a prefixed, suffixed or infixed set II marker. The chart in (4) is from Sapir (1920). Though this chart puts suffixed set I and all set II markers together in one category as indicating an ‘objective’ relation, Sapir did not intend to assert that set I markers could ever indicate objects of transitive verbs, given his description of the affix.

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4 Sapir’s fieldwork was in 1927, after he wrote the 1920 IJAL article.
<table>
<thead>
<tr>
<th>Subjective (i.e. subject of active verb)</th>
<th>Sing.</th>
<th>Pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>y- (before vowels)</td>
<td>ya-</td>
<td></td>
</tr>
<tr>
<td>i- (before consonants)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Objective (i.e. subject of static verb and object of transitive verb) |       |
|----------------------------------------------------------------------------|
| -i                                                                         |
| tcu- (before consonants)                                                  |
| tc- (before vowels); tcu, -tca                                             |

Additional data from the Grekoff collection bring to light several facts that challenge the description in (4). The original statement that Dixon made is mostly correct, which is that set I markers, when used with 'stative' verbs, are suffixed. Only one example has surfaced that might be counter to this — the verb učehe ‘to be diligent’ — which describes a state, though it is one that is a controlled state or a state that requires effort on the part of the person described.

As mentioned above, it is not the case that the suffixed set I markers are limited to stative verbs. Two transitive verbs with optional object deletion, and several intransitive verbs that are not prototypical statives take the suffixed set I marker. Examples are listed in (5).

(5) **TRANSITIVE:**
lu? ‘drink’; lu?-i ‘I drink (something)’ (001.035)
ʔoʔo ‘rock (a baby)’; ʔoʔoʔi ‘I rock (a baby)’ (001.035:IIA6)

**INTRANSITIVE:**
kow ‘shout, holler (punctual)’; kow-ʔi ‘I shout, holler (punctual)’ (003.004)
heʔuma ‘play grass game’; heʔuma-ʔi ‘I play grass game’ (001.035)
šiši ‘wardance, praydance (v.)’; šiši-ʔ ‘I wardance, praydance’ (001.035)
yapha ‘(woman) to get married’; yapha-ʔ ‘I (a woman) get married’ (001.035)
xoʔuʔu ‘snore’; xoʔuʔu-ʔi ‘I snore’ (001.035)
k’ot...hu ‘run away, flee’; k’ot-ʔi-hu ‘I run away, flee’ (001.035)
la...čim ‘give out’; la-ʔ-čim ‘I give out’
ʔewo...mu ‘cry’; ʔewo-ʔ-μu ‘I cry’ (001.035)

Verbs such as those in (5) call into question the correlation of affix positioning and lexical semantics. In the remainder of this section I will examine Dixon’s and Grekoff’s generalizations about affix positioning. Dixon’s comments on the distribution of the prefixed vs. suffixed markers are in (6).

23
‘In use these pronominal elements seem normally to be prefixed, being so used in over seventy per cent. of the cases known. In the remainder of the instances they are suffixed ... What principle determines the use of one or the other of these positions is obscure, such verbs as sing, work, be good, be blind, taking the elements as prefixes, whereas grow, die, be hungry, sick, take them as suffixes. One distinction can however be made, namely that verbs indicating action or movement invariably take the pronominal affixes prefixed’ (Dixon 1910: 324-5, emphasis added).

Though Dixon had in his data several ‘action or movement’ verbs that were prefixing, a survey of Grekoff’s compiled data shows exceptions to this. Some possible exceptions — verbs that indicate action or movement, but take suffixes — are listed in (7).

(7) k’oč...hu flee I
    heʔuma play grass game I
    šiši dance (a wardance or praydance) I
    luʔle be swift, move fast I

Grekoff has an alternative analysis in which the distribution of prefixes vs. suffixes is purely phonologically conditioned, with vowel-initial roots taking prefixes, and consonant-initial roots taking suffixes. The nouns and verbs that take prefixes are clearly vowel initial, though the initial consonants of some suffixing forms may be epenthetic glottal stops. In (8) are the verbs mentioned in the above quote from Dixon, along with the form he gives them, and the form Grekoff proposes for them. Grekoff proposes initial glottal stops for verbs such as ?iʔi ‘grow’ and ?amemtu ‘be hungry.’ According to Grekoff, any correlation with lexical aspect would be only secondary to the phonological generalization.
<table>
<thead>
<tr>
<th>Prefix</th>
<th>Dixon</th>
<th>Harrington/Grekoff</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sing</td>
<td>tak</td>
<td>ataq</td>
</tr>
<tr>
<td>Work</td>
<td>pu</td>
<td>isi?</td>
</tr>
<tr>
<td>Be good</td>
<td>hisikni</td>
<td>xusamnu⁵</td>
</tr>
<tr>
<td>Be blind</td>
<td>xosamnu⁴</td>
<td>ñusamnu</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Suffix</th>
<th>Dixon</th>
<th>Harrington/Grekoff</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grow</td>
<td>itri</td>
<td>ñiti</td>
</tr>
<tr>
<td>Die</td>
<td>qe</td>
<td>q’e</td>
</tr>
<tr>
<td>Be hungry</td>
<td>amemtu</td>
<td>ñamemtu</td>
</tr>
<tr>
<td>Be sick</td>
<td>qe...ok</td>
<td>q’e...ok</td>
</tr>
</tbody>
</table>

It is likely that an accurate understanding of affix positioning in Chimariko will involve both elements proposed as explanations: lexical semantics and phonology. The distribution of prefixes can indeed be accurately correlated with vowel-initial words, but the status of these initial vowels remains unclear - it is possible, for example, that they were at one point auxiliary verbs or indicators of lexical aspect, and thus the phonological correlation may be epiphenomenal of the derivational morphology.

3. Alienability. The two sets of affixes are also used for nominal possession. Roughly, the set I affixes are used with alienable possession, such as ‘my belt,’ while set II is used with inalienable possession, such as ‘my waist.’ Three observations on the use of these affixes will be presented here: 1) there is considerable variation in what nouns are attested to belong to the set II (inalienable) class; 2) several nouns can be marked with either set I or set II affixes; 3) the set of inalienable nouns is not entirely predictable in terms of semantic class. Just as with verbs, there are unpredictable exceptions to semantic generalizations about inflection type. The use of the two sets in marking possession is illustrated in (9).

(9) (set I) /k’osusu-?i/ (set II) /çhu-çiçi/  
k’osusu?i                  çhuçiçi  
belts-1(I)                  1(II)-waist  
‘my belt’                   ‘my waist’

Dixon identified two types of possession in his sketch, what he called accidental and inherent. Dixon’s description of these two classes is in (10).

⁵ The -n in this form is a tense suffix.
(10) ‘Two classes of possession are recognized, accidental and inherent. In the former, the pronominal elements are always suffixed, and are (set I); in the latter they are always prefixed, and are (set II)’ (Dixon 1910:232; emphasis added).

Dixon’s accidental possession (which is equivalent to alienable) is marked with suffixed set I markers. Set I markers are never prefixed to nouns, only suffixed. Inherent possession (equivalent to inalienable) is marked with prefixed set II markers. Set II markers are never suffixed to nouns. With respect to their distribution, the pronominal marking on nouns differs from that on verbs, where both sets of affixes appear prefixed and suffixed. Additionally, all nominal roots of inalienable nouns are vowel-initial. The class consists of body parts and a few kin terms, though there is significant variation among data sets. In data from one speaker who Sapir worked with (Abe Bush), for example, only certain in-laws were classified as inalienable, while other data sets included many body parts as well.

3.1. Variation in the Inalienable Class. The glossary in Dixon (1910) indicates which nouns are in the inalienable (inherent possession) class by listing them with the third person possessive prefix. For example, ‘anus’ is listed as hi-wi. Sapir, Kroeber and Grekoff revised Dixon’s morphological segmentation, and agreed that such words are better analyzed as h-iwi, with the 3rd person prefix h-, and it is the latter citation that will be used here. Alienable nouns, especially kin terms, are sometimes listed with the 1st person possessive suffix -?i (Dixon usually wrote -i). These conventions provide a basis of comparison (although perhaps not an entirely accurate one) with later elicitation work (by Sapir and Harrington) that more pointedly investigated the opposition of the two possession types.

A phenomenon not present in Dixon’s material is the alternation of possession type on a single root. Later material, including Harrington’s, shows that the same roots can appear prefixed or suffixed with a lexicalized difference in meaning. In the Dixon material both ‘head’ and ‘hair’ are given as inalienable, with prefixed possession (h-ima). In Harrington’s data the same root, when used with a suffixed possessive, means ‘hair,’ while when used with a prefixed possessive, means ‘head,’ as illustrated in (11).

(11) (I)  ?ima-?i  ‘my hair’  (II)  ğhuma (/čhu-ima/)  ‘my head’
          ?ima-me  ‘your hair’       m-ima  ‘your head’
          ?ima-yta  ‘his/her hair’    h-ima  ‘his/her head’

There are also several other pairs of words in which the alternation in type of marking changes the type or intimacy of possession involved, for example such words as ‘fish eggs’, ‘horns,’ and

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6 The first person suffixed possessive suffix is -?i. Third person suffixed possessive has a form distinct from verbal affixes: -yta, in Dixon’s orthography -ida.
'bone.' (This also contrasts with the Dixon material, where 'antlers,' 'bone,' and 'roe' are recorded only as inalienably possessed.) With suffixed set I markers, the nouns refer to a detached body part possessed by a human, while with prefixed set II markers, the nouns refer to the animal's own body part. This alternation is illustrated in (12).

(12) (I) /h-itxayi-ʔi/ hitxayiʔi
3(II)-fish_eggs-1(I) ‘my fish eggs’ (person speaking) (lit. 'my it's fish eggs')

(II) \(\text{chu-itxayi/} \)
1(II)-fish_eggs ‘my eggs’ (salmon speaking)

The opposition illustrated in (12) has so far been found only in elicitation, and thus the semantic interpretation is that of Harrington and the speaker in an elicitation context.

3.2. SEMANTIC UNPREDICTIBILITY. The Dixon material provides evidence that the distinction between the two sets of nouns can not be entirely explained by semantic class. Most body parts are in the inalienable class, but others, such as 'armpit,' 'breast,' and 'tail' are not. Instances of semantically close pairs that are inflected differently are found in the Harrington material as well. For example, \(\text{caʔhaye} \) 'lymph gland' is consistently inflected as alienable, while \(uʔi \) 'liver' and other organs are inalienable; \(ʔima \) 'hair' is alienable, while \(ic'asko \) 'forelock' is inalienable. It is possible that there are cultural reasons (akin to those cited in Nida 1958) for why certain body parts are inflected with the unexpected set I suffixes. This type of distribution is not surprising, given the existence of similar patterns in other languages. Nichols (1988) cites several examples of anomalies to purely semantic criteria for determining alienability status.

4. CONCLUSIONS. The Grekoff collection has proved and will continue to prove an invaluable resource for scholars interested in Chimariko and other Hokan and California languages. In this paper I hope to have clarified a few points about pronominal inflection, though I have also left several open questions about the exact parameters determining the distribution of affix sets I and II, and their appearance as prefixes and suffixes. It is clear that the data published in Dixon (1910) was not sufficient to provide an accurate representation, and led to a misunderstanding published in the account of Sapir (1920). In particular several exceptions can be found to a distinction, whether in the active/stative or the prefixed/suffixed alternation, based purely on lexical aspect. In the nouns, certain exceptions to the semantic generalization that body parts are inalienable have also been identified, as well as several nominal roots that can appear with either possession type.
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APPENDIX I: List of verbs, by inflection type

S_A-inflecting (set I) verbs

aʔa- root for several verbs of movement I
načktu jump around I
ama eat I
   (cf. ?amaq’e I, ?amemtu I/II be hungry)
ataq’ sing I
č’isamra be a bear I
č’itxa yamulla be naked (blanketless) I
eebunta (man) to get married I
ema- act with the foot I
heʔuma play grass game I
hic’ a be sick I
hic’aʔ...ma be sick I

7 I = Set I; II = Set II; Trans. = Transitive. Prefixing verbs are vowel initial; suffixing verbs consonant initial. A discontinuous root is indicated by ... (e.g. čhew...u be pregnant).
huweš...ah be horned I
ik’o speak I
ik’o?na address, speak (to) I
imelušlušu shake head (to say ‘no’) I
imum run I
inahmu walk draggingly, drag along I
inaha limp, be lame I/I
isa breathe I
isakitmi hide I
isamut stop, turn around (and come back) I
i?ee’am swim I
i?em swim I
koko holler I
kow shout, holler I/I
k’o?hu flee I
la...čim give out I
law...puk be exhausted, give out I/I
law...tam be tired, give out I/I
letRetRi be spotted I
lu? drink I
lu?le be swift, move fast I
mat’i believe, listen I
ma...imat be alive I
pačʰaʔa be no account I
po...imu be asleep I
po...mu sleep I
po...muye be sleepy I
p’ola be alone I
qʰapʰama lie (tell falsehood) I
q’amumu...ta confer I
q’e die; be ailing I
q’iuwuwu tremble I
šiṭk’i bleed I
šiši dance wardance, praydance I
šewu be big, get big, grow, been I
(cf. šew...u II)
šʰata...ta be foolish, silly, worthless I
šʰupu be strong, stout I
uče be diligent, energetic I
uc’u fly I
uṭanrahaʔ raise hand I
uwak come I
uwašmu cross (water, e.g. a river) I
wi get burnt I
winini be shivering (from cold) I
xama...ta have gray hair I
(cf. xama n. gray hair I)
xoṭułu snore I
yapʰa (woman) to get married (to someone) I
ʔamanʔiti be young I
(cf. ʔiti grow, be growing I/I)
ʔamaq’e be hungry I
ʔamemtu be hungry I/I
ʔaqʰaq’e be thirsty I
ʔaqʰemtu be thirsty I
ʔelomtu be (feel) hot I
ʔešomtu be (feel) cold I/I
ʔešoq’e feel cold, be freezing I
ʔewo cry I
ʔewo...mu cry I
ʔiti grow, be growing I/I
ʔuwella have a boy, son I

S₀-inflecting (set II) verbs

ačʰe sneeze II
ac’am (woman) to be lactescent II
akʰo to be a good hunter II
(cf. akʰo to kill (trans.))
amusos to have a rash, irritation II
(cf.amusos to scratch (trans.))
awi catch II
awi to be afraid, to fear II
čel be black II
čʰew...u be pregnant II
č’imar be an Indian II
ic’ama hurt, ache II
imač’al be dried, parched II
iman fall II
inahta limp, be lame I/II
inoʔk get well, be recovered II
isaʔ oʔmu give out, be short of breath II
   (cf. isa breathe I)
isaxni cough II
   (cf. isa breathe I)
isiti be good II
itʔiʔnima be glad II
kaw...ku give out, be exhausted II
kow shout, holler I/II
la be weak II
laplap blink II
lawi be weak, debilitated, exhausted II
law...mu give out, be exhausted II
law...puk be exhausted, give out I/II
law...tam be tired, give out I/II
lax...mu cry out, howl II
laxlax yell; whine, (animal) to utter its cry; II
lec hiccups II
lotʔ...hu be soft, decayed, rotten II
lotʔih be soft, decayed, rotten II
lotʔoʔ be genitaly diseased II
mac’ be clean, clear, bright II
mac’aʔ be clean, clear, bright II
men be white II
noroʔ be round (spherical) II
phalaʔ be strong, stout, sturdy, robust II
puʔ...mu be bent over (as with age) II
qʔayqʔay to have rheumatic pain II
qʔol...ʔma to have a miscarriage II
qʔolqʔol (animal) to growl; (cat) to purr II
q’eʔ choke II
q’ewʔ...ok be sick II
asuwoʔna hiccough II
šeʔteʔ be blue II
šiʔiʔ be wet, get wet, soaked II
turim be stiff II
turuʔ be stiff II
txereʔ be wide II
tewʔ...u be big, get big, grow, be grown II
   (cf. tewu I, šeʔteʔ grow, be growing I/II)
tuk be tired, exhausted II
wiʔ...mu be mad, be angry II
willʔ be red II
woʔ...puk bark II
woʔwoʔ bark II
xitʔR get scared, be startled II
ʔamemtu be hungry I/II
ʔesʔo...ic’hʔaq’eʔ freeze to death, be very cold II
ʔesʔomtu be (feel) cold I/II
ʔewʔew utter warcry II
ʔiʔji grow, be growing I/II

APPENDIX II: Body parts and kin terms, with possession type(s) attested.

Alienable (set I)

čaʔxaye lymph gland I
čatxun bone I
čʔumakosa mother in law I
   (cf. ič’hum to borrow)
čʔumaku father in law I
   (cf. ič’hum to borrow)
himolla grandchild (also nephew, niece) I
[h]uweš horns, antlers I/II

ʔič’hilla father I
[h]itxaye fish eggs I/II
koʔböl thyroid cartilage, windpipe I
mačolla grandmother I
mak’olla maternal uncle I
mala maternal aunt, also step-mother I
masola daughter I
mašuy relation (used by children) I
matq'i paternal uncle I
mek'ub brother in law I
mičinlla relative, relation I
misak'ub nephew I
p'unsar woman, wife I
šito mother I
[h]utunew stomach, guts I/II
xama gray hair I
   (cf. xama...ta have gray hair I)
xara child I
xaralla baby, child I
xawila grandfather (mat. or pat.) I
?anoq'a egg, honey, pitch I
?anxala nephew, ?male cousin I
?anxasa niece, female cousin I
?ima head hair I
?itusa (man's) sister I
?iti husband, man I
   (cf. ?iti to grow I/II)
?uluya sibling I
?uwela son I

Inalienable (set II)

awa mouth II
[h]uweš horns, antlers I/II
ičeqmu cheek II
ič'ema armpit II
ič'umta son in law II
ičići waist II
ičip'b thigh, lap II
ic'asko forelock II
ic'e?p'b side (of body) II
iki neck, throat II
ima head II
imasu dorsal muscle along the backbone II
imi fur, body hair II
   (cf. ima head II; ?ima head hair I)
imina back II
iminančatxu backbone, spine II
   (cf. imina back II; čatxun bone I)
ini brain, snot, phlegm II
ipxa guts II
ip'ub tongue II
ip'ub buttocks II
isam ear II
isimta daughter in law II
[h]itxaye fish eggs I/II
iţa finger, hand II
iţiy flesh II
ohu nose II
onapu navel II
uc'u teeth II
uc'unata face, chin, jaw II
uc'unančatxu lower jaw bone II
   (cf. uc'unata face, chin, jaw II; čatxun bone I)
upuţu lip II
up'o foot II
usanč'ey heart II
usot eye II
uši liver II
ušixaye kidney II
   (cf. uši kidney II)
ušiy marrow II
[h]utunew stomach, guts I/II
uwečatxuy lungs II
   (cf. čatxun bone I)
THE VOWEL SYSTEMS OF CALIFORNIA HOKAN

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Unlike the consonants, the vowels of Hokan are remarkably conservative.
—Haas (1963:44)

The evidence as I view it points to a 3-vowel proto-system consisting of the apex vowels *i, *a, *u.
—Silver (1976:197)

I am not willing, however, to concede that this suggests [Proto-Hokan] had just three vowels... The issue is open, though, and I could change my mind.
—Kaufman (1988:105)

1. INTRODUCTION. The central question that this paper attempts to address is the motivation for the statements given above. Specifically, assuming there was a Proto-Hokan, what evidence is there for the shape of its vowel system? With the exception of Kaufman's somewhat equivocal statement above, the general (but basically unsupported) verdict has been that Proto-Hokan had three vowels, *i, *a, and *u. This conclusion dates back to at least Sapir (1917, 1920, 1925) who implies a three-vowel system in his reconstructions of Proto-Hokan forms. However, as far as I am aware, no one has carefully articulated why they think the Proto-Hokan system should have been of one form instead of another (though Kaufman (1988) does discuss some of his reasons). Furthermore, while reconstructions of Proto-Hokan forms exist, it has not yet been possible to provide a detailed analysis of the sound changes required to relate reconstructed forms to attested forms. As a result, even though the reconstructions themselves are valuable, they cannot serve as a strong argument for the particular proto vowel system they implicitly or explicitly assume.

This paper will not be an attempt at any serious reconstruction of the Hokan vowel system. Rather, it will take a broad view, comparing the vowel systems of the California Hokan languages to determine if there is any indication from them as to what vowels were present in their parent language. This study, therefore, is designed to complement the more traditional approach of etymological reconstruction and serve to guide any future attempts to reconstruct Proto-Hokan. As such, the focus is not simply on the distribution of vowel phonemes in California Hokan, but also on those proposed diachronic and documented synchronic processes found within the stock which may shed light on how the present-day vowel systems could have evolved from some Proto-Hokan vowel system.

1 I would like to thank Juliette Blevins, Lisa Conathan, Leanne Hinton, William H. Jacobsen, Jr., Andrew Simpson, and Bill Weigel for their advice at various stages of my work on this paper.
2 It should also be pointed out, from the outset, that Kaufman's (1988) conclusions were based on data both from California and non-California Hokan, unlike this paper.
3 Kaufman (1988) is an important attempt at extensive lexical reconstruction of Proto-Hokan which also includes valuable information on the phonological systems of the Hokan languages. However, the result of its different emphasis is that it is less detailed than the present paper with respect to comparative phonology.
The tentative conclusion of this paper will be that the comparative evidence indicates Proto-Hokan most likely had a three-vowel system. However, this conclusion is intended to be only of secondary importance. The main goal of this work is simply to gather all the available data on the phonological systems of languages in the Hokan stock which has bearing on how many vowels may have been in proto language.

2. LANGUAGES CONSIDERED. Two proto languages and eight attested languages will be considered in this survey. They are: Proto-Yuman, Proto-Pomo, Salinan, Karok, Yanan, Shasta, Atsugewi, Achumawi, Chimariko, and Washo. Each of these is considered in turn. The geographic areas of these languages are shaded in the map given below.

Map adapted from Hinton (1994).

Some possible California Hokan languages will not be considered here. One is Esselen, simply because we lack extensive data on the language. The Chumashan languages will also not be considered because there has been a growing consensus that no strong evidence has been found which would place these languages in the Hokan stock (Kaufman 1988:54–58; Kathryn Klar, personal communication).

3.1 Proto-Yuman. Langdon (1976:146) offers the reconstruction for the vowel system of Proto-Yuman given in the table in (1).

(1) *i *u

*a
length *:

Langdon’s reconstruction of Proto-Yuman offers some potentially important insights into the general question of what the shape of the Proto-Hokan vowel system may have been. Going over the attested vowel systems in the Yuman languages, Langdon concludes that, “Numbers thus seem to favor the five-vowel system.” But, “[t]he five-vowel systems... show some differences which may have historical significance (Langdon 1976:129–130).” Since some Yuman languages apparently innovated their five-vowel systems, the family can be used as a model for how a three-vowel system in a Hokan language can develop into a five-vowel one.

The crucial observation of Langdon’s is that the five-vowel systems of Yuman are defective in ways which point to an analysis where they are treated as innovative. For example, she notes, that in two of the three languages with five-vowel systems, Paipai and Walapai, the vowels i, a, and u are much more common than the vowels e and o. (Yuma has a more robust five-vowel system.) No comparable irregularities exist in the languages with three-vowel systems, Cocopa and Diegueño (Langdon 1976:130). This type of pattern will appear again in the discussions of many of the other Hokan vowel systems—that is, there is often something defective about the systems of those languages with five vowels.

Under Langdon’s account of how Proto-Yuman developed into its various daughter languages, two basic types of diachronic changes are proposed which triggered the innovation of five-vowel systems: phonemicization of allophonic variation and simplification of diphthongs to mid vowels. The primary evidence for these proposed changes are synchronic alternations found in the various Yuman languages. For example, synchronically, in Yuma, the short high vowels i and u are lowered to e and o when they are not followed by a palatal consonant k or s (Langdon 1976:136), thus indicating allophony was a source of at least some mid vowels. Furthermore, in Paipai, the cluster ay alternates with e and the cluster aw alternates with o in certain sets of non-plural and plural verbs (1976:143), thus pointing to diphthong simplification as a source of mid vowels.

Langdon’s analysis of Yuman not only can serve as a model for a general analysis of the development of the Hokan vowel systems as having developed from a proto three-vowel system, but also, importantly, her reconstruction of Proto-Yuman as a three-vowel system casts some doubt generally on the idea that Proto-Hokan had a five-vowel system. This is because a five-vowel reconstruction of Proto-Hokan would require such a system to collapse to a three-vowel system in Proto-Yuman and, then, in some Yuman languages, re-expand to its original five-vowel shape. While such a change is hardly impossible, it adds complications which are simply not found if Proto-Hokan, like Proto-Yuman, is taken to have had a three-vowel system.
3.2 PROTO-POMO. Like Proto-Yuman, the phonological system of Proto-Pomo has also been reconstructed. The table in (2) is taken from McLendon (1973:52).

(2) *i    *u
    *e    *o
    *a
    length *:

Proto-Pomo offers the strongest evidence for the argument that Proto-Hokan had a five-vowel system. This is because, not only is it reconstructed as having one, but, unlike many of the other five-vowel systems we will see below, there are no major irregularities or gaps in the Proto-Pomo phonological system which indicate that the five-vowel system is innovative. In strong contrast to the Yuman, situation, “[T]he seven languages of the Pomoan family show considerable morphological diversity, but relatively minor phonetic change. Vowel quality has undergone little mutation...” (Moshinsky 1976:55).

McLendon (1973:41-44) does propose a range of vowel assimilations for the various Pomoan daughter languages. However, these processes, generally, don’t indicate that a five-vowel system in the Pomoan languages arose from a three-vowel one.

One important process, for example, involves potential assimilation of *a to /o/ before /o/. Such a process might indicate how mid-vowels could have spread throughout the language once they developed but can not explain what the historical source of mid vowels could have been in the first place. Examples are given in the table in (3) contrasting Kashaya Pomo, which underwent the sound change, with Central Pomo, which did not (forms taken from McLendon (1973)).

(3)                  PROTO-POMO       KASHAYA       CENTRAL
MUSSEL   *lā?q’ō   noʔq’o   la:kó
PEOPLE    *nāhp’ó   nohp’o   na:hp’ó
WILDCAT   *dá:lóm(?) dolom? da:lóm

McLendon (1973:44) also notes one case of apparent dissimilation where a *i is realized as /e/, but this process, found only in two forms, seems an unlikely kind of source for mid-vowels generally. These forms are given in the table in (4), again contrasting the innovative Kashaya Pomo with Eastern Pomo.

(4)                  PROTO-POMO       KASHAYA       EASTERN
TO FLY (2)  *pʰudf-     pʰude-     pʰu:df-
STRING     *su:Ifmaʔ? sulemaʔ t’áslum

Oswalt (1976:17) reconstructs Proto-Pomo prefixes as having the shape CV where V is only *i, *a, or *u. Some of the daughter languages have mid vowels in their prefixes due to harmony with the vowel in the stem. This aspect of Proto-Pomo morphology could be understood as a relic of an earlier three-vowel system in Proto-Pomo’s parent language—however, this is highly speculative. Thus, Proto-Pomo offers the strongest evidence that Proto-Hokan had a

The symbol a is used by McLendon, following Oswalt (1964:158), to distinguish *a’s which do harmonize from those that do not.
five-vowel system. An important part of any proper reconstruction of Proto-Hokan as having three vowels would be to determine how Proto-Pomo developed such a robust five-vowel system.

One possibility, that seems to not have been previously proposed, is that the Proto-Pomo vowel system reflects some sort of areal influence. The Pomoan languages are not bordered by any other Hokan languages and a cursory examination of the vowel systems of their geographic neighbors for which there were available sources, Wappo (Sawyer 1991:23, Radin 1929:11), Patwin (Whistler 1976:65), Bodega Miwok (Callaghan 1970), Lake Miwok (Callaghan 1965), and Yuki (Sawyer and Schlichter 1984:10) reveals, that all but Yuki have a five-vowel system with length. Yuki shows a similar vowel system but adds long and short nasal ə. As we will see in the discussion of Washo, areal influence has been implicated before in the development of Hokan vowel systems.

3.3 SALINAN. The Salinan vowel system, taken from Turner (1987:64–7), is given in the table in (5). The segment i is only marginally a phoneme in Salinan (Turner 1987:65)—hence, the question mark next to it in the table. If it is a phoneme, only short i and e are contrastive.

(5)  i (?)
     e o
     a
     length:

Salinan appears to have essentially a three-vowel system. The only deviance from a standard three-vowel system is the phonemicization of the non-low vowels as mid vowels instead of high ones.

Though only marginal synchronically, the phoneme i is relevant to the present discussion. In particular, it is important to see if it can be established whether it is an emerging phoneme or one which was once more prevalent and is now being lost. If the former, then the Salinan vowel system could be taken as evidence for a three-vowel system in its parent language. If the latter, then Salinan could be taken as evidence for (at least) a four-vowel system in its parent.

Turner notes a high degree of variability in the pronunciation of the non-low Salinan vowels (1987:65–67). Thus, Mason (1918:8) lists nine vowel phones for the language, Harrington gives eight (Turner 1987:15), and Jacobsen gives eleven (Turner 1987:16). Harrington’s notes specifically indicate free variation in some instances among the allophones [i], [e], and [i] of /el/ and the allophones [u], [o], and [a] of /ol/ (Turner 1987:64–65). Turner further notes that the allophonic variation is at least partially predictable (1987:66). Therefore, the marginal phoneme i could be emerging in Salinan in much the same way Langdon (1976) analyzed allophonic variation in Yuman being phonemicized. However, for now, too little data is available—particularly on the relevant phonological environments of the allophones—to make this argument strongly.

Furthermore, Turner offers a potential argument in favor of the idea that i is in the process of being lost rather than emerging: “... there is some evidence for a marginal contrast between short [i] and [e] in Jacobsen’s data, especially before final ?... where stress may reveal an otherwise weakly attested contrast (1987:65–66).” We could take this to mean that a short i phoneme is archaic and relegated to a very limited phonological environment. However, Turner (1987:66) also offers one example of potentially contrastive short i and e in a context where the
vowels are not stressed—thus countering the idea that this contrast is only found in stressed syllables.

The evidence is not completely convincing either way. However, given that the short i phoneme is so marginal, and there is no strong case for calling its presence an archaism, I believe Salinan supports the existence of a three-vowel system instead of a five-vowel one for Proto-Hokan.

3.4 Karok. The Karok vowel system, as described by Bright (1957:7) is given below in the table in (6).

(6)  

\[
\begin{array}{ccc}
  i & u & i: \quad u: \\
  e & o & a \\
\end{array}
\]

Karok has an interestingly defective vowel system with three short vowels and five long ones. Without further analysis, this system could have plausibly derived from either a five-vowel system, which has partially collapsed, or a three-vowel system which has expanded.

Synchronic alternations, however, indicate that, at an earlier stage, Karok had a three-vowel system—along with phonemic length. In various environments, a high vowel and a coalesce into long mid vowels. Thus, \{ai,iə\} → e: and \{au,ua\} → o:. Examples from Bright (1957:34) are given in (7).

(7)  

\[
\begin{array}{l}
/\text{amyiv-ara}/ \rightarrow [\text{amyə:ra}] \\
\text{soot'-ADJ} \quad \text{‘sooty’} \\
/\text{ʔánav-ikyáva:n}/ \rightarrow [\text{ʔane:kyáva:n}] \\
\text{‘medicine-maker’} \quad \text{‘doctor’} \\
/\text{ʔá:ku-va}/ \rightarrow [\text{ʔa’ko:}] \\
\text{‘hit’-PL} \quad \text{‘hit (pl.)’} \\
/\text{pa=ʔúkra:m}/ \rightarrow [\text{ pókra:m}] \\
\text{‘the-lake’} \quad \text{‘the lake’}
\end{array}
\]

The alternations exemplified in (7) show that Karok is likely to have developed from a language with a three-vowel system, with vowel coalescence as the source of the mid vowels. This is because vowel coalescence not only gives us a plausible source for the appearance of mid vowels generally, but can also explain specifically why the system contains only long, and no short, mid vowels.

3.5 Yanan. The Yanan vowel system, taken from Sapir and Swadesh (1960:3–4), is given below in the table in (8). Yanan here is a cover term for Northern Yana, Central Yana, Southern Yana, and Yahi. From a phonemic standpoint, the dialects all have the same vowel system. Short e and o are found in the Yanan languages, but these are allophonic variants of the long vowels in closed syllables (Newman 1932:1).

(8)  

\[
\begin{array}{ccc}
  i & u & i: \quad u: \\
  e & o & a \\
\end{array}
\]
The Yanan vowel system has the same basic structure as the Karok vowel system. Unlike Karok, the synchronic phonology of Yanan does not point to the source of the long mid vowels in the languages. However, these vowels have a very restricted distribution. "In all dialects /el and /ol occur almost exclusively in the initial syllable of the word, where they function nearly always as morphological mutants of the other three vowels (Sapir and Swadesh 1960:4)." The forms in (9), from Northern Yana, give examples of the alternations described by Sapir and Swadesh.

(9) /ma/-

- [masiwa'a] 'it is eaten'
- [moosindja] 'I eat'

/ha/-

- [hasaasi] 'she goes away'
- [hoosa'asi] 'he causes her to go away' (Sapir 1922:233)

Based on the defective distribution of /el and /ol in Yana, Nevin (1976:249) proposes that the Yanan vowel system should have only three underlying vowels /i,a,u/ and surface [ee] and [oo] (potentially shortened in closed syllables) should be derived from underlying /ai/ and /ua/. His basic intuition, therefore, is that the mid vowels in Yanan are secondary in nature.

Despite Nevin's synchronic analysis, no diachronic data, specific to Yanan, has been uncovered which would indicate what the vowel system of its parent language might have been. The present-day Yanan system could have plausibly derived from a Pomo-like five-vowel system or a Yuman-like three vowel system. However, insofar as the examples of Yuman and Karok give us clear examples, within Hokan, of how a three-vowel system could develop into a five-vowel system (with Karok showing us how a Yanan-like system specifically could develop), the bias in a diachronic analysis of the Yanan system should probably be that it developed from an original three-vowel system. (Though other five-vowel systems will be discussed below, none of them offer any particular, special insight into the analysis of Yanan.)

3.6 SHASTA. The Shasta vowel system, as described by Silver (1966:22), is given in the table in (10).

(10) i u
e a

length :

Shasta is the only California Hokan language which has a fully developed four-vowel system. In particular, it has a contrast between e and i. Haas (1963:42) indicates one source for long e in the language. Specifically, she claims that *ima and *ami in Proto-Hokan reduce to e: in Shasta. Examples, from Haas (1963:47–51), are given in the table in (11).

(11) **PROTO-HOKAN** | **SHASTA**
--- | ---
*ćimapasi > ?é:psi | 'liver'
*imarak"wi > ?é:raw | 'navel'
*amirax"a > ?é:raxa | 'nails'
These examples from Shasta are reminiscent of the effects of coalescence seen in Karok. However, unlike Karok, Shasta has both long and short e—so, such a sound change cannot fully explain the present shape of the Shasta system.

There is a fair amount of positional and assimilatory allophony in the Shastan phonological system (Silver 1966:34). So, it could be the case that phonemic e in Shasta developed as the result of the phonemicization of allophonic variation at some point in its history—we saw in the discussion of Yuman that such changes partially account for the five-vowel systems seen in some of those languages. However, at present, this is all fairly speculative. The phonemic inventory of Shasta is, presumably, one of the reasons Kaufman (1988:103) was open to the idea Proto-Hokan may have had a four-vowel system, i, a, u, and e, but was more resistant to the idea that Proto-Hokan could have had only a three-vowel system.

3.7 ATSUGEWI. From the published sources, it is not entirely clear what the vowel inventory of Atsugewi is. Five vowels are found in most transcriptions. Olmsted (1984:5) gives six including long and short [i]. Walters says that there are three phonemic vowels and that [e] and [o] “are the product of morphological rules (1977:154).” These rules are not described in any detail. Talmy (1972:407–467) gives a number of underlying forms for Atsugewi morphemes. Only one of these ce- a verbal prefix meaning ‘the eye’ or ‘an eye-shaped object’ contains a mid-vowel. In the table in (12) I give five vowels marking mid vowels as having questionable phonemic status.

(12)  
i  u
  e (?)  o (?)
   a
    length :

It is clear from Talmy (1972), examining the underlying and surface forms he gives, that, at least in many cases, the mid vowels are allophonic variants of high vowels. In (13) I give two examples where vowels underlyingly analyzed as high are transcribed as surface as mid vowels. (The relevant vowels are bolded.) Talmy doesn’t give any detailed statements on the relationships between his underlying and surface forms—so, it is not clear if the alternations between high and mid vowels are purely phonological or conditioned by other factors as well.5

(13) a. /s'w:-pri-st'aq'-ic'-a/ → [sp're:st'aq'ic']
   ‘I picked up with my mouth the already-chewed gum/the guts from where it was
   stuck/they lay on the table’ (Talmy 1972:436).

b. /s'w-phu-lup-im-a/ → [sp'hol:upiw]
   ‘I spat out the round candy’ (Talmy 1972:438)

   Some of the vowel alternations exemplified in (13) are presumably what was being
   referred to by Silver (1976:198), when she wrote, “In Atsugewi...i,u > e,o under certain
   phonological conditions involving length.”

5 In a footnote, Talmy states that his underlying forms make use of the symbol “:” which represents “a morphophoneme phonetically realized as the length and lowering of an adjacent vowel (1976:26).” This morphophoneme can be found in (13a). The example in (13b), where there is no “:” in the underlying form shows us that this morpheme is not the only trigger of surface mid vowels, however.
It is difficult to come to any firm conclusions about Proto-Hokan on the basis of our present knowledge of Atsugewi phonology. However, unlike all the other languages (or proto languages) discussed to this point, Atsugewi is not an isolated member of the Hokan stock. It is closely related to Achumawi, which will be discussed next. I, therefore, hold off on any further discussion of Atsugewi until the vowel system of Achumawi has been described.6

3.8 ACHUMAWI. Like with Atsugewi, it is not completely clear what the vowel inventory of Achumawi is. Olmsted (1966:9) and Uldall (1935:75) specify schwa as part of the inventory (though only short, not long). de Angulo and Freeland (1931:78-80) only list five vowels, plus length, for the language. Nevin (1998:57–63) also gives five vowels, plus length, for the vowel system. Since Nevin (1998) is focused specifically on the phonological system and is especially thorough in documenting the phonemes and allophones of the system, I follow his vowel system in the table in (14).

(14) i u e o a
length:

de Angulo and Freeland (1931:93) list a range of stem alternations affecting vowels. One particular case, given in (15), shifts a and u to e. Though these alternations are not phonologically conditioned, reconstructing their original source may lend some insight as to whether or not the mid vowels of Achumawi may have emerged as the result of some sort of sound change.

(15) s-á:n-á 'I came' s-é:n-á 'I came home'
s-á:tò:g-í 'I arrived' s-é:tò:g-í 'I arrived home'
t-úpt-é 'go!' t-épt-é 'go home!'

Given that Achumawi and Atsugewi are clearly related and that one language has a five-vowel system and the other language potentially has a three-vowel system, determining the shape of the vowel system of the language from which both developed is clearly of interest to the general question posed in this paper. Unfortunately, the only reconstruction of Proto-Palaihnihan (the name given to the ancestor language of Achumawi and Atsugewi), a work by Olmsted (1964), is not up to modern standards of reconstruction making its conclusions inadequate for the present study.7

Until it is determined what the most likely vowel system was for Proto-Palaihnihan, it is not really possible to use the data from Achumawi and Atsugewi to come to any conclusions as to the structure of the Proto-Hokan vowel system. However, it is at least clear that a proper reconstruction of Proto-Palaihnihan will be an important step in reconstructing Proto-Hokan.

6 Olmsted (1964) is an ample demonstration that Atsugewi and Achumawi are related. His reconstruction of the proto language, however, is not reliable enough to be useful here.

7 To get some sense of the problems with Olmsted's reconstructions, one only has to briefly examine the proposed proto vowel "phoneme" system which is taken to have consisted of sixteen short and twelve long vowels (Olmsted 1964:63) despite the fact that Olmsted's own description of Achumawi lists only six short and five long vowels and his description of Atsugewi lists only six short and six long vowels.
3.9 CHIMARIKO. The Chimariko vowel system, as described from Grekoff (1967a:11) and (1982), is given in the table in (16).\textsuperscript{8} Dixon (1910:307–308) also has a description of the Chimariko vowel system, but, as Grekoff points out (1957:1), Dixon’s work was done before the phonemic era, thereby making it much less valuable for this study than Grekoff’s.

(16) $\begin{array}{c}
i \\
e \\
o \\
a \\
\text{length : (?)}
\end{array}$

According to Grekoff, “With a higher degree of uncertainty, vocalic length is added as a 36th segment (1967a:11).” This citation comes from an apparently complete draft of a chapter on Chimariko phonology written as part of an unfinished Chimariko grammar. While this draft does not specify the reason for Grekoff’s uncertainty, later notes help clarify Grekoff’s earlier statements. “Vocalic length is found with all vowels, but instances of unequivocal phonemic length are rare. Most instances of recorded length are known variants of a VC sequence (C being $\tau$, $y$, $w$), so perhaps...the C in such cases is inadequately perceived (1982).” Undated notes, probably written around the same time as the phonology chapter, in a section of a notebook labelled “phonetics” offers further details. Grekoff writes that length for vowels is clear for $a$, less clear for $e$, $i$, and $o$, and that long $i$ in Harrington’s transcriptions “seems always to represent $y$...but this maybe wrong (1967b(?)).”

The system that Grekoff describes appears more consistent with the other three-vowel systems of Hokan rather than the five vowel ones. This is because following the sum of Grekoff's notes, the most likely Chimariko vowel system would appear to have six vowels total—$a$, $a^\prime$, $e$, $i$, $o$, and $u$. From the perspective of phonological reconstruction, such a system is only slightly different from a system which makes use of three-vowel qualities and contrastive length on all its vowels. Where a three-vowel system would differentiate its non-low vowels via length, Chimariko differentiates them via quality. Differences in length are often associated with differences in quality and vice versa in the world's languages, bringing the Chimariko system very closely in line with the three-vowel systems described here.\textsuperscript{9} Therefore, it would appear that, for the purposes of this paper, Chimariko should be grouped with the three-vowel systems and not the five-vowel ones.

3.10 WASHO. The Washo vowel system, as described by Jacobsen (1964:52), is given in the table in (17).

(17) $\begin{array}{c}
i \\
e \\
o \\
a \\
\text{length : }
\end{array}$

\textsuperscript{8} All the Grekoff citations come from manuscripts in the Survey collections. These manuscripts were only recently donated to the Survey and a lot of work remains to be done on them. Only a small portion of the Grekoff collection was examined for this paper—however, I believe I examined all the most relevant materials. Grekoff’s notes on Chimariko are extensive, and, in the future, they will undoubtedly be of great value to Hokan studies.

\textsuperscript{9} We do not have to go far afield to find a language described as having vowel quality differences associated with vowel length differences. Nevin (1998:57–58) describes this exact situation for Achumawi, where long/short opposition is accompanied by predictable tense/lax variation.
While the occurrence of the high central vowel in Washo might at first appear striking, Jacobsen (1966:126, 1986:43) argues that its presence in Washo is due to contact with Uto-Aztecans languages which are spoken to the east of Washo. In fact, contact seems to play a role more generally in the Washo vowel system. Washo is not bordered by any other Hokan language and six-vowel systems like Washo's are found throughout its neighboring languages. Langacker (1970) reconstructs a six-vowel system with the same vowels as those found in Washo for Proto-Uto-Aztecans, and Maidu and Sierra Miwok, spoken to the west of Washo, also both show the same six-vowel system (Shipley 1964:6–11, Freeland 1951:1). Thus, the shape of the Washo vowel system seems to be related to some more general areal phenomenon, making its role in resolving the central issue of this paper extremely limited.11

While the overall vowel system of Washo seems to be related to its geography, there are some synchronic alternations found in the language which may be of value in understanding how its six-vowel system could have developed from a language with a three-vowel system. "Vowel-coloring" morphophonological alternations are common in the language which, among other things, trigger alternations between apex vowels and mid vowels. Examples taken from Jacobsen (1964) are given in (18) with the relevant vowels bolded. (The superscript vowels and the " symbol represent morphophonemes (Jacobsen 1964:258).)

(18) \[\begin{align*}
g^e & \text{ mō fimi we?/} & \rightarrow & \text{ [gemémiwe?]} & \text{ track it to the east} \\
g^e & \text{ s"bì flib r " ā?y i/} & \rightarrow & \text{ [gesebēlba?yi]} & \text{ he's blowing it away} \\
/\text{Ø} & \text{ hù ámad ug i/} & \rightarrow & \text{ [hōmadugi]} & \text{ wind is blowing from the north}
\end{align*}\]

Reconstructing the original source of the alternations (18) could explain at least one of the sources of Washo mid vowels if it did indeed descend from a language with a three-vowel system.

4. CONCLUSION. We can break down the ten languages surveyed here into three broad categories with respect to their vowel systems. Proto-Pomo, Achumawi, and Washo show full five-vowel systems (or even six vowels for Washo)—that is, each language has at least five long or short vowels. Proto-Yuman, Salinan, and Chimariko show three-vowel systems. Finally, Karok, Yanan, and Shasta show something in between three-vowel and five-vowel systems. Atsugewi cannot be firmly classified at present and could either belong with the five-vowel languages or the three-vowel ones.

Of the languages with five-vowel systems, Achumawi's relevance to the issue will be unclear unto a proper reconstruction of the vowel system of Proto-Palaihnihan is undertaken, Washo's vowel system can plausibly be analyzed as having shifted due to language contact. Language contact can also be used to explain the shape of the Proto-Pomo vowel system.12

Of the languages with three-vowel systems, Proto-Yuman, Salinan, and Chimariko could all be used as evidence that Proto-Hokan had three vowels—though Salinan does offer the complication that its vowel system contains a marginal fourth vowel.

10 Nisenan, related to Maidu, also spoken to the east of Washo, shows a comparable system except for the addition of schwa to the system (Uldall and Shipley 1966:2–3).
11 The observation that Washo is part of a six-vowel linguistic area is due to William H. Jacobsen, Jr.
12 The case for Proto-Pomo's vowel system as being influence by contact is not as strong as the case for Washo for the simple reason that it is first being made here, as far as I am aware, and I only have the most cursory knowledge of the Pomoan languages.
Two of the three "in-between" languages, Karok and Yanan have defective five-vowel systems which could be readily analyzed as having innovated long mid vowels from an original three-vowel system. This claim can be argued for fairly strongly for Karok since the synchronic phonology of the language shows alternations which directly indicate a possible source for the long mid vowels. The last of these three languages, Shasta shows a full four-vowel system, adding e to the standard set of i, a, and u. Seri, a language commonly considered to be Hokin (Kaufman 1988:54–58) but left out of this study since it is not Californian, also shows a four-vowel system like Shasta’s (Moser and Moser 1965:55,65). And, a case could be made that Salinan, too, shows such a system. These languages could be used as evidence that Proto-Hokan had a four-vowel system i, a, u, and e. While, there is some evidence that Shasta may have innovated the e, no particularly strong case can be made for this at present.

While only a tentative conclusion can be reached, the balance of the evidence seems to come down in favor of a three-vowel system for Proto-Hokan. This is because not only are three-vowel systems well-attested but also because several mechanisms have already been established within the family via which a five-vowel could have developed from a three-vowel system. These are phonemicization of allophonic variation, simplification of diphthongs to mid vowels, and vowel coalescence of high and low vowels to mid vowels. No one has yet argued for any sound changes within Hokin languages wherein vowels were lost, which indicates a lack of evidence that any five-vowel (or four-vowel) systems have been reduced over time. The issue remains open, however, and the possibility that Proto-Hokan had a four-vowel system, along the lines of Shasta’s, should not be ignored. Despite the lack of a definitive conclusion, it is hoped that the collection of facts brought together here will ultimately be useful in reconstructing Proto-Hokan phonology.

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INTERJECTIONS IN KASHAYA

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In the Kashaya language of northern California, as in all natural languages, there are certain forms which are primarily atactic; that is, they enter into only a limited number of constructions with other words, notably as a direct quotation and object of a verb ‘to say’: “‘t’op’ cedu.” “It said ‘pop’. It went ‘pop.’” In Kashaya there are several classes of such atactic forms:

**Inanimate Imitatives** are attempts to capture in the phonemes of the language sounds emitted by inanimate objects. In Kashaya these are predominantly of the shape CVC. They can all be converted by morphological processes into verbs meaning ‘emit the sound indicated by the base form’:

\[ t'op' > t'o?bo?bo- \text{ ‘be popping’} \]  

(Oswalt 1971)

**Animate Imitatives** are attempts to capture the sounds emitted, usually from a larynx or syrinx, by an animate being. These are of more diverse forms. The animate imitatives can be the source of a noun naming the creature that produces the sound – \( t'owin' \) ‘call of the towhee’ \( > t'owi?na \) ‘towhee’. (Note the close congruence of the forms in Kashaya and English.)

**Baby Talk** is a diverse set of atactic forms distinguished by their situational use in speech to and by young children just beginning to talk (Oswalt 1976). The forms may be derived as simplifications of adult words, or may be quite unrelated to any standard Kashaya word. An example of the latter is \( ta-\grave{s} \) ‘Come!’ Usually repeated in a series to encourage a toddler to walk toward the speaker. The standard word is \( wa-du. \)

**Interjections** constitute the remainder of the (nearly) atactic forms, an extremely heterogeneous class of forms. The class is subdivided into several overlapping groups for presentation below. Not included are constructions of ordinary Kashaya vocabulary which may yield common phrases of Directive or Emotive meanings. Thus, for English, ‘Alas!’ would be included, but ‘Woe is me!’ would not. The forms presented here have no known cognate relationship with the ordinary vocabulary or with each other, except as noted.

Phonologically the Interjections are not bound by the canon of the ordinary words, which begin CVC-; that is, a single consonant, followed by a single vowel, followed by one or more consonants. Interjections may consist of a single consonant with no accompanying vowel or may begin with two successive consonants.
Social Interchange:

camâ-y, ‘Hello!’ Known and used by all the Kashaya, although the older ones might use it and add, “It’s not our language.” It turns out that it is a loanword from Yupik Eskimo dating from the days when the Russians brought Alaskan natives to their colony at Fort Ross to hunt sea otter. There is no complementary form to be said on departure; the one leaving would simply say, in Kashaya, ‘I am leaving.’

há:y, begins with a high pitch which falls. It corresponds to English ‘Yo’ or ‘What?’ or ‘What do you want?’ It is the appropriate response to someone who calls another’s attention by a nickname or some other means (but not by the “real” name).

hůhu~, with a high pitch on the first syllable and a second syllable that starts low and rises. ‘I don’t know’ is one possible response to a question or request for factual information. In English, one can suppress all the segmental phonemes of the sentence, ‘I don’t know,’ and express only the intonation, the melody, and be understood. However, in Kashaya, there is no known sentence or phrase of any similar meaning underlying the melody of hůhu. Similar forms of the same meaning, with the same segmental phonemes hůhu, but with slightly different melodies, exist in the neighboring Southern and Central Pomo languages.

tak’, with a short falling tone is ‘I just remembered (the previously forgotten answer to a question)’.

da:, with a falling tone, is ‘No!’; a negative response to a yes-no question. The Kashaya were first colonized by the Russians at Fort Ross, and one might wonder if there were any serious misunderstandings brought about by the similarity of Kashaya ‘No!’ and Russian ‘Yes’.

hu~?, with a long falling then rising tone and a long vowel terminated by a glottal stop, is ‘Yes!, an affirmative response to a yes-no question.

yow, with a short vowel and falling tone, is ‘OK! All right!’, giving assent to a request for help or for some action. Similar forms are in the neighboring Pomoan languages, although the equally common forms da: ‘No’ and hu~? ‘Yes’ are unique to Kashaya.
yahwiy, 'Thank you!' Cognates are widespread among various Pomoan languages. There is a
derivative verb: yahwiyam- 'be thankful'.

ho?way, 'That's embarrassing to me!'

hay, 'That's a touchy subject!' A warning to a speaker to change the subject. Failure to do so
could lead to hurt feelings but not the enmity of the following situation.

way, 'That's disrespectful!' A warning to someone who has spoken the name of a recently
deceased that a relative is nearby and may overhear and be offended. Such disrespect
could lead to a major break in friendly relations.

wa:y, 'Funeral cry of a woman.' It may be repeated many times, each with a long mournful
falling tone. In songs wa:y is used to express longing or desire.

?u:y, ?u:y?, 'Funeral cry of a man.'

how, ho-----w, 'Bravo!' can be spoken or shouted, short or variably long. It is the equivalent of
clapping and expresses appreciation for a just completed singing or dancing performance.
It is known and used by hundreds of non Indians, as Kashaya singers and dancers, at
public performances, teach the audience not to clap but to shout ho-----w.

?ow, Uttered at intervals during a story-telling performance to express appreciation and to
encourage the narrator to continue. If an insufficient number of '?ow's' are uttered the
narrator may quit. Stories are told in winter evenings and, as listening children fall asleep,
the number of ?ow's dwindles until there are none or too few for the narrator to feel like
continuing.

?e 'That's so!' When someone is telling of some happening, one of the listeners might say this at
intervals, thereby giving corroboration of the account's accuracy.

neni?, 'Uh, Let's see now.' When speakers pause to think about what to say next, they often fill
the silence with this form.

?ini-, ni-, ?in, ?i-n, 'Watch out! Be careful!' Usually spoken on a high sustained note, but the
expression can vary and with it the interpretation.
hele, ?ele, ‘Uh oh!’ After a minor mishap said by an observer, not by the one inconvenienced; occasionally said by the perpetrator. Compare the following entry.

?op----, ‘Oops!’ The Kashaya and the English perhaps have similar forms from the iconic nature of the interjection. When one says something meant to be a secret – lets the cat out of the bag – a hand might be clapped over the mouth to signify that the remark should not have escaped from the mouth. Or one could simply say ?op----, with a very long tight p, to symbolize the firm shutting of the lips. The Kashaya form appears to be fairly restricted to the use illustrated above, while the English has a wider range of applications, including after minor mishaps of all kinds. The Kashaya word can be extended with the syllable –ala-- (of no known meaning) to form ?op----ala--, with a meaning like that of ?op----. It is intriguing that there are parallels in other languages of somewhat similar forms having a second syllable –la. For example, the German interjection hopppla, which appears to be used, not so much after any minor accident, as after the particular mishap of stumbling or nearly falling. Without the –la, the German interjection hopp means something more like English ‘Hop to it’.

?eldu, ‘I’m only kidding!’ When the butt of some joking begins to take it seriously and get angry, the joker can say this to turn away the bad feelings.

tuyyu, ‘It serves you right.’ When some joker makes fun of another’s impediment or deformity and then develops the same impediment, others could say this to the joker.

Calls associated with games and gaming and the organization of various events may be taken as either social or as communicating with spirits, as many also have an undertone of calling for luck.

yiy, yi-y, ?iyi-yiyi-, ‘Hip hip hurray!’ Before starting to play shinny (a lacrosse-type game), the team huddles together and yells yi(--)y in unison four times, each time raising four bats. During the game, different players may yell ?iyi-yiyi-. The syllable yi may be provided with the Instrumental Prefix p^yi- ‘with a long object moving sideways’ to form a verb p^yiyi- ‘to play a game (shinny or baseball) in which a bat or stick is swung sideways.’

ya-hahahaha-, ‘Get set to dance!’ When he wants the dance group to get ready to dance the male dance leader shakes his split stick rattle and says this.

yiy he. At the end of the dance the dancers huddle together and yell this four times, followed by a whoop.
tepʰ and wiŋ are calls in the grass game. One small bone is held in each of four hands in a row; two bones are marked with a band; two are unmarked. One call is a guess that the marked bones are in the outside hands; the other call that they are in the inside hands. These calls are widely spread in northern California and even appear in the Dena'ina language of Alaska [Kari 1977]. This came about when the Russians brought Alaskan natives with them as hunters of the sea otter, who learned the grass game from the Kashaya and took back with them when they returned home both the game and the calls.

**Directives** are attempts by the speaker to bring about certain acts by the addressee. The first three below have limited properties of the Imperative form of a verb, most notably ..ʔ, a glottal stop that becomes detached from the verb and appears after intervening material and at the end of an Imperative phrase. Illustrated in the sixth and seventh examples below.

hic'ɪl, 'Get away! Scram!' Addressed usually to a child. The Kashaya word occurs only in the Imperative. In that respect, the English 'Scram!' is a good rendition, for it too is missing most of its verb forms.

te..ʔ, de..ʔ, 'Gimme!' an impolite request. One could postulate the alternate forms derive from Spanish De!, but the likelihood of that is reduced because the Russian Kostromitnov [1839] recorded the form before the Kashaya had much contact with Spanish speakers.

cʰi..ʔ, 'Gee!, Boy!, Hey!' Expresses a certain degree of amazement with, apparently, little more meaning than the English 'Gee!' It has the mark of an Imperative in the detached ..ʔ that comes at the end of the sentence. It often appears with other Interjections, and with Explanatory clauses, as with the third and fourth examples below.

ʔeʔ, 'Look!' Calls attention to something unusual that was just seen. ʔe- numi móma-y! 'Look! A rabbit just ran into (the brush).'

ʔo, ʔoʔ, 'Hark! Listen!' Calls attention to something unusual that was just heard but not seen.

ʔe- cʰi- wa-daʔ, 'Look! He's coming!'

ʔo- cʰi- wa-daʔ, 'Listen! He's coming!'

yo, 'Here! Take this!' Spoken short and snappy while holding out an object to a recipient.
yušə, ‘Please!’ Probably not so much a polite word as an Interjection that turns a request into an entreaty too strong to refuse:

yušə cahnom mul q’oʔo! ‘Please sing that song!’

yohwey, ‘Ready! Let’s start! Let’s go! Let’s do it!’ A very common exhortation to action.

šw-, ‘Shh! Be quiet!’ A labialized sibilant of variable length. A common development throughout the world. Some Kashaya connect the form with the first syllable of the verb šuhkm- ‘be quiet’.

ša, ‘Hurry up!’ Spoken short and snappy. It is perhaps derived by taking the first syllable of šahya ‘fast, quick’.

ša-, ‘Shoo!’ Of variable length, it is mainly addressed to animals.

Supernatural Directives are attempts by the speaker to influence the actions of certain natural and supernatural entities (God, Spirits, Spiritual Power, Heaven, Nature, Luck).

ʔo..., a very long sustained syllable that over a period of 10 or more seconds reaches a crescendo and then fades away. It is used at the beginning of prayers to summon spiritual power.

sw..., labialized hiss of a second or so in duration that is repeated four times at the end of a prayer or wish to empower it; ‘May it happen!’ This sound is known as the yuhsuwe, or suwe for short.

tušu, ‘May it not happen!’ When some bad event – storm, accident, death – is predicted or expected, someone might repeat these syllables indefinitely – tušu tušu tušu tušu – to ward off the unwanted happening. The screech owl is a bearer of bad news – if it approaches and gives its call, one should say tušu to avert trouble.

ʃ’il ʃ’il, ‘Fog go away!’ To this day girls may be sent outside to cause the fog to retreat by mooning it while slapping their buttocks and chanting mihšəwa ʃ’il ʃ’il ‘It stinks ʃ’il ʃ’il.’ The fog is said to be a woman who is repelled by this view of other females. If the fog were a man he would advance for a closer look.

yey. When a humming bird zooms down overhead, one must say yey or else boils will invade the buttocks.
**Emotives** express the attitude or emotional reaction of the speaker toward what has been said, or what has happened. Often the meaning is carried mainly by the expression put into the utterance and only partly by the segmental phonemes.

\( t', t' t' \), ‘tsk tsk!’ In Kashaya, the vowelless sound is a dental which is usually sucked and injective but may also be made ejective. The comparable form in English is usually made injective and is spelled tsk tsk. It has apparently arisen independently in many different languages, perhaps from an imitation of a baby sucking at a nipple. The English form appears to have a wider range of applications than the Kashaya. The Kashaya is confined more to expressing commiseration (Oswalt 1976). The English can express commiseration and also dismay at hearing unsettling news.

\( c^i c^i \), ‘Imagine!’ A mild expression of doubt in what someone else is saying, or surprise that it could be true.

\( k', q' \), A glottalized stop which may be either velar or uvular, positions of articulation that usually contrast phonemically in Kashaya. It is a strong expression of disbelief in what someone else is saying. It verges on being insulting and is thus not said to the one being doubted but to a third party and out of the hearing of the one doubted.

\( șey \), ‘What a bother!’

\( șwa? \), ‘Sheesh! Not again!’ It expresses exasperation at being repeatedly bothered.

\( ba \), ‘Oh no!’ Said on hearing bad news. It has several other unclear uses.

\( ?ay \), ‘Ouch!’ The pain can be either physical or that of hurt feelings. The form is often compounded with to ‘me, my’ in a manner quite analogous to English and Spanish associations: \( ?áyto \) ‘Oh me! Oh my!’; Spanish aymé!

The Interjections presented herein are by no means all that are in the language. They do include most of the common ones plus several of the more unusual types. The origins of the Interjections, as of the other parts of speech, are inheritance from earlier generations of speakers, iconic creation, and acceptance of forms from other languages. Borrowing has taken place both from other native American languages into Kashaya (\( camá-y \) ‘Hello’) and from Kashaya into other native languages (\( wíy \) ‘gambling call’). Borrowing has even taken place from Kashaya to English (\( ho⋯w \) ‘Bravo!’). Interjections can give insight into the culture of the speakers of the
language (consider the uses of hay and way in warding off social conflict), but too often are only sketchily collected.

REFERENCES


RHETORICAL NOMINALIZATION IN BARBAREÑO CHUMASH

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Much work on grammatical change has focused on the evolution of larger structures into smaller ones: the solidification of discourse patterns into sentence-level syntactic structures, the reduction of complex sentences into simple sentences, and the erosion of independent words into affixes. But grammar can also evolve in the opposite direction. Here one development of this type is examined: the extension of a prefix from a derivational morpheme originally used to create new words, to a marker of sentence-level syntactic relations among clauses, and finally to a marker of discourse-level pragmatic relations among sentences. The process is illustrated with material from Barbareño Chumash, a member of the Chumashan language family spoken along the central California Coast.

1. BARBAREÑO. The last speaker of Barbareño, Mary Yee, died in 1965, but there is extensive written documentation of the language, recorded largely by John Peabody Harrington from around 1913 until his death in 1961. Harrington worked primarily with speakers Juan de Jesus Justo, Juliana Ignacio, Luisa Ignacio, Mrs. Ignacio’s daughter Lucrecia Garcia, and especially Mrs. Garcia’s daughter Mary Yee. Madison Beeler also worked with Mary Yee between 1954 and the early 1960’s. Major grammatical descriptions are in Beeler 1970, 1976; Ono 1996; and Wash 2001. A fuller bibliography of work on the language can be found in Mithun 1999. Material cited here comes from texts dictated by Mary Yee to Harrington, reproduced on reel 59 of microfilm copies of Harrington’s notes prepared by the Smithsonian Institution (Mills and Brickfield, eds. 1986). These Harrington texts (JPH) have been compiled into a parsed database by Suzanne Wash (SW). Most of the morphological analyses included here coincide with those in the database, though a few of the original glosses have been altered slightly.

2. BASIC STRUCTURE. Barbareño generally shows rich verb morphology and somewhat simpler noun morphology. Verbs lay out the skeleton of the clause, with minimally a verb stem, a pronominal prefix referring to the subject, and a pronominal suffix referring to the object if there is one. Additional prefixes and suffixes may be present as well.

(1) Basic verb structure
   a. skutiywunwaš
      s-kutiy-wun-waš
      3SUBJECT-see-3.PL.OBJECT-PAST
      ‘he saw them’

   b. pqili?itaqswun
      p-qili-itaq-us-wun
      2SUBJECT-HABITUAL-hear-DATIVE,APPLICATIVE-3.PL.OBJECT
      ‘you hear them’
Basic clause structure is predicate-initial. Lexical nominals and other dependent constituents are marked with a proclitic \( hi \)= that simply shows syntactic dependency.

(2) Clauses: basically predicate-initial, with \( hi \)= marked dependents

\[ \begin{align*}
  \text{skutiywunwaš} & \quad \text{hileneneq} \\
  \text{s-kuti-wun-waš} & \quad \text{hi}=l'=\text{en-eneq} \\
  \text{3.SUBJECT-see-3.PL.OBJECT-PAST} & \quad \text{DEPENDENT}=\text{ARTICLE}=\text{RDP-Indian} \\
  \text{'He saw} & \quad \text{Indian women} \\
  \hline
  \text{hihe\textasciitilde?newala.} & \quad \text{hi}=\text{he\textasciitilde?=newala} \\
  \text{DEPENDENT}=\text{PROXIMAL}=\text{Nevada} & \quad \text{in Nevada.'} \\
  \end{align*} \]

Focused or topicalized constituents may appear before the nuclear clause. The clause is often then preceded by one of several proclitics, such as \( \text{i} \)= in (3).

(3) Cleft with \( \text{i} \)= marked clause

\[ \begin{align*}
  \text{helwaqwa\textasciitilde{a}q} & \quad \text{hihe\textasciitilde{o} } \\
  \text{he}\textasciitilde{=}l'=\text{waq'-wa\textasciitilde{a}q' \text{-?}} & \quad \text{hi}=\text{he}=l'=\text{\textasciitilde{o}} \text{-?} \\
  \text{PROXIMATE}=\text{ARTICLE}=\text{RDP-frog.species-PLURALIZER} & \quad \text{DEP}=\text{PROX}=\text{ART}=\text{water} \\
  \text{'The frogs} & \quad \text{must be the ones who rule the water.'} \\
  \hline
  \text{\textasciitilde{i}paka}\textasciitilde{=}\text{\textasciitilde{a}b} \text{una\textasciitilde{c}} & \quad \text{hihe\textasciitilde{o}} \\
  \text{\textasciitilde{i}paka}\textasciitilde{=}\text{\textasciitilde{a}b} \text{una\textasciitilde{c}} & \quad \text{hi}=\text{he}=l'=\text{\textasciitilde{o}} \text{-?} \\
  \text{CLEFT}=\text{EVIDENTIAL}=\text{then}=\text{ARTICLE}=\text{PL.SUBJECT-order.IMPRF} & \quad \text{DEP}=\text{PROX}=\text{ART}=\text{water} \\
  \text{must be the ones who rule the water.'} & \quad \text{JPH 59.0128 SW 11} \\
  \end{align*} \]

Simple sentences may be nominalized to form dependent clauses. As in many languages, one way to nominalize a clause is with an article. The use of the article \( l= \) as a nominalizer can be seen in (4) and (5). (4) shows a sentential complement ‘that they did not know’, and (5) shows a nominalized clause serving as a modifier ‘(those) which are hot’.

(4) Clause nominalized with the article \( l= \)

\[ \begin{align*}
  \text{\textasciitilde{iy}\textasciitilde{=}ale}\textasciitilde{=}\text{a\textasciitilde{q}\textasciitilde{s}wala\textasciitilde{w}aš} & \quad \text{hiliye\textasciitilde{kutixwalyik}.} \\
  \text{\textasciitilde{iy}-\textasciitilde{a}e-a\textasciitilde{q}\textasciitilde{s}walaw-waš} & \quad \text{hi}=l'=\text{iy-e-kutixwalyik} \\
  \text{PL.SUBJECT-NEGATIVE-NM-like-PAST} & \quad \text{DEPENDENT}=\text{ARTICLE}=\text{PL-NEGATIVE-know} \\
  \text{'They did not like what they did not know.'} & \quad \text{JPH 59.8 SW 10} \\
  \end{align*} \]
(5) Clause nominalized with the article l=

siysiñaywun
s-iy-siñay-wun
3.SUBJECT-PL-put.into-3.PL.OBJECT
they put them in
‘They put

hiho[yinçi] sʔišʔišʔišʔow hihoʔštuhtuʔiwaš
hi=hoʔ=1=yinçi sʔišʔišʔišʔowʔ= hi=hoʔ=1=tuʔ=1ʔʔ=1ʔʔ=iwaš
DEP=DISTAL=ARTICLE-be.hot 3-RDP-coal-PL DEP=DISTAL=3-RDP-shell-PAST
those that are hot coals its former shells
the mussel shells into the hot coals.’

3. THE NOMINALIZER ?al-. Barbareño also contains a nominalizing prefix ?al- that is applied to verbs to create new nouns. Added to the verb ‘to be hot’, for example, it derives the noun for ‘sun’: ‘the one that is hot’.

(6) Derived nouns

ishaw ‘to be hot’ ?al-ishaw ‘sun, day’
apay ‘to be on top, up, over’ ?al-apay ‘sky, heaven, ceiling’
olk’oy ‘to go around’ ?al-olk’oy ‘porpoise’

The reduplicated form ?al-ʔal- > ?ałal- derives agentive nouns, terms for one who performs the action described by the verb. Added to the verb ‘sing’, for example, it creates a noun meaning ‘singer’. The nouns in (7) were derived from imperfective verb forms denoting habitual activities, so they contain the imperfective suffix -š.

(7) Reduplicated Nominalizer ?ałal- - in agentive nouns

expeč ‘to sing’ ?ałal-expeč ‘singer’
axiyep ‘to cure’ ?ałal-alaxiyepš ‘curer, doctor’
uš’e ‘to dig’ ?ałal-uš’eš ‘badger’

4. APPOSITIVE MODIFIERS. In Barbareño, a noun may be modified by placing another noun adjacent to it. Such a construction was seen in example (2), where hil’iníninyuyú ‘Indians’ was combined with hilinenenq ‘women’ to yield hilinʔinyuʔhilinenenq ‘Indian women’. Another example is hičitín hilkasqoʔiwaš ‘pet dog’ in the first line in (8). The modifying noun serves as an appositive, adding supplementary information about the referent. Nominalized verbs can function in the same way, as in the second line of example (8): hilku hilalaqšan ‘a person, one that died’ = ‘a dead person’.
Appositive modifiers

\[
\begin{align*}
\text{hičiń} & \quad \text{hilasqo?iwaş} \\
\text{hi} & \quad \text{hi}=\text{ka}=\text{s-qo?-waş} \\
\text{DEPENDENT} & \quad \text{DEPENDENT-ARTICLE}=\text{that}=3-\text{PET-PAST} \\
a \text{ dog} & \quad \text{his former pet} \\
\text{‘A pet dog} & \\
\text{hilku} & \quad \text{hilalaqšan} & \quad ?isamsiniwake \\
\text{hi}=\text{l}=\text{ku} & \quad \text{hi}=\text{l}=\text{ʔal-aqšan} & \quad ?i=\text{s-am-siniwake} \\
\text{DEP=ARTICLE=PERSON} & \quad \text{DEP=ART= NOMINALIZER-die} & \quad \text{CLEFT=3-INDEFINITE.SUBJECT-kill} \\
a \text{ a person} & \quad \text{one that died} & \quad \text{they killed (it)} \\
\text{belonging to a} & \quad \text{dead person} & \quad \text{was killed.’} & \quad \text{JPH 59:670}
\end{align*}
\]

The functions of such constructions are much like those of relative clauses, in which a clause adds supplementary information: ‘a person who died’.

5. Nominalizer ʔal- on independent sentences. An examination of connected speech in Barbareño shows that the nominalizer ʔal- occurs considerably more often than might be expected of a nominalizer. It is used not just to form new nouns like ‘sun’, and appositive nominals like ‘the one who died’. It often appears with what otherwise appear to be full, independent sentences. Example (9), seen earlier in (4), contains the sentential complement ‘what they did not know’, nominalized with the article l=. But in addition, the whole sentence ‘They did not like what they did not know’ is nominalized with the prefix ʔal-.

(9) Nominalization of independent sentence

[The Indians were much given to following the customs of their ancestors. They were very superstitious and they didn’t want to change anything.]

\[
\begin{align*}
?iy?aleʔaqśwalawaš & \quad \text{hiliyekutixwalyik.} \\
iy-ʔal-e-ʔaqśwalaw-waš & \quad \text{hi}=\text{l}=\text{i}=\text{e-kutixwalyik} \\
\text{PL.SUBJECT-NEGATIVE-NOMINALIZER-like-PAST} & \quad \text{DEPENDENT=ARTICLE-PL-NEG-know} \\
\text{their not liking} & \quad \text{what they did not know} \\
\text{‘They did not like what they did not know.’} & \quad \text{JPH 59.8 SW 10}
\end{align*}
\]

The use of independent nominalized sentences is not random. In connected speech such sentences are used to convey background or supplemental information, explanation, evaluation, consequences, etc. Some idea of their function can be gained by examining the passages in (10). The nominalized sentences are indented. In the Barbareño original, just the Nominalizer ʔal- is underlined. In the English counterpart, the whole nominalized sentence is underlined for ease of comparison with non-nominalized sentences.
Nominalized sentences in context


In spite of the lewlew being there,
Jaime was able to reach over
and take the pespibata and take a quick drink of it.
And it took away his fear and made him strong.
\textit{Jaime was the bravest of all Indians}
\textit{and he was educated.}
\textit{He knew how to read Spanish and a little Latin.}


There had not even been one Indian who had come to mass.
And so the padre immediately suspected something was wrong.
\textit{Surely he knew some good Indians.}


\textit{And soon the Indians lowered their arrows.}
\textit{And then the padre went on.}
\textit{The padre knew the Indian leader.}

d. \textit{psipyototon hicho?lo?p kasutikim,}
\textit{?alec?b? hisameqwel?n hikaltu hihc?lwululwul.}

You first get the water to boiling.
And when it boils you throw the crawfish in.
\textit{Maybe you'll boil just one crawfish.}
\textit{It is no good to make soup out of crawfish.}

For a very long time they used to bathe at the foot of Chapala Street. Their bathing suits were always long. And sometimes their bathing suit was an old dress. At that time Cabrillo Boulevard had not been built yet.


When the huitacoche birds sing, it is going to rain. They do like rain. They sing and sing. They know that it is going to bring food. They sing a lot when it is raining.

g. helwiintiý ḷinoño? ḷale?o ḷi?axiyep. ḷalsantik hil?alteple?

The ash tree is a very good remedy. It cures a consumptive.


The old-time people used to get married very early. A girl would have three or four babies by the time she was twenty years old. The mother was little older than the children and they would play together, play games together, laugh, cry and fight together. There were no old-maids. and there were no bachelors.
In narrative, nominalized sentences are used for information that is off the event line, as in the first three passages: (10a) 'Jaime was able to reach over and take the pespibata and take a quick drink of it. And it took away his fear and made him strong. (Jaime was the bravest of all Indians and he was educated. He knew how to read Spanish and a little Latin.)'

A similar phenomenon appears in procedural texts, as in (10d): 'You first get the water to boiling. And when it boils you throw the crawfish in. (Maybe you’ll boil just one crawfish. It is no good to make soup out of crawfish.)' Comments about the number of crawfish and their suitability for soup are not part of the sequence of steps in the recipe.

The use of nominalized sentences for background information can be seen in (10e): 'For a very long time they used to bathe at the foot of Chapala Street. Their bathing suits were always long. And sometimes their bathing suit was an old dress. (At that time Cabrillo Boulevard had not been built yet.)'

Explanation can be seen in (10e) and (10f): 'They sing and sing. They know that it is going to bring food. And the ash tree is a very good remedy. It cures a consumptive.' Again in (10h) the speaker stands back to evaluate the consequences of her descriptions.

These uses are of course related and overlapping. The speaker steps out of the narrative or other account to offer side comments, background description, explanation, evaluation, or other supplementary commentary. The nominalization of independent clauses provides an important rhetorical device for adding texture to discourse, separating the main event line or sequential points in a discussion from side commentary.

6. CONCLUSION. What began in Barbareño Chumash as a morphological device for creating new words was extended first to a syntactic device for creating complex sentences and then to a discourse device for creating coherent texts. The nominalizer ?al- was originally applied to verbs to create new nouns. It was subsequently applied to clauses as well, to form dependent clauses to provide description and supplementary information in larger sentences. It was ultimately applied to independent sentences that contribute background or supplementary information, explanation, or evaluation in discourse. The lexical, syntactic, and discourse functions now coexist in the modern language.

We see here not only a development that runs in a direction

The nominalizing prefix ?al- has developed in other directions as well. One of these is also common cross-linguistically, the marking of stative aspect. Suzanne Wash points out (personal communication) a paradigm recorded by Harrington.

\[
\begin{align*}
\text{aktik} & \quad \text{‘to come to get, come after, venir a llevar’ (Spanish)} \\
k-\text{aktik} & \quad \text{‘I came for it’} \\
k-?al-\text{aktik} & \quad \text{‘I have come for it’} \\
k-?al-\text{aktik-wun} & \quad \text{‘I have come for them’} \\
hukapaliyu? & \\
hu=k-?al-\text{aliyu-} & \\
1.\text{SUBJECT-STATIVE-come.for-3.PL.OBJECT} & \text{REMOTE-1.SUBJECT-RDP-brick-PLURALIZER} \\
\text{‘I have come after my bricks.’} & \\
\end{align*}
\]

In this use Wash glosses the prefix ?al- as a Stative marker. An example of the last verb above in context is below.

Because of the multifunctionality of this prefix, it may not always be possible to identify its precise function in a given context.
opposite to that most discussed in the literature on grammatical change, but also the emergence of a powerful, pervasive rhetorical device for shaping discourse.

Such extension of syntactic constructions to discourse purposes is actually not uncommon cross-linguistically, though it may go unnoticed when a language is known primarily through translations of English sentences, or when investigation is restricted to literary materials. The development of the use of dependent syntactic constructions for discourse purposes is especially well documented for Japanese (Iwasaki 1993, 2000). The use of dependent modal inflections in independent sentences has long been observed in languages of the Algonquian family (Starks 1994 and others). Similar developments in Navajo and Central Alaskan Yup’ik, along with their consequences for change elsewhere in the grammar, are described in Mithun 2002. Evans (to appear) provides an ambitious cross-linguistic survey of uses of formally subordinate clauses as independent sentences.

Much remains to be discovered about the mechanisms involved in the extension of syntactic structure to discourse structure. In his discussions of the history of Japanese, Iwasaki proposes that syntactically dependent relative clause structures were extended to use as independent sentences supplying background information in narrative because they lacked illocutionary force of their own. ‘In narrative prose, “suppressed assertion” is employed to indicate the dependent, background nature of a sentence in relation to foreground conclusive sentences in textual structure.’ (2000:237–8). Evans proposes a less direct route for the constructions he found. He identifies three kinds of functions they may have: (a) interpersonal coercion, such as commands, (b) modal framing, that is particular deontic and evidential meanings, and (c) marking of certain discourse contexts such as negation, contrast, and reiteration. He traces all three kinds of constructions to the disappearance of original matrix clauses to which they were subordinate, with (a) predicates of desire or enablement, (b) predicates of reporting, asserting, etc., and (c) markers of cleft constructions. It is likely that the extension of originally syntactically dependent constructions to use as independent sentences can come about through a variety of routes. For Barbareño Chumash, there is little evidence, at least at present, of complex sentence constructions that would have given rise to the modern independent nominalized sentences, along the lines proposed by Evans. Nominalization does not appear to be systematic in any of these kinds of contexts. In any case, it is clear that we have much to learn about the processes that can lead to such developments, as well as their consequences for other grammatical changes. A first step to unraveling these puzzles, and to appreciating the kinds of rhetorical devices available to speakers, is to document the spontaneous use of such grammar in context.

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1. **Source Stocks & Structural Hallmarks.** The native languages of northwestern California represent three of the major linguistic stocks of the North American continent, each arriving in the region along a separate route of migration. Each language, in turn, reflects a separate social history, while maintaining its own distinctive blend of structural characteristics.

Spoken along the coastal reaches of the area's watercourses, the Yurok language is a member of the extensive Algic stock ( Sapir 1913; Haas 1958). Departing from the structural blueprint of its source stock, the Yurok language tends towards relative simplicity of word-structure, distinguishing itself not only from the members of its own family but also from the neighboring languages of the immediate geographical area. While the Yurok language does indeed possess an elaborate inflectional morphology, the general direction of drift is toward a paring down of complex morphological processes, otherwise widely attested within its ultimate source stock. Many sentences, for example, are purely isolating in technique, at least in terms of synchronic analysis, each word representing a single lexical entry, without either derivation or inflection, as illustrated in example 1 below.

(1) **Sample Yurok Sentence**  
\[ \text{šeqep} \quad \text{me} \quad k\text{eget} \quad k\text{o'hei} \quad m\text{ak'tikš} \]  
Coyote PAST visit once crane.

This tendency towards relative simplicity of word-structure is a major anomaly, and probably reflects a process set into motion many eons ago, long before the Yurok arrived in their present geographical setting. Yet, in the context of northwestern California, this drift towards the isolating (or, at least, minimally inflective) structural type is certainly one of the features that sets the Yurok language apart from the neighboring tongues, which are otherwise massively polysynthetic in structural expression.

Spoken further inland—along the landlocked shores of the Trinity River—the Hupa language is a member of the Athabaskan family, a widely distributed group whose representatives stretch from arctic Alaska to the arid American Southwest. The original homeland of this group most likely lies within the northernmost portions of its overall geographical spread, suggesting a one-time southern migration for the present-day speakers of the Hupa language. True to the structural layout of its source stock, the Hupa language exhibits a characteristically Athabaskan brand of polysynthesis. Here a single word may be composed of a dozen or more structural elements whose individual meaning cannot always be clearly isolated; rather, these elements tend to occur in highly idiomatic clusters, wherein the meaning arises through their overall combination. As seen in examples 2a-c below, the elements *di-* and *l-* often occur together in constructions that otherwise refer to collective human action. Yet apart from this general characterization of their combined semantic import, it is difficult, if not impossible, to assign any individual meaning to either of these elements. Together representing the general notion of 'collective human action', these units are represented as X₁ and X₂ in examples 2a-c below.

(2) **Sample Hupa Word Forms**

a. *čidiwilye'il* 'people are dancing here and there'  
*či-di-wi-l-yëz-īl-ī*  
AN.3SG-X₁-PROG-X₂-dance-PROG-REL
b. čidehč'e ‘(people) sit or dwell’
   či-d(e)-s-l-č'e
   AN.3SG-X1-STATIVE-X2-stay

c. me'ya?diwilw' ‘(people) began to talk about it’
   m-e=ya?di-win-l-waW-i
   INAN.OBJ-about=plural=AN.3SG-X1-INCEPTIVE-X2-chatter-REL

Time-perspective, above all, is highly refined among the Athabaskan tongues, a category of analysis that exerts its conceptual presence throughout almost every system within the overall grammatical plan. In 2a, for instance, the notion of dancing is twice marked for the progressive aspect, first with the progressive prefix wi- and then, once more, with the progressive suffix -il. In 2b, the basic notion of living or dwelling is contrastively placed in the stative aspect, here with the prefix s-, indicating that the event resulted in no discernible activity while extending over a great, and ultimately indefinite, period of time. Finally, in 2c, the basic notion of talking or chattering is placed in the inceptive aspect, with the use of the inceptive marker wi-, here losing its final nasal (n) upon its juxtaposition with the following lateral element l-.

Spoken still further upriver, along the upper reaches of the Klamath River, the Karuk language has no close relatives anywhere else on the planet, though it shows a number of deep structural correspondences, at a highly submerged level, with the remaining members of the putative Hokan stock (Kroeber & Dixon 1913). This linguistic group was, in aboriginal times, widely distributed throughout much of native California, Arizona, and northwestern Mexico, so it is not surprising that Karuk should share some deep historical connection—genetic or otherwise—with the other languages long established in its general area. Yet the connection between Karuk and the remaining members of this stock is limited to a scarce handful of words, at the lexical end of the spectrum, and to a strong tendency toward a specific type of polysynthesis on the other, structural, side of things. As with the other Hokan tongues, most words in Karuk are massively polysynthetic in structural expression, while the internal analysis is often highly transparent, each structural unit conveying a relatively discrete element of meaning, thus providing a sharp contrast to the Athabaskan brand of polysynthesis illustrated above (in examples 2a-c).

(3) Sample Karuk Word Forms

a. kunitf'unnukva ‘they look into an enclosed space, sweathouse’
   kun-it-f(')uk-va
   they-look-into.an.enclosed.space-plural.action

b. máruk kunithvripuraa
   máruk kun-ith[vrip-uraa
   far.uphill they-DUAL.run-hence.uphill
   ‘two beings ran a great ways uphill’

c. ishnimvánakach ‘little target shooting down from upriver’ [BIRD NAME]
   ishr(m)-va(n)ak-a-c'h
   shoot.targets-down.from.upriver-NM-DIM

As illustrated in the Karuk forms 3a-c, spatial concepts are often highly refined among the northern members of the Hokan stock, with dozens of directional distinctions often finding routine expression within the structure of even basic words, whether nouns or verbs.\(^1\)

2. The Spatial World. Owing to the rugged nature of the local geography, the native peoples of northwestern California have settled fairly unanimously on a common environmental orientation to the surrounding world of space. In each of the area’s languages, mountains and rivers tend to provide the primary points of reference for identifying spatial relationships in the

\(^1\) For comparative evidence see Talm 1972 and Sliver 1966.
surrounding universe (Kroeber 1925:15-16). That is, geographical spatial conceptions such as ‘upriver’ versus ‘downriver’ or ‘uphill’ versus ‘downhill’ predominate in the vocabularies and grammatical systems of the area’s languages. Yet most spatial conceptions stemming from the geometry of the human figure are relegated to a place of little use, where present at all—thus, all but eliminating such anthropocentric concepts as ‘left’ versus ‘right’ or ‘front’ versus ‘back’. The basic conceptual structure of this system is diagrammed in figure 1 below.

![Diagram of directional concepts shared by the Hupa, Yurok, and Karuk.]

**Figure 1: Basic System of Directional Concepts Shared by the Hupa, Yurok, and Karuk.**

In the linguistic traditions of the region, these basic geographical concepts are highly relative in potential reference, and may be fixed, for any particular purpose, almost anywhere within the surrounding territory, much as with their English equivalents ‘uphill’, ‘downhill’, ‘upstream’, and ‘downstream’. Yet these basic geographical ideas, shared among the area’s languages, occur in a number of distinctive configurations within the regular conceptual patterning of each of the area’s linguistic traditions.

### 2.1. Karuk Spatial Exuberance.

These geographical spatial concepts reach their highpoint in the regular structural patterning of the Karuk language, where they are most pervasive in everyday vocabulary and grammatical paradigms.

Structurally speaking, Karuk directional markers tend to occur in complementary pairs, with separate suffixes routinely differentiating such perspectives as ‘coming here from upriver’ from the contrasting viewpoint ‘heading toward someplace upriver from here’. Figure 2 below illustrates the complementary nature of Karuk directional categories within the terrestrial and riparian spheres.

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2 By contrast, many spatial systems grounded in the neighboring geography are entirely fixed, or absolute, in their reference to the directional bearing of local mountain chains and river systems. In this other major type of geographical spatial thought, the concepts ‘uphill’ and ‘downhill’ refer to a single set of basic directional trajectories whose bearings hold roughly constant throughout a territory, following, in turn, the general path of the mountains slopes and valley floors, whose respective inclines run along in a roughly linear fashion. The mountains of northwestern California, on the other hand, are far too numerous, and altogether too variable in bearing to allow any such system of absolute spatial reckoning.
Such subtle shifts in spatial outlook are consistently marked with separate verb-forms among speakers of the Karuk language. Starting with the possibilities surrounding water flows, two pairs of potential paths are regularly distinguished relative to any given point of reference, two heading into the current and two traveling against the flow of the water. Take the case of a body floating ‘upstream’, against the direction of the water flow. In such a case, the Karuk speaker must always indicate whether this object is approaching the reference point, from downstream, or moving away from it, and, thus, heading still further upriver, beyond the point of reference. Were the object moving ‘upstream’ and away from this hypothetical reference point, one could say, ḥd̓arihrov ‘one being went upriver from here’, an expression based on the general verb of motion ḥd̓arih-, here with the 3rd person subject marker ḥu- and the directional suffix -r̓olv(u) ‘(heading) upriver from here’. Yet if a similar object were, again, moving upstream, but this time toward the point of reference from a downstream source, one would need to say something like, kunip̓viiitraa ‘they paddled back here by someplace downriver’, a contrasting expression based on the general verb of conveyance by canoe, vit, here with the iterative prefix (i)p- ‘back again’, the plural subject marker kun- ‘they’, and the directional suffix -rea ‘(coming) from someplace downriver’. Similarly, if a body were floating downstream, into the current, one would always need to indicate whether the object was approaching the point of reference from upstream, or ‘moving away’ from it, and, thus, heading further still further downriver. If the body were moving downstream, away from the point of reference, one could something like ḥukviriupu ‘one being ran downriver from here’, an expression built around the singular verb of going ikvirip-, here with the third person subject marker ḥu- and the directional suffix -rupu, ‘(heading) toward someplace downriver from here’. Yet, if the body were moving ‘downstream’, toward the point of reference from someplace upstream, one would need to say ḥd̓arihvarak ‘one being ran downriver toward here from someplace upstream’, a contrasting expression based, again, on the singular verb of going ḥd̓arih-, here with directional suffix -vāruk ‘(coming) from someplace upriver’. The same pattern holds also true for mountain slopes, where another four directional paths are routinely differentiated.

At the same time, Karuk adverbial elements routinely distinguish the relative distance of specific geographical reference-points; thus, separate terms distinguish ‘a long way downriver’ from ‘a short way downriver.’ Each directional bearing is split into several contrasting terms distinguishing relative distance, as illustrated in table 1 below.

<table>
<thead>
<tr>
<th>ROOT</th>
<th>SHORT DISTANCE</th>
<th>LONG DISTANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uphill</td>
<td>maʔ</td>
<td>máruk</td>
</tr>
<tr>
<td>Downhill</td>
<td>*sgaʔ</td>
<td>sónak</td>
</tr>
<tr>
<td>Upriver</td>
<td>kaʔ</td>
<td>kāruk</td>
</tr>
<tr>
<td>Downriver</td>
<td>*yŋaʔ</td>
<td>yūrak</td>
</tr>
</tbody>
</table>

Table 1: Karuk Geographical Adverbs, with 3 degrees of relative distance.
Thus, for any event bearing uphill, three degrees of relative distance are regularly differentiated, one represented by the adverbial root itself, ma?, the most general member of the set, another by the derived term máakam, indicating a path heading just 'a little ways' up this slope, and still another by the separate term márak, indicating a path heading a considerable distance along some uphill trajectory. Combining the adverbial categories with those expressed on the verb itself, one could create a regular distinction between such phrases as márak 'ukviriipura 'one ran a considerable distance uphill from here' and máam 'ukviriipura 'one ran a short ways uphill from here'. Similarly the root ka? 'downhill' yields another set of adverbs of relative distance, káruk 'a great ways upstream' versus káakam 'a little ways upstream', allowing one to say káruk 'u?árihoov 'one went a great ways upstream' versus káakam 'u?árihoov 'one went a short ways downstream'. Finally, still another adverb of relative distance, yiiv, one holding no specific geographical reference, would allow the specification of even greater extents, giving rise to such formulations of as yiiv máruk 'ukviriipura 'one ran a great ways uphill from here' or yiiv káruk 'u?árihoov 'one went a great ways upstream'. Though spatial concepts are quite elaborate within the system of directional suffixes, the series of free-standing adverbs only further subdivides the realm of space into a series of paths heading off to various extents into the surrounding world.

Furthermore, among storytellers, a single scene is often surveyed from two opposing points of view at once, creating a kind of double directional perspective. Thus, one might say 'COYOTE WAS COMING A LONG WAYS DOWNRIVER FROM SOMEPLACE UPIVER', explicitly identifying both the ultimate 'upriver' source and eventual 'downriver' goal of the stated event. Further examples are given in 4a-c.

(4) **DOUBLE DIRECTIONAL EXPRESSIONS IN KARUK (SOURCE & GOAL)**

a. máruk  
   3SG-climb-up.from.downhill
   'one climbed a great ways uphill from downhill'

b. sárak  
   3SG-occ.goes.(quickly)-down.from.uphill
   'one came a long ways down from uphill'

c. sárak  
   3SG-flow-down.from.upriver-DURATIVE
   '(the river) flows a great ways downhill from upstream'

So enormous is the emphasis on these geographical concepts, among the Karuk, that the directional bearing of an event is very often stated twice over, or considered simultaneously from two points of view, once from the vantage of the source and once again from the vantage of the goal.

Finally, these fine-grained geographical distinctions are copiously applied to a sweeping range of word-forms in the regular vocabulary of the Karuk language, yielding many idiomatic expressions such as those found in 5a-c.

(5) **SPATIAL IDIOMS IN THE KARUK LANGUAGE**

a. 'iiinvarak 'Northern lights'  
   'iiin-varak  
   burn-down.from.upriver
b. *pikvahrúpukva* ‘to sing good-luck songs for hunting’
   *pikvah-riipuk-va*
   tell.stories.out.of.an.enclosure.(toward.river)^3^-plural.action

c. *'limkara* ‘to drown’
   i(m)-kara
   die.into.the.river

Finally, sleight of hand in gambling is known—if only metaphorically—as the act of ‘shuffling cards into the river’, as reflected in the expression, *'eeéthkaanva*, a form derived from the verb root *'eeth* ‘to carry’, here occurring with and the directional marker -kaan ‘into the river’ and the plural suffix -va, denoting the motion of several sticks ‘submerged’ in succession. In this expression, moving something beneath the cloudy surface of the water is implicitly compared with shuffling gambling sticks beyond easy view. Such is the spatial exuberance of the Karuk language.

2.2. Hupa & Yurok Reflections. On a far lesser scale, similar directional conceptions also hold sway among the Hupa and Yurok, though with differing conceptual implications within each linguistic tradition.

To begin, relative distance is not systematically expressed in either Hupa or Yurok, as it certainly is among the Karuk. That is, neither the Hupa nor the Yurok are obliged to state the relative extent of any given spatial path along a watercourse or mountain-slope, as one certainly must when speaking Karuk. Among the Hupa, geographical adverbs merely indicate general bearing of an event, without any regular division into trajectories heading ‘near’ and ‘far’ into the surrounding spatial world. Similarly, Yurok geographical adverbs show no systematic division into contrasting terms of relative extent, with possible exception of the riparian sphere, where several uncertain divisions at least seem possible.\(^4\) The adverbial inventories of the Hupa and Yurok languages, in the sphere of geographical directional categories, are given in table 2.

<table>
<thead>
<tr>
<th></th>
<th>Hupa</th>
<th>Yurok</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uphill</td>
<td>vidad</td>
<td>helkew</td>
</tr>
<tr>
<td>Downhill</td>
<td>yic'ë'n</td>
<td>'ostlo'</td>
</tr>
<tr>
<td>Upstream</td>
<td>yinac</td>
<td>pecku, pecow, pecu, hipec, pecik</td>
</tr>
<tr>
<td>Downstream</td>
<td>yide?</td>
<td>peleuk, pelek*, pulik</td>
</tr>
</tbody>
</table>

**Table 2: Geographical Adverbs of the Hupa and Yurok Languages.**

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\(^3\) Traditional houses generally face the river in this area. The Karuk directional marker -rípuk ‘(heading) outdoors’ is very probably derived from the marker -rupu ‘heading downriver’, as the exit to the living house usually pointed down toward the river below. The marker *'e='* in Hupa, for example, generally referring to motion out of an enclosure, such as a house, also conveys a similar meaning. Thus, the Hupa form *'eéninyay*, literally translating ‘one came out of an enclosure’, could sometimes also refer, more generally, to the process exiting the house, descending the riverbank close by, heading all the way down to the river below.

\(^4\) The Yurok directional terms given in table 2 appear with the general glosses provided in Robins 1958. It is possible, however, that Yurok riparian adverbs feature far greater subtlety than previously described. Some appear in contrasting configurations with or without the element -k, an in pul versus pulik or pulek*(s)—all translating ‘downstream’ according to Robins. The second set of forms may have been historically derived from the element -k ‘at’, perhaps at one time conveying the sense of ‘going all the way in a given direction to the end’. Other appear in alternate forms with or without a rounded segment such as -ew, -iw, or -ow, as in pecku versus pecik; these perhaps emerged historically from a marker conveying the sense of ‘toward’ or ‘all along the region in question, though without reaching the end’. Finally, still others would occur with or without the demonstrative element hi-, as in pec versus hipec, both conveying nearly the same meaning, ‘downstream’. T. T. Waterman (1921), who spent many years among the Yurok in the early part of the 20th century, once suggested that the element hi- conveys the sense of relative proximity, or perhaps even visibility, though none of the subsequent investigators ever confirmed this important insight.
Furthermore, neither the Hupa nor the Yurok are obliged to state both the source and goal of an event when reporting its general bearing in the act of storytelling, as is often the case among Karuk speakers. Instead—as illustrated in 6a-d below—the direction of motion is generally stated within only one grammatical system at a time, most often indicating only the general bearing of the event, yet not both the source and goal at once.

(6) SINGULAR EXPRESSIONS OF DIRECTION IN HUPA AND YUROK

a. xoda[wila'd
   xo-da=č'i-wi(n)-la'd-i
   areal.downward=3SG-INCEPTIVE-float-REL
   'one group floated downriver'

b. yide
   čitehsay
   yide
   č'i-te-s-ya-i
   downriver AN.3SG-along-STATITIVE-one.goes-REL
   'one being goes along downstream'

c. stoyecok
   stoy-ec-ok
   downhill-go-1SG
   'I go downhill'

d. wohpeku
   soroq
   wohpeku
   soro-ol-q
   across.the.water thus-fly-3SG
   'it flies out to the middle of the water'

Yet, in those rare instances where the direction of motion is stated twice over—or within two grammatical systems at once—it is usually the goal alone that is reinforced with the addition of this second semantic element, as illustrated in the Hupa examples given in 7a-b below.

(7) DOUBLE DIRECTIONAL EXPRESSION IN HUPA (GOAL STATED TWICE OVER)

a. yidag
   xa=č'i-xyay
   uphill
   up.to.the.top=3sg-STATITIVE-one.goes-REL
   'one went all the way uphill, ultimately reaching the top'

b. yide
   xoda[winyay
   downriver
   areal-downward=3SG-INCEPTIVE-one.goes-REL
   'one started off downriver'

In unusual cases, one may state the source of motion in one grammatical system and the ultimate goal in another, as illustrated in the Hupa phrase hazy yinah-č'i'y xodarne'e· 'the wind that blows down from upriver'. In this form, the adverb yinah-č'i'y '(coming) from upstream' indicates a motion which emanates from an upstream source, while the verbal marker xo-da= denotes downward motion, here, by context, referring to motion bearing down a stream. However common in Karuk, such double expressions of direction—stating both the source and goal at once—are exceedingly rare in the Hupa and Yurok languages.

Turning to language-specific conceptual entailments, spatial expression, for the Hupa, is closely tied to temporal perspective, so much so that every directional prefix is consistently associated with one—and only one—of several contrasting temporal markers (8a-d).

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3 This unusual double-directional construction occurs in a religious text, otherwise filled with the colorful expressions of ritual speech. Appearing in Goddard’s Hupa Texts (1904:227), I was able to re-elicit the same form during my fieldwork. Reconstruction mine.
Overlap of Spatial and Temporal Marking in the Hupa Language

a. *xoda’winay* 'one being headed down (a hill or river)'
   \[xo-da=\tilde{\text{e}}\text{-}i-win\text{-}ya\text{-}i\]
   areal-downward=AN.3SG-INCEPTIVE\textsuperscript{6}-one.goes-REL

b. *xoh\tilde{e}\text{’}iwinay* 'one being started down a ridge, ultimately heading toward the bottom'
   \[xoh=\tilde{\text{e}}\text{-}i-win\text{-}ya\text{-}i\]
   down.to.bottom=AN.3SG-INCEPTIVE-one.goes-REL

c. *xa’asayay* 'one being went up to the top of the slope'
   \[xa=\tilde{\text{e}}\text{-}i-s-ya\text{-}i\]
   up.to.the.top=AN.3SG-STATIVE\textsuperscript{7}-one.goes-REL

d. *yimarn* \[na’ \text{ninyay}\] ‘one being went across the stream’
   \[yimarn\]
   across.the.water \[\text{across.water}_1=\text{an.3sg-\text{across.\text{water}}}_2\text{-CONCLUSIVE}\textsuperscript{8}-one.goes-REL

To assume a directional bearing, within the semantic framework presupposed by Hupa grammar, one must also assume some general temporal perspective regarding the situation at hand. Yet this is not a requirement among speakers of the Yurok and Karuk languages. Thus, when reporting that an event is bearing either ‘downhill’ or ‘downstream’, the Hupa speaker is obliged to mention, from the obligatory temporal perspective pre-selected by the language, that this situation is merely in its initial stages, as illustrated in examples 8a and 8b. Yet, when making the difficult ascent up a mountain slope or riverbank, one, alternatively, assumes that the situation is merely in its middle phases,\textsuperscript{9} here illustrated with form 8c. Finally, when ‘crossing’ a body of water, one is obliged to mention that the event is decisively heading toward an inevitable conclusion (8d), to assume still another temporal perspective pre-selected in the regular structure of the language.

In Yurok, on the other hand, spatial and temporal perspective are entirely separate matters. One either states the directional bearing of and event or its temporal status, though one is not required to state both at once, as one must when speaking Hupa. A verbal root can be modified with either a spatial or temporal prefix, yet not both at once; as a result, one category is expressed at the expense of the other. Thus, the root -\text{o}’\text{r}, generally portraying scenes of running, occurs in such forms as *noro\text{’}opepek* ‘I arrive running’ or *himo\text{’}opepek* ‘I run fast’, the first with directional marking and the second with temporal marking. Here the first form, *nor\text{’}o\text{’}opepek* ‘I arrive running’, features the directional modifier *nor\text{’}w-, indicating motion which approaching some fixed point of reference, while the second form, *himo\text{’}opepek* ‘I run fast’, contain the temporal marker *him-, indicating an event that is carried out at rapid pace. Similarly, the root -\text{e}’\text{c}, generally portraying scenes of going, occurs in such forms as *slo\text{’}ycok* ‘I descend, head downhill’ or *woycok* ‘I am gone overnight’, the first, again, with directional marking and the second with temporal marking. In this set of examples, the first form, *slo\text{’}ycok* ‘I descend, head downhill’, features the directional modifier *slo-, indicating motion which descends down a slope, while the second form, *woycok* ‘I am gone overnight’, would contain the temporal marker *woy(k-)’, indicating an event which continues over the extent of one night. Finally, the root -\text{ekoyo?}, generally portraying the motion of water, could occur in such forms as *ho\text{’}lekoyo? ‘water flows around’ or

\[6\] Elsewhere in the language, the prefix *win- derives verbs of onset or transition from those representing ongoing states, as in the forms *ni\text{Wong} ‘it is good’ versus *ni\text{’}in\text{Wong} ‘it became good’, distinct only in terms of this single prefix and otherwise based on the underlying verb theme *ni-Won ‘it is good’.

\[7\] Elsewhere in the language, this prefix, \text{s-}, is associated with STATIVE verbs referring to ongoing states, lacking a particular onsets or conclusion, though with a potentially infinite, or unlimited, duration, as in the forms *sit\text{arn} ‘a stick-like object rests motionless (indefinitely)’ or *six\text{arn} ‘a filled container lies motionless (indefinitely)’.

\[8\] Elsewhere in the language, the prefix *nin- is associated with directional markers suggesting a definite end point, conclusion, or moment of culmination, as *nin\text{’}i\text{yay} ‘one being arrived’ or *nor\text{’}a\text{’}ni\text{’}i\text{y\text{’er}n ‘he put it back down’.

\[9\] Perhaps reflecting the inherent struggle against the force of gravity.
"pko"y? the water is placid, stops flowing", the first with directional marking and the second with temporal marking. Thus, the first form, "hodekoy? water flows around", features the directional modifier "ho-", indicating motion which circles around, while the second form "pko"y? the water is placid, stops flowing", contains the temporal marker "? indicating an event which has come to a point of conclusion, all motion being withdrawn.10

Finally, the Karuk verb carves the realms of space and time into two independent aspects of grammatical analysis.11 Here any event, regardless of its directional bearing, can be portrayed from any temporal perspective the speaker might wish to designate. Thus, from the vantage of even a single directional path, in Karuk, a number of distinct phases of motion can be differentiated. Without any overt marking for time-perspective, the verb is ambiguous as to whether the motion is in its initial, middle, or final stages, as represented by the unmarked form "?u?"arihroov 'one goes upriver'. Such verbs are formally neutral with respect to the internal temporal dynamics of the scene. Placing the verb in the perfective mode with the addition of the prefix "t-", the reference is restricted to a single, internally complete occurrence of the event, often with an implicit focus on culminating stages of the total path of motion, here represented by form "tu?arihroov 'he went upriver'. In the durative mode, marked with the suffix "-tih", the middle stages of the event are brought to the fore, without any explicit allusion to either the beginning or concluding phases of the total activity, illustrated here with the form "?u?arihroovutith 'he is going upriver'. From the perspective of the iterative mode, marked with the prefix "ip-", a repetition of the entire act is invoked, without explicit emphasis on any specific phase within the total flow of motion, here represented by the form "?up?arihroov 'he went on upriver (once more)'.

3. The Realm of Time. While the native peoples of northwestern California settled on a common view of cosmology, situating all events in the universe within a parallel series of greater mythic epochs, the local sense of time nonetheless shifts quite dramatically as one passes from one community to the next.

3.1. Common Cosmological Framework. In the native conception of the universe, the world as we know it was set into motion, perhaps only a handful of generations ago, when a former race of spirit deities sprung spontaneously into existence, alongside those thereafter eternal forces of good and evil. Almost as soon as life had begun, a pantheon of myth figures began to embark on those missions and often-ironic misdeeds that would soon shape the world to come, all of their actions set squarely within this ancient period of creation.

Soon a great flood was to follow, and, subsequently, the sense that a new type of creature, the human being, was soon to arrive on the cosmic scene. At this crucial turning point in the history of life on earth, these ancient myth figures set out to prepare the world for the onslaught of a portentous new era, whose events, by-and-large, they could only partially foresee. An urgent sense of impending doom perhaps prodded them to institute the ceremonies and dances that are still practiced today among the native peoples of this region.

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10 This final series of forms, concerning the spatial and temporal dynamics of water flows, occurs only in the notes of Paul Proulx (Ms.); remaining forms otherwise widely attested throughout the Yurok corpus.
11 While Karuk directional suffixes are generally neutral with respect to time-perspective, two spatial frames in the verbal system carry a secondary temporal significance in certain metaphorical contexts. In scenes of little or no actual vertical motion, the primary directional significance of the suffixes "sip(riv) 'up to the height of a person' and "ish(rith) 'down from the height of a person' is figuratively extended to the dimension of time. The first suffix in the series carries an INITIATIVE significance in the temporal realm, focusing on the initial stages of such activities as 'running' or 'swimming', while the second suffix holds a RESULTATIVE significance in the dimension of time, designating the final or concluding stages of such activities as 'becoming quiet' or 'settling into sitting position' (Bright 1957:96-103). The secondary temporal significance of these suffixes perhaps rests on a common analogy to the usual images of volitional activity conveyed by these directional frames in their primary spatial sense—that is, to scenes of human agents moving things either to or from a position of rest on a roughly level surface against the force of gravity (e.g., initiating the movement of a stationary object in the act of lifting it up or dropping something to its ultimate resting place).
Following this great period of transformation, the principal concern of human life would not be the anticipation of some indefinite future, such as the coming of a messiah or a better age created through science or technology, but a pressing need to restore the world to the original standards put forth during the ancient era of the creation, when the myth figures still walked the face of this earth.

3.2. TENSE MARKING. Where tense marking comes into play, the Karuk alone posses a special marker referring specifically to the ancient era of creation, though, in general, this category is only sparingly applied in myth. Its distribution tends to be limited to scenes set squarely within the mythic past, though not to the remainder of those otherwise eternal scenes whose events otherwise retain a certain timeless validity. In perhaps the majority of cases, the narrator reserves the marker of the ancient past for that pivotal scene which brings the entire plot to some point of culmination, only announcing that the story was set in the myth-times after this crucial turning-point had passed. Yet all the episodes preceding this portentous moment, and those to follow it, would remain relatively unrestricted in potential temporal reference, without any specific marker to place these other scenes within any particular period—all of them, perhaps, holding a certain timeless validity. Perhaps the most common means of placing an otherwise timeless scene within the realm of the ancient past is with the terse, if efficient, construction 'ukąphaanik, translating 'this one did so anciently'; highly general in reference, this form could apply, backwards within the fabric of a story-line, to almost any series of scenes which would precede its application. Thus, after all of Coyote's journeys have been depicted in a succession of scenes bearing no particular temporal reference, at the highpoint or denouement of these adventures, all of his deeds would be situated, perhaps with a mere hint of a single, well-placed form, in the ancient past. Yet, very often, the implication lurks, not far beneath the surface, that many of these deeds could still be witnessed, having become, after the era of transformation, part of the very fabric of the universe itself. Perhaps Coyote has gone out in search of money and women, only to get lost and thirsty, whereupon he would arrive at death's door and lose sight, entirely, of his original mission. Or, again, perhaps his body has withered away for lack of sustenance, only to rise again when the yellow jackets pierce the loins of his rotting corpse. Maybe he has tricked some women into having sex with him by pretending to be a doctor. At the end of any of these familiar episodes, which, by their timeless phrasing, could be taking place right now, the narrator announces, with a single artistic stroke, 'ukąphaanik 'he did so anciently'. Yet, in the majority of cases, this would be the only form in the entire story bearing any marker of tense to place it in a particular period. Yet, as much as these activities were a part of the ancient past, certainly some of these acts could still be witnessed, or in part projected, even today.

The Yurok, on the other hand, posses a special tense-marker that specifically refers to events whose lasting effects continue to influence the living present. Among the Yurok, this distinctive marker of the ENDURING PAST is frequently applied in myth, where it refers to scenes whose lasting effects continue to ring across all time. Thus, when it is announced that Dove was winning a round as he made the critical decision to forego his grandfather's funeral, this pivotal moment is announced in the enduring past, with the words, kic 'ENDURING PAST' rewpe'n 'he was winning' (Robins 1958:155). Yet, if he hadn't been winning, world would be different today; Dove would neither be guilty nor eternally mournful. Or, again, when Across-the-Ocean-Widower opens the door for salmon, freeing them, for all eternity, from their primordial captors, this singular event is announced with the marker of the enduring past, with the words, kic 'ENDURING PAST' vô 'there' genkek 'he opened the way' (Robins 1958:162). Finally, when Crane's wives return to him, after having been stolen briefly by Coyote, the now reunited flock flew, together, once again, across the ocean, a sequence of events also announced in the enduring past, with the words: vô 'there' piškəl 'at the ocean' kic 'enduring past' tëm 'they go' (Golla & O'Neill:1021). Though completed in the past, this event would have lasting implications for the present, where Crane and his wives, the ducks, may still be seen flying together today. Thus, those pivotal events that punctuate a story-line, influencing irreversibly the sequence of events to
follow, are often marked, among the Yurok, with a form that accentuates the lasting effect of this otherwise complete event.

Yet the primary past-tense marker of the Hupa language refers exclusively to scenes whose ongoing connection to the living-present has been decisively severed at some point. Thus, the Hupa marker of the IRREALIS—or 'no-longer-existing'—is used primarily to refer to states and conditions that have ceased to exist, such as the former presence of the spirit deities in the human world, before they finally fled for the heavens. For this reason, the Hupa make little use of tense in myth, leaving the audience to infer the era from the deeds that are taking place within the fabric of the storyline.12 Though, in very specific cases, the past tense marker here labeled IRREALIS is indeed used in myth, generally only to refer to conditions that existed before the transformation, though which have subsequently disappeared or ceased to exist in their former state. The spirit deities, for example, who continue to watch over us from their home at fringes of the universe, did once inhabit this world before abandoning it. Thus, in Hupa myth, there is occasional reference to the former presence of these sacred beings within our world, whose severance from ordinary human experience, if not the universe itself, is considered to be a very real state of affairs. With reference to their former existence within this world, the expression kixinay-ne’in or 'spirit deities of a bygone age' is sometimes used, though the term kixinay 'spirit deity', whose literal meaning is 'THOSE-WHO-(CONTINUE-TO)-SURVIVE', otherwise rarely occurs in the past tense.

3.3. Eternal Scenes. Where the reference is to eternal acts, whose validity stretches from the ancient past into the living present, the Karuk principally draw upon DURATIVE forms, sometimes with reference to a general activity that reaches continuously across all time, in an essentially unbroken chain. These DURATIVE forms, featuring the marker -tih, are often used to draw a scene out over a period of considerable, though relatively unrestricted, extent. Often the reference is limited to a particular stretch of time within the fabric of the storyline itself. Coyote, for instance, always finds himself desperately thirsty when venturing out on one of his ill-fated missions to find money and women. When he finally arrives at a spring, only to hear the tantalizing sound of water flowing, the narrator generally announces this ironic scene with a durative form, saying, for example, pa:hishsha 'the water' kixxaaskihih 'was sounding' (Bright 1957:162). Yet, much to Coyote's chagrin, the water source generally vaporizes the minute he steps foot near it. Yet, in other cases, the activity which is drawn out with the use of the durative marker would continue, if only by implication, to reach outside the story-line, stretching, in part, from the ancient past into the living present, where the activity in question could still be witnessed, today, in the world around us. Thus, as mentioned earlier, when Coyote eats his own excrement, this act is set in the durative time-frame as he exclaims, 'aaf 'excrement' pani?damtih 'it is that I am eating' (Bright 1957:200). Or, again, when Coyote proclaims that the rivers ought to flow downstream, this incipient state of affairs, thereafter, continues to hold true for some time to follow, becoming a condition that would remain equally true today. Thus, it is with a durative form that Coyote wills this thereafter eternal state of affairs onto the world, saying yiruk 'downstream' kámvuunupahihih 'let it continue flowing down' (Bright 1957:200). Yet before Coyote

12 The era of creation is most often evoked, in Hupa narrative, merely by mentioning the deeds that took place in this period, though without any explicit reference to the time frame, either through tense-marking or through processes of circumlocution. The audience, already aware of the status of the episode within the total system of mythology, could then place the surrounding sequence of scenes, if only through a process of inference, squarely within the realm of the mythic past—though without any need, on the narrator's part, to spell it out explicitly. Like the eras themselves, even the names of the myth figures are very rarely stated directly, the audience only inferring their identity, secondarily, through familiarity with their actions, exactly as a period in the creation lore might be surmised through familiarity with the episodes that took place therein. Thus, even the central text in the Hupa creation pantheon begins only with the simple words, 'This one grew up a creation place', the audience, from there, inferring both the time frame and the identity of the protagonist on the basis of this single event alone, the mere act of growing up at this specific site. In the words of Emma Frank, who dictated this story to Goddard in 1901, cixolce'-diy 'At creation place' e'na'iyw 'it was' na:tehidi'en 'he grew (back) up' (Goddard 1904:96). Reconstruction mine.
willed this transformation onto the world, the rivers flowed both ways, making conveyance on
the water very easy until Coyote, with characteristic mischief, upset this former state of affairs.

The Hupa and Yurok, on the other hand, most often employ verbs of iteration, marking
events that are repeated, in stops and starts, for an indefinite and essentially unlimited interval.
For the Hupa this is realized in the form of customary verbs, suggesting repetition as a matter
of habit. In some cases, customary forms merely marks an activity that is carried out repeatedly
during some well-circumscribed time-period, one that would later come to pass. Thus, in his
youth, a certain young man who later learned to throw himself with an arrow, used to watch very
intently as his father did the same, at least until he, one day, mastered this trick for himself. When
the narrator announces that this character watched his father, this act is specifically marked for a
customary recollection, with the words, na'xode'it'ip'en 'this one always watched him'; other-
wise, the basic, imperfective form of this verb would be na'xodile'm 'this one watches him'. Yet,
once this character matured, and perfected the routine himself, watching his father would no
longer be necessary. Or, again, the central myth figure of the region, Across-the-Sea-
Widower, was known to have traveled around this world, incessantly, instituting various dances
and medicines in his journeys, before eventually fleeing for the heavens. Thus, when speaking of
these former travels, the narrator generally refers to the activities of this period with customary
forms, saying, for example, ninis'an 'the world' meq' 'inside' ëite'ina'W 'he always went
along', a phrase featuring the customary variant of the basic imperfective form ëitina'W 'one
goes along'. Yet the validity of this form would only apply to the period preceding the transforma-
tion, as this figure would no longer regularly appear in world following the arrival of humans.
Yet, in other cases, a customary act, first established in era of creation, would thereafter retain a
timeless validity, where it would continue to recur, according to a regular cycle, for all time to
follow. Thus, the lunar eclipse, which would only recur at irregular intervals, is considered to be
the result of the moon's pets rebelling against him and devouring his flesh, whereupon one of his
wives, specifically Frog, would rise to the occasion and fend off these varmints. This entire epi-

dode, repeating itself only occasionally from the most ancient times forward, is rendered entirely
with customary forms. When the moon ventures out, on this special night, from beneath the ho-

rzon, this act is portrayed as happening not just once, but regularly, with the form ëite'ina'W 'he
always goes', itself the customary variant of the basic imperfective form ëitina'W 'one goes
along'. Similarly, when his pets rise to eat him, this act, too, is portrayed with a customary form,
the narrator saying, yixo?iya'n 'they always devour him'; in this case, the basic imperfective
form would otherwise be yixo?iya'n 'they eat him'.

For the Yurok, a similar effect is achieved with the use of intensive verb forms, sug-
gesting an intrinsic repetition reaching outward into infinity. Thus, when Dove pledges to mourn
the death of his grandfather, whose funeral he missed on account of his excessive gambling, this
act is reported, in Dove's words, with the form megeyk*ele?weyk 'I (will) mourn repeatedly'
(Robins 1958:157), the intensive variant, marked with the infix -eg-, of the otherwise timeless
construction mey-k*ele?weyek 'I mourn (generally)'. Or, again, when Salmon is released from its
captors at the mythical head of the river, it is said they would remain, thereafter, eternally home-
sick for the place of their birth, returning to this destination, each year, after swimming back
downriver to the sea. Thus, salmon's annual return, as well as its constant homesick state, are
each, in turn, reported with intensive forms, as reflected in the expressions k*egomte'm 'they re-
turn repeatedly' and kgesomeewtë 'they are always becoming homesick' (Robins 1958:162),
each suggesting an intrinsic cycle, in the fabric of the universe, that has been continuously reen-
acted since the very beginning of time. Finally, Fox once charged Raccoon with always stealing
fish along the log where he was known to scamper. This accusation, on the part of Fox, was, in
turn, stated with an intensive form, specifically, kegemote'm 'you are always stealing (fish)',
again suggesting a characteristic act carried forward from the most ancient times, only to remain
equally true of this little one's behavior today.

3.4. The Distant Future. Finally, where the future is forecast from the mythic past,
each language marks the parallel concept of continuous futurity in a distinctive fashion.
The Karuk combine the **GENERAL FUTURE** with a special **DURATIVE MARKER**, suggesting a continuous stream of action stretching from the ancient past into the indefinite future. Thus, when water ouzel’s wife finds that he has been hiding food from his family, keeping only it to himself, she condemns him to an eternity of eating nothing but the mud from the floors of creeks, saying ˈaravdaráf ‘mud’ kich ‘only’ ˈraamtheeʃ ‘you will be continuously eating’ (Bright 1957:216). Representing a continuous stream of action that would begin with this curse and carry forth, thereafter, across all time, she casts his fate with a form containing both the durative marker -tih and the future suffix -eesh; otherwise, this form is based on the root ˈaam ‘to eat’, here occurring in the second person with the subject marker ˈi-. Similarly, when the spirit deities first set the World Renewal Ceremonies into place, during the ancient myth times, they announce that humans will one day carry these rites forward into the future, saying pakuunpuitiheesh ‘they (also) will be doing like that’ (Bright 1957:248). In the hopes that these rites would be repeated each year until the end of time, to keep the world pure and free of illness, the spirit deities state their prediction in a form, again, indicating both the futurity of the action (-eesh) and the continuous nature of its performance (-tih).

The Yurok, on the other hand, combine the **INTENTIONAL FUTURE** with special marker of **INTENSIFICATION**, suggesting an event that reaches, in stops and starts, from the mythic past onward into the indefinite future, often as premeditated by a specific figure. Thus, when Dove pledges to mourn his grandfather’s loss, he states this future intention with an intensive form, secondarily marked for the future, with the words, ki ‘future wish’ not ‘then’ megeykwelaweyk ‘I shall mourn repeatedly’ (Robins 1958:157). Or, again, when Salmon’s captors state that their former victims shall always return to their home, this pronouncement is again stated with an intensive form marked for a continuous recurrence onward into the future, with the words, ki ‘the’ nepuy ‘salmon’ ki ‘future hope’ kegomelemt ‘return continuously’ (Robins 1958:162). Finally, when Owl’s wife condemns him to an eternity of ‘hootin’ without the mercy of either song or melody, she casts her curse, again, in an intensive form also placed in the intentional future, with the words, ki ‘future (wish)’ cpi ‘only’ ni ‘there (in the canyons)’ ˈeʔgoloyew ‘hoot repeatedly’ (Robins 1958:162).

Finally, for the Hupa, the usual practice is to combine the **GENERAL FUTURE** with forms specifically marked for an ongoing enactment, suggesting, as in Karuk, a continuous stream of action reaching from the mythic past into eternity. Thus, when a Hupa Indian is transformed into a spirit deity, by virtue of his great merit at the dances, he states all of his plans in the progressive future, indicating the deeds he will, thereafter, carry out, each year, for all time. He announces, for example, that every year, at the time of the Jump Dance, fog will always be descending on the valley, saying, noywilwelit-te ‘fog will (always) be reaching down’. This construction, in turn, represents the progressive variant of basic imperfective form noywilillet ‘fog or smoke descends downward’. Later, the same character informs all those living in the valley that he always will be looking on, each year, into all eternity, as they perform their annual rites, a sentiment he, again, expresses in the progressive future, saying, na tehwejilit-te ‘I will be looking back (upon the dance)’. Finally, he announces that there will always be a dance at this site of his birth, one that will always be associated with him into perpetuity, saying ˈcidililei-lit-te ‘people will always be dancing’. Again, the verb in this construction is the progressive variant of the form ˈcidilye: ‘people dance’, while the marker -te suggests that this ongoing activity will be carried out continuously and indefinitely, into the distant future.

Yet, in the context of prognosticating the ultimate fate of the universe, the Hupa alone make ample use of the **NEAR FUTURE**, suggesting both the imminence of future times and, by implication, the relative proximity of the ancient past in relation to the living present. Thus, when the spirit deities speak of inevitable arrival of humanity, they often announce this anticipated event as if it were very close at hand, saying, krwiwinaˈnyan ‘people’ nananakɛ́teh ‘are about to come into existence’. Here the tense marker -teh indicates the immediacy of this situation, whose onset the myth figures predict will arrive very soon. Or, again, when a myth figure pledges to leave behind some medicine attesting to its former beneficence, this intention is often stated in the near future, the character saying, noamkiinaˈan-teh ‘I’m going to leave something
(medicine)'. Here, again, the marker -tehl indicates that the myth figure regards the human world, and, thus, the need for the medicine, as being very close at hand.

4. CLASSIFYING EXPERIENCE THROUGH LANGUAGE. Though the native peoples of northwestern California attached similar cultural significance to many objects and events within their collective social universe, each linguistic tradition would nonetheless impose a separate classification onto the world of everyday experience. Obligatory systems of classification, expressed in the regular grammatical paradigm, reach their highpoint among the Hupa and Yurok. Yet neighboring groups—such as the Karuk, Wiyot, Tolowa, or Shasta—also share in this general orientation toward refinement of classificatory expression within the grammatical sphere.

4.1. GRAMMATICAL EXPRESSION. Though commonplace within the region, classificatory elements achieve expression within a range of grammatical systems among the area’s languages. Each scheme of classification is, in turn, applied to a separate series of communicative events, with variation in the extent to which the categories are obligatory in everyday life.

The Hupa classificatory system is composed of roughly fourteen verb-stems that categorize bodies in various phases of motion according to features of shape and number, alongside a host of more specific criteria. Where motion is basically self-propelled, the body is placed in the semantic role of SUBJECT. Where motion is either controlled by an external agency or suspended indefinitely, the body is placed in the semantic role of THEME. As diagrammed in figure 3 below, a separate series of taxonomic categories applies to each basic situation-type (subject vs. theme).

![Diagram of Hupa Classificatory System]

**FIGURE 3: BASIC CATEGORIES OF THE HUPA CLASSIFICATORY SYSTEM.**

As illustrated in figure 4, time perspective and directional orientation are intrinsic to the semantics of the categories; the paradigm given here illustrates the spatial and temporal possibilities surrounding the movement of a single ROUND object, such as a stone or arrow point.
Thus, when handling an object or referring to an object at rest, the Hupa speaker must also indicate the general spatial configuration and temporal standing of the surrounding scene.

The Yurok classifier system, on the other hand, is composed of a dozen or so regular semantic elements capable of entering into the spheres of both numerical classification and general adjectival description. The basic system of categories is illustrated in figure 5 below.

**Figure 5: Semantic Structure of Yurok Classifier System.**

Upon entering the numerical system, classifiers categorize nouns of similar shape or animacy for the purpose of counting. Upon entering the verbal system, the same classifiers categorize nouns, of parallel shape or animacy, for purpose of attributing inherent characteristics, such as size, texture, or color. The basic inventory of descriptive verb bases is given in figure 6 below.
As illustrated in 9a-f, when counting, or merely indicating the size or color of an object, the Yurok speaker must also state the general shape or animacy of the item questioned.

(9) **Yurok Classifier System**

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<table>
<thead>
<tr>
<th>Type</th>
<th>Example</th>
<th>Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>General</td>
<td>Big (pet)</td>
<td>'one cat'</td>
</tr>
<tr>
<td>One-Non Human Animal</td>
<td>Small (ceyk)</td>
<td>'one acorn'</td>
</tr>
<tr>
<td>One-Round Thing</td>
<td>Tall (knew)</td>
<td>'one obsidian blade'</td>
</tr>
<tr>
<td>One-Pointed Thing</td>
<td>Short (tk)</td>
<td>'big ant'</td>
</tr>
<tr>
<td>One-Round Thing</td>
<td>Long (no)</td>
<td>'small rock'</td>
</tr>
<tr>
<td>One-Pointed Thing</td>
<td>Thick (toom)</td>
<td></td>
</tr>
<tr>
<td>One-Pointed Thing</td>
<td>Smooth (skew)</td>
<td></td>
</tr>
<tr>
<td>One-Pointed Thing</td>
<td>Mesi</td>
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<tr>
<td>One-Pointed Thing</td>
<td>White (munc)</td>
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<tr>
<td>One-Pointed Thing</td>
<td>Dark (lao)</td>
<td></td>
</tr>
<tr>
<td>One-Pointed Thing</td>
<td>Gray (pilk)</td>
<td></td>
</tr>
<tr>
<td>One-Pointed Thing</td>
<td>Red (pekoy)</td>
<td></td>
</tr>
</tbody>
</table>

Though a scattered series of classificatory elements are present in Karuk, classification is not systematic in any single area of the grammar. As illustrated in figure 5 below, a small series of numerical classifiers regularly differentiate several basic units of measurement, including length, intervals of time, and containers of various capacities. This aspect of the Karuk language loosely parallels the Yurok counting system in basic function.
As illustrated in figure 8, still another series of verbal categories classify objects engaged in various types of activity, distinguishing animate bodies from those occurring in a variety of shapes and numerical configurations. This second aspect of the Karuk language loosely resembles the Hupa classificatory system in general function, if not in the overall distribution of categories.

4.2. COMPARATIVE SEMANTICS. Even where a parallel semantic category spreads across languages, the resulting conceptual divisions tend to vary widely among neighboring tongues.

4.2.1. ANIMACY. Each language, for example, holds a category for separating the animate from the inanimate. Yet each tradition holds separate criteria for membership within this otherwise parallel conceptual category.

For the Hupa, all living creatures are classified as animate by default, a category that encompasses both animals and humans (10a-b). Secondarily the category is also extended to many bodies that once held life, such as fresh-kill (10c) and cultural objects fashioned from the flesh, such as the fisher-skin quiver (10d). Sickness, conceptualized as a living spirit that invades the body of the afflicted, is also classified as a living being, as reflected in 10e. Finally, even the earth itself is often classified as animate, as illustrated in the name for the mythical being thought to dwell in the ground (10f) and in the popular religious idiom for spoiling the world (10g).

(10) ANIMACY IN HUPA
   a.  qon-’islarn  qay-tel  yeh-e’itiW
      newly-born  basket plaque  one customarily puts (a living being) into.
      ‘One puts a newborn baby in the basket.’
b. **k'ilixan** c'iwit'et
   deer  one carries (a living being) along
   'One packs a deer along.'

c. **wayi?Htib** hay diyWo? yise?Hwe?
   one gives (a living being) to (her) that something he killed
   'He gives the (once-living) things that he has killed (to his grandmother).'

d. c'idaa-an'we' c'ilenen
   Fisher-skin quiver he pulled it (a living being) out.
   'He pulled out fisher-skin quiver out.'

e. **k'hw-** c'ilenen
   Sickness (a living being) is taken out.
   'Sickness is taken out.'

f. **nin?** miwina- c'isten
   Ground- around- (a living being) lies motionless.
   'The one who lies motionless in the ground,' name of mythical being.

g. **nin?is'lan** c'in?da?am?Htib
   World he brought (a living being) to ruin
   'He spoiled, defiled the world'.

The Yurok, on the other hand, decisively split the realm of the animate into respective classes referring either to human or non-human actors, echoing the mythic division between the realms of animals and humans said, according to local myth, to have emerged during the ancient past.

<table>
<thead>
<tr>
<th></th>
<th>HUMANS</th>
<th>NON-HUMAN ANIMALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ONE</td>
<td>k'ara</td>
<td>k'sht?syl, k'sht?d?y</td>
</tr>
<tr>
<td>TWO</td>
<td>ni'tiyen, ni'tiyen, ni'ti'n</td>
<td>n?d?syl, n?d?dy</td>
</tr>
<tr>
<td>THREE</td>
<td>nakhseyl</td>
<td>n'ahks?syl, n'ahks?d?y</td>
</tr>
<tr>
<td>FOUR</td>
<td>c'doneyl</td>
<td>c'd'ahsul, c'd'ahs?d?y</td>
</tr>
</tbody>
</table>

**Table 3: Yurok Numerals Distinguishing Animal and Human Classes** (Robins 1958:87-96).

Finally, the Karuk place animals and humans together in a single class (11a-b), alongside baskets and even stars in some cases (11c-d), both of which were thought to resemble humans during the ancient myth times.

(11)   **Animacy in Karuk**

a. **k'aan** ?avansáxiich ?áxxak kun?t'jínanik
   There boy(s) two they lived (AN.) there anciently.
   'Two boys once lived there.'

b. **pathufkirik** muhròoja xákkaan kun?t'jínanik
   The Great Horned Owl his wife together they lived (AN.) anciently.
   'Owl and his wife lived together.'

c. ?iksanàhaani nineteenth kun?t'jin mukech'kyay xákkaan
   Little evening star they lived (AN.) his sweetheart with (one another).
   'Evening star lived there with his sweetheart.'

d. yínava k'aan k'ich sipnuuk ?ikri(y) ?upakuri'thuvutih
   Visible there only storage basket it (AN.) sits, (it) singing along.
   'So they saw it was just a storage basket sitting there, singing.'
4.2.2. ROPE-LIKE OBJECTS. In a similar fashion, the Hupa and Yurok share a category for referring to objects with rope-like characteristics. Ropes and strings are prototypes for both groups.

Among the Yurok, snakes and worms hold their primary membership within this class, as demonstrated, for snakes, in 12b. Metaphorically, the category is extended roads (12c) and even streams, which appear to flow or curve along in sinuous fashion.

(12) YUROK ROPE-LIKE CATEGORY  

a. *knewolek*  
   *knewol-ek*-l  
   long-rope-like.thing  3.POSS-tail  
   ‘long tail’

b. *knewolekin*  
   *knewol-ek-in*-l  
   long-rope-like.thing-3.SG ATTRIBUTIVE  
   ‘long snake’

c. *knewolekin*  
   *knewol-ek-in*-l  
   long-rope-like.thing-3.SG ATTRIBUTIVE  
   ‘long road’

For the Hupa, on the other hand, the reference is still further extended to any series of objects joined together in a string-like fashion, including hair, waves, and even the hands (13a-d). Yet snakes and worms, among the Hupa, are generally classified as living-beings, not as rope-like objects, except in a metaphorical sense.

(13) HUPA ROPE-LIKE CATEGORY  

a. *yaliW* ‘pick up either a single rope or several objects of any shape’  
   *ya=n-liW*  
   up=2SG- rope.or.several.things.MOMENTANEOUS.IMPRF

b. *že̱naï̱lay* ‘she parted her hair’  
   *že̱=na=či-k'i-la-i*  
   split=ITERATIVE-AN.3.SG-INDEF.OBJ-rope.or.several.things.MOMENTANEOUS.PRF-REL

c. *minila'-yèy* ‘waves came to the shore’  
   *m-e=nin-l'a-yèy*  
   INAN.OBJ-to=CONCLUSIVE-move.rob.or.several.things.MOMENTANEOUS.PRF-VIS

d. *ya'kiiW* ‘raise your hand’  
   *ya=k'i-n-liW*  
   up=INDEF.OBJ-2.SG-rob.or.several.things.MOMENTANEOUS.IMPRF-REL

4.2.3. FILLED-CONTAINERS. Finally, the Hupa and Karuk share a category that separates filled-containers from all other potential vessels. Baskets, in both traditions, act as prototypes for the category. Yet the metaphorical extensions otherwise vary widely among traditions.

For the Karuk, the reference may be extended to a steam of salmon, a neck brimming over with necklaces, or the earth itself filling over with water during a flood, as illustrated in 14b-d.

(14) KARUK FILLED CONTAINER  

a. *xás pamu̱ʔa̱tinnam* *ʔum víra* *ʔayyár* *ʔatahári* (T32.10)  
   ‘Then her burden basket EMPH EMPH a container fills always.  
   ‘And her burden basket was always full.’
b. viça ʔumu taaq pətəpəkikwiʃip thin ʔasər viça (T42.8)  
EMPH many he puts on necklaces throat glands a container fills EMPH.  
‘He had lots of necklaces on, (his neck was) full up to his throat-glands.’

c. paʔdama káam viça kunaŋyaŋippaneeʃ peeshkëeʃ poossaamvərak (T47.15)  
The salmon then EMPH they will fill up the river it flows down form upriver.  
‘The salmon will overflow the river there as it flows down from upstream.’

d. peethiviθaa腈en ʔaaq ʔuʔiθérẫnık (T56.1)  
The earth water it (container) filled up anciently.  
‘Water collected on the earth.’

As seen in 15a-f, the reference, for the Hupa, may be extended to a standing plant full of sap, a woman resting motionless in sexually suggestive position, or a utensil brimming over with food.

(15) Filled-Container in Hupa  
a. si-xan ‘a filled container rests motionless (bucket of water, cup of coffee, lake)’
   si-xan-i
   stative-filled.container.STATIVE.PRF-REL  
b. saʔxəʔW ‘one eats from a bowl, eats with a spoon’
   saʔxəʔW
   into.mouth=AN.3SG-filled.container.(MOMENTANEOUS.IMPRF)-REL  
c. noʔkiiŋxan ‘hold a feast or picnic, in particular the Acorn Feast’
   noʔkiiŋxan
   down.to.rest=AN.3SG-3.INDEF.OBJ-(CONCLUSIVE)-filled.container.MOMENTANEOUS.PRF-REL  
d. ʔeniiŋxan ‘one caught fish (in a net)’, lit. ‘bring a fish to rest in a filled container’
   ʔeniiŋxan-i
   AN.3SG-INCEPTIVE-filled.container.(STATIVE).PRF-REL  
e. kii-xan ‘a tree stands (full of sap)’
   kii-xan-i
   3.INDEF.SUBJ-STATIVE-filled.container.STATIVE.PRF-REL  
f. ʔiʔisaxan ‘(a woman) lies motionless (in a sexually suggestive position)’
   ʔiʔisaxan
   AN.3SG-STATIVE-filled.container.STATIVE.PRF

5. Word & Myth. While the native peoples of northwestern California inhabited similar natural and social worlds, a range of symbolic values were nonetheless assigned, throughout the area’s languages, to those common items of perception found within the scope of everyday life.  
Among the vocabularies of the area’s languages, even the most common items of experience were often named for those roles they played in the mythology, folklore, or cultural practices of the area’s people. In this sense, even the most basic word-forms were often constructed somewhat like miniature haikus, or brief, allusion-filled poetic statements, capturing in a minimum of well-chosen images a entire episode or scene of outstanding cultural significance.  

5.1. Borrowing. Relatively few of these word-forms spread throughout the area’s languages in precisely the same fashion. Thus, the presence of borrowing, or the transfer of words between neighboring languages, is virtually next to nil. Neither the phonological shape nor the stories themselves were very often identical or even particularly parallel. Even loan translations—or the mere exchange of underlying word-meanings—were also fairly rare. Instead, each community tended to maintain its own distinctive version of the common stories, myths, and
folkloric episodes that otherwise circulated throughout the region. In turn, these pervasive differences in interpretation were often secondarily reflected in the content of the area’s vocabularies.

The Hupa and Karuk, for instance, ascribe a common myth to a bird known in English as the dipper or water ouzel. According to the shared folkloric episode, this bird was to receive an eternity of punishment for once having been a poor father. In the Hupa tradition, this poor animal is condemned to an eternity of having sex with stones, though never again with its mate, as reflected in the common name ce’-qe’t’ ‘THE-ONE-WHO-COPULATES-WITH-STONES’. Yet in the Karuk tradition, this bird is condemned—not to having sex with stones—but to sucking moss from the floors of rivers, as reflected in parallel designation ?asaxvörish?âmvaanich ‘THE-LITTLE-ONE-WHO-EATS-MOSS’. Both designations reflect an aspect of its natural history, and both stories impart a chilling lesson to prospective fathers. The respective names are given in examples 16a-b.

(16) HUPA AND KARUK NAMES FOR THE WATER OUZEL
   a. ce’-qe’t’ ‘THE-ONE-WHO-COPULATES-WITH-STONES’
      ce’  Ø-qe’t’-i
      stone 3.SUBJ-copulate-REL
      ?asaxvörish-(a)(m)-va-aan-ich
      river.moss-eat-plural.action-AGENTIVE-DIM
      Bright 1957:322

5.2. ACTION PORTRAITS. Some of the most gripping scenes of action portrayed in the area’s vocabularies are those that reflect, in underlying subject matter, an episode or event culled from the local folklore or mythology. Such portraits, particularly common among the names of animals and sacred places, refer, in essence, to eternal events, or unbroken streams of action, reaching across the very fabric of mythic time (17a-c).

(17) ACTION PORTRAITS IN THE LANGUAGES OF NORTHWESTERN CALIFORNIA
   a. tehklìxlsìx dialect HUPA
      teh-k-i-xl-s-xid
      into.the.water=INDEF.SUB-3OBJ-CL-swallow.IMPRF-REL
      ‘WHAT-SWALLOWS-ONE-INTO-THE-WATER’ [= MYTHICAL WATER-MONSTER]
   b. ?amatâhvîkanich dialect KARUK
      ?amat-mâhvîr-ka-aan-ach
      spring.salmon-to.scc.coming-AGENTIVE-DIM
      ‘LITTLE-ONE-WHO-SEES-SPRING-SALMON-COMING’ [= A FLOWER]
      (Bright 1957:324)
   c. (7)wâltki’snëg dialect YUROK
      (7)wâltk- (w)îs n-eg-(ep-)
      bone it eat-ITERATIVE
      ‘BONES-IT-EATS’ [WOLF]
      (Robins 1958:266)

This tendency is strongest in Hupa, where relatively few basic or monomorphemic nouns survive, most having been replaced with complex verbal expressions, often depicting the mythic deeds associated with particular actors. In the context of Northwestern California, this otherwise characteristic Athabaskan trait has been carried to an unusual extreme, as illustrated by the series of everyday words that have been replaced with descriptive portraits in Hupa (table 4).
<table>
<thead>
<tr>
<th>ATHABASKAN FORM</th>
<th>MODERN HUPA REPLACEMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARM Gan(^{13})</td>
<td>xok'wa'y'ay 'what extends away from (a person)'</td>
</tr>
<tr>
<td></td>
<td>xo-k'a=nin-a-i</td>
</tr>
<tr>
<td></td>
<td>3SG.OBJ-away.from=conclusive-one.extends-REL</td>
</tr>
<tr>
<td>DOG tin(^{7})</td>
<td>nor'kine-yord 'what hunts things down'</td>
</tr>
<tr>
<td></td>
<td>no=ri-ne-yord</td>
</tr>
<tr>
<td></td>
<td>to.a,halt=INDEF.OBJ-chase(_1)-chase(_2)-REL</td>
</tr>
<tr>
<td>HEAD -ce(?(^{1}))</td>
<td>x'e'da'yay 'what extends out from me'</td>
</tr>
<tr>
<td></td>
<td>xo-e-di-a-i</td>
</tr>
<tr>
<td></td>
<td>3SG.OBJ-out-one.extends-REL</td>
</tr>
<tr>
<td>PERSON *dine(^{14})</td>
<td>kiwiwinyay-n-yarn 'eaters of what is eaten (acorns)'</td>
</tr>
<tr>
<td></td>
<td>(el)-ki-win-yarn-i + yarn-i</td>
</tr>
<tr>
<td></td>
<td>3SG-INDEF.OBJ-INCEPTIVE-cat.REL + cat-REL</td>
</tr>
<tr>
<td>RAIN *k'aran(^{15})</td>
<td>narnay 'what comes down'</td>
</tr>
<tr>
<td></td>
<td>na=(ni)n-ya-i</td>
</tr>
<tr>
<td></td>
<td>down-CONCLUSIVE-one.goes -REL</td>
</tr>
<tr>
<td>WATER ta(^{16})</td>
<td>ta'narn 'liquid that one slopes (to drink)'</td>
</tr>
<tr>
<td></td>
<td>ta=el-(dl)-nar-n-i</td>
</tr>
<tr>
<td></td>
<td>into.water=3SG-CLS-be.sloped-REL</td>
</tr>
</tbody>
</table>

**Table 4: Hupa Verbal Expressions Displacing Common Athabaskan Noun Forms.**

5.3. **Spatial Imagery.** Less dramatic perhaps, if equally charged with poetic content, are those descriptive portraits created by linking some object in the surrounding universe with a related spatial feature closely connected with its basic existence (18a-c). Such portraits produce, in the collective imagination of any given speech community, a regular connection between this thing and some closely connected property of space.

(18) **Spatial Imagery in the Languages of Northwestern California**

a. yimar	tiw\(\)wiwyay
    yimar	tin=el-win-ya-i
    across.the.water astray.(along.a.trail)=3sg-INCEPTIVE-one.goes.PRF-REL
    'THE-ONE-WHO-WENT- ACROSS-THE-OCEAN'

b. ithyarakphrriv
    ithyarak
    across.the.water widower
    'ACROSS-THE-OCEAN-WIDOWER'

c. wohpekumew
    wohpek\(^{*}\)
    ?u-mew
    across.the.seta its-widower
    'ACROSS-THE-OCEAN-WIDOWER'

As illustrated in 19a-e, this second tendency is strongest in Karuk, where spatial categories are especially elaborate throughout the structure of the language.

\(^{13}\) The sole attestation in modern Hupa occurs in the form P-aanta 'P's shoulders', etymologically "(the area) between the arms" (< *P-aan 'P's shoulders' + -taa 'between').

\(^{14}\) The sole surviving attestation of this root in modern Hupa occurs in the form dinig-xine-W, the ethnym for the Hupa Indians. Etymologically the form refers to 'those who speak the language of (Athabaskan) people' (< dinin '(Athabaskan) people' + *xi-ni-ye-W 'i 'those who speak').

\(^{15}\) Survives only in the form kuyj-kyo 'thunderstorm' in modern Hupa, referring etymologically to 'a big rain' (< *k'as 'rain' + k'oh 'augmentative') (Sapir 1931).

\(^{16}\) Widely attested in bound forms, where it acts as a directional modifier (tah\(\)es\(\)sya 'one being came out of the water') and serves as an element in compounds (tarsil 'steam'). Lost as a free-standing noun form in modern Hupa.
(19) **Spatial Imagery in Karuk Vocabulary**

a. káruk  va'áraar  
káruk  va'áraar  
far.upriver  its-person  
‘UPRIVER PERSON,’ traditional ethonym for a ‘Karuk Indian’

b. káh'iravádrak  
káh'-i(r)-a-vádrak  
upriver-perform.renewal.ceremony-NM-down.from.upriver  
‘WAR DANCE’, literally ‘upriver world renewal ceremony coming down from upriver’

c. itkarathdyav  
i-t-kara-tih-yav  
look-into.water-DURATIVE-good  
‘GOOD-LOOKING-INTO-THE-RIVER’, a personal name

d. ?issak  vaatxarahavúukwúthi'han  
?i(a)sá-k  vaatxar-ovruk-(v)a-tih-an  
rock-LOC shout-down.over-plural.action-DURATIVE-PARTICIPIAL  

e. mahxánthuun  
mah-xanthuun  
uphill-crawfish  
‘SCORPION’ (literally, ‘MOUNTAIN-CRAWFISH’)

6. **Summary & Conclusions.** Rather than strictly generating homogeneity, long-term contact has also intensified many of the underlying differences present among the languages of this area, sometimes accentuating proclivities inherent to the original source stocks. Though of diverse origins, the languages of this region have indeed developed many parallel structural traits, as a by-product of their ongoing social contact. Taken together, geographical directional systems, mythic tense categories, classificatory schemes, and descriptive nouns portraying mythical acts are all characteristic of the area’s linguistic traditions. Yet, in spite of the constant, daily pressures to assimilate the habits and ways of neighboring peoples, the area’s linguistic traditions remain profoundly distinct on a number of fronts.

Though characteristically Athabaskan, action-focus reaches an extreme among the Hupa, where most basic nouns have been eliminated from the language and replaced with elaborate verbal constructions intricately portraying the often-mythic activities associated with particular worldly actors. Though present elsewhere in the region, this tendency reaches its highpoint among the Hupa, where it has been carried to an extreme that is unparalleled even within its own parent stock. At the same time, time-perspective, among the Hupa, becomes an obligatory category of analysis even within the spheres of noun classification and directional marking, representing still another reflex of this pervasive focus on the subtleties of action in the surrounding universe.

Though often elaborate among Hokan tongues, spatial-focus reaches its local extreme among the speakers of the Karuk language, where geographical directional concepts achieve an unusual precedence throughout the structure of the grammar and vocabulary. Though present elsewhere in the region, this tendency reaches its highpoint among the Karuk speakers, where it has been carried to an extreme that is unusual even among the remaining members of the Hokan stock. Within the grammatical system, geographical directional concepts achieve an extraordinary symmetry and precision of reference; similarly, throughout the vocabulary, a preponderance of word-forms carry a definite geographical association, explicitly stated in the very construction of the word. Even within the sphere of noun classification, the Karuk classifiers predominantly reflect the spatial characteristics of related objects.
Finally, continuing a process probably set into motion many eons ago, long before its arrival in the immediate geographical area, the Yurok language heads still further toward the isolating structural pole. As such, the word-form has been stripped down to its bare essentials, with fewer obligatory grammatical categories than found among its closest neighbors. As a consequence, the Yurok language is innocent of many of the grammatical excesses which characterize the neighboring tongues, distinguishing itself from both the Hupa and Karuk, respectively, by maintaining a relatively even focus on both the activities and directional-bearings linked with events in the surrounding universe. Within the realm of vocabulary, some of the noun forms focus on activities, others on the spatial-status of objects. Yet perhaps the majority of the nouns are semantically opaque, consisting of a single word-root that holds no explicit descriptive significance, whether action-based or spatial in character. Thus the Yurok vocabulary rivals neither the intensive spatial-focus of the Karuk lexicon nor elaborate action-focus of many Hupa word-forms, remaining neutral with respect to both of these areas of semantic specialization. Within the realm of regular grammatical patterning, neither temporal perspective nor spatial status achieve anything close to routine expression, as they do among Hupa and Karuk; though, when marked, one is expressed at the expense of the other, the categories of space and time being mutually exclusive, structurally speaking. Thus the Yurok verb, in sharp contrast with the grammatical traditions of its closest neighbors, expresses neither intricate directional nuances of the Karuk verb, nor the intricately detailed temporal perspectives regularly marked in the Hupa language. Again, the Yurok language remains relatively neutral on both fronts, engaging in spatial and temporal marking to a lesser extent that customary among its neighbors.

Thus, despite a long history of contact, each language maintains its own characteristic signature or stamp, whether grounds of structural composition or general semantic organization.

Further aspects of areal drift are summarized in table 5 below.

<table>
<thead>
<tr>
<th>PHONOLOGY</th>
<th>DIVERGENT DRIFT (OR CONTINUED OPPOSITION)</th>
</tr>
</thead>
</table>
| **Development of glottalized stops in YUROK, an areal feature shared by neighboring tongues, such as Hupa and Tolowa.** | **HUPA:** Strong phonological conservatism preserves many core Athabaskan traits, despite long history of intense linguistic contact. (Other tongues in family far less conservative.)
**KARUK:** Complete absence of glottalized stops at any point of articulation, despite otherwise universal presence in region.
**YUROK:** Highly elaborate system of vowel symbolism, a feature otherwise absent in region. |
| **SPACE**                  | **HUPA:** Association of direction with obligatory temporal frames.
**KARUK:** Elaborate system of spatial categories, characterized by great symmetry and precision; pervasive use of double-directional frames (source + goal) in narrative.
**YUROK:** Gradual pairing down of categories productively marked on the verb, including geocentric spatial concepts; sharp contrast to strong spatial proclivities of the Hupa & Karuk verbal systems.
Rich expression of geocentric concepts within adverbial system. |
| **TIME**                   | **HUPA:** Vastly encompassing focus on internal temporal qualities of events, an obligatory category for all verbs in the language, including descriptive nouns derived from verbs. Tense, or the relative temporal standing of events, is of lesser structural importance and is a recent innovation.
**KARUK:** Strong development of tense, or relative temporal standing of events, with a close match to the temporal categories of local myth and cosmology. Lesser emphasis on aspect. (not obligatory).
**YUROK:** Absence temporal marking directly on the verb. Elaborate external tense system, with few purely aspectual categories. |
<table>
<thead>
<tr>
<th>CLASSIFICATION</th>
<th>Development of similar categories with parallel semantic features: ROUND; LONG; ROPE-LIKE; ANIMATE; FILLED-CONTAINER.</th>
<th>HUPA: Retention of core Athabaskan system of classificatory verbs, with obligatory spatial and temporal perspective. KARUK: Minimal presence of taxonomic categories, otherwise a highly elaborate in region; yet, where classification is present, number is especially elaborate. YUROK: Elaborate systems classifiers operating in both adjectival &amp; numerical spheres.</th>
</tr>
</thead>
<tbody>
<tr>
<td>WORD-FORMATION</td>
<td>METONYMICAL SCHEMES (1) ACTION-FOCUS (2) SPATIAL STATUS</td>
<td>HUPA: Tremendous elaboration of characteristic Athabaskan action-focus. Most nouns derived from elaborate verbal constructions, leaving few monomorphemic nouns in language. KARUK: Strong focus on the spatial status of objects throughout nominal vocabulary. YUROK: Though there is some focus on both spatial standing and action-frames, most nouns are nevertheless semantically opaque, or without descriptive meaning.</td>
</tr>
</tbody>
</table>

**Table 5: Dimensions of Drift in Northwestern California.**

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TYING LOOSE ENDS IN KAWAISU PHONOLOGY: SOME COMMENTS ON
ZIGMOND, BOOTH & MUNRO (1990)

SHELDON KLEIN

University of Wisconsin, Madison

1. My initial fieldwork with Kawaiisu took place during the Summer of 1958, in Kelso Canyon and Kelso Valley, California, sponsored by the Survey of California Indian Languages, Department of Linguistics, University of California, Berkeley. My comparative analysis of the hypothetical Proto-Mono-Kawaiisu took place in 1959 during the Spring term, at the specific request of Mary Haas. After correcting my first version, she told me to make the changes, review it with Sydney Lamb, and submit it for publication to IJAL (Klein 1959).¹

On the next several pages, I include an exact reproduction of an intermediate draft of my phonemic description of Kawaiisu. An earlier version made use of a more formal notation, listed the phonetic form as well as the phonemic for each example, and reflected a considerable difference in descriptive writing style. The following includes the penciled comments and corrections, primarily by Mary Haas and, to a lesser extent, by Sydney Lamb. To understand the context of Haas’ rewriting of my descriptive statements, one might read Charles Hockett’s Two Grammatical Models of Description (1954).

2. DEPARTURE. Toward the end of the 1959 Spring term I attempted a partial description of Kawaiisu morphology and syntax derived from Zellig Harris’ phrase structure model, formulated in a categorial grammar notation (Harris 1946, 1951). I sent Harris a copy. At the end of the 1959 Spring term I departed for the University of Pennsylvania, where I accepted a job as a Research Investigator on Harris’ Transformations and Discourse Analysis Project, one of the earliest computational linguistic projects funded by the National Science Foundation (it might have been the first). I would not defend the Kawaiisu categorial grammar I produced then, but it is available for downloading in pdf and zip Word formats, at

http://www.cs.wisc.edu/~sklein

Part of what I did after, and before can be found there on page 1 of my Vita (Vita-page-1.zip), and, in part, on my web page at

http://www.cs.wisc.edu/~sklein/sklein.html

Preliminary Phonemicization of Kawaiisu

100. Introduction

This analysis is subject to revision upon further investigation in the field.

200. The Phonemes

<table>
<thead>
<tr>
<th></th>
<th>bilabial</th>
<th>alveolar</th>
<th>alveolar</th>
<th>velar</th>
<th>labiovelar</th>
<th>glottal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stop</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>vel.</td>
<td>p</td>
<td>t</td>
<td>c</td>
<td>k</td>
<td>kw</td>
<td>?</td>
</tr>
<tr>
<td>vcd.</td>
<td>b</td>
<td>d</td>
<td>dz</td>
<td>g</td>
<td>gw</td>
<td></td>
</tr>
<tr>
<td>Grooved spirant</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>vol.</td>
<td>s</td>
<td></td>
<td></td>
<td>h</td>
<td></td>
<td></td>
</tr>
<tr>
<td>vcd.</td>
<td></td>
<td>z</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nasal</td>
<td>m</td>
<td></td>
<td></td>
<td>n</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lateral</td>
<td></td>
<td></td>
<td></td>
<td>l</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semi-vowel</td>
<td></td>
<td></td>
<td></td>
<td>j</td>
<td>w</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Front</th>
<th>mid</th>
<th>back</th>
</tr>
</thead>
<tbody>
<tr>
<td>high</td>
<td>i</td>
<td>y</td>
</tr>
<tr>
<td>low</td>
<td>e</td>
<td>a</td>
</tr>
</tbody>
</table>

Junctures: # , .

1958-59 Intermediate draft with editings by Mary Haas & Sydney Lamb [page 1]
220. Junctures

221. The juncture phonemes are marked by the following phonetic phenomena: In an utterance between junctures every even numbered mora unit preceding the final juncture receives stress. Penultimate mora units receive primary stress and high pitch. The first stressed mora unit after an initial juncture receives a medium high pitch. A vowel cluster counts as two mora units.

222. This description must be modified for utterances of the form /CVCVCVC/ in which case the stress pattern is 

223. The /, / and ./ junctures are also marked by as yet uninvestigated macrosegmental intonation phenomena.

230. Canonical Form

A syllable is defined as CV, -CCV, CVV and -CCVV. A phonemic word is any sequence without intervening juncture.

240. The voiceless stops, except for /ʔ/ are generally fortis and long. They have their greatest length in final syllables when not preceded by a vowel cluster. They may be weakly aspirated in unstressed syllables and before junctures. /p, t, c/ are weakly glottalized before an unstressed/a/ or /u/ followed by a velar stop. Voiced stops are lenis and usually shorter than their voiceless counterparts.

/p/ : /puʔi/ 'eye,' /kukwopi/ 'wood.'
vowel clusters. They may be weakly aspirated in unstressed syllables and before all junctures except /f/. /p,t,k/ are weakly glottalized in the environment /ŋ/ when the pertinent vowel is unstressed. Voiced stops are lenis and usually shorter than their voiceless counterparts. /p/ has no other marked variants: /pu'bi/'eye,' /kukwobi/'good.'

/b/ is a bilabial spirant in initial position, and a bilabial stop when geminate or after /m/. In other environments the stop and the spirant vary freely. /busevu/'calf,' /kysya/'Bullethawk,' /haamubby/'trap,' /egumbi/'tongue.'

/t/ has no other marked variants: /tabi/'sun,day,' /ny'nty/'good,' /atakazi/'crow.'

/d/ is a voiced flap or stop except in initial position where it is semivocalic: /niody/'copulate,' /do'ni/'Rogie.'

/c/ and /dz/, while patterning as stops, are phonetically voiceless and voiced affricates consisting of an alveolar stop with a grooved spirantal release [t's,dz]. These are both retroflexed after /i/ and in word-initial position before /i/. /dz/ in the aforementioned /i/ environments is often alternately articulated as a retroflexed voiced grooved spirant. /kuca'pa/'ashes,' /oepepi/'variety of lizard,' /oepezi/'boy.' In the dialect of Fred Collins /d/occurs only adjacent to /i/. Where this phoneme occurs in other environments of his wife's dialect, his cognate contains /dz/ Rose Collins: /modziondy/'make round,' Fred Collins: /modonidy./

1958-59 Intermediate draft with editings by Mary Haas & Sydney Lamb [page 3]
The velars /k, kw, g, gw/ are all backed before and after back vowels; the environment /a-a/ yields the most backed variants. The voiced velars are progressively lenis in articulation in proportion to the backing, and the more backed variants are spirantlal in medial positions.

/pchipika/ 'woodchip', /sanakaa/ 'ditch', /poéweedy/ 'get off',
/gajetaa/ 'crackers', /pakanigwee/ 'to go (starting out).'

/o/ : /oohóady/ 'be strong.'

2.3 Spirants

There is a voiced and a voiceless apical grooved spirant /s, z/. /s/ is retroflexed under the same conditions as the affricates, and occasionally in initial position before /u/:

/synikabi/ 'coyote', /tanimuki/ 'man,'

/anoasi/ 'pack basket.'

/h/ is usually voiceless initially and voiced elsewhere:

/hoa/ 'gun shell,' /whichi/ 'knife.'

2.4 Nasals

There are two voiced nasals /m, n/. Geminate nasals have a devoiced release. /tumadé/ 'to roast,' /tumadá/ 'wild spinach,' /tanadé/ 'hick,' /cunnaci/ 'pipe.'

2.5 Semivowels

There are two semivowels /j, w/. /j/ is semivocalic

[AI] after /y/. /janadoci/ 'kind of basket,' /wacuju/ 'four,'

/tuwada/ 'lays (egg).'
2.6 Vowels

/i/ is articulated as a high-mid front vowel in unstressed syllables; a little lower before /æː/ /æ/ an³ /ə/. Elsewhere it is a high front vowel. /wihiː/ 'knife.'

/e/ is a mid front vowel when a member of a geminate cluster; a lower mid front vowel elsewhere. /peæw̩id/ 'get off'.

/y/ ranges in articulation from a mid central vowel to a high central vowel to an unrounded high back vowel. The higher variants occur in stressed syllables; the highest occurring in syllables receiving primary stress. The relative fronting and backing of the vowel is influenced by the articulation of an immediately preceding vowel. /nɪkəpy/ 'dance,' /sɪvby/ 'willow.'

/a/ is a low central vowel when a member of a geminate cluster or when another /a/ is in an adjacent syllable. Elsewhere it is a little higher in articulation, approaching a mid vowel in syllables receiving primary stress. /ka'æd/ 'eat.'

/u/ is a high back vowel before semivowels, or when a member of a geminate cluster. Elsewhere it ranges from a lower high vowel to an upper mid vowel. /pugz̪i/ 'ag.'

/o/ ranges in articulation from a mid to lower mid back vowel. The higher variants occur in unstressed syllables and in geminate clusters. /'oʊʊba/ 'bone,' /təgwa/ 'rattlesna'.

* For complete exemplification see the examples illustrating the consonants.
3. RETURN. In 1980-81, Kenneth Hale, who was aware of my Kawaiisu material, urged me to return to the field, and to contact Maurice Zigmond, who had worked with the Kawaiisu in the 1930’s, and again in the 1970’s. I did as he urged, and after obtaining funding, initially from the UW Graduate School and later from the Wenner-Gren Foundation, I returned to the field a number of times during the period 1981-84. Maurice Zigmond had been extremely helpful in giving me details about remaining speakers, and my 1958 photographs and recordings provided credentials. I contacted, and collected texts and vocabulary from a total of six informants living in Bakersfield, Tehatchape and Kelso Valley. In 1958, being the newest fieldworker, I had been given only Mary Haas’ old Webcor tape recorder to use rather than a Wollensak. This time I arrived with a portable Marantz cassette recorder and a portable Tandberg reel-to-reel recorder; I always recorded on both simultaneously, in different formats. I now have about 50 hours of recorded new material, including recordings, from several informants of the vocabulary data I had collected in 1958, as well as myth texts, ethnographic texts, and several hours of conversation entirely in Kawaiisu, and provided by three related female speakers who were sitting around a kitchen table. (I had used my living expense money to bring distantly located relatives together for several days, paying food expenses, on condition that they only speak Kawaiisu.) Carmen Peebles, then head of the Bakersfield area Tribal Council (representing about 50 tribes), provided spoken interlinear translations for all my recorded texts from 1958 as well as 1981+. I recorded the translations on a hand held cassette recorder while playing back the texts, a phrase at a time, on the Marantz. (I’d transferred my 1958 recordings to reels in 1981, reviving them with facilities in the UW Linguistics Department sound lab.) The resultant translation tapes contain the translated phrases interleaved with the Kawaiisu segments.

4. COMMENTS.

4.1. Kawaiisu files that can be downloaded. In the hard sciences, results must be reproducible by others if they are to be accepted. For that reason, I believe it is incumbent upon all who publish the results of their linguistic fieldwork to make available close phonetic transcriptions and, where possible, tape recordings of all source language data. If primary data sufficient to reproduce the analysis are not made available, claim to scientific validity is vitiated. Wave file recordings of Fred Collins and Rosie Collins are available for downloading at http://www.cs.wisc.edu/~klein/. These include vocabulary files pronounced by Fred Collins, and ordered by canonical form (with frequent repetitions and local re-orderings): Trk3a-1-FC.zip, Trk3a-2-FC.zip, Trk3b-FC.zip, Trk3c-FC.zip, Trk3d-FC.zip, Trk3e-FC.zip, and a file of comparative pronunciations of words by Fred Collins and Rose Collins demonstrating /-mb/- and /-bb/- contrasts: mb-bb-FC-RC.zip. I have also included a text of Lida Girado that I transcribed by hand from a tape recording, in close phonetic notation, and which I executed with an italic pen. Included is an interlinear translation by Carmen Peebles: Lida-Kawaiisu Book of the Horse.zip (and in .pdf).

5. In 1974, Pamela Munro and Curtis Booth began work with Kawaiisu, and in 1990, Zigmond, Booth and Munro published a Kawaiisu grammar with dictionary and texts (Zigmond Booth and Munro, 1990).
5.1. Differences. Pamela Munro and Maurice Zigmond challenge my analysis of Kawaiisu phonology as described in Klein (1959 & 1988), and question the accuracy of my transcriptions. I will acknowledge one error, an accidental omission of items in my introductory listing of Kawaiisu phonemes on the first page of Klein (1959). Those items are, in fact, rather obviously indicated in the presentation of my comparative analysis of Mono-Kawaiisu, and there is an inserted comment in Zigmond et al. to the effect that the omissions may have been due to a typographical error.2

5.2. Whose concept of the phoneme? The concept of the phoneme used in Zigmond et al. was not mine. In 1959 the concept of an autonomous phonemic level still prevailed, and the theoretical debates concerned item and arrangement vs item and process and the somewhat older God's Truth vs hocus pocus types of rules. What Munro calls a phoneme I would have called a morphophoneme. Success of the Chomskian revolution was remote, and Bloomfield ruled. My theoretical influences were early Sydney Lamb, Charles Hockett, Bloomfield, and Zellig Harris. Sapir I valued for the Sapir-Whorf hypothesis, and his concept of genetic drift. By the mid 1970s the now powerful transformationalists terminated the concept of an autonomous phonemic level, altering the specification of its criteria in introductory Linguistics textbooks in ways that made it appear logically inconsistent. For students entering the field in later years, the term 'phoneme' was applied to what I had learned to call 'morphophoneme,' and transformationalists had initially called 'systemic phoneme'.

Zigmond et al. acknowledge surface contrasts between voiced and voiceless velars: k/g, and kw/gw but treats g and gw as fricatives rather than stops. In terms of my synthesis of the methodology of the era, their phonological arguments support an analysis of /g/ and /gw/ as velar stops: Synchronic description was to be independent of diachronic criteria. The contemporary structure of a language was to dictate its analysis. Knowledge of prior states of a language was not to affect synchronic descriptive choices. Borrowed forms were not to be excluded from an analysis if any innovations they implied were detectable elsewhere in the structure. The distributional patterning of phonemes was to be a primary criterion in determining descriptive status. I found speakers with word initial voiced velar spirants in word initial position in loan words from Spanish. I also found an intervocalic /-b/- that varied freely between allophones [b] and [β]. I also found geminate intervocalic /-bb/- with no phonetic variation other than cluster length. At one point in 1958-59, I considered listing the alveolar affricates as voiced and voiceless stops on the grounds that their distributional patterning was that of the stops. My synthesis of the era's methodology would have given that choice plausibility.

5.3 Archaic forms or different dialects? Zigmond et al. indicate that -mb- pronunciations are archaic (or spoken only by earlier generations). However, the wave files in mb-bb-FC-RC.zip attest a set of words that Fred Collins pronounces with /-mb/- and Rose Collins pronounces with /-bb-/. But Rose Collins was seven or eight years older than Fred Collins, and Rose Collins was older than Lida Gerado. This seems to imply that Zigmond's observation about the absence of /-mb/- in a subsequent generation may have resulted from informant dialect differences rather than generational change.

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2 They note a missed /-hm/- cluster. In my 1958 recordings, I treat this as a phonetic devoiced release in /-mm/- that contrasted with intervocalic /-m/-, primarily in Fred Collin's dialect. I would now choose /-hm-/.
5.4. Predictability of stress patterns. The published grammar is the 3rd version I have seen. In this version, the authors state that mora-unit stress patterns in words are unpredictable. I disagree. I found the identical predictability of mora-unit based word stress that Sapir found in Southern Paiute (Sapir 1930-31, p. 38), including the same canonical form that was an exception. In the first version, Zigmond et al. described exactly the same pattern I found (and Sapir found in Southern Paiute) including the same canonical form exception. I am sorry that the authors changed their views about that topic.

5.5. Mary Haas and texts. Once, in a seminar, I asked Mary Haas if using English to elicit sentences from informants might run the risk of getting responses biased by English grammatical structure. She replied by saying that such queries were only a starting point, and that one needed to collect and study long unprompted texts to find constructions that might never be elicited just in response to "How do you say [...]?" questions in English. Only then might one begin to discover the real grammar. (In that context, I have near perfect audiovisual recall of Shirley Silver telling this joke: After two summers of fieldwork with a California Indian language a student returned for a third summer to check previously collected data. A question asked and approved in a previous summer was asked again, "Can you say [...]?"). This time the informant replied, "You can, ... but we never do."

REFERENCES

SPECIAL LANGUAGE IN SHOSHONI POETRY SONGS

JON P. DAYLEY

Boise State University

The language in Shoshoni poetry songs, called newe hupia, may differ substantially from ordinary speech in many ways, phonologically, morphologically, syntactically, semantically and pragmatically.

One minor but pervasive example is the diminutive-affectionate suffix -tsi, often used on nouns and adjectives, which is almost always changed to -ntsi in poetry songs. It commonly indicates special emphasis denoting endearment, high esteem, reverence, affection, and warm feelings, as well as the notion of smallness. In both poetry songs and ordinary speech, Shoshonis often add the suffix to nouns to express their warm feelings for things in nature like kamme(ttsi), 'jackrabbit', yehe(ttsi) 'porcupine', yaha(ttsi) 'ground hog', and kwi'naa(ttsi) 'bird', and for domestic animals like satee(ttsi) 'dog' and punku(ttsi) 'horse', but the use of -ntsi is much more common in songs than in ordinary speech. ²

Poetry songs are also distinguished by the use of many obscure or obsolete words that are not used in ordinary speech and which many people do not know or understand, although some of the unique poetry song words may be understood in the context of the songs. However, sometimes even the singer doesn't know their meaning. Some examples of obscure words are given in (1).

(1) obscure song word

<table>
<thead>
<tr>
<th>Shoshoni word</th>
<th>English meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>paipaatayonneh</td>
<td>'killdeer'</td>
</tr>
<tr>
<td>pimmiaa</td>
<td>'bovine'</td>
</tr>
<tr>
<td>pu'awatsi</td>
<td>'spy (on)'</td>
</tr>
<tr>
<td>totoaantsi</td>
<td>'stand (pl)'</td>
</tr>
<tr>
<td>waantsi</td>
<td>'wander'</td>
</tr>
<tr>
<td>ye-wampontsi</td>
<td>'track'</td>
</tr>
<tr>
<td>wahmiki(n)</td>
<td>'winnow'</td>
</tr>
<tr>
<td>wooyompa</td>
<td>'splash' or 'worm'</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Comanche word</th>
<th>English meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>pantei</td>
<td>&lt; ? Comanche pimmorua 'calf'</td>
</tr>
<tr>
<td>watsipui</td>
<td>nemi or yeme&quot;</td>
</tr>
<tr>
<td>nampaui or nayaa</td>
<td>wettantani</td>
</tr>
<tr>
<td>pakwitts'ih</td>
<td>wó'api(n)</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Other words like hainna, hainneh, haainna, hainah, hainai, nai, yanna, ho, and noowaineht are song words without meaning used to fill in and complement the rhythm and cadence, although some are also used somewhat like mantras to bless or make sacred the situation in which they are sung. And finally, sometimes haiya wainna and also less commonly yaaya wainna are used by singers at the end of songs to bless them, making them sacred.

¹ The data presented in this article are from Crum, Crum, and Dayley 2001.

² For the orthography used to write Shoshoni in this article, see Crum and Miller 1987 or Crum and Dayley 1993. The only unusual symbols are e for barred [i] and ai for [e] which often varies with [ai].
In addition, many ordinary words used in poetry songs undergo various degrees of change in pronunciation. The most typical changes are illustrated below. One common change is that nasals pop into ordinary words, especially replacing the first consonant of an identical consonant cluster (as is the case with diminutive -ttsi changing to -ntsi). For example:

<table>
<thead>
<tr>
<th>(2)</th>
<th>song word</th>
<th>ordinary word</th>
</tr>
</thead>
<tbody>
<tr>
<td>huintsaantsi</td>
<td>huittsaat(ttsi)</td>
<td>'sage hen'</td>
</tr>
<tr>
<td>huumpi</td>
<td>huuppi(n)</td>
<td>'stick, wood, tree'</td>
</tr>
<tr>
<td>huuntukkantu</td>
<td>huuntukkan tuu</td>
<td>'under &amp; through sticks'</td>
</tr>
<tr>
<td>nointsai</td>
<td>noisai</td>
<td>'sticky'</td>
</tr>
<tr>
<td>pasiwankatete(n)</td>
<td>pasiwaaktete(n)</td>
<td>'sand dune'</td>
</tr>
<tr>
<td>pintsi</td>
<td>pitsih</td>
<td>'suck'</td>
</tr>
<tr>
<td>tuantsi</td>
<td>tuatsi</td>
<td>'baby, child, young'</td>
</tr>
<tr>
<td>tuumpantsuko</td>
<td>tuupattsuko</td>
<td>'mink'</td>
</tr>
<tr>
<td>waanka(n)</td>
<td>waakka(n)</td>
<td>'at the junipers'</td>
</tr>
<tr>
<td>waimpentsi</td>
<td>wa'ippe(ttsi)</td>
<td>'woman'</td>
</tr>
<tr>
<td>wenkatompi</td>
<td>wekkatoookka</td>
<td>'spread out'</td>
</tr>
<tr>
<td>winkum</td>
<td>wikkahku</td>
<td>'break away'</td>
</tr>
<tr>
<td>yaanka</td>
<td>yaakka(n)</td>
<td>'hold'</td>
</tr>
</tbody>
</table>

Often geminate or double consonants between vowels become single, and therefore voiced. For example:

<table>
<thead>
<tr>
<th>(3)</th>
<th>kwipipi</th>
<th>kwippikke(n)</th>
<th>'shake, shiver'</th>
</tr>
</thead>
<tbody>
<tr>
<td>potoo(n)</td>
<td>potto(n)</td>
<td>'grinding stone'</td>
<td></td>
</tr>
<tr>
<td>tepana</td>
<td>teppanna</td>
<td>'on the side of'</td>
<td></td>
</tr>
<tr>
<td>waaka(n)</td>
<td>waakka(n)</td>
<td>'at the junipers'</td>
<td></td>
</tr>
</tbody>
</table>

Ss between vowels often become ts, phonetically [z]. For example:

<table>
<thead>
<tr>
<th>(4)</th>
<th>pasiwankatete(n)</th>
<th>pasiwaaktete(n)</th>
<th>'sand dune'</th>
</tr>
</thead>
<tbody>
<tr>
<td>totsa&quot;</td>
<td>tosa&quot;</td>
<td>'white'</td>
<td></td>
</tr>
<tr>
<td>watsempi(n)</td>
<td>waseppi(n)</td>
<td>'mountain sheep'</td>
<td></td>
</tr>
</tbody>
</table>

Glottal stops almost always disappear. For example:

<table>
<thead>
<tr>
<th>(5)</th>
<th>giwan</th>
<th>giwa'ih</th>
<th>'like this'</th>
</tr>
</thead>
<tbody>
<tr>
<td>waimpentsi</td>
<td>wa'ippe(ttsi)</td>
<td>'woman'</td>
<td></td>
</tr>
<tr>
<td>paan</td>
<td>pa'an</td>
<td>'above, over'</td>
<td></td>
</tr>
<tr>
<td>patui</td>
<td>pato'ih</td>
<td>'wade'</td>
<td></td>
</tr>
<tr>
<td>pomia</td>
<td>pom'ah</td>
<td>'migrate'</td>
<td></td>
</tr>
<tr>
<td>toi</td>
<td>to'ih</td>
<td>'emerge, go/come out/up'</td>
<td></td>
</tr>
<tr>
<td>yewannan</td>
<td>yu'aih</td>
<td>'be warm'</td>
<td></td>
</tr>
</tbody>
</table>
Short vowels become long, even extra long, in syllables where the note is held. For example:

(6)  
| (6) | opii | < | opi | 'there about' |
|-----|------|< | pampintsi | 'head' |
|     | patakwiintsi | < | patekwitss | 'tender young plants' |
|     | potoo(n) | < | potto(n) | 'grinding stone' |
|     | yotii(i) | < | yotii" | 'fly, arise (pl)' |

Vowel clusters are often broken with intervening semivowels. For example:

(7)  
| (7) | wiya | < | wia | 'mountain pass' |
|-----|------|< | mukuwa | 'soul' |

Sometimes words are shortened or attenuated in one way or another. For example:

(8)  
| (8) | haai | < | hinna | 'something (obj)' |
|-----|------|< | tamme(n) | 'we, our (incl)' |
|     | tuun | < | tenaa | 'down' |

A few words are obviously changed to make them rhyme with other words in the same verse. For example:

(9)  
| (9) | annitan | < | a'ni(n) | 'black ant' |
|-----|---------|< | hunnit | 'red ant' |
|     | nani | < | nanah | 'just, only' |

And many other words undergo seemingly patternless changes of one form or another. For example:

(10)  
| (10) | aan kuantsi | < | aan kuhatts | 'buck' |
|      | mononoo | < | monool(kan) | 'hold in the mouth' |
|      | pintsi | < | pinnah | 'but' |
|      | pipuntu | < | pimpippu | 'go back' |
|      | puipaawoo | < | puiwoord | 'little green fish' |
|      | weyuu | < | weyaaah | 'take' |
|      | yepatu | < | yepani | 'autumn, fall' |
|      | yoo | < | yuu(n) | 'soft, gentle' |
|      | yunka | < | yunah | 'take' |
|      | yuwaa | < | yewe" | 'swallow' |
All of the changes in pronunciation apparently are used to make the song words more melodious and rhythmical. Leanne Hinton (1984:56) has called similar though by no means identical processes found in Havasupai songs "maximization of resonance". In Havasupai, maximization of resonance involves softening of consonants and a predominance of vowels, nasals and semivowels, not unlike what we have seen here in Shoshoni.

Some poetry songs can have completely different interpretations by native speakers. One example is the song entitled *Oyon Tempi* 'Every Rock' presented at the end of this article. Its two different interpretations are possible because the song contains words that are not used in ordinary language but are similar to different everyday words with completely different meanings. As is the case in all languages, speakers carry a mental dictionary in their heads, but when they hear words of their own language that they don't know, they automatically attempt to decode them in the best way they can, given the context. However, this process doesn't always result in the same outcome.

The first interpretation makes reference to skipping stones, especially small flat cobblestones *patittempi*, around in the water. In both interpretations *awani* is the song form of *awi* 'like this'. In the first version, *toi* is the song form of *tawiih* 'throw'. *Patemmam piii* is a song phrase wherein *patemmann* is the song form of ordinary *paketeten* 'body of water, pool', and *pii* is the song form of the postposition *pai* 'around (in an undefined area)*. *Wooyompa* means 'splash' and is a song word but not related to any ordinary word. The normal word for 'splash' is *pakwitsu* 'ihi'.

The second interpretation of the song is about turning rocks over in the water and watching white water worms come out from underneath the rocks. *Toi* is the song form of *to'ih* 'emerge, come up/out'. *Patemmampii* is a song word meaning 'water-rock creature' (< *pa-* 'water', ten-'rock' plus *mampii* 'creature' not an ordinary word). *Wooyompa* is the song word in this interpretation for 'worm', and perhaps related to ordinary *wo'api(n)* 'worm, maggot'.

The two interpretations of the song are both compatible and possible because the song has words that are not used in ordinary language, but some are somewhat similar to different ordinary words, and therefore interpretable in different ways. And the song has two words that don't occur at all in ordinary language (i.e., *patemmampii* and *wooyompa*) and thus are open to interpretation.

Grammatically the songs often differ substantially in a number of ways from ordinary language. For one thing, they are usually attenuated in various ways making them more like telegraphese, with content words or morphemes predominating and with few or no function words and morphemes. For example, case suffixes on nouns and adjectives are often not marked and determiners such as demonstratives (of which Shoshoni has a rich array) are almost never used, and verbs usually have no or very few tense, aspect, and adverbial suffixes. And word order is often different from normal Subject-Object-Verb. For example, Object-Subject-Verb order may occur as in (11).4

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4 What may seem as a striking contrast between Havasupai and Shoshoni songs is that in Havasupai demonstratives are all pervasive, as Hinton (1984:68) states, "The most pervasive lexical items in Havasupai songs are the demonstrative pronouns and demonstrative affixes." However, what I believe is important in both languages is the lack of use of full noun phrases in songs. In Havasupai apparently one cannot have "understood" noun phrases without any overt manifestation, so demonstratives are used to shorten or limit noun phrases by using demonstratives as pronouns. In Shoshoni it is possible in both ordinary and song language to have noun phrases not manifested at all but only understood. Apparently in Shoshoni songs, the preferred form is to have as many
(11) *Sai paa weyaa.*
    boat water carry
    'Water is carrying the boat.'

OSV is not unheard of in Shoshoni but is rare and would normally require a case suffix on *sai*, and both nouns would usually take demonstratives also marking case, and the verb would take tense-aspect suffixes. A normal sentence meaning the same thing would be something like (12).

(12) *Sute paa sukka sai’a weyaahpenni.*
    that water that-O boat-O carry-progressive
    'The water is carrying the boat.'

More commonly in songs, the subject is not mentioned at all but is either understood or left for listeners to interpret for themselves as in (13) and (14), and also (15) and (16).

(13) *Pia kuittsunna yewapontsi.*
    big buffalo-O track
    'He [some hunter] was tracking big buffalo.'

(14) *Upii katete humum ma*
    there out of sight sit canyon in
    *tepui yantum ma.*
    pine nuts-O winnowing basket with
    'There she sits in a canyon winnowing pine nuts.'

Sometimes there is no subject and no object at all as in (15), which immediately follows (13) in the 'Song of the Big Buffalo'. In normal speech, the use of a transitive verb without any object would be ungrammatical.

(15) *Pui’awatsi yuukite.*
    spy moving away
    'He [big buffalo] spied him [the hunter], and he [the buffalo] moved away.'

Verb-plus-Object constructions also occur in songs, but as far as I know, never occur in ordinary speech. For example, sentence (16) has two instances of VO order with only the second direct object taking an objective case suffix.

unmanifested noun phrases as possible, as examples below indicate.

* For discussions of Shoshoni grammar, see Crum and Dayley 1993 and Miller 1996.
In some cases, normal noun phrase-plus-postposition constructions become simply postpositions as in (17).

(17)  *Paatottapikka tuukkan naitu winkum*
      water   make crashing sound   down [here]   from [mountain]   break away

*mantu.*
      toward [us]
  'Water crashing breaks away downward from [the mountain] toward [us].'

And sometimes the postpositions are omitted altogether as in (18). In ordinary speech postpositions would have to occur where the x's are indicated in (18).

(18)  *Nean temapaa tetsimmuuka [x] paa yamani, huumpi [x].*
      my   having made   sharp point   water   cross over   wood
  'What I have made with a sharp point from wood crosses the water.'

I should note that the language in *puha hupia* 'power songs' (also called *nanisuntehai hupia* 'prayer songs' or *nattahsu'u hupia* 'medicine songs') is much more like ordinary language, if not identical with it, than the language in round dance, bear dance, *natayaa* and other songs from which I have been illustrating here. I should also mention that Hinton's (1984) study is the only other one that I know of that has documented substantial changes in song language from ordinary language. I would hope that students of other American Indian languages would take notice if song language is substantially different from ordinary language.
1st Interpretation

*Oyon Tempi* 'Every Rock'

Earl Crum

**Oyon tempi**  
*every rock*  

**@wan**  
*this-like*  

**tempi**  
*rock*

**Patemmam**  
*pool of water*  

**pii**  
*around throw*

**Oyon tempi**  
*every rock*  

**patemmam**  
*pool of water*  

**pii**  
*around throw*

**Oyon tempi**  
*every rock*  

**@wan**  
*this-like*  

**tempi**  
*rock*

**Patemmam**  
*pool of water*  

**pii**  
*around throw*

**Oyon tempi**  
*every rock*  

**patemmam**  
*pool of water*  

**pii**  
*around throw*

**Totsappaa**  
*white-water*  

**wooyompa**  
*splash*

**Patemmam**  
*pool of water*  

**pii.**  
*around*

**Totsappaa**  
*white-water*  

**wooyompa**  
*splash*

**Patemmam**  
*pool of water*  

**pii.**  
*around*

**Oyon tempi**  
*every rock*  

**@wan**  
*this-like*  

**tempi**  
*rock*

**Patemmam**  
*pool of water*  

**pii**  
*around throw*

**Oyon tempi**  
*every rock*  

**patemmam**  
*pool of water*  

**pii**  
*around throw*

104
Totsappaa wooyompa
white-water splash

Patemmam pii
pool of water around

Totsappaa wooyompa
white-water splash

Patemmam pii.
pool of water around

1st Interpretation

Every rock, rocks like this,
Throw around in the pool.
Throw every rock around in the water.
Every rock, rocks like this,
Throw around in the pool.

Throw every rock around in the pool.
They splash around
In the white water,
They splash around
In the white water.

Every rock, rocks like this,
Throw around in the pool.
Throw every rock around in the water.
They splash around
In the white water,
They splash around
In the white water.

2nd Interpretation

Oyon tempi aïwan tempi
every rock this-like rock

Patemmampii toi.
water-rock-creature emerge

Oyon tempi patemmampii toi
every rock water-rock-creature emerge
Oyon tempi a'wan tempi
every rock this-like rock

Patemmampii toi.
water-rock-creature emerge

Oyon tempi patemmampii toi
every rock water-rock-creature emerge

Totsappaa wooyompa
white-water worm

Patemmampii
water-rock-creature

Totsappaa wooyompa
white-water worm

Patemmampii.
water-rock-creature

Oyon tempi a'wan tempi
every rock this-like rock

Patemmampii toi.
water-rock-creature emerge

Oyon tempi patemmampii toi
every rock water-rock-creature emerge

Totsappaa wooyompa
white-water worm

Patemmampii
water-rock-creature

Totsappaa wooyompa
white-water worm

Patemmampii.
water-rock-creature
2nd Interpretation

From under every rock, rocks like this,
Water-rock creatures emerge.
From under every rock, water-rock creatures emerge.
From under every rock, rocks like this,
Water-rock creatures emerge.

From under every rock, water-rock creatures emerge,
White water worms,
Water-rock creatures,
White water worms,
Water-rock creatures.

From under every rock, rocks like this,
Water rock creatures emerge.
From under every rock, water-rock creatures emerge.
White water worms,
Water-rock creatures,
White water worms,
Water-rock creatures.

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BLUE MUNK: TOWARDS AN ANALYSIS OF CAUSATIVES AND THE LIKE IN CHINUK WAWA

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Portland State University

Chinook Jargon is a pidgin which was formerly used widely in Northwestern North America as a lingua franca among native peoples of different linguistic backgrounds as well as between native peoples and whites. The primary lexical source language was Lower Chinook, but there was also vocabulary from other native languages as well as, in later times at least, significant French and English components. One important non-Chinookan source of vocabulary was Nuu-chah-nulth (Nootka). This Nootkan element, though small, includes some of the important grammatical words. Because the Nootkan words in Chinook Jargon often show a degree of phonological distortion not found in words from other native sources, it is believed that these Nootkan words were introduced by whites from a Nootka Jargon used for trade at Vancouver Island before the Columbia River was discovered in the late 18th century. But the question of whether or not Chinook Jargon existed in some form or another before contact with whites is still controversial. (See Thomason 1983, Zenk 1984:26-31, Thomason and Kaufman 1988:256-263, Silverstein 1996:127-130, and the references cited therein for further discussion.)

When the Grand Ronde Reservation was established in Oregon in 1856, people from 15 small tribes speaking more than 9 different languages were moved onto this reservation. Zenk (1984, 1988) has shown that since the population of the community was always small, and since no one of these groups was large enough to become dominant, Chinook Jargon became the general language of the community. During the period from the late 1800s to the early 1900s, many children grew up in households where Jargon was the only or main language spoken, though probably none of them grew to maturity without also learning English. Thus, Zenk argues that Chinook Jargon was in the process of creolization at Grand Ronde until it was later supplanted by English. Zenk and Johnson worked extensively in the 1980s and 90s with the remaining elders of the community who retained a knowledge of Chinook Jargon (which they now prefer to call Chinuk Wawa); and the data used here primarily comes from their work as well as from materials collected by Melville Jacobs from two Grand Ronde community members in the 1920s and 30s (Jacobs 1936:1-19).1

von der Mühll (1999), in the course of making a case for the role of universals in Pidgin/Creole development, presents a formal analysis of certain structures in a different variety of Chinook Jargon. This variety is one that appeared in a mimeographed newspaper called Kamloops Wawa, which was published between 1891 and 1904 by a Father LeJean of Kamloops, B.C. This newspaper contained articles in Chinook Jargon written in a unique orthography based on Duployan shorthand, and it can be interesting to try to compare some of the structures von der Mühll has analyzed in the presumably more pidgin-like variety of Jargon in Kamloops Wawa with what has

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1 Special thanks are due to Tony Johnson, Language Project Manager, and to Henry Zenk for providing access to their published and unpublished materials on Chinuk Wawa and for helping in so many other ways. The research reported here has been generously supported by the Language Project of the Confederated Tribes of the Grand Ronde Community of Oregon.
been found in Grand Ronde Chinuk Wawa. With that in mind, I would here like to consider how causative and other similar constructions are formed in Chinuk Wawa.

We can start by looking at some basic facts about the language. The pronouns are shown in Table 1. Many varieties of Chinook Jargon only have the “Long Forms” shown in the first column of the table. However, in Grand Ronde Chinuk Wawa, many speakers use the other forms at least some of the time. Note that the “Focus Forms” are, aside from heavier stress, identical to the “Long Forms” except in the third person singular, where the special focus form yáxka is often used.

<table>
<thead>
<tr>
<th>LONG FORMS</th>
<th>SHORT FORMS</th>
<th>CLITIC FORMS</th>
<th>FOCUS FORMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Pre-verbal Subjects and Noun Possessors; typically unstressed</td>
<td>(Same patterns as Long Forms)</td>
<td>Preverbal subjects and noun Possessors only; typically unstressed</td>
<td>(Heavily Stressed)</td>
</tr>
<tr>
<td>(b) Objects and Post-verbal Subjects; typically stressed</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| 1 SG | náyka | náy | na | náyka |
| 2 SG | máyka | máy | ma | máyka |
| 3 SG | yáka | yá | ya | yáxka |
| 1 PL | ntsáyka | tsáy | ntsa | ntsáyka |
| 2 PL | msáyka | misáy | msa | msáyka |
| 3 PL | táska | tás | tás | táska |

**Table 1. Pronouns**

Transitive sentences generally appear in SVO order, as seen in (1-3).

(1) **ya(ka)** see **yáka**
s/he see s/he ‘S/he sees him/her.’

(2) ? **uk** **mán** **nánich** see **uk** **túchmən**
that man see that woman ‘The man saw the woman.’

(3) **uk** **mán** **ya(ka)** **nánich** see **uk** **túchmən**
that man he see that woman ‘The man saw the woman.’

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2 The Chinuk Wawa forms cited here have been provided by a number of different Grand Ronde community members. There is a certain amount of phonological variation exhibited in the speech of different speakers. Thus for the sake of consistency, all Chinuk Wawa forms cited in this paper will be cited according the spellings of the lead entries in Zenk and Johnson’s (2001) dictionary.
When the subject is a full non-pronominal NP, it is possible to have a so-called “pleonastic” third person pronoun before the verb, as in (3). In most varieties of Chinook Jargon this pronoun, though possible, is most often not present, as seen in (2). However, in Grand Ronde Chinuk Wawa, sentences like (2) are relatively rare (at least in main clauses; hence the question mark in example 2), and transitive sentences most often have the form seen in (3).

Vrzić (1999:241-246) argues from the perspective of Chomsky’s Principles and Parameters theory that the normal position of subjects (both nominal and pronominal) in Chinook Jargon is outside the VP; that is to say, Chinook Jargon subjects are not raised out of the VP into the AgrSP (subject agreement phrase). She proposes that the normal position of the subject is directly in AgrSP in a clause structure like that illustrated in (4).

\[
(4) \quad \left[ \text{ForceP} \text{ TopP FocP TopP FinP} \atop \text{CP} \right] \quad \left[ \text{SUBJECT} \atop \text{AgrSP} \right] \quad \left[ \text{VP} \atop \right]
\]

She further argues that, when a nominal subject co-occurs with a “pleonastic” subject pronoun, the pronoun is the actual subject in AgrSP and the lexical NP is either in the focus phrase (FocP) or one of the two topic phrases (TopP). Since nothing in the present discussion seems to crucially depend on this, I will assume here for the sake of simplicity that this analysis is correct. However, I do not believe that such an analysis can be maintained in all cases for Grand Ronde Chinuk Wawa given that co-occurring lexical subjects and “pleonastic” pronouns seem to be the norm in that variety. I am rather inclined to think that in Grand Ronde Chinuk Wawa the lexical NP (when there is one) is the actual subject and the “pleonastic” pronoun actually represents a verb agreement phenomenon. It is true, as mentioned previously, that lexical subjects do sometimes occur without a “pleonastic” pronoun (or rather, a pronominal agreement marker); but I believe that the presence or absence of these pronouns, as well as the position of the subject with respect to an intransitive predicate (see below), can be accounted for in terms of factors such as the animacy and volitionality of the subject and the semantics of the verb. The details of this, however, have yet to be worked out.

Sentences with intransitive verbs or non-verbal predicates can appear either in SV or VS order, as seen in (5-6). VS order is particularly common with non-verbal predicates, but is sometimes also found with intransitive verbs. Examples (5-6) also illustrate the auxiliary verb chaku-, a verb which is frequently used without the “pleonastic” pronoun. (See the discussion in the previous paragraph.)

\[
(5) \quad \text{lili} \quad \text{áhta} \quad \text{chaku-chxóp} \quad \text{uk} \quad p^h\text{áya} \quad \text{‘After a while the fire went out.’}
\]
\[
\quad \text{a while then} \quad \text{(be)come-extinguished} \quad \text{the fire}
\]

\[
(6) \quad \text{uk} \quad \text{wanas-túchman} \quad \text{chaku-hayásh} \quad \text{‘The girl grew up.’}
\]
\[
\quad \text{the little-woman} \quad \text{(be)come-big}
\]

Example (7) illustrates a possessive construction. Here the possessive relationship between the possessor NP uk má:n and the possessed NP kənim is indicated by the pronoun appearing before that possessed NP.

\[
(7) \quad \text{uk} \quad \text{má:n} \quad \text{ya(k)a} \quad \text{kənim} \quad \text{‘the man’s canoe’ (lit., ‘the man his canoe’)}
\]
\[
\quad \text{the man s/he} \quad \text{canoe}
\]
Examples (8-9) illustrate some of the uses of the “Focus Forms” of the pronouns. Here I have indicated heavy stress by using a stress mark (’ ) before the stressed syllable in addition to the usual acute accent over the stressed vowel.

(8)  
\[ \begin{array}{cccc}
\text{\textasciitilde y\textasciitilde k\textasciitilde a} & \text{ya} & \text{n\textasciitilde n\textasciitilde i\textasciitilde c\textasciitilde h} & \text{k\textasciitilde a} & \text{looking glass} \\
\text{S/HE} & \text{s/he} & \text{see} & \text{PREP} & \text{looking glass} \\
\end{array} \]

‘She herself is the one she sees in the looking glass.’

(9)  
\[ \begin{array}{cccc}
\text{ya} & \text{q\textasciitilde w\textasciitilde t} & \text{\textasciitilde n\textasciitilde k\textasciitilde a} & \text{\textasciitilde l\textasciitilde t\textasciitilde a} & \text{na} & \text{q\textasciitilde w\textasciitilde t} & \text{\textasciitilde y\textasciitilde k\textasciitilde a} \\
s/he & \text{hit} & \text{ME} & \text{then} & \text{l} & \text{hit} & \text{HIM/HER} \\
\end{array} \]

‘He hit ME, and then I hit HIM.’

Example (10) illustrates one of the ways of forming reflexives in Chinuk Wawa. Here the possessive construction *ya t\textasciitilde o\textasciitilde m\textasciitilde t\textasciitilde o\textasciitilde m* ‘his/her heart’ is used as a reflexive pronoun.

(10)  
\[ \begin{array}{cccc}
\text{ya} & \text{m\textasciitilde n\textasciitilde k-hi\textasciitilde l\textasciitilde u} & \text{ya} & \text{t\textasciitilde o\textasciitilde m\textasciitilde t\textasciitilde o\textasciitilde m} \\
s/he & \text{make-nothing} & s/he & \text{heart} \\
\end{array} \]

‘He kills himself.’

The particular constructions that I want to look at here are ones that Vrzić actually does not deal with in any great detail. These are constructions involving the word *munk* meaning, as a noun, ‘work’, and as a verb, ‘to do, to make, to work, etc.’ In most varieties of Chinook Jargon, this word has the form *mamuk*, which comes from the Nuu-chah-nulth word *mamuuk* ‘work’. However, at Grand Ronde the fuller form *mamuk* has come to have certain sexual connotations such that most speakers prefer the shortened form *munk* in most ordinary contexts. An example of *munk* used as a transitive verb in a simple sentence is seen in (11).

(11)  
\[ \begin{array}{cc}
\text{yaka} & \text{m\textasciitilde n\textasciitilde k} & \text{d\textasciitilde l\textasciitilde a} \\
s/he & \text{make} & \text{money} \\
\end{array} \]

‘He makes money.’

Example (12) illustrates (ignoring a few details to be discussed presently) another use of *munk*, namely, its use in forming causative constructions.

(12)  
\[ \begin{array}{cccc}
\text{yaka} & \text{m\textasciitilde n\textasciitilde k} & \text{mim\textasciitilde o\textasciitilde l\textasciitilde u\textasciitilde s\textasciitilde t} & \text{\textasciitilde l\textasciitilde a\textasciitilde k\textasciitilde a} \\
s/he & \text{make} & \text{die} & \text{they} \\
\end{array} \]

‘He killed them’

Vrzić (1999:134) says that she found only a few causative constructions like (12) in Kamloops Wawa. They are, on the other hand, extremely common in Grand Ronde Chinuk Wawa. However, Vrzić apparently wants to analyze these as bi-clausal constructions where the subordinate clause is always intransitive with the subject obligatorily post-verbal. She notes (1999:134) that this obligatory VS order in “causative clauses” is a departure from the canonical SV(O) word order. Two of her examples are shown in (13-14). Below each of Vrzić’s examples...
from Kamloops Wawa, I show in parentheses the Grand Ronde ("G.R.") spellings of the words in the examples.³

(13) Kamloops Wawa:  
yaka mamuk [ chako tepso ]

s/he make come grass

(G.R.:  
yaka munk cháku tipsu)

‘He makes the grass grow.’

(14) Kamloops Wawa:  
S.T. mamuk [ klatawa chok kanawe kanamokst ]

God make go water all together

(G.R.: Sáxali Tayi munk tátwa tségw k'ánawi k'anumákwst)

‘God made the waters all run together.’

In addition to constructions like that seen in (12), one also finds in Grand Ronde Chinuk Wawa superficially similar constructions like the one seen in (15).

(15) battery munk mimálust ‘The battery conked out.’ (NOT: ‘The battery killed (someone).’)

battery make die

Although (12) and (15) might appear to be examples of the same construction, their meanings are quite different. Notice that (15) does not have causative meaning, but rather is interpreted, in this case at least, more like a “middle voice” construction.⁴ In actual fact, though, (12) and (15) are not quite as similar as they may seem on a superficial level. In (12), munk mimálust is, in normal speech, usually pronounced as a single word with a single primary stress on the second element,

³ This is not to say, however, that these sentences would necessarily have these exact syntactic forms in Grand Ronde Chinuk Wawa. Also note that the Kamloops Wawa examples have been transliterated by Vrzić from their original spellings in Duployan shorthand.

⁴ There are languages in which the causative forms can sometimes also have a passive meaning. For example in Classical Manchu, the verbal suffix -bu forms a causative on some verbs and a passive on others, and on still others it can form either a causative or a passive. Some examples can be seen in (b) and (d) below.

(a)  
hílha be alcúr de gída-ha  ‘(They) defeated the rebels at Alcur.’

rebel ACC Alcur LOC defeat-PERF.PARTICIPLE

(b)  
hílha cooha de gída-bu-ha  ‘The rebels were defeated by the soldiers.’

rebel soldier LOC defeat-PASS/CAUS-PERF.PARTICIPLE

(c)  
sí inu boo-de tawakiya-ci aca-mbi  ‘You also should keep watch in the house.’

you also house-LOC guard-CONDITIONAL.CONVERB should-AORIST

(d)  
boigon be emu tangan cooha be tawakiya-bu-fi ...  ‘Having ordered one hundred soldier ACC guard-PASS/CAUS-PERF.CONVERB household ACC one hundred soldier ACC guard-PASS/CAUS-PERF.CONVERB

It should be noted, however, that the Chinuk Wawa construction illustrated in (15) does not have passive meaning. The non-passive nature of this construction should be even more evident in other examples to be seen presently.
as seen in (16). In examples like (15), on the other hand, both verbal elements are typically stressed in normal speech, as seen in (17).

(16) yaka munk-mimələst táska ‘He killed them’
s/he make die they

(17) battery munk mimələst ‘The battery conked out’
battery make die

Some additional examples of this “middle voice” construction can be seen in (18-19).

(18) ya tiki munk háyash-man ‘He wants to make himself an important man.’
s/he want make big-man

(19) yaka munk hām ‘He stinks’
s/he make stink

In (20) the munk + VERB construction appears to be “transitive” rather than “intransitive” as in the previous examples. In this case, the meaning of the construction cannot be properly characterized as “middle voice” (nor as passive). Rather, this example seems to have an aspecual interpretation.

(20) álta yaka munk t’aq hwin yaka latit
    now s/he make lick s/he head
    ‘Now he (Coyote) commenced to lick his (Turkey Buzzard’s) head’
    (NOT: ‘Now he caused his head to lick.’)

This same aspecual interpretation can also be seen in (17), which could perhaps be translated as something like ‘the battery up and died’. This aspecual meaning may also be present in (18) and
(19) although it is difficult to tell for sure out of context. It is also interesting to compare examples like (21-22). In (21) munk kōmtəiks is part of a “transitive” munk + VERB construction, whereas in (22), munk-kōmtəiks is part of a causative construction. The aspecual part of the meaning of (20) can perhaps also be seen in (21), where munk kōmtəiks ‘to recognize’ could be interpreted as something like ‘commence to know’.

(21) álta yaka munk kōmtəiks yāka ‘Then he recognized her.’
    then s/he make know s/he

(22) munk kōmtəiks yāka! ‘Explain it to him!’
    make-know s/he

The examples of causative constructions we have looked at so far, (16) and (17), have all been formed with intransitive verbs: mimələst ‘to die’ and kōmtəiks ‘to know’. One might then wonder if causatives can be formed from transitives. For instance, how would one say something
like ‘I made John eat beans’ in Chinuk Wawa? Such examples seem to be extremely rare in our database. Henry Zenk, a very fluent non-native speaker, suggests that perhaps one could say either (23) or (24).

(23) *nayka múnk John məkʰmək lipwá* ‘I made John eat beans.’
    I make John eat bean

(24) *nayka múnk pus John ya(ka) məkʰmək lipwá* ‘I made John eat beans.’
    I make that John s/he eat bean

Though there are no examples exactly like (24) in our Chinuk Wawa database, Vrzić (1999:243) cites example (25) from Kamloops Wawa, which appears to be an example of this same construction.

(25) Kamloops Wawa: *ayu naika mamuk pus masachi wek tolo naika*
    a lot I make that sin not win I
    (G.R.: háyu nayka múnk pus masháchi wík túlu? náyka)
    ‘I try hard that sin does not win me over.’

In Grand Ronde Chinuk Wawa one finds this type of construction used with certain main verbs other than *múnk*, as seen in (26-27).

(26) *nayka tiki pus yaka k’ilapay* ‘I want him to come back.’
    I want that s/he return

(27) *ya wáwa pus ya pálach k’ilapay* ‘He told him to give it back.’
    s/he say that s/he give return

Example (28), a Grand Ronde sentence from Jacobs (1936:19), may actually be an example of this construction using the verb *múnk*; however, because of the ambiguity of the second occurrence of the complementizer *pus* ‘that, when’ in (28), this is not totally clear.

(28) *pus álta ntsayka múnk pus títxam mimalust,*
    what if now we make that, when people die

    *táška chaku-k’ilapay k’apa qwinəm sán*
    they come-return PREP five sun

    ‘Supposing we make it that when people die, they may come back on the fifth day.’

Turning now to example (23), there is an example similar to this one in our database, shown in (29).

(29) *ya múnk ya pálach k’ilapay* ‘He made him give it back.’
    s/he make s/he give return

114
It would be reasonable to assume that (23) and (29) are typical control constructions with a structure like that shown in (30).\(^5\)

\[(30) \quad \text{nayka} \quad \text{münk} \quad \text{John} \quad \text{i} \quad \text{PRO} \quad \text{mák'mák} \quad \text{lipwá} \quad \text{]} \quad \text{]} \]

There is possibly one further example of this construction, from Jacobs (1936:5), shown in (31).

\[(31) \quad \text{yá} \quad \text{lima} \quad \text{yáxka} \quad \text{yaka} \quad \text{münk} \quad \text{lalám} \]
\[\text{s/he} \quad \text{hand} \quad \text{it} \quad \text{s/he} \quad \text{make} \quad \text{paddle} \]

'It is his hand that he uses as a paddle.' (lit., 'His hand, IT he makes be a paddle.)

If the analysis in (30) is correct, then (31) should have a structure like that shown in (32).

\[(32) \quad \text{[ [yá lima]} \quad \text{[ [yáxka]} \quad \text{[ [yaka münk]} \quad \text{[ [PRO lalám]} \quad \text{]} \quad \text{]} \quad \text{]} \quad \text{]} \quad \text{]} \quad \text{]} \]

Note that if John in (30) and the trace in (32) were actually in subject position in the embedded clause rather than in object position in the main clause, we might expect there to be a "pleonastic" pronoun in the embedded clause (cf. the embedded clause in 24). Example (30) is admittedly a "made-up" example, but the lack of a "pleonastic" pronoun in (31) suggests that the analyses shown in (30) and (32) are indeed correct. The lack of a "pleonastic" pronoun here correlates with the fact that PRO must appear in a non-case-marked position. If a "pleonastic" pronoun could appear here, then this would have to be considered a case-marked position. Obviously there is no other way in Chinuk Wawa to distinguish between finite and non-finite clauses.

Even if examples (23-24) are legitimate, however, it can be seen that these constructions are quite different from the more common causative construction we have seen in (12) and (22). For one thing, münk does not join with the second verb in (23-24) as it does in (12) and (22). Nevertheless, the analysis of (23) proposed in (30) does provide a clue to the structure of the münk + VERB construction. Given what we have seen, it is reasonable to assume that (17) is also a control construction as shown in (33).

\[(33) \quad \text{battery} \quad \text{münk} \quad \text{[ PRO mímółust]} \quad \text{'The battery conked out'} \]

Since the empty category PRO in the embedded clause is controlled by the main clause subject, this accounts for the fact that battery is interpreted as the subject of both münk and mímółust in (17). Furthermore, the fact that münk and mímółust are verbs in separate clauses accounts for the

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\(^5\) Example (29) is somewhat problematic in this respect, however. The fact that the second occurrence of the pronoun yá is unstressed might suggest that it could be the subject of pólach, not the object of münk. Without further examples, it is not totally clear whether or not this apparent lack of stress should invalidate the analysis in (30). In any case, Henry Zenk (personal communication) points out that the speaker who produced (29) in an elicitation session said, upon further reflection, that he actually preferred the sentence shown in (27) to that shown in (29).
fact that they are both stressed. We can account for examples like (20) in this same way, as shown in (34).

(34) [ álta yaka ; münk [ PRO ; t‘ágʰwin yaka latit ]

Returning now to the common Chinuk Wawa causative construction, it is clear that these must have a very different structure from both the münk + VERB construction and the kinds of causative constructions illustrated in (23-24). If the proposed analysis of the münk + VERB construction is correct, then it would seem reasonable to assume that the combined munk-VERB causative form, with a single primary stress, must appear in a single clause, contrary to the analysis assumed by Vrzič. One way to do this would be to assume that the munk-VERB forms are actually compound lexical items. There are some cases, such as the ones seen in (35-36), where munk- does participate lexical items. There are some cases, such as the ones seen in (35-36), where munk- does participate.

(35) münk lakamás → munk-lakamás ‘dig camas’
make camas

(36) münk pʰáya → munk-pʰáya ‘make (a) fire’
make fire

We have already seen in (11) that münk can be used as a simple transitive verb. However, as seen in (35-36), with a certain few direct object NPs like lakamás and pʰáya, münk can optionally form a compound with the direct object noun, sometimes with an idiomatic meaning. These compounds, like the causative forms, have a single primary stress on the second element.

Example (37), although it has the form of a causative construction, does not have causative meaning and apparently must also be treated as a compound with idiomatic meaning.

(37) ya munk-hóm itwəli ‘He smells meat’
s/he make-smell meat

One can compare (37) with (19), the latter of which is a perfectly regular münk + V construction. Example (37), on the other hand, despite its form, does not mean ‘He made the meat smell’. Here munk- seems to be functioning solely to derive a transitive verb from the intransitive hóm. This is the only example of this type that I am aware of in Grand Ronde Chinuk Wawa.

Another interesting example to consider is (38).

(38) ya hayu-munk-tatis ‘He’s fixing himself up; he’s grooming (himself).’
s/he PROGRESSIVE-make-flower

Here, tatis, which can mean either ‘flower’ or ‘(be) pretty’, combines with munk- to form a verb meaning ‘to fix oneself up, to groom oneself, to decorate’. Note that while (38) appears to be a causative construction, its meaning is not quite like that of other causative constructions: it does not seem to mean ‘he makes it pretty’ but rather ‘he makes HIMSELF pretty’. At the same time, (38) does not have the form of a münk + V construction either. It should be noted, however, that munk-tatis also has the meaning ‘to tend flowers, to garden’. With that meaning, this appears to
be another example like (35-36); and therefore one could argue that the meaning seen in (38) is just an idiomatic extension of this. Furthermore, example (39) shows that munk-tatis must be an intransitive construction since the subject can appear following the complex verb form.

(39) munk-tatis ya He fixes himself up.
     make-flower s/he

Thus, it would appear that (38), rather than being a true causative construction, is simply a compound intransitive verb, like the ones in (35-36), with the basic meaning ‘to tend flowers’ and extended meanings ‘to groom, to decorate’.

One could also consider the possibility of analyzing forms like (35-36) and (38) not as compound lexical items but rather as examples of noun incorporation. While this may be possible, I am rather inclined to think that this would not be correct. For one thing, it is not clear that such “noun incorporation” constructions are even productive. The three cited examples are the only examples that I am aware of. Furthermore, if one were to claim that these really are cases of noun incorporation, then one would probably also have to claim that munk is the only verb in the language which can incorporate an object noun. Thus it seems best simply to treat these as compound lexical items with possibly idiomatic meanings.

The normal causative verb constructions, on the other hand, appear to be completely productive, and to simply treat them as compound lexical items seems to miss a number of generalizations that can be made about them. One possibly better way of analyzing causative constructions, still within the Principles and Parameters framework favored by Vrzić, may be to treat them as involving complex predicates derived by verb incorporation as illustrated in (40) (cf. Baker 1996:348-352).

     IP VP V' VP V V NP
     s/he make die they
     ‘He killed them’

Here the lower verb (mimolust in 40) is raised out of the lower VP into the upper VP and adjoined to munk. Then by the Government Transparency Corollary (Baker 1988:64), munk will govern ţaska, which will allow ţaska (which is assigned its θ-role by mimolust) to be case marked. If we assume that munk can only assign case to at most a single object NP, which seems to be true, this would account for the fact that the lower VP can only be intransitive (and unaccusative). This would also account for the fact, noted by Vrzić, that the single argument of the lower intransitive verb always appears following that verb; and this is done without having to impose any special word order constraints. Furthermore, this would account for the stress pattern we have observed which distinguishes this construction from the münk + V construction.

However one decides to analyze the causative construction in Chinuk Wawa, one important point should be clear: in order to properly distinguish between certain types of syntactic constructions in this language, it is important to pay attention to prosodic features such as stress. It was primarily through noting patterns of stress and juncture that we were able to get a handle on the differences between sentences like (16) and (17). Some of the researchers who have worked on Chinook Jargon in more recent times, such as Melville Jacobs, Henry Zenk, and Tony Johnson, have been careful to note such features in their work. But others, particularly
those working in the 19th century, have not always recorded such features very thoroughly or consistently, especially in texts. This somewhat limits the usefulness of some of the older materials for syntactic analysis, and this limitation would even apply to materials such as those used by Vrzić from *Kamloops Wawa*, which otherwise present a rather rich corpus of data for analysis.

One final word must be said about the verb incorporation analysis of Chinuk Wawa causatives proposed here in comparison with the bi-clausal analysis suggested by Vrzić. One might conclude that if the present analysis is correct, then Vrzić's analysis, which it must be admitted she did not argue for in any detail, is simply incorrect. However, another possible conclusion may be that these two different analyses represent actual structural differences between Grand Ronde Chinuk Wawa and the variety studied by Vrzić. In light of this latter possibility, one might remember that Vrzić has argued that subjects in Chinook Jargon are not raised out of the VP into AgrSP. She also argues (1999:205-211) that verbs in Chinook Jargon are not raised out of the VP into INF categories. While this latter point may be correct, it has been argued here that verbs can be raised out of a lower VP into a higher one as part of a verb incorporation process in Chinuk Wawa. Thus, at least one type of verb raising does seem to be possible in this language, and this again may represent a significant structural difference between the creolized variety of Chinuk Wawa spoken at Grand Ronde and the more pidgin-like variety represented in the texts in *Kamloops Wawa*. Further research will obviously be needed to determine whether or not this is true.

REFERENCES


A PAN-PENUTIAN DATABASE OF MATERIALS FOR COMPARISON
AND RECONSTRUCTION:
ITS ORGANIZATION, USES AND CURRENT RESULTS

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0. ABSTRACT. Sapir's Penutian phylum is still controversial. Its demise has been announced before (Shipley), but rumours of its death are premature and it may yet be salvaged in a new form. In addition to the careful work currently being done on the individual component families, a comprehensive approach is needed, pooling all possible data and organizing them in a principled and systematic manner, before advances in comparison, subclassification and eventually even reconstruction can be more than piecemeal. This is a progress report on my pan-Penutian "database", its organization, uses and current results.¹

1. "PENUTIAN": BRIEF HISTORY AND DEFINITION. The word "Penutian" has meant, and still means, different things to different people, so that a definition is necessary. To briefly recapitulate its history, the word was coined by Dixon & Kroeber (1918) as a cover term for a group of five language families in California (Wintu, Maidu, Miwok, Costanoan and Yokuts). Sapir (1921) extended the term to languages or families of Oregon (Takelma, Kalapuya, and the Coast Oregon group consisting of Coos, Siuslaw and Alsea), including also Chinook on the Columbia River and "Tsimshian"² on the northern coast of British Columbia. Later still (1929) he added to the "Penutian phylum" the groupings Plateau Penutian ( Sahaptin, Cayuse, Molale and Klamath) and Mexican Penutian (Mixe-Zoque and Huave). The definition used here is that of most contemporary Penutianists (here "traditional Penutian"), that is to say that of Sapir 1929 minus the Mexican languages: it is not meant to be rigidly exclusive (or inclusive), but provides a manageable group to investigate. Further extensions of the term to larger and larger conglomerations of languages (e.g. by Swadesh, Greenberg) have not been generally accepted.³

2. RECENT DEVELOPMENTS. Since the days of Sapir, most of the languages in question have become much better known, especially those where the work of Survey linguists with remaining speakers has resulted in a number of grammars, dictionaries and volumes of texts. Within the past two decades or so there has been dissatisfaction with the internal groupings within the phylum and even proposals to abandon it altogether, but recent developments suggest that what is needed may be reorganization rather than dismantling. This does not mean that specialists in the relevant language families all accept Sapir's grouping as a valid genetic entity: in fact, some reject the suggestion outright, but others are willing to keep an open mind and explore the possibilities.

2.1. END OF CALIFORNIA PENUTIAN. There is a certain recognizable areal unity in the Penutian languages of California, in that their phonological systems and phonotactic structure tend to be simpler than that of their Northern counterparts, but "California Penutian", once considered

¹ Of necessity, some of the information here has been presented elsewhere, notably in Tarpend 1997, but in addition to updating the information and the results, I have tried to give a clearer picture of the organizational detail of the files, and of the methodological reasons for proceeding as I do.
² As the term "Tsimshian" as used by Boas and Sapir is ambiguous (applying both to a single language and to the family that includes it), I have used "Tsimshianic" since 1983 to designate the family, and the name is becoming more widely accepted. This small family consists of a Maritime branch, with Southern Tsimshian (ST) and Coast Tsimshian (CT), and an Interior branch, with Nisqa'a (N) and Gitksan (G) (Tarpend 1996).
³ For more details and references see Golla 2002.
the solid “core” of the phylum, is no longer generally accepted as a distinct grouping deserving its own designation. With more careful and abundant descriptive and comparative work in the various families, Miwok and Costanoan have been shown to belong together as “Utian”, and more recently have been tentatively joined with Yokuts into “Yok-Utian” (Callaghan & Gamble 1994). Similarly, Wintu has many phonological and morphological similarities with the Oregon Coast languages, while Maidu is significantly different and has some similarities with Klamath (DeLancey 1994). The new developments have led some to call for the abandonment of the term Penutian altogether (Shipley 1983), and for a reclassification of all the component families into smaller groups.

2.2. CONTRIBUTION OF TSIMSHIANIC. However, the dismantling of one proposed group need not mean the end of the phylum, and some linguists have continued to be impressed or at least intrigued by the Sapir grouping. The Tsimshianic family, located at a considerable distance northward from its proposed Penutian congeneres, was once poorly known and considered “the weakest link in the chain” (Hymes 1965). Indeed, after perusing what a few scholars (including even Sapir) considered as evidence supporting the relationship, I, as a Tsimshianist, had intended to argue that Sapir’s proposal for the membership of “Tsimshian” should be laid to rest, but my own research into the subject convinced me that Sapir’s insight was indeed correct. Since I had already done much descriptive and reconstructive work in the Tsimshianic family (e.g. Tarpent 1983a,b, 1989, 1990, 1994), I was able to take as a point of departure my independently reconstructed Proto-Tsimshianic roots and morphological elements, in which I found a considerable number of similarities with other “Penutian” languages throughout the phylum (Tarpent 1992, 1997, 2000, 2002). The geographically distant and isolated position of Tsimshianic is a guarantee that these similarities cannot be due to recent contact. Their nature indicates that Sapir was basically right in postulating a Penutian genetic grouping, even though many of the details are still in need of correction or clarification.

2.3. END OF “TAKELMAN”. On the other hand, Swadesh’s 1965 attempt to reduce the number of internal groups by setting up “Takelman” has been shown to be unjustified. Apart from the sometimes extremely doubtful segmentation exhibited in Swadesh’s proposed cognates4, the definite morphological similarities between Takelma and Yokuts (which are geographically distant from each other), which first led Sapir to expand D&K’s Penutian beyond California, do not apply at all to Kalapuya which is structurally very different, so that the significant number of lexical similarities between Takelma and Kalapuya, even though buttressed by obvious and regular correspondences, must be due to extensive borrowing during a former period of close contact (Tarpent & Kendall 1998).

There are still a number of problems to be solved regarding the relationships between some of the languages, and even the membership of some (such as Siuslaw and Alsea, which are poorly known, and Cayuse, for which information is only fragmentary). But the recent developments point to the basic correctness of Sapir’s overall grouping, as well as the need for reevaluation and internal reorganization of “traditional Penutian”.

3. A PAN-PENUTIAN DATABASE. A comprehensive approach is needed if “Penutian” in any definition is to be properly evaluated and reorganized. Many common features can only be distinguished on a large scale and through systematic and principled comparison of:

4 Some examples (quoted in Tarpent & Kendall 1998): ‘we’: Tak g-o6-m; Kal dialects s-t-uu, s-t-u; ‘small’: Tak t’o-so-o; Kal dialects ?iis-ty, tincit, tuu-cwa . These segmentations are not justified internally in the languages.
• morphological elements and processes (especially demonstrably older ones);
• lexical/phonological information: which should be organized by phonological, not semantic, criteria, in order not to prejudice the outcome by the constraints and biases inherent in an alphabetical list of English words;
• semantic information: focusing on RANGES OF MEANING rather than single meanings (relatively few words have only one simple meaning, e.g. 'porcupine' or 'eat').

3.1. ORIGIN AND DEVELOPMENT OF THE DATABASE.

3.1.1. BINARY COMPARISONS. My Tsimshianic/Penutian comparisons were originally meant to determine whether resemblances were significant enough to justify Sapir's inclusion of Tsimshianic within traditional Penutian. In the early stages, I set up separate files for comparing my Proto-Tsimshianic (PTsim) data with each of the component language families (not all of the 15-odd families were equally well represented). Each file consisted of two parts:

a) a short morphological sketch of each language (or family)(root or stem structure, significant morphemes, processes such as reduplication and ablaut)
b) a set of reconstructed PTsim ROOTS (CVC) and grammatical morphemes showing similarities (both phonological and semantic) to WORDS and morphemes in the languages in question.

3.1.2. PROTO-TSIMSHIANIC ROOTS. The Tsimshianic languages are characterized by a CVC root to which affixes and reduplicated elements can be added. In Proto-Tsimshianic only two root vowels a (here written e) and a need to be reconstructed, each one occurring with or without the additional element noted as H, probably representing a schwa-glise (Tarpeit 1990, 1994). Some correspondences require assuming a bipartite PPTsim structure for the PTsim or contemporary 'root'. Examples are (see other instances in Appendix A):

(1) ST sâh, N sá(h) 'day' < PTsim *sâh
(2) ST, N t'á: 'to sit, exist (sg.)' < PTsim *t'áHh
(3) ST, CT lí:mx, N línx 'to sing' < PTsim *léHm-x
(4) ST, CT t'ák, N t'ák 'to forget s.' < PTsim *t'ék
(5) ST kwtáx, CT kwft:, N xw táx 'to be hungry' < PTsim *kw-*téx
(6) ST n'áx, N n'áx 'bait' < PTsim *n'ég < PPTsim **?En-Aq-
(7a) ST p'ål, N m'ál 'to button s.' (< 'to widen a slit into an oblong shape') < PTsim *p'ål
(7b) ST ?am-p'á:l, N ?am-m'á:l 'poplar' (lit. 'used for-canoe'), N m'á:l 'canoe' (made by widening a lengthwise slit in a cedar log) < PTsim *p'áHL

5 All these reconstructions are my own. Each one is justified by a number of interlocking correspondences, as set out in Tarpeit (in prep). See also 4.2. below.
Many vowel correspondences are much more complex than these, and PTsim roots as I reconstruct them are often quite different from modern words, for instance:

(8) ST qá:ůs, CT qá:ws, N qís ‘hair’ < PTsim *qéHw-s
(9) ST, CT kðkuː, N þkí ‘(s.o.’s) children’ < PTsim (k-) *ðkwéHH
(10) ST sð:yx ‘to get up early’, N së:q ‘to stay awake’ < PTsim *séHH-(E)q
(11) CT mó:mx ‘to smile’ < PTsim *mëʔ)mEʔ-q, N mimmq’ < *mëHʔ)mEʔ-q

3.1.3. COMPARING ROOTS WITH WORDS. Although the ideal for comparison would be to use similarly reconstructed ROOTS in other proto-languages, this is not often practicable: most available reconstructions (even when they do exist) are of limited use, either because of their shallow level (where most proto-forms are identical to or only slightly different from existing forms, and the root of words is not always identified) or sometimes because they give evidence of poor methodology (e.g. reconstructions requiring rules counter to generally occurring processes such as spirantization or palatalization). I have found it more fruitful to work with assemblages of paradigms or derivatives, from which stems and sometimes roots can be identified as well as affixes, and a meaning range for the root can be tentatively ascertained.

In the frequent absence of reliably or usefully reconstructed roots and affixes in the other languages, I continue to make every effort to ascertain both the MORPHOLOGICAL ANALYSIS of the words and the SEMANTIC RANGE of roots and derivatives, by consulting and cross-referencing the widest possible array of sources, including grammars, dictionaries, texts, and linguists’ manuscript notes, where available.

3.2. PRESENT STATE OF THE DATA FILES. In the original binary files, I was able to collect enough information to convince me that significant commonalities existed between Tsimshianic and every single one of the component families, without pointing to a special relationship with any one of them. Then I reorganized the files on a different basis, so that similar information on all the languages was now found together (Tarpent 1997). I have also been adding elements unattested in Tsimshianic but common in other families, especially in morphology, but also in lexicon and phonology. This makes the files useful not only for continuing and refining the Tsimshianic-Penutian comparison, but for comparison between any two or more families. I have been keeping three types of comparative files:

a) morphological elements and processes
b) phonological/lexical elements organized according to phonological criteria (this is the bulk of the files, see appendix A)
   c) selected vocabulary items (animals, people, culture words)

4. METHODOLOGY AND PARTIAL RESULTS. Although much language comparison in Amerindian historical linguistics deals primarily with vocabulary (e.g. numerous comments in Campbell 1997), I believe strongly in the historical linguistics tradition which gives the primary role to morphological structure, elements and processes, as the foundation upon which other kinds of comparison can most securely rest. The many kinds of possible sources of error in the comparative or reconstructive endeavour, against which linguists are warned (e.g. again Campbell

6 These limitations are not peculiar to Penutian scholarship, but occur also in work on other Amerindian language groups, e.g. a number of examples in Campbell 1997
1997), affect mostly comparisons of vocabulary, that is to say they are piecemeal errors affecting individual words, and thus can easily be corrected with further research, without compromising general conclusions. My position is that in a working document such as this database, it is better to include questionable material (marking it as such), rather than omit it altogether for fear of making mistakes: with a systematic approach to all aspects of the languages in question, errors will reveal themselves sooner or later, while correct guesses will eventually be confirmed by other, independent facts, and lead to new insights. The database therefore is not a fixed repository of forms, but is constantly evolving.

4.1. MORPHOLOGY.

4.1.1. MAJOR STRUCTURAL FEATURES. The basic CVC root structure found in Tsimshianic is also characteristic of the Northern Penutian languages, while the Southern (i.e. California) languages tend to have a CVCVC stem, where traces of an original, now submorphemic CVC root and accompanying affix can often be identified by internal and external comparison. The fact that there is a degree of vowel harmony in most of the Southern languages is consistent with a protolanguage *CVC root carrying a stressed vowel, associated with a consonantal affix linked to the root by an undifferentiated vowel which then harmonizes with that of the root. In the Northern languages, adding such a consonantal affix to a root is more likely to result in a cluster, without an intervening vowel, hence the more heavily consonantal character of these languages (Tarpent 2000a).

Several of the languages, notably Klamath, Takelma and Yokuts, and to some extent Tsimshianic, modify the root or stem through complex patterns involving reduplication or ablaut or both, and these processes are also found more or less prominently in the other component families. As noted by Sapir, Penutian affixes, especially suffixes, convey grammatical, not lexical information, something that gives these languages a more European- or Eurasian-like character than that of many other Amerindian language groups.7 Tense and case are indicated morphologically in several families, although not in Tsimshianic.

4.1.2. ELEMENTS. Significant morphological elements apart from the roots are affixes and other grammatical morphemes.

- Some morphemes occur throughout Penutian: for instance, a linking (connective, attributive, genitive, etc) suffix -m attached to the first word of a phrase or compound is found in practically all the component families, as is a relativizing or deverbative agentive suffix compatible with Tsimshianic -at (Tarpent 1996, 1997).

- Some elements are more restricted in their occurrence, making them useful for subclassification. In particular, although formants n for the 1st person and m for the 2nd person are widespread, not all the families use the same pronominal affixes, and there is often a differentiation according to function (usually Subject/Object/ Possessive). Nevertheless, there is never a complete break in the pronominal system between one language family and another. Pronouns are generally affixes or clitics, attached to the verbal and/or the nominal stem, or to special pronominal bases which make them into independent words. A Tsimshianic discontinuous clitic ma ... sam for 2nd person plural has very close counterparts in Chinook (Hymes 1965) and Maidu, and less close but plausible ones in Siuslaw, Molale, and Yok-Utian (Tarpent 1996, 1997).

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7 However, no claim is being made as to the significance of such resemblances for more distant relationships.
4.1.2. Processes and Their Implications for Comparison.

• AFFIXATION

As Sapir recognized, Penutian languages are primarily (some exclusively) suffixing, with most preposited elements being proclitics of relatively recent date, with concrete significance (e.g. location, direction, instrumentality especially of body parts), unlike the suffixes which are more abstract in meaning. At the same time, true prefixes are not negligible in the Northern languages, such as Tsimshianic, Chinook and Alsea. AFFIXAL FRAMES\(^8\) consisting of a cooccurring prefix (or proclitic) and suffix are found in Tsimshianic and at least in Alsea (prominently), Coos and Sahaptian.

Although prefixation is currently secondary to suffixation as a grammatical process, there are reasons to believe that prefixation was a common feature in more ancient forms of the languages:

- Some affixes which are productive or at least easily segmentable in the Northern languages are recognizable as submorphic, frozen relics in the South. For instance, the California CVCVC stem identified by Sapir (1921) must be from **CVC-vC or **Cv-CVC, where CVC also occurs alone, especially in the northern languages, and the affixes also have existing counterparts (Tarpent 2000a);

- More specifically, Tsimshianic has an old l-initial plural prefix, currently la-, which is easily segmentable though unproductive, and a more ancient form *leH- can be reconstructed for some now irregular forms. An -l- plural or dual suffix or formant occurs in most Penutian languages (where suffixation is the rule). But a yet more archaic Tsimshianic submorphic alternation of l-initial plurals and K-initial singulars (where K may represent q, h, k, y) has been shown to occur as well, although in relic form, in some languages further to the South (e.g. in Takelma, Wintu and Yokuts) (Tarpent 2000b, 2002; see also ex. 2 in Appendix A). This suggests that Tsimshianic has preserved an ancient pattern of prefixation, while what must have been a former clitic in -l- has become restricted to the post-stem position in the other languages, leaving traces of prefixation only in a few relic forms.

• REDUPLICATION

In my initial research, the most important, because the most salient, guide for the identification and comparison of ROOTS has been reduplication: although not all instances of the process are used for the same grammatical meanings, reduplication is very often A CLUE TO DETERMINING THE ROOT of a word (Tarpent 1997). Differing reduplicative patterns may also give clues to common ancestry or areal phenomena; e.g. the Tsimshianic CVC)CVC pattern is very common everywhere, but the more complex CVC-V’)CVC pattern existing for instance in Takelma and Yokuts is also found in some Uto-Aztecan and Salishan languages: this may be (or have been at some point) an areal feature.

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8 I prefer the term “affixal frame” to “circumfix” or “discontinuous affix” in the Tsimshianic (Tarpent 1989) or Penutian context. The latter terms suggest a unique identity for a single through discontinuous morpheme (e.g. Tsimshianic mo...sam in above), but in Tsimshianic and Coos, at least, the two components of the affixal frame are not restricted to occurring together, they are found separately as well, in other contexts. They usually “frame” the root or stem of the word, resulting in a single complex word with a unique identity.
• **ABL Aut**

Another common process in these languages (considered characteristic by Sapir) is vocalic ablaut, which also affects mostly the root. Differing patterns of ablaut give clues to the nature of the underlying vowels of the proto-language, e.g. an /æ/ pattern is likely to go back to a front rather than a back vowel: this is useful not only for the reconstruction of the root vowel, but also for cases of suspected palatalization or assimilation of a preceding consonant, giving a clue to the original nature of that consonant, and therefore to what sound(s) could be considered in the search for phonological correspondences (see below, 4.2.).

• **CONSONANT GRADATION**

Consonant gradation is also a frequent morphological process in the area (shared with some otherwise unrelated languages). It plays a distinct and important morphological role e.g. in Takelma and Sahaptian, and there are many submorphemic traces of it in some of the other families, for instance Miwok and Yokuts. This means that even if a language has two or three series of alternating stops (e.g. *t, th, tʰ*), as in Wintu or Yokuts, only a single, basic stop (e.g. “*T*”) may need to be considered for purposes of preliminary inter-family comparison, and the aspiration or glottalization ignored for the time being (however important it may be for more detailed work). This will not work in every case (e.g. not for Tsimshianic, which apparently has no trace of such gradation), but the possibility must be kept in mind in the reconstruction of other proto-languages. Gradation also occurs in consonants other than stops: two of the most common instances are *l ~ n* and *s ~ ʃ* (lateral fricative), but such gradation may involve more surprising alternations. This means that alternations in actual languages may give yet additional clues to what can count as phonological compatibility for these languages (see below, 4.2.).

4.2. PHONOLOGY/LEXICON.

4.2.1. NO LEXICAL SETS.

Although they are widely used in many contexts, and may be useful for preliminary work, when it comes to detailed comparison lists of words organized by alphabetical order of the equivalents in English (or other dominant language) are appropriate only for very closely related languages, such as those of the small Tsimshianic family, where little semantic variation occurs from one language to the next (see Tsimshianic examples above, 3.1., 2)). Otherwise, lexical sets tend to distort the data: they favour meaning clusters existing in the researcher’s own language and/or imagination, rather than those inherent in the languages under consideration; they prevent identification of nonobvious phonological correspondences, which may be scattered randomly through the data; and they make it difficult to distinguish borrowings from true cognates (Tarpent 1997). Also, in a group such as Penutian, where several of the languages (especially in Oregon and the Plateau) are less than adequately documented, mistakes or misunderstandings in translation are likely to occur, so that glosses in a dictionary or glossary cannot always be fully trusted.

4.2.2. COMPATIBILITY.

Instead of “lexical sets”, the entries consist of POTENTIAL cognates which are PHONOLOGICALLY AND SEMANTICALLY COMPATIBLE with each PTSim root (see appendix A for sample entries). Here again, the advice often given, “start with identical sounds and meanings” is only appropriate within a very close-knit family; a greater degree of divergence is
expected between one family and the next, so that compatibility rather than identity should be sought (it is well known that borrowings are usually identifiable because they are too close a match phonologically).

(a) PHONOLOGICAL COMPATIBILITY.

Each entry takes a reconstructed PTsim root as its starting point. Potential cognates in other languages are organized by DEGREE OF RESEMBLANCE to the initial consonant of this root (clearly homophonous roots are listed separately according to meaning). Of course this does not mean that only the initial consonant counts: the rest of the word (or at least what can be interpreted as its root) must match to some extent as well, and the meaning should be compatible. In case of doubt because of “semantic latitude”, phonology wins, but with a question mark: in practice, doubtful cases often cease to be doubtful once further data from the same or another family are added, confirming the initial choice or leading to its rejection. Some types of consonants are notoriously liable to change into others, or to be derived from others, so that not just individual sounds but SERIES OF RELATED SOUNDS need to be considered when looking for potential cognates: some examples of such series are:

\[
\begin{align*}
\text{PTsim } & *k : k, \text{ ky, } c, \text{ ts, } s, \text{ } \\
\text{PTsim } & *t : t, \text{ tV, kV, } c, \text{ s, ky, k} \\
\text{PTsim } & *l : l, r, \text{ tl} \\
\text{PTsim } & *q : q, \text{ ?w, kw, k, xw, w, p, f} \\
\text{PTsim } & *p^{' < \text{PPTsim } **q\text{o}} : p', p, m, m, ?Vp, ?Vf, ?Vm
\end{align*}
\]

Such long chains of possibilities may seem to allow too much “phonetic latitude”, but in practice only one or two possibilities for correspondence with a given PTsim sound occur consistently in any one of the families.

- If appropriate, data are further subcategorized by final root-consonant according to the same principles; other correspondences show up in non-initial position, e.g. often final \( *t = l, r, l \), final \( *w = p \), in other families (see examples in Appendix A).

- In general, the languages North of California tend to have many clusters, resulting from the loss of a vowel (or the lack of an epenthetic vowel); initial clusters especially are often reduced, introducing yet another source of correspondences (e.g. \( *t'Λq- > *tq' \)- which may later evolve to \( c \) or \( c \), or reduce to plain \( t' \)- or plain \( q' \)-, among other possibilities); such correspondences are also listed separately.

- After a while, sets of correspondences become identified with specific families, e.g. in many cases PTsim \( *qw- = \text{Maidu, Yokuts } p; \text{ PTsim } *q- = \text{ Yok k- or } ?; \text{ Mi } h- \text{ or } ?- \) (such alternations in correspondences may reflect earlier consonant gradation); PTsim \( *w = \text{Win w- or } p \). Consistent correspondences help spot borrowings, which stand out by not fitting in the expected places.

- General phonological laws help determine the direction of change (e.g. \( *k > ts \) is expected, but not \( *ts > k \)), hence to differentiate archaic survivals from innovations.

- The existence of consonant-gradation and vocalic ablaut as morphological processes in some languages means that several alternate forms of the same original root may exist within one
language, or in two different languages, causing yet more alternations as the various forms may have evolved separately in different languages.

(b) SEMANTIC COMPATIBILITY.

In the absence of reliable reconstructions of roots comparable to the PTsim ones, morphological derivatives of the same root (or at least stem) are listed where possible: this helps to define the semantic range of the root and the probable semantic evolution, as well as providing morphophonological information (such as the occurrence of ablaut). Where lexical information is limited (e.g. in a glossary), textual context is entered as well, to help define meaning. In some cases, specific initial consonants are consistently linked with specific meanings, and occasionally wrong or misleading definitions can be spotted because they do not fit the pattern. Cultural information also helps in determining the source of apparently improbable semantic relationships (see example 2. in Appendix A).

(c) MORPHOLOGICAL SOURCES OF COMPATIBILITY BETWEEN LEXICAL ITEMS

The discovery that the archaic Tsimshianic singular/plural alternations in l-/K- (see above, 4.1., 3) have relic counterparts in other Penutian languages opens up yet another avenue for comparison of lexical items: in some cases it may be possible to hypothesize a MORPHOLOGICAL relationship between the ancestors of forms which do not now share a PHONOLOGICAL relationship according to rules of phonological evolution, as in the “aberrant phonological correspondence” Wintun l, Miwok h identified in some forms (Broadbent & Pitkin 1964). Such a correspondence may be one of archaic morphological remnants, rather than simply phonological elements (Tarpent 2002; see also Appendix A, example 2., section (2)).

4.3. SELECTED VOCABULARY. Although often subject to borrowing, and therefore unreliable for initial comparison, terms for animals, people (especially kin), culture words (e.g. 'bow/arrow', 'copper', 'puberty dance') are nevertheless useful for indications on:

- ranges of meaning of the terms, showing cultural patterns:
  - e.g. kin terms: 'aunt/stepmother' = 'little mother', 'grandparent' = 'grandchild', etc.;
  - e.g. animals: similar names for a range of small fur-bearers (e.g. 'beaver', 'muskrat', 'badger') rather than just individual species;
- possible origins, e.g. descriptive terms may point to taboo; 'horse' = 'big dog' shows history and cultural use, etc.;
- areas of potential contacts with other languages (hence borrowings or loan-translations).

In this section I am also adding words from neighbouring languages considered unrelated to Penutian (e.g. Wakashan, Salishan, Chumash, Uto-Aztecan) in order to check for borrowings.

5. CONSOLIDATION AND EXPANSION OF RESEARCH. This pan-Penutian “database”, although technically primitive and still very incomplete, has already amply repaid the work put into compiling it, and confirmed or opened up several directions of research as data from all the component languages are brought together.

5.1. CONFIRMATION. As I continue to add data on Penutian languages, Tsimshianic/ Penutian comparisons continue to grow, and knowledge gained about one continues to influence knowledge about the other: e.g. PTsim reconstructed *qw is evidenced only before *e (because existing quC
is explained by earlier *qweC), not before *a; but comparison with other languages where both q and qw correspond to PTsim *g suggests an earlier change PPTsim **qwa > PTsim *qa (Tarpent 1997; see Appendix A, example 3). Correspondences are strengthened when multiple cues converge. Errors are corrected as patterns of correspondences with specific languages become better known. There is no doubt that Tsimshianic is related to the Penutian group, although it cannot be conflated with any single one of the other component families. The recognition of commonalities throughout the Penutian group, for instance the striking l-/K-PLURAL/SINGULAR alternation (see above, 4.1., 3)), which is highly unlikely to result from chance, confirms its existence in some form: Penutian is alive if not actually well.

5.2. DIRECTIONS FOR FURTHER RESEARCH ON TRADITIONAL PENUTIAN.

- Resemblances already noted between Takelma (Oregon) and Yokuts (California) (Sapir), and between Wintun (California) and some Oregon languages (e.g. Golla, Whistler), are confirmed and will eventually have to be taken into account in reorganizing language families (after much more work on the details).

- The validity of Swadesh’s “Takelman” first became doubtful when my attempts to import Kalapuya lexical/phonological data into the original Tsimshianic/Takelma file (as I had added Nez Percé data to the Tsimshianic/Sahaptin file) resulted in chaos, and it has been disproved by further research (Tarpent & Kendall 1998). Much more descriptive and comparative research on Kalapuya (extinct, but for which there is ample textual material) is needed in order to determine the affiliation of that family, which is probably Penutian, but not obviously closely related to a single other component family.

- Elements not found in Tsimshianic but common in other parts of the Penutian domain include alternate pronominal affixes (i.e. NOT the very widespread -n- ‘1S’ and -m- ‘2S’) and tense/mode affixes. A complete list of grammatical elements, together with their distribution and with a typology of reduplicative patterns, should help in reorganizing subclassification within Penutian.

- Comparison of reduplicative patterns in Penutian languages and their presumably unrelated neighbours (see above, 3.1., 2)) may also point to areal developments even at great time depths, in some cases giving clues to former locations, movements of speakers, and cultural influences.

- Recognition of which features are archaic “Penutian” elements should help measure the degree of distance between individual languages and the presumed ancestor, and also to determine whether and which existing languages are lineal descendants or have been adopted at some point by speakers of another substrate. Languages of still doubtful affiliation (Asea, Siuslaw, Cayuse) might also be classifiable with more confidence, or ruled out of traditional Penutian.

5.3. WIDER DEFINITIONS OF PENUTIAN. Since the traditional definition of “Penutian” is not accepted by all specialists in the component languages, who would rather split the phylum into smaller groups, it would seem premature to even consider definitions encompassing yet more languages. However, since a pan-Penutian approach is yielding more insights into commonalities than one simply focusing on a small group, the database should help in either recognizing common elements between traditional Penutian and the other languages in question, or in ruling out demonstrable relationship.
Data on Mixe-Zoque, the group geographically most distant from Tsimshianic, were not included in my original research, which dealt strictly with the potential affiliation of Tsimshianic to traditional Penutian. I have added some MZ in the current files and will continue to do so as more data become available to me.

Mixe-Zoque does seem to have some similarities with Penutian as a whole, but (at this point) not more so than other "Macro-Penutian" (Whorf) families such as Uto-Aztecan, Maya and Totonac. I have started to collect data on those families as well as on MZ. Conclusions would be premature at this point but Whorf's hypothesis seems worth investigating.

The same cannot be said of the (perhaps not serious) inclusion of Zuni (Newman 1964), which seems so doubtful as to be practically ruled out on morphological grounds (even if one could accept the rather haphazard phonological resemblances), but I am waiting for the outcome of work in progress by Lynn Nichols, whose forthcoming dissertation is a grammar of Zuni, to give more attention to this problem.

6. GENERAL CONCLUSION. "Penutian" has often been considered a doubtful or nebulous entity, a priori "beyond the reach of the comparative method". Even though Sapir was led to postulate the existence of the phylum by similarities in the typological and morphological patterns of the language families composing it, Silverstein described it as having "tremendous typological diversity, perhaps equalling that of the entire continent" (1979), a patently exaggerated description. Instead, the pooling of morphological information in a single database continues to reveal a sizable common core of morphological structure, elements and processes, while the pooling of lexical/phonological information shows a considerable number of common roots, linked by a number of regular sound correspondences, with plausible semantic compatibility. This pooling allows borrowings or discrepant forms to be spotted much more readily than with comparison of only two or three languages. Although the work of comparison is still in the early stages, the results obtained so far continue to point consistently in the same direction, that of genetic relationship between at least the majority of the families.

REFERENCES


9 A grouping of these three is considered promising by Campbell (1997:324).

10 cf. also Sapir, who had this comment about his "Aztec-Tanoan" phylum: "impresses me as old Penutian strongly overlaid by Hokan" (Golla 1984:452), showing that he recognized significant similarities. Even though "Aztec-Tanoan" is no longer accepted, the "Aztec" portion (meaning Uto-Aztecan) does resemble Penutian in some respects.


_____ 1990 Reconstructing the Proto-Tsimshianic vowel-system. Canadian Linguistic Association/Société canadienne de linguistique (Congress of Learned Societies), University of Victoria, Victoria, B.C., Canada.


_____ in prep. The reconstruction of Proto-Tsimshianic.

130
APPENDIX A

NOTE ON PTSIM PHONOLOGY: 2 vowels only, *ə (here written *e) and *a; each can appear with "H", probably a a-glade, which originally had aspectual meaning. E and A are cover symbols for the alternations e/eH and a/aH respectively. In some cases a Pre-Proto-Tsimshianic form (PPTsim) can also be hypothesized (marked as **).

1. SAMPLE ENTRY IN THE MORPHOLOGICAL SECTION:

EXAMPLE 1:
Ptsim* -t appears to be an INSTRUMENTAL NOMINAL suffix ("instrument of repetitive motion"), e.g.

N tágə 'hammer' (<*tákə-t; similar Tlingit word probably borrowed)

wágə 'beavertail' (<*wákə-t; considered as a kind of paddle? [beaver whacks water with it], cf wá:xt, 'paddle, to paddle' < *wá:k-x)

ST ?uː:mt, N ?imt 'bucket, pail' (< *?éHw-m-t; -m- possibly 'temporarily')

CT ?uː:mt 'bucket, pail' (< *?éw-m-t) (PPTsim *?Ew not glossable at present)

NOTE ON PHONOLOGICAL CORRESPONDENCES for t in general: where most Northern languages have t, Al sometimes also has sl (morpheme-initial); Kal has l, ?l; Win may have l, r, as well as t; Tak, Yok have l, sometimes ls (final) or sl (initial); Mi, Cos have l (sometimes Mi ll medially, Cos r)

(1) NOMINAL suffixes compatible with PTPsim *-t:

- with lateral fricative Ɂ:

Ch -Ɂ seems INSTRUMENTAL e.g. -skɁ 'sinew' (-sk- cf Ptsim *sEk 'to stretch')

Al -Ɂi: "stative agentive" ; cf also suffixes -slo:, -sla, -slEm, -sli ~ -sti;

Siu -Ɂ! (= Ɂl') probably INSTRUMENTAL e.g.

iEklá:kt! 'trap' (perhaps better 'snare'?; stem -kłá:kt-

- cf. N k'ák 'to choke?');

tcltɁ 'hand' (cf PPTsim **kEh 'pick, snatch, etc.' = 'use fingers')

Co -(o)t as in

kwáxtɁ 'bow' (cf. PPTsim **k'wEh > words for 'bend, bow, etc.')

kwámtɁ 'large cooking-pot' (kwám-'food')

131
yūweł 'a pack' (cf. yEw 'pick, carry')

tcici:mił 'spruce' (stem -ci:m- 'burn!', ex. 2; cf. also NP, Mi below)

Sah'n NP
-a: as in taːqmaː 'hat'

(cf Mol taqge:m, taqqamʔ, taqge:m 'hat'; root ta(q):q- 'head')

NS -ad' as in tāqmaː 'hat'

- with plain l :

Sah'n NP
-le as in kimile 'tamarack' (if stem kilm- 'burn', see ex. 2; cf. Co 'spruce' above)

Kal
-ʔla(ː), -ʔle(ː) (long V when followed by other suffix)forms INANIMATE
NOUNS (PLACES, INSTRUMENTS) as in
p'yawsa-ʔla 'winterhouse' (p'yawsa 'winter')

-la-ʔaʔ INSTRUMENT (esp. "forming newer words") (-daʔ possibly cf.
Yok -thaʔ in simithaʔ 'coal, ashes', ex. 2 below)

Tak
-la NOMINAL e.g. maxla 'dust' (max- cf common MVQ ~ p'VQ words 'dust,
powder, scattering, etc.)

Mi -l:a NOMINAL e.g. cikil:a 'poker', cikol:a 'index finger'
(if stem cik-, cf. PTsim *ts/Ex 'rapidly moving hand or instrument
in and out of sthg, e.g. poking, snatching') (-l- also VERB/HAL, see below)

Mip -le- NOMINAL "plant and animal suffix" (Callaghan)(cf. Co, NP, Um ex's)

Cos Mu -le NOMINAL SUFFIX

- with -l-s

Cay -(i)lis [??] NOMINAL SUFFIX, e.g.
<pá-ki-liš> 'mirror', <pér-ki-liš> 'window' (same word?? or same
root with V-alternation ??))

Yok Yl -lis, -ls NOMINAL "habitual place of? agent?" (Kroeber);
hotōne-1s 'fireplace' (hotōne 'build a fire')

(2) NOMINAL suffixes unattested in Tsimshianic: nouns designating AGENTS:

Al
-sla, -slo, -сли, -slEm as in
hiːtslEm 'person' (hiːts- 'stand')
moshalsla 'woman' (Frachtenberg) probably mo-shals-sla
'worker' (Frachtenberg) (-shals- cf. Co -c?ale- 'to work' ??)

Si -iːl ~ -aiːl forms "NOMINA ACTORIS" with HABITUAL meaning ("nouns of
agency") (Frachtenberg)
xi'ntmiːl 'a traveler' (xi'ntm- 'to travel')
pákwiːl 'a shiny player' (pEkúː- 'to play shiny')

132
Co

-\textit{i}:\textit{yat}, -\textit{a}:\textit{yat} NOMINAL "performer of an action" (Frachtenberg)

\textit{tni}:\textit{yat mā} 'a hunter' (lit. 'hunter man') (\textit{tin}-, \textit{tn}- 'to hunt')

\textit{alicani}:\textit{yat} 'a player' (\textit{alic}- [\textit{?áliš}] 'to play')

cf. also names of some ANIMALS:

Ch

-\textit{t} NOMINAL in a few names of animals, as in \textit{ge:pič} 'sealion' (root \textit{-pič} probably 'emerge')

Sah'n Um

-\textit{t}á NOMINAL in a few names of animals, as in

\textit{wašanaṭ} 'swan', \textit{wapa:nṭ} 'grizzly bear', \textit{wapin\textit{y}awaṭ} 'small hawk'

(note affixal frame \textit{wa}-...-\textit{t}á; cf. Al \textit{mə}-...-\textit{sla} ??)

(3) VERBAL suffixes [not in Tsimshianic] with compatible meanings

Chin

-\textit{t} \sim -\textit{nīl} "semi-temporal" verb suffix: \textit{continued repetition} (Boas)

Win

-.\textit{r}- ITERATIVE PLURAL

-\textit{V}:\textit{r} "to do sth repeatedly or continuously" (Schlichter)

Chin

-\textit{l}- "semi-temporal" verb suffix: \textit{repetition, characteristic of an action, frequentative}

Mi Mip

-\textit{le}- "VERBAL STEM FORMATIVE" (CCallaghan)

Yok

-\textit{il} "MANIPULATIVE" verb-forming suffix added to nouns: "... notion of handling or gathering the entity ..." (Kroeber)

Cos Mu

-\textit{ls} in some verb forms; e.g.

\textit{tume:mels} \sim \textit{tumen} 'to make food' (Mason)[stem \textit{tume}-; forms glossed identically by JAM are probably slightly different in meaning:

note sequence \textit{-mels}, could be \textit{-me:ls}, corresponding to Tsim \textit{-m-},

see above; alternately, could be final reduplication but redup. is not very common in Cos]

2. SAMPLE ENTRIES IN THE PHONOLOGICAL/LEXICAL SECTION

EXAMPLE 2: PTsim *\textit{kEm} < PPTsim **\textit{kEh}.*\textit{Em}

(A) *\textit{kEm}, *\textit{kέHm}-\textit{t} > N \textit{kim}‘is-T, ST \textit{ki:m}‘is, CT \textit{ki:ms} 'shredded cedar bark' (used both as fire starter and as absorbent material for cleaning purposes) (-\textit{t} DEFINITE ANTI PASSIVE, -\textit{T MEDIAL)

(B) *\textit{kEm-k} : cf A) for explanation of meanings

a) *\textit{kém-k} > ST, CT \textit{kámk} [gyámk] 'sun'; N \textit{kámk} 'to be warm, hot'; N pl. \textit{lim}lámk < stem lámk < *\textit{I}Eh-\textit{m-k} (plural prefix *\textit{I}Eh replacing initial Velar element *\textit{kEh})(Tarpent 2002b)
b) *kElm-k > ST, CT ki:mk, N kimk 'to wipe s.'; N hakimk'a? 'dish or dust cloth, blackboard eraser, etc' (ha-kimk-a?: ha- 'instrument for', -a? DETRANSITIVE/FREQUENTATIVE); ST, CT pl. li:mk, N pl. lim/limk < stem limk, all < *IEh-èHm-k.

(1) FORMS COMPATIBLE WITH *kEm
(a) full root
   - stop initial
     Al  k.imn- 'to light a fire'
         k.imni: 'he made a fire'
     Kal S, MR geemì 'to burn up'
         geemisdi(?) 'knife'
     MR  geemsde 'knife' (cf. words for 'knife' often associated with 'burn' because of
         the black [= sooty] color of iron utensils)

     NP    kimile "tamarak" (cf. Co below, also ex. 1)
      - initial augment t- [frequent in some languages] before root-initial stop
     Tak    tgem/etagm 'to get dark'
       - affricate initial (could be from *k-, or from *t-k- as in Tak)
     Co     -ci:m- [ši:m] in tcìci:mit 'spruce'; cf. NP above (tcì- reduplication
         shows that the stem must have been -tcì:m- originally; Co simplifies C1
         after reduplication makes it C2)
     Yok Yaud -tcùm-g- [čùm] in tcùmguan 'black'
      Chaw *čìm'e:k 'to get dark, become night' (underlying form, not proto-form)
     - plain sibilant initial
     Mai    šim/sìw 'black'
     Yok Yp (Poso Creek)
       simitha? 'coal, ashes' (-tha? NOMINAL, cf. ex. 1)
     (b) reduced root
       - affricate initial (could be from *k-, or from *t-k- as in Tak)
     Sah Um  č'múy 'warm'
           č'múk 'black'
Km  č'mog 'to be dark'
    - after prefix or initial augment: -cm- [= šm], -sm- in

Cos  Mont, SCrU, SCl, SFr icmen 'sun'
    Mu. SJb  isme-n 'sun'
    Sjo  hicmen 'sun'

(2) more distant correspondences
(a) y- initial
Mai  jamaq 'shade, shadow'
Mi  jëmi 'ashes'

(b) l- initial = could be PLURAL, replacing *k- ?? (cf. Tsim plurals above, 4.1., 3))
Yok  Yl  lim'-wiyi 'cloud up' (-wiyi 'to do')
    limik 'black'
Chuk  limik 'black, dark'
    lemek'a 'to become black'

NOTE on SEMANTICS:
- primary meaning probably 'burn', hence:
  - 'be hot' > 'sun' (ST, CT), 'warm'
  - 'burn up' > a) 'black' (like charcoal) > 'dark, night', 'iron, knife'
    > b) 'ashes, gray' > 'shadow, cloudy sky'
    > c) '(tree with) wood that burns well'
- Tsimshianic meaning 'wipe' clearly secondary, unattested in any other languages.

NOTE on MORPHOLOGY: when there is a stem consonant added after a CVC root compatible
with PTsim *kEm, it is most often a Palatal, as in PTsim *kEm-k. The Yokuts examples show a
palatal after both the K- and l- initial forms of the root, again as in PTsim.

EXAMPLE 3: (**qwEl-**E/At > *qwAt > ) *qAt; qwa > qa suggested by correspondences with
other languages)

PTsim *qAt-s, *qât-s, all qâts- (referring to liquid state)
    (A) intransitive e.g. lu:=-qâts '(liquid) to be in sthg.' (e.g. coffee in a pot) (lu:= 'in'
        [proclitic]); redup. lu:=-qa?qâts '(liquid) to be in sthg. permanently' (e.g. water in a lake);
        n'i:=-qâts '(liquid) to be on sthg., e.g. water spilled on a table, etc. (n'i:= 'on')
    (B) with -T > transitive: qâts-T 'to pour, spill sthg.'
    (C) with other suffixes:
          N qâtsiks 'to pour water on (sthg.), to water (sthg. e.g. plants)'
               (-iks here <*?èks 'water')
          N qâtsiksa?'(rain) to pour' (-a? DETRANSITIVE/FREQUENTATIVE)
          N qâtsikskw 'merchandise) to be on sale at bargain prices' (lit. 'to be poured';
                          -[i]kw PASSIVE)

(1) forms compatible with PTsim *qAt
(a) with uvular initial
- root-final dental

Km \*q\text{-}do\text{-}c 'rain' (reduced root \*qd-)  
Win -q\text{-}'at- in \*\text{?el-}q\text{'atal} 'to get wet'  

- root-final affricate: (but could be from qat-\text{-}č, cf. other ex's of -t-č > č)

Win \*q\text{ač}- in  
\*se-q\text{ači}:čuna: 'to rinse out one's mouth'  
\*se-q\text{ači}:la 'to rinse or wash out (as dishes)'  
\*ser-q\text{ačaya} 'to splash in all directions'  

(b) with palatal initial (no q in Mai), root-final dental  
Mai k\text{'adik(i)} 'rain' (cf. Km \*q\text{do}-c 'rain')

(2) forms compatible with Labio-uvular initial (*qwAt), final dental  
(a) L-Uv initial or Uv + rounded V  
Ch Kath -q\text{oa}(;)t 'to wash, bathe'  
Al qut- 'to pour'  
Yok Yd, Ys xoth- 'to rain'

(b) labio-velar initial (no qw in Kal)  
Kal kwit 'to drink'

3) forms compatible with PPTsim initial element **q\text{w}Eh or perhaps **q\text{Ew}Eh  
(a) L-Uv or Uv + rounded V initial  
Siu q\text{\textbar}i:hn- ~ q\text{w\textbar}ahn- 'to pour' (-n- verb suffix)  
\quad q\text{w\textbar}ahnu.t '(they) pour it into his (mouth)'  
(b) delabialization, palatal initial (< C-gradation ??)  
Co t\text{\textbar}l\text{\textbar}k\text{.\textbar}its 'she poured it' (t\text{-} augment ??; root k\text{.\textbar}i(;)\text{-}; -ts verb suffix)  
\quad t\text{\textbar}l\text{\textbar}k\text{.\textbar}i: 'it spilled'
DIRECTIONALITY AND AFFECTEDNESS: 
SEMANTIC EXTENSION IN CHICKASAW APPLICATIVES

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1. INTRODUCTION. In this paper, we consider the way in which the central directional meanings of three Chickasaw applicative verb prefixes are extended to encode various oblique semantic relationships human participants may bear within a clause.¹

We begin by presenting the use of applicatives to introduce semantic obliques into Chickasaw sentences, Chickasaw agreement morphology, and the full system of eight Chickasaw applicatives. We then survey the syntax of Chickasaw applicative arguments. Finally, we consider semantic extensions of each of three goal-oriented directional applicatives and how these extended meanings are connected with specification of the ways humans are affected in the meanings of verbs.

2. CHICKASAW AND THE CHICKASAW APPLICATIVES: AN OVERVIEW.² Chickasaw, a critically endangered Western Muskogean language of south-central Oklahoma, has no prepositions or postpositions or oblique case markers of any kind. All nominals that would be case-marked or objects of adpositions in more typical languages must be licensed by applicative affixes on the verb, appearing as arguments rather than syntactic obliques.

Chickasaw is a language with very strict lexical transitivity. A simple transitive verb like \textit{chompa} 'buy' (in (1)), for example, takes exactly two arguments, a subject and an object, which either are present overtly or whose identity is known from context. (1a) shows Chickasaw subjects and objects marked with the nominative and accusative suffixes \textit{-at} and \textit{-a}. Nominative case marking is required on subjects, but object nouns may be unmarked, as in (1b).³ Nominal arguments need not appear overtly, as shown by (1c).

¹ We chose this topic for presentation at this celebratory conference because of its connection with the work of Mary Haas, founder of the Survey and doyen of Muskogean linguistics. Our paper is also a tribute to our advisor, Margaret Langdon, who taught us about fieldwork and looking carefully for meanings, and to Catherine Willmond, Chickasaw teacher supreme. We're grateful for many helpful comments from participants in the conference.
² Our initial description of the syntax of the Chickasaw applicatives is based on that presented in Munro (2000), which noted some of the grammatical similarities of the three applicatives we consider here.
³ An unmarked object noun must immediately precede the verb, and is often loosely incorporated onto or cliticized to it.
(1a)  Ihoo-at  bala'-a  chompa. 'The woman buys beans' 
    woman-nom  beans-acc  buy

(1b)  Ihoo-at  bala'  chompa. 'The woman buys beans' 
    woman-nom  beans  buy

(1c)  Chompa. 'She/He buys it/them' 
    buy

Overt subjects of simple intransitive verbs like malli 'jump' (2) and nokhánglo 'be sorry' (3) similarly require nominative marking; again, however, these subjects need not appear overtly:

(2a)  Ihoo-at  malli. 'The woman jumps' 
    woman-nom  jump

(2b)  Malili. 'She/He/It jumps' 
    jump

(3a)  Ihoo-at  nokhánglo. 'The woman is sorry' 
    woman-nom  be.sorry

(3b)  Nokhánglo. 'She/He is sorry' 
    be.sorry

There is no way to include any nominals other than the subject and object in a sentence containing a simple transitive verb like chompa, or to add any non-subject nominal to a sentence with a simple intransitive verb like malli or nokhánglo. Instead, the verb of a sentence containing a locative, comitative, dative/benefactive, or other semantic oblique\(^5\) must have an added applicative marker whose presence serves to license the inclusion of the oblique argument. (4) illustrates how three different semantic oblique appear in 'buy' sentences:

\[\text{(4) } \text{Ihoo-at bala'-a ckomma. 'The woman buys beans'}\]

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\(^4\) The Chickasaw data are written in the practical orthography of Munro and Willmond (1994), which also describes various phonological changes we will not comment on here. The abbreviations used in our glosses include acc = accusative, ben = benefactive, cj = conjunction, com = comitative, cp = complement, ctr = contrastive, dat = dative, ds = different subject, imp = imperative, ind = indirective, irr = irrealis, loc = locative, neg = negative, nom = nominative, obj = object, obl = oblique, p = plural, pt = past/perfect (-tok suffix), s = singular. The three agreement classes (section 2 below) are glossed I, II, and III; first and second person are glossed |1, 2.  

\(^5\) Time words constitute the only potential exception, though it is not clear these are really nominal obliques.
(4a) *Ihoo-at Vons-ga balal' aa-chompa.* 'The woman buys beans at Vons'
    woman-nom Vons-acc beans loc-buy
(4b) *Ihoo-at i-hattak-ga balal' ibaa-chompa.*
    woman-nom dat-man-acc beans com-buy
    'The woman buys beans with her husband'
(4c) *Ihoo-at chipot-ga balal' in-chompa.* 'The woman buys beans for the child'
    woman-nom child-acc beans dat-buy

Each of the sentences in (4) has three arguments, the original lexically subcategorized subject 'woman' and object 'beans', plus an oblique — a second syntactic object — whose appearance is licensed by the applicative prefix on the verb. (For ease of identification, we boldface applicative prefixes on the verbs of example sentences in this paper.) (4b) shows in addition that a dative prefix is used on nouns to indicate alienable nominal possession.) This added argument is generally more salient in the discourse than the original object (since the speaker feels it's worth adding to the basic sentence structure), and typically appears immediately after the subject, though other word orders are possible.⁶

Some of the semantic obliques that can be used with original intransitive verbs like 'jump' and 'be sorry' (with added applicative prefixes) are illustrated in (5) and (6):

(5a) *Ihoo-at kasbi-ga aa-malli.* 'The woman jumps in the yard'
    woman-nom yard-acc loc-jump
(5b) *Ihoo-at chipot-ga ibaa-malli.* 'The woman jumps with the child'
    woman-nom child-acc com-jump

(6) *Ihoo-at i-hattak-ga i-nokhánglo.* 'The woman is sorry for her husband'
    woman-nom dat-man-acc dat-be.sorry

The sentences in (5) and (6) are transitive, with two arguments each: the original subject, plus the added semantic oblique, which functions as a syntactic object.

We will refer to the added arguments in sentences like (4-6), whose semantic roles in the sentences are indexed by the applicative prefixes on the verbs of those sentences, as applicative arguments. Thus, 'Vons' in (4a) and 'yard' in (5a) are locative applicative arguments, 'child' in (4c) and 'her husband' in (6) are dative applicative arguments (indexed with the dative prefix), and so on.

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⁶ In particular, any case marked argument may be postposed, an accusative marked object may appear before the subject, and the speaker may choose which of two non-subjects to mark accusative in a sentence like those in (4).
Many languages have applicative markers used to derive verbs taking an additional semantic oblique argument. For example, the Uto-Aztecan language Southern Paiute has an "indirective" applicative verb suffix -\textit{yqii}, used to derive applicative verbs as in (7) (Sapir 1930-31: 144-45, 721):

(7a) \textit{ya:q:i} \quad \text{'to come to get'}
    carry-come-

(7b) \textit{ya:q:i-k:i} \quad \text{'to bring to'}
    carry-ind-come-

But Southern Paiute and the great majority of languages with applicative markers have only one such morpheme. As noted at the beginning of this section, then, the Chickasaw system for expressing all oblique semantic relationships with applicatives is typologically extremely unusual.\textsuperscript{7} Chickasaw has no prepositions or postpositions, and no oblique case marking\textsuperscript{8} (in contrast, Southern Paiute has over 30 postpositions). Semantic obliques that are not part of the original lexical subcategorization of a verb can appear in a Chickasaw clause only when licensed by applicative prefixes on that verb.

Cross-linguistically, there is usually no limit on the number of obliques that can be included in clauses in languages that use case marking or adpositions. In Chickasaw, however, there is generally no more than one applicative argument in a clause. Two appear on the same verb only very rarely, in sentences like (8):

(8) \textit{lhoo-at hattak-a chipota ibaa-in-taloowa-tok.}
    woman-nom man-acc child com-dat-sing-pt
    'The woman sang to the child with the man' (i.e., both the woman and the man sang to the child)

More commonly, speakers use complex sentences with repeated verbs to refer to situations in which more than one semantic oblique needs to be mentioned, as in (9), a complex sentence each of whose clauses includes the verb \textit{taloowa} 'sing' with one of the two applicatives that appear together in (8):

\textsuperscript{7} As Larry Hyman pointed out to us at the conference, there are certainly other languages with a variety of applicatives, such as Lai (Peterson 1998), which has six. This language does not accomplish all oblique specification through applicatives, however, as is the case in Chickasaw and other Muskokean languages.

\textsuperscript{8} There is another marker that can appear on non-subject nominals in Chickasaw clauses, -\textit{ak}, which was called "oblique" for lack of a better term in Munro and Willmond (1994: iii). This suffix has no special connection with applicative as opposed to other objects, however, and can generally be substituted for the more common accusative -\textit{q}; its use may be conditioned by so far obscure discourse factors.
(9) Charles-at chin-taloowa-kg ibaa-taloowa-l-a'chi.
Charles-nom 2sIII.dat-sing-cp.ds com-sing-lsl-inc
'Charles will sing to you and I'll sing with him': 'Charles will sing to you with me'

The two objects of the 'sing' verbs in (9) are non-third person (with agreement as described in section 3). The first clause in (9) is followed by the different-subject switch-reference marker -kg, which indicates that the subjects of the two 'sing' verbs are different ('Charles' is the subject in the first clause, 'I' in the second).\(^9\) Chickasaw generally limits the number of nominals per clause to four (Munro and Gordon 1982, Munro 2000).

3. VERB AGREEMENT. Chickasaw has three classes of agreement markers for first and second person verb arguments, which are presented in Table 1 below.\(^10\) Classes I and II are simple markers, indicating a morphologically active agreement system, in which class I markers are used for most agentive or volitional intransitive subjects and for almost all transitive subjects; class II markers are used for many intransitive subjects (often non-agentive or non-volitional) and for most transitive objects. Markers from the third set, which are used for dative, benefactive, and various other objects and subjects, are segmentable, since they are based on the dative applicative prefix im- seen in (4c) and (6), which we will be considering further in this paper.

<table>
<thead>
<tr>
<th>class</th>
<th>I</th>
<th>II</th>
<th>III (include dative im-)</th>
</tr>
</thead>
<tbody>
<tr>
<td>first person singular</td>
<td>-li</td>
<td>sa-</td>
<td>a+m-</td>
</tr>
<tr>
<td>second person singular</td>
<td>ish-</td>
<td>chi-</td>
<td>chi+m-</td>
</tr>
<tr>
<td>first person plural</td>
<td>ii-</td>
<td>po-</td>
<td>po+m-</td>
</tr>
<tr>
<td>second person plural</td>
<td>hash-</td>
<td>hachi-</td>
<td>hachi+m-</td>
</tr>
</tbody>
</table>

TABLE 1. Chickasaw Agreement Markers

\(^9\) In part the two-clause structure seen in examples like (9) is a function of a Chickasaw grammatical restriction that allows only one non-third person object per clause. Thus, in (8) only the first of the two applicative objects of ibaa-in-taloowa could be non-third person.

\(^10\) Names for the three agreement classes, I, II, and III, follow Munro and Gordon (1982). A fourth set of agreement markers indexes negative or "hypothetical" (Davies 1986) equivalents of the class I markers. The presentation in Table 1 ignores predictable morphophonemic variation, some of which is illustrated in our examples.
Class I and II markers are added directly to bare verb stems, as in (10-13). For example, *chompa* 'buy' (10) is a transitive verb that takes a class I subject and a noun object (specified or not); *malli* 'jump' (11) is an active intransitive verb that takes a class I subject; and *nokhánglo* 'be sorry' (12) is a non-active intransitive verb that takes a class II subject. Finally, *halili* 'touch' (13) is a transitive verb that takes a class I subject and a class II object.

(10)  
*chompa* 'buy', 'he/she buys it/them', 'they buy it/them'\(^{11}\)  
*chompa-li* 'I buy it/them'  
\textit{etc.}

(11)  
*malli* 'jump', 'he/she/it jumps', 'they jump'  
*malli-li* 'I jump'  
\textit{etc.}

(12)  
*nokhánglo* 'be sorry', 'he/she is sorry', 'they are sorry'  
*sa-nokhánglo* 'I am sorry'  
\textit{etc.}

(13)  
*halili* 'touch', 'he/she/it touches it/him/her/them'  
*halili-li* 'I touch it/him/her/them'  
*sa-halili* 'he/she/it touches me', 'they touch me'  
*chi-halili-li* 'I touch you'  
\textit{etc.}

Such inflected verb words can all be used as complete sentences. Case-marked independent pronouns can be added, but are rare except in emphatic contexts.

As the first example lines in (10-13) show, bare verbs without first or second person affixes can be interpreted as having third person arguments (there are no third person markers in the chart in Table 1). Markers from class III (which we gloss in this paper as unit combinations with the dative prefix)\(^{12}\) replace the dative prefix \textit{im-} on a verb, as illustrated in (14-15).\(^{13}\) The

\(^{11}\) There is no distinction between third person singular and plural in the three-way inflectional system described here. However, there is a third person plural subject prefix \textit{hoo-} that can optionally appear on verbs of any inflectional class with third person plural subjects: \textit{hoo-chompa} 'they buy it' (class I subject), \textit{hoo-sipokni} 'they are old' (class II subject), \textit{hoo-in-takha'bi} 'they are lazy' (class III subject) (Munro and Gordon 1982). Some verbs supplet for the number of an argument (cf. Carden, Gordon, and Munro 1982; Munro and Willmond 1994). For instance, \textit{malili} 'run' takes singular subjects; the plural of 'run' is \textit{taalhaa}. Similarly, \textit{kahi} is 'lay down (plural object)'; \textit{bohli} is 'lay down (singular object). We have generally chosen not to specify lexical restrictions based on number or other factors such as shape in our glosses.

\(^{12}\) The phonologically conditioned variants of the class III/dative prefixes may include nasalized vowels, which are difficult to segment into pronominal element and dative marker. The \textit{m} of the dative prefix assimilates to a following stop: a nasalized vowel replaces the \textit{Vn} of the prefix before glides, nasals, and fricatives. The same principles govern the allomorphy of the 'on' prefix \textit{on-} to be discussed below.

\(^{13}\) Traditionally (e.g., by Nicklas 1973), the \textit{im-} prefix has been analyzed as a third person dative marker. Following Ulrich (1986), we regard \textit{im-} as the sign of the dative or a morphological indication of class III marking, but not as a third person prefix. Like class I and II agreement, then, class III agreement uses a bare (though derivationally
intransitive stative verb *in-tahko'bi 'be lazy' (14), for example, takes a dative subject and, thus, class III marking when the subject is non-third person. The transitive verb *i-hollo 'love' in (15) takes a class I subject and a class III object.

(14)  
*in-tahko'bi 'be lazy', 'he/she/it is lazy', 'they are lazy'
*an-tahko'bi 'I am lazy' etc.

(15)  
*i-hollo 'love', 'he/she loves him/her/them', 'they love him/her/them'
*i-hollo-li 'I love him/her/them'
*g-hollo 'he/she loves me', 'they love me'
*ch'i-hollo-li 'I love you' etc.

Verbs taking class III agreement can be recognized by their stem-initial *im, *in, or *i (underlining indicates a nasal vowel), but not all verbs that begin with these sequences take class III agreement: *impa 'eat' is intransitive and takes a class I subject; *isanna'li 'be opposed to' takes a class I subject and a class II object; and many verbs that include a dative prefix can only take third person arguments and thus may not appear with class III marking.

A crucial feature of Chickasaw agreement is that it is not syntactically or semantically predictable. While the verbs exemplified in (10-13) and indeed the majority of Chickasaw verbs follow the basic semantic principles outlined at the beginning of this section (or the slightly different ones in studies like Payne 1981), a great many other verbs do not. There is no reason (other than convention) why the stative verb *toklo 'be two in number', for instance, should take class I "active" marking, nor why the verb *issikopa 'act mean, be mean', which can have either a volitional or a non-volitional interpretation, should consistently take class II "non-active" marking. Like many other languages with active agreement, Chickasaw has some intransitive verbs, such as *hotolhiko 'cough' or *nosi 'sleep' that may take "fluid" class I or II agreement depending on features like volitionality. But other semantically comparable verbs like *yaa 'cry' that can vary for volitionality take only class I agreement, as do some completely non-volitional verbs like *ihabanka 'snore'. Dative arguments are similarly problematical. Class III prefixes may index canonical datives or benefactives, as in *in-taloowa 'sing to, sing for', and some class III arguments, like the object of *i-hollo 'love', could be considered semantic experiencers, but the subject of *in-tahko'bi 'be lazy' does not seem like an experiencer, and there is no reason why the subject of *in-chokmishto 'be healthy' should be a class III argument, while the subject of *abiika 'be sick' is a class II argument. (For more discussion, see Munro and Gordon 1982.) Thus, while

complex) stem as the third person form. Ulrich (1986) and Munro (1993) provide a number of arguments against considering the dative marker (or, we might add, any applicative) as marking third person. Crucially, these appear in many contexts without third person reference, which is inferred only in the absence of other person indicators.
semantic principles (some of which we consider in this paper) categorize the basic system, the agreement features of many verbs must be lexically marked.

4. The Chickasaw applicatives. The three Chickasaw applicative prefixes whose use was exemplified in section 2 are members of a set of eight applicative markers, seven prefixes (in addition to *aa*- locative, *ibaa*- comitative, and *im*- dative, these include *a*- 'against', *imaa*- 'from', *okaa*- 'in', and *on*- 'on') and an instrumental proclitic, *isht*. Table 2 presents examples of verbs containing each of these morphemes, with the corresponding non-applicative verbs:

<table>
<thead>
<tr>
<th>applicative</th>
<th>meaning</th>
<th>examples</th>
</tr>
</thead>
</table>
| *aa-*       | • locative: 'in', 'at', 'by'  
|             | • 'from' (inanimate source)  | *aa-ngwa* 'to walk (around) in'; cf. *ngwa* 'to walk'  
|             |         | *aa-fammi* 'to whip in/at'; cf. *fammi* 'to whip'  
|             |         | *aa-fama* 'to be whipped in/at'; cf. *fama* 'to be whipped'  
|             |         | *aa-malli* 'to jump in, jump from'; cf. *malli* 'to jump'  
|             |         | *aa-ikbi* 'to make from'; cf. *ikbi* 'to make'  
|             |         | *aa-honkopa* 'to steal from (a place or institution)'; cf. *honkopa* 'to steal'  
| *ibaa-*     | • comitative: '(along) with'  | *ibaa-chokoshkomo* 'to play with (a co-subject)'; cf. *chokoshkomo* 'to play'  
|             |         | *ibaa-fama* 'to be whipped with'; cf. *fama* 'to be whipped'  
|             |         | *ibaa-abi* 'to kill with (a co-subject)'; cf. *abi* 'to kill'  
|             |         | *ibaa-fammi* 'to whip with (a co-subject or object)'; cf. *fammi* 'to whip'  
|             |         | *ibaa-kahli* 'to lay down [plural object] with'; cf. *kahli* 'to lay down [plural object]'  
|             |         | *ibaa-chokoshkomochi* 'to make play with (a co-subject or co-subsee)'; cf. *chokoshkomochi* 'to make play'  

144
<table>
<thead>
<tr>
<th><strong>im-</strong></th>
<th>• dative: 'to', 'for'</th>
<th><strong>im-alla</strong> 'to come to (someone)'; cf. <strong>ala</strong> 'to arrive' <strong>im-pilachi</strong> 'to send to'; cf. <strong>pilachi</strong> 'to send' <strong>im-anompoli</strong> 'to talk to'; cf. <strong>anompoli</strong> 'to talk' <strong>im-issikopa</strong> 'to be mean to'; cf. <strong>issikopa</strong> 'to be mean' <strong>im-acho'li</strong> 'to sew for'; cf. <strong>acho'li</strong> 'to sew' <strong>i-honkopa</strong> 'to steal for'; cf. <strong>honkopa</strong> 'to steal'</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>a-</strong></td>
<td>• 'against', 'onto'</td>
<td><strong>a-kooli</strong> 'to break (a compact object) against'; cf. <strong>kooli</strong> 'to break (a compact object)' <strong>a-pichiffany</strong> 'to splat (something) against'; cf. <strong>pichiffany</strong> 'to splat (tr.), make go splat' <strong>a-bila</strong> 'to melt onto'; cf. <strong>bila</strong> 'to melt' <strong>a-chaakissa</strong> 'to stick onto'; cf. <strong>chakissa</strong> 'to be sticky' <strong>a-hotihnachi</strong> 'to count with, include in the count'; cf. <strong>hotihnachi</strong> 'to count (tr.)' <strong>a-lowa</strong> 'to burn (intr.) with, catch fire from'; cf. <strong>lowa</strong> 'to burn (intr.)'</td>
</tr>
<tr>
<td></td>
<td>• 'along with'</td>
<td></td>
</tr>
<tr>
<td><strong>imaa-</strong></td>
<td>• 'from' (animate source)</td>
<td><strong>imaa-chompa</strong> 'to buy from'; cf. <strong>chompa</strong> 'to buy' <strong>imaa-habina</strong> 'to receive from'; cf. <strong>habina</strong> 'to receive' <strong>imaa-honkopa</strong> 'to steal from'; cf. <strong>honkopa</strong> 'to steal' <strong>imaa-hobachy</strong> 'to copy from'; cf. <strong>hobachy</strong> 'to copy' <strong>imaa-ishi</strong> 'to get from'; cf. <strong>ishi</strong> 'to get' <strong>imaa-ithana</strong> 'to learn from'; cf. <strong>ithana</strong> 'to come to know'</td>
</tr>
<tr>
<td><strong>okaa-</strong></td>
<td>• 'in', 'into'</td>
<td><strong>okaa-ngwa</strong> 'to walk in (grass, etc.)'; cf. <strong>ngwa</strong> 'to walk' <strong>okaa-ahantly</strong> 'to live (completely enclosed) in'; cf. <strong>ahantly</strong> 'to live' <strong>okaa-hikki'ya</strong> 'to stand in'; cf. <strong>hikki'ya</strong> 'to stand' <strong>okaa-tono'li</strong> 'to roll around in, wallow in'; cf. <strong>tono'li</strong> 'to roll around [intransitive]' <strong>okaa-howita</strong> 'to vomit into'; cf. <strong>howita</strong> 'to vomit' <strong>okaa-malli</strong> 'to jump into'; cf. <strong>malli</strong> 'to jump'</td>
</tr>
</tbody>
</table>

---

14 A short vowel in a stem-initial open syllable may change to a long vowel when the **a-** applicative prefix is added.
| on-       | • 'on', 'onto'  
|           | • 'about'       
|           | • 'in the     
|           |   direction of  |
|           | \( a\)-\( no\)wa 'to walk on'; cf. \( n\)\( o\)wa 'to walk'  
|           | \( a\)-\( m\)\( a\)li 'to jump on'; cf. \( m\)\( a\)li 'to jump'  
|           | \( a\)-\( h\)\( a\)\( b\)\( i\)\( s\)\( k\)o 'to sneeze at/on'; cf. \( h\)\( a\)\( b\)\( i\)\( s\)\( k\)o 'to sneeze'  
|           | on-\( t\)\( a\)\( s\)\( h\)\( i\) \' to scream at'; cf. \( t\)\( a\)\( s\)\( h\)\( i\) 'to scream'  
|           | \( a\)-\( h\)\( o\)\( w\)\( i\)\( t\)a 'to vomit on'; cf. \( h\)\( o\)\( w\)\( i\)\( t\)a 'to vomit'  
|           | \( a\)-\( l\)\( o\)\( s\)h\( k\)\( a\) 'to lie about'; cf. \( l\)\( o\)\( s\)h\( k\)a 'to tell a lie'  
| isht     | • instrumental:  
|           | 'with (using)'  
|           | • 'about'       
|           | • 'bringing',   
|           | 'taking'        |
|           | isht-\( a\)\( b\)i 'to kill with'; cf. \( a\)\( b\)i 'to kill'  
|           | isht-\( a\)\( l\)\( h\)\( i\)\( o\)\( b\)a 'to be paid for with (e.g., money)'; cf.  
|           | \( a\)\( l\)\( h\)\( i\)\( o\)\( b\)a 'to be paid for'  
|           | isht-\( a\)\( n\)\( o\)\( m\)\( p\)\( o\)\( l\)i 'to talk about'; cf. \( a\)\( n\)\( o\)\( m\)\( p\)\( o\)\( l\)i 'to talk'  
|           | ish-\( y\)\( a\)a 'to cry about, mourn'; cf. \( y\)\( a\)a 'to cry'  
|           | ish-\( a\)\( y\)a 'to bring/take'; cf. \( a\)\( y\)a 'to go'  
|           | ish-\( t\)\( o\)\( s\)\( s\)\( o\)\( o\)\( l\)a 'to bring/take while bucking'; cf.  
|           | \( t\)\( o\)\( s\)\( s\)\( o\)\( o\)\( l\)a 'to buck'  

**Table 2: Examples of the Chickasaw applicatives**

As Table 2 suggests, most of the applicatives can be used to index a range of meanings (much like prepositions or case markers in more familiar languages) and some of them exhibit phonologically irregular relationships to the unprefixed verb. Munro (2000) argues that they should be considered derivational rather than inflectional, since almost all of them exhibit substantial semantic, lexical, syntactic, and phonological irregularity. (\( I\)\( m\)\( a\)a- 'from' appears to be the only applicative whose meaning and use are completely unproblematical. It is likely that this applicative is a relatively recent compound of the independent applicatives \( i\)\( m\)- and \( a\a\)-.)

We focus in this paper on three applicative prefixes with goal-oriented directional meanings — the dative \( i\)\( m\)-'to', \( o\)\( n\)-'on', and \( a\)-'against' — that are used extensively to index human referents, and that share a number of properties within the applicative system. (The other goal-oriented directional, \( o\)\( k\)\( a\)- 'in, into', cannot add a human (or even animate) argument to a clause, and also fails to share the other syntactic and semantic features we will examine in the remainder of this paper. \( I\)\( m\)\( a\)a- 'from' is a directional, but it is source- rather than goal-oriented; like \( o\)\( k\)\( a\)\( a\)-, it also fails to share the syntactic and semantic features described below. It may be significant that this prefix appears to include dative \( i\)\( m\)-, as just noted.)

5. **The Syntax of the Directional Applicatives.** Prototypically all the Chickasaw applicatives introduce object arguments into simpler clauses, as illustrated in section 2.

5.1 (16-18) illustrate the directional applicative objects in sentences. (Again, the applicative markers are boldfaced. Since the class III agreement markers cannot always be fully segmented
from the dative applicative, as illustrated in section 3, we have boldfaced the whole III-dative combination, as in (16c) or (9) above.)

(16a)  *Hattak-at ona-tok.* 'The man went over there'
        man-nom  go.there-pt
(16b)  *Hattak-at ihoo im-ona-tok.* 'The man went over there to the woman'
        man-nom woman  dat-go.there-pt
(16c)  *Hattak-at chim-ona-tok.* 'The man went over there to you'
        man-nom  2sIII.dat-go.there-pt

(17a)  *Chipota-at howita-tok.* 'The child vomited'
        child-nom vomit-pt
(17b)  *Chipota-at ihoo q-howita-tok.* 'The child vomited onto the woman'
        child-nom woman  on-vomit-pt
(17c)  *Chipota-at ach-q-howita-tok.* 'The child vomited onto you'
        child-nom  2sII-on-vomit-pt

(18a)  *Chipot-aat chakq’to pichiffi-tok.*
        child-nom tomato  splat-pt
        'The child splatted the tomato (threw the tomato so it went splat)'
(18b)  *Chipot-aat aboohapootak-a chakq’to a-pichiffi-tok.*
        child-nom wall-acc tomato against-splat-pt
        'The child splatted the tomato against the wall'
(18c)  *Chipot-aat chakq’to a-chi-pichiffi-tok.*
        child-nom tomato against-2sII-splat-pt
        'The child splatted the tomato against you'\(^{15}\)

As the (c) examples show, these applicative objects can be non-third person. A non-third person dative is marked with class III agreement, while a non-third person *a-* or *on-* argument is marked with II agreement.

5.2 Chickasaw has applicative subjects as well as applicative objects. Applicative subjects can be both lexical and derived.

There are a number of verbs containing the *im-*, *a-*, and *on-* applicatives that are intransitive, with the applicative argument as their subject. Here are a few examples:

\(^{15}\) The allomorphy of class II prefixes is described in Munro (1993) and Munro and Willmond (1994: xxvii-xxix).
(19a)  **im-subjects** (class III agreement)

*im-alhta* 'to be ready (of an animate)', cf. *alhta* 'to be ready (of an inanimate)'

*im-palli* 'to feel hot', cf. *palli* 'to be hot'

(19b)  **on-subjects** (class II agreement)

*on-okhil* 'to have it get to be dark on one'; cf. *okhil* 'to be dark (of a location)'

*on-tabookoli* 'to have it get to be noon on one'; cf. *tabookoli* 'to be noon, have it be noon (of a location)'

(19c)  **a-subjects** (class II agreement)

*a-chamapa* 'to have one's head ring'; cf. *chamapa* 'to bang together (intr.)'

*a-lhopolli* 'to have diarrhea'; cf. *lhopolli* 'to go through'

The first of each pair of verbs in (19) contains a directional applicative prefix. The intransitive subjects of these verbs are in, respectively, 'to', 'against', and 'on' relationships with the original predicates given as the second member of each pair. Although the relationship between the pairs of verbs in (19) seems semantically well justified, there are only a limited number of verb pairs that work this way. We thus consider the applicative subjects of the first verbs in (19) to be lexical applicative subjects.

Applicative subjects can also be derived by the Possessor Raising and Oblique Subject rules (Munro and Gordon 1982, Munro 1999). These constructions, which characteristically have more than one nominative marked noun, are used to highlight the salience of their derived subject nouns.

In this paper, we restrict our attention to the semantics of Chickasaw applicative objects. We examine the syntax and semantics of applicative subjects in Gorbet and Munro (in preparation).

6. **The semantics of the directional applicatives.** Although each of the three Chickasaw applicatives we consider here have a range of meanings, we will argue that their basic sense is to indicate a directional relationship, and that this meaning is metaphorically extended to include the other uses we will discuss.

This is perhaps not an unusual occurrence. The Southern Paiute "indirective" applicative (perhaps significantly identified by Sapir as introducing an indirect object that must be animate) whose arguably basic directional use is exemplified in (7) can mean 'for', 'from', 'with', and 'against' as well as 'to' (Sapir 1930-31: 144). (However, Sapir does not present enough examples for us to understand the semantic range indicated by these English glosses.)

Semantically, the three Chickasaw applicatives we are concerned with here all have patterns of meaning extension — that is, of extension of the meaning of the relationship between the verb and the argument added by the applicative — many of which involve specifically human arguments and how they are affected by the verb. Moreover, those extensions involve relationships that are to some degree motivated by characteristically human experiences in events and situations.
6.1. The *im-* (dative) applicative is clearly the primary Chickasaw applicative. Cross-linguistically, semantically similar "dative" meanings are the most common and often the only meanings for applicative morphemes. This cross-linguistic tendency (and no doubt its motivations) are reflected in the Chickasaw dative applicative. It is the most frequently used of all applicatives, and it has the richest set of meanings, and it has what is surely the most productive applicative meaning (benefactive).

What seems to be central to the dative is a directional meaning with a human goal, as in *im-alla* 'to arrive to, come to (someone)' (cf. *ala* 'to arrive (at)'). This meaning has two aspects that it is difficult to rank in terms of priority. The first is the meaning reflected in the etymology of the term **dative**, that of a human recipient of a transfer from an agent to the recipient, with the recipient getting possession in some sense, as in *im-atobbi* 'to pay to' (cf. *atobbi* 'to pay'). There is doubtless a connection here with the use of the dative prefix to specify possession on nouns. The second is simply directional movement, without the human goal necessarily either being reached or gaining possession of whatever moves, as in *in-tono'chi* 'to roll (a ball) to' (cf. *tono'chi* 'to roll (a ball)') or *im-pilachi* 'to send (something) to' (cf. *pilachi* 'to send (something)'). (The in-dative applicative examples discussed in this section are summarized in Table 3.)

*im-alla* 'to arrive to, come to (someone)' (cf. *ala* 'to arrive (at)')
*im-atobbi* 'to pay to' (cf. *atobbi* 'to pay')
*in-tono'chi* 'to roll (a ball) to' (cf. *tono'chi* 'to roll (a ball)')
*im-pilachi* 'to send (something) to' (cf. *pilachi* 'to send (something)')
*in-toshooli* 'to interpret for' (cf. *toshooli* 'to interpret')
*in-toshaffi* 'to break off a piece of (something) for' (cf. *toshaffii* 'to break off a piece of')
*i-loshka* 'to lie to' (cf. *loshka* 'to lie')
*im-anompoli* 'to talk to' (cf. *anompoli* 'to talk'),
*i-moshmoli* 'to wink at' (cf. *moshmoli* 'to wink')
*im-aakánalli* 'to dodge (a person)' (cf. intransitive *aakánalli* 'to dodge')
*im-ashannichi* 'to lock up (someone) in' (cf. transitive *ashannichi* 'to lock (something)')
*im-ishi* 'to take from' (cf. *ishi* 'to take')
*im-qlabi* 'to want from' (cf. *qlabi* 'to want, desire')
*i-loma* 'to hide (oneself) from' (cf. *loma* 'to hide (intr.)')
*i-lohmi* 'to hide (something) from' (cf. *lohmi* 'to hide (tr.)')
*i-yimmi* 'to believe (someone)' (cf. *yimmi* 'to believe (something)')

**Table 3.** *Im-* 'to' (dative) applicative object examples
There are two rather common other extensions of the two aspects of the basic directional meaning of the dative. The first is the benefactive, which is a common metonymic consequence of the recipient role. This sense is fully productive in Chickasaw, with benefactives added to both basic intransitives, as in in-\textit{toshooli} 'to interpret for' (cf. \textit{toshooli} 'to interpret'), and basic transitives, as in \textit{in-toshaffi} 'to break off a piece of (something) for' (cf. \textit{toshaffii} 'to break off a piece of'), as in (20).

(20) \textit{Paska an-toshaffi-tok}. 'He broke off a piece of the bread for me'

\begin{verbatim}
bread 1sIII.dat-break.off-pt
\end{verbatim}

The second is the addressee of a verb of communication, a metaphorical extension based on a conduit metaphor, as in \textit{iloshka} 'to lie to' (cf. \textit{loshka} 'to lie') and \textit{im-anompali} 'to talk to' (cf. \textit{anompali} 'to talk'), or even \textit{imoshmoli} 'to wink at' (cf. \textit{moshmoli} 'to wink'). With these, the addressee gains possession of the content of the communication.

Virtually all the uses of the dative have a strong association with animacy and in particular humanness. In some cases, an added dative argument allows the specification of a human participant in the event that cannot be specified in that clause if it is non-human. For example, consider intransitive \textit{aakánnali} 'to dodge'. This verb does not allow the specification of an inanimate object that is dodged. In (21a), the 'dodge' clause is intransitive; the object dodged, 'ball', can be specified as the subject of a separate motion clause. When the dodged item is human, however, the verb may take a dative prefix, and the dative applicative object may appear as an element of the 'dodge' clause, as in (21b):

(21a) \textit{Aakánnali-li to\textasciitilde{w}-aat oot-aya-tok}.

\begin{verbatim}
dodge-1sL.cj.ds ball-nom this.way-go-pt
\end{verbatim}

'I dodged the ball: I dodged, as the ball was coming this way'

(21b) \textit{Larry-a im-aakánnali-li oot-aya-tok}.

\begin{verbatim}
Larry-acc dat-dodge-1sL.cj.ds this.way-go-pt
\end{verbatim}

'I dodged Larry: I dodged Larry, as he was coming this way'

(22) provides a more complex example. \textit{Ashannichi} is a transitive verb meaning 'to lock (something)' (22a), which cannot be used to name an inanimate object that is locked up or locked in – in (22b), the item locked in is specified in a separate locational clause. When the item locked in is human, however, as in (22c), it can be specified as a dative object of \textit{ashannichi}:

(22a) \textit{Abooha ashannichi-li-tok}. 'I locked the house'

\begin{verbatim}
house lock-1sI-pt
\end{verbatim}

(22b) \textit{Larry-as aashannichi-li to\textasciitilde{w}-aat oot-aya-tok}.

\begin{verbatim}
Larry-acc dat-lock-1sL.cj.ds this.way-go-pt
\end{verbatim}

'I locked Larry: I locked Larry, as he was coming this way'

(22c) \textit{Aashannichi-li Larry-a to\textasciitilde{w}-aat oot-aya-tok}.

\begin{verbatim}
ashi-lock-1sL.cj.ds Larry-acc this.way-go-pt
\end{verbatim}

'I locked Larry: I locked Larry, as he was coming this way'
The association of the dative with possession extends to expressions involving literally or metaphorically losing possession. Examples include im-ishi 'to take from' (cf. ishi 'to take') and im-glabi 'to want from' (cf. glabi 'to want, desire'). This 'from' meaning has been further extended to cases that less clearly involve possession or a source, such as i-loma 'to hide (oneself) from' and i-lohmi 'to hide (something) from' (cf. loma, lohmi 'to hide', intransitive and transitive).

Sometimes the dative marks a human in an at least partially patient role, where non-humans would be direct objects of the simple verb. An example is i-yimmi 'to believe (someone)' (cf. yimmi 'to believe (something)'). In such cases, significantly, adding an applicative argument does not increase the number of arguments specified by the verb.

Perhaps the most striking example of the association of the dative with humanness is in the formation of the imaa- 'from' applicative, whose source is a compound of the dative im- plus locative aa- applicatives. In cases like those in (23), adding the dative does not add an argument, but instead effectively specifies the source (original possessor) as human.

### (23)

*ithana 'to learn, find out' — aa-ithana 'to learn one's way around (a place)' — imaa-ithana 'to learn from (a person)'

*hobachi 'to copy' — aa-hobachi 'to copy from (a book)' — imaa-hobachi 'to copy from (a person)'

*honkopa 'to steal' — aa-honkopa 'to steal from (a bank)' — imaa-honkopa 'to steal from (a person)'

#### 6.2.
The on- applicative is even more clearly locative/directional in its central meaning than the dative, with most uses not involving any metaphorical extension outside the literal spatial domain. (The on- applicative examples discussed in this section are summarized in Table 4.)
om-biniliili 'to sit on, ride' (cf. biniliili 'to sit on')
q-holissochi 'to write on' (cf. holissochi 'to write')
q-hilha 'to dance on' (cf. hilha 'to dance')
on-talaali 'to put down on' (cf. talaali 'to put down')
q-loshka 'to lie about' (cf. loshka 'to tell a lie')
on-tasahlili 'to scream at' (cf. tasahlili 'to scream')
on-tastachi 'to talk loudly to (someone, so they can hear you)' (cf. tastachi 'to talk loudly')
on-chaffichi 'to sic (a dog) on' (cf. chaffichi 'to send away')

**Table 4.** On- 'on' applicative object examples

The primary meanings of the on- applicative are quite similar to those of the spatial preposition on (or onto) in English, encompassing notions of both support from beneath (e.g. om-biniliili 'to sit on, ride'; cf. biniliili 'to sit on') and surface contact (e.g. q-holissochi 'to write on' (24); cf. holissochi 'to write') and including both static location (e.g. q-hilha 'to dance on'; cf. hilha 'to dance') and direction of movement (e.g. on-talaali 'to put down on'; cf. talaali 'to put down' (25ab)).

(24) Aboohapootaka' ish-q-holissochi-nna! 'Don't write on the wall!
  wall            2sI-on-write-neg.imp

(25a) Ishtakafa' talaali-li-tok. 'I put the cup down'
cup              put.down-1sl-pt
(25b) Yamm-ako ishtakafa' on-talaali-li-tok. 'I put the cup down on that one'
that-ctr.acc:cup on-put.down-1sl-pt

The meaning of on- gets extended in several metaphorical ways. Two of these involve human arguments of speech act verbs. The first marks a human spoken about as being somehow adversely affected by the speech act (e.g. q-loshka 'to lie about'; cf. loshka 'to tell a lie'). The second suggests that the speech act is performed with a strong intention of affecting the human to whom it is directed (e.g. on-tasahlili 'to scream at' (cf. tasahlili 'to scream); on-tastachi 'to talk loudly to (someone, so they can hear you)' (cf. tastachi 'to talk loudly')). In a very few cases, this applicative simply indicates that a human is somehow affected by the action of verb, as in on-chaffichi 'to sic (a dog) on' (cf. chaffichi 'to send away').

6.3. The meaning of the a- applicative is also extended but its extensions are primarily in spatial domains and rather than to human arguments. Its primary meaning is something like that of English against (in its spatial sense), as in a-pichifíi 'to splat against' (cf. pichifíi 'to splat'), but
it sometimes has an 'onto' sense that is not clearly distinct from that of on-, as in a-bila 'to melt onto' (cf. bila 'to melt'). (The a- applicative examples discussed in this section are summarized in Table 5.)

\[\text{a-piichiffi 'to splat against' (cf. pichiffi 'to splat')\]
\[\text{a-bila 'to melt onto' (cf. bila 'to melt')}\]
\[\text{a-balalli 'to grow together with' (cf. balalli 'to grow on the ground')}\]
\[\text{a-kashapa 'to split off from' (cf. kashapa 'to split off')}\]
\[\text{a-kaniya 'to go off with (somebody, and marry them)' (cf. kaniya 'to go away')}\]
\[\text{a-chilita 'to pester' (cf. chilita 'to be persistent')}\]

**Table 5. A- 'against, onto' applicative object examples**

One extension of the basic 'against, onto' meaning is to 'together with', mostly with inanimate arguments that are in some sense intermingled with the subject of the verb (and thus distinct from the true comitative sense of the ibaa- applicative, whose argument is virtually always human), as in a-balalli 'to grow together with' (cf. balalli 'to grow on the ground'). The range of meanings of the a- applicative is fairly broad, including the 'from' sense in a-kashapa 'to split off from' (cf. kashapa 'to split off').

Extensions to specifically human arguments seem to be on an item-by-item basis, rather than showing multiple instantiations of one or two general metaphorical patterns. For example, kaniya 'to go away', when prefixed with the a- applicative is a-kaniya 'to go off with (somebody, and marry them)'. Chilita 'to be persistent' with the a- applicative is a-chilita 'to pester'.

7. CONCLUSION. From a diachronic perspective, it is clear that Chickasaw has seen a spreading of both the applicative system in general and of the metaphorical and metonymic extension of individual applicative morphemes. The former is evident in the sheer number of applicative morphemes, which make prepositions and oblique case markings unnecessary. The latter, radiating from and perhaps shaped by the dative applicative is evident in the variety of extended meanings and in the entrenchment of at least one productive extension (the benefactive dative).

Synchronically, the meanings of many applicatives verbs must be specified in the lexicon, but some the extended meanings of some applicative morphemes are either productive or becoming so. New uses of the directional applicatives follow the morphosemantic patterns we have examined in detail for the dative, motivated, of course, by the communicative needs of Chickasaw speakers.
REFERENCES


