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A Grammar of the Washo Language

By

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A.B. (Harvard University) 1953

DISSERTATION

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INTRODUCTION

The Washo language is still spoken in its aboriginal location, which is an area centering on Lake Tahoe and extending about 140 miles between its northern and southern extremities. The map of Fig. 1 shows the distribution of Washo relative to the surrounding aboriginal languages. The surrounding languages are all unrelated to Washo, within a time depth that would allow of any meaningful comparisons. Washo is a member of the Hokan family. To the east its neighbor belongs to the Uto-Aztekan family, while the languages adjoining it on the west are members of the Penutian (or California Penutian) family. The time depths within each of these three families are such as to make them comparable to Indo-European in their diversity. Indeed, Washo has been estimated to have split off from its nearest relative in the Hokan family some 4500 years ago (Greenberg and Swadesh, 1953; Kroeber, 1955). Although this figure cannot be taken very seriously, it seems to be of the correct order of magnitude. The other Hokan languages are spread out in bunches over California ranging from Karok in the northwestern portion of the state and the Palaihnihan languages in the northeast down to the Yuman languages running across southern California and well into Arizona, and the family extends into southern Mexico. More distant relationships of the family have been proposed, extending both into Central and South America and into the central and eastern United States, but sufficient evidence

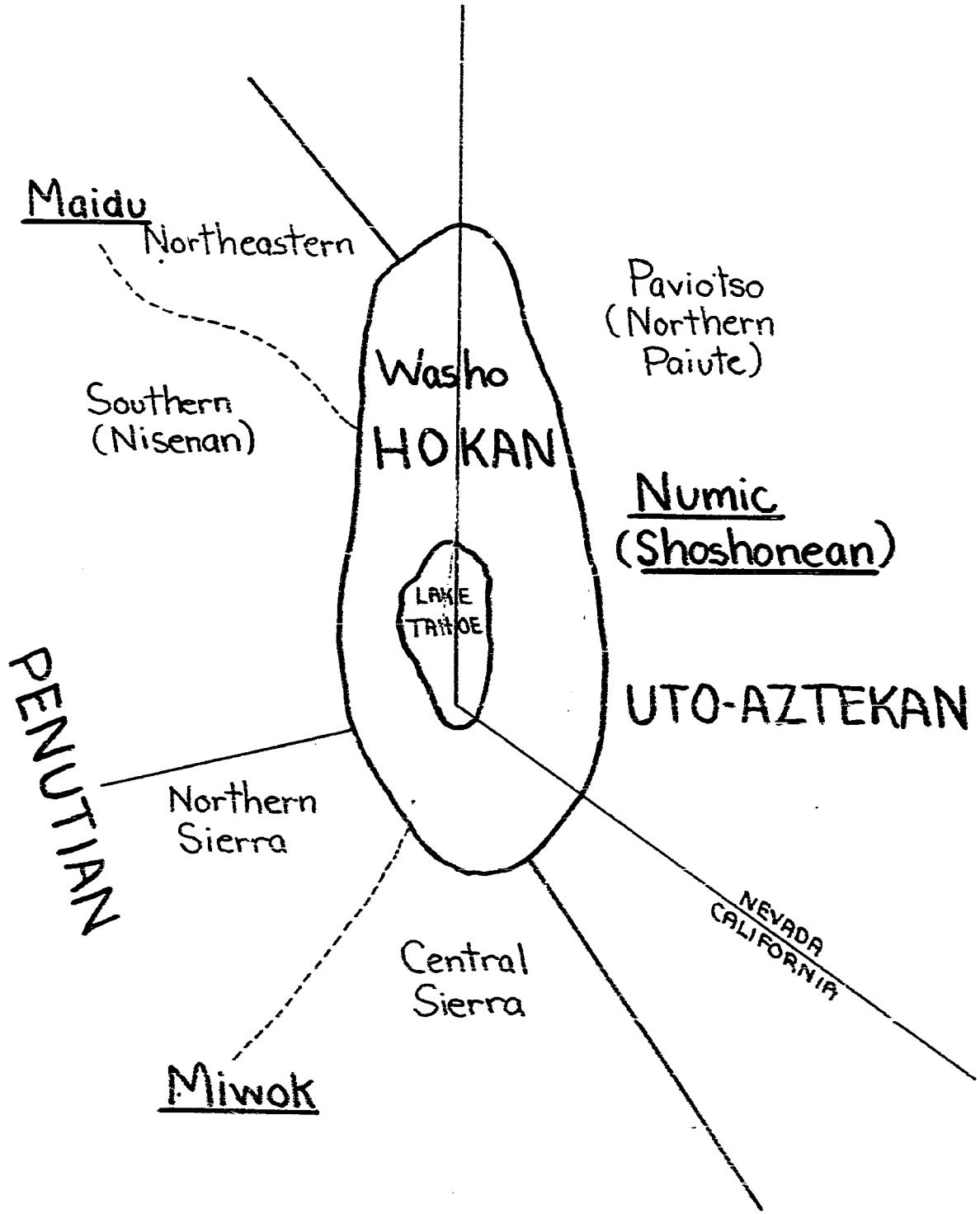


Fig. 1. Washo and surrounding languages.

to substantiate these is lacking.

The Uto-Aztekan adjoining Washo on the eastern half of its border consists of one language, Paviotso or Northern Paiute, which is one of six languages in the Numic branch of this family. The term Shoshonean, also given on the map, refers to a larger grouping which is probably not a valid sub-unit of the family. Penutian on the west is represented by two language families, Maidu and Miwok, in each of which two languages have common borders with Washo. The two Maidu languages are Northeastern Maidu or Maidu proper and Southern Maidu or Nisenan; the Miwok languages are Northern Sierra Miwok and Central Sierra Miwok. There are additional languages in each of these families. The degree of relationship between Maidu and Miwok is a distant one, whereas the relationship of the languages within each of the three surrounding sub-families is a more obvious one.

The map of Fig. 1 is not intended to show the exact boundaries of Washo territory. For a map showing the probable boundaries in relationship to topographical features the reader may be referred to Plate I in Price, 1962. This map, which is based on a synthesis of sources as indicated on p. 1, makes a nice distinction between "nuclear lands" and "peripheral lands".

The name Washo is derived from the native name for the tribe and its members, /wá·šiw/. The English word is usually spelled <u>Washo</u> in the anthropological and linguistic literature, but it is spelled <u>Washoe</u> in governmental and legal documents

relating to the tribe, and in place names derived from the name of the tribe, of which there are several (Washoe Lake, Washoe Valley, Washoe City, Washoe County). This spelling reflects the local pronunciation of the name of the tribe, wherein the second syllable rhymes with shoe. This pronunciation is a closer approximation to the native form than the spelling pronunciation wherein the second syllable rhymes with show.

Two other place names of the area that are derived from the Washo language are Lake Tahoe, from /dá?aw/ 'lake', and Mount Tallac, from /dalá?ak/ 'mountain'.

Estimates of the size of the aboriginal population are conflicting. See Freed, 1960, p. 350; Downs, 1961, p. 365; and Price, 1962, pp. 2-3 and 1963a, p. 77 for summary and discussion. The population in the mid nineteenth century was certainly at least 1500 and may have been as large as 3000. The number of speakers of the language at the time of my field work in the later 1950's was apparently between 100 and 200. As many of them were elderly, and as their ranks are not being replenished, the number is probably now considerably smaller.

The tribe was culturally and linguistically quite uniform. This is perhaps due in part to the patterns of seasonal migrations and gatherings, which would tend to inhibit the growth of localized variants. The oft-repeated trinary division into northerners, Carson Valley dwellers, and southerners (see, inter alia, Lowie, 1939, p. 350;

Freed, 1960, p. 350; and Price, 1962, p. 1) seems to have no firm basis in the cultural or linguistic realities, and even the status of this categorization as a valid piece of Washo folklore common to all portions of the tribe (rather than to just the Carson Valley dwellers) seems dubious. The dialectal differences are minimal, and there is no clearly delineated boundary of speech types. As might be expected, no two informants used are completely identical in speech. The inventory of phonemes seems to be common to all speakers encountered, and the patterns of phoneme arrangements show only minor differences. There are some differences in the pronunciation of the phonemes, most noticeably in the quality of /e/ and in the degree of fortisness of the glottalized stops. There seems to be a basis in fact for the widespread opinion that the northerners speak more slowly than the others. There are a few minor differences in morphophonemic rules, of which the most neatly patterned is the difference in conditioning of vowel harmony which seems to set off the southerners (represented by Roy James) from the rest. A relatively low number of morphemes show dialectal variations in form. Among these are a few common affixes, but the majority of them are words of infrequent occurrence, so that the differences may in part be put down to lapses of memory (not to mention inconsistencies in transcription). There are also differences of a stylistic nature, differences in the frequency of usage of certain affixes in certain functions and in preferences for certain manners of expression. Finally,

there are differences in the terms used for identical objects or concepts. These are very infrequent except when it comes to objects and concepts derived from the white man's culture, which have evoked a partially different response (or lack of response) in different segments of the tribe.

There are several nineteenth century vocabularies and word-lists of Washo, mostly unpublished. These are Frémont, 1845; Remy, 1860; Collins in Simpson, 1876; Powers, 1876; Ridgway, n.d.; Ridgway and Powers, n.d.; Henshaw, 1883a and 1883b; and Keeler, 1889. Of these the most important by far in extensiveness and quality of recording is the Henshaw vocabulary.

The major published twentieth century sources on the Washo language, prior to my own work, are the morphological sketch of Kroeber (1907) and the texts of Dangberg (1928) and Lowie (1963). Kroeber's work is based on a very short period of contact with the language, which did not prevent him from discerning some of its salient features. Lowie's work is also based on a short period of contact, in 1926. As he had no control of the language, inaccuracies of all sorts abound in the data. These include not only inadequate and inconsistent phonetic renderings and incorrect translations, but also faulty word divisions and assignments of purported word-for-word translations to the wrong words. The circumstances of posthumous preparation of the material for publication have also given rise to some obvious misreadings of certain letters.

The linguistic work of Grace Dangberg, carried on between 1917 and 1920, was much more extensive and intensive than that of the aforementioned researchers. Her manuscript grammar of the language (Dangberg, n.d.a) gives evidence of a great deal of thought and labor, effort that is largely vitiated by the lack of adequate phonological underpinning and of formal criteria for segmentation. Probably the most devastating phonetic shortcoming in her transcriptions, as well as in those of Kroeber and Lowie, is failure to write the glottal stop, which is extremely frequent in Washo. Perhaps the next most important phonetic deficiency, in which she is joined by Kroeber, is infrequent indication of stress, which has led to a blurring of the distinction between affixes and independent words. Dangberg's published texts, which offer a much larger body of data than Lowie's, are marred by an unfortunate style of translation into English, which, in attempting to render the Washo more or less word for word, often conceals the syntactic relationships between words. It is lamentable that the linguistic training available to her was not sufficient to prepare her to deal more adequately with the many difficulties inherent in work of this nature.

Incomparably better in quality then the linguistic work of any other of my predecessors was that carried on by Walter Dyk in 1931 and 1932. Dyk had been well trained in linguistics by Edward Sapir, and had written a dissertation on the grammar of Wishram Chinook before coming to the Washo. His field work was primarily directed toward the collection of texts,

with supplementary lexical data. The texts are phonetically well recorded, with a marked improvement between the earlier and the later recordings. The more common phonetic shortcomings are the omission of some glottal stops in consonant clusters and the writing of an allophone of /u/ for some instances of unstressed /ɨ/. The grammatical notes assembled by Dyk, as well as the testimony of some of his Washo friends, show that he had attained a good basic understanding of Washo grammar. He is cordially remembered by his principal interpreters, Roma James and George Snooks. The material collected by Dyk thus constitutes a generally reliable source of linguistic data. It is indeed regrettable that he has been prevented by poor health from bringing this material to publication.

There are a few vocabularies, published and unpublished, that were recorded in the twentieth century. These are Cohn's list of numerals (1902), Merriam's lengthy but very poorly recorded word lists that were collected in 1903, 1904, and 1935 (n.d.a and n.d.b), Curtis's shorter but fairly well recorded vocabulary (1926), and Price's glossary of words used in his monograph on Washo economy (1962, Appendix A, pp. 61-66), which is poorly recorded and semantically inaccurate. This last source contains a dozen forms attributed to me, which I am unfortunately forced to disown, as they have been put into an orthography which ignores several different phonemic contrasts.

A number of other twentieth century ethnographic and linguistic publications contain Washo vocabulary items, varying

considerably in quantity and in quality of recording. These are Hudson in Culin, 1907; Dixon and Kroeber, 1907 and 1919; Kroeber, 1910, 1917, and 1925; Barrett, 1917; Radin, 1919; Dangberg, 1922; Lowie, 1939; Train, Henrichs, and Archer, 1941; Siskin, 1941; Freed, 1954, 1960, and 1963; Merriam, 1955; Murphey, 1959; Riddell, 1960; Freed and Freed, 1963a and 1963b; and Price, 1963b.

In spite of the existence of these other sources, the present grammar is based almost entirely on the data, both textual and non-textual, collected by myself. The other sources have not been sufficiently well studied that any claim can be made of representing them adequately, although note has been made in a few places of variant usages found in them. All examples taken from other sources are so labelled. Any implications of exhaustive description and any statements concerning non-occurrence or limitations of distribution made herein are thus to be understood as applying only to this circumscribed corpus, and not necessarily to all extant data on the language.

The principal sources of Washo ethnographic data are Barrett, 1917; Kroeber, 1925; Curtis, 1926; Lowie, 1939; Siskin, 1941; Stewart, 1941 and 1944; McAllester, 1949; Merriam and d'Azevedo, 1957; Freed, 1960 and 1963; Freed and Freed, 1963a and 1963b; Downs, 1961, 1963a, and 1963b; Price, 1962 and 1963b; and Leis, 1963. There are many gaps in our knowledge of Washo life and culture, both aboriginal and contemporary. It is not too late to considerably improve

the situation, and it is to be hoped that study in this field will be pushed forward (compare the similar sentiments expressed by Price, 1962, pp. 59-60). For a brief summary of Washo culture, the reader may be referred to Freed, 1960, pp. 350-354. Attention may also be drawn to the chronological outline of Washo history prepared by Price (1962, pp. 10-19). d'Azevedo (1963) has given us an outline history of historical attestation and fieldwork on the Washo (unaccountably omitting the work of Walter Dyk).

For some time after the Washo first became known to the white man, they were thought to be linguistically similar to the Uto-Aztekan-speaking groups which cover such a large territory to their east in the Great Basin. Credit for first pointing out the linguistic distinctness of Washo is due to Collins in Simpson, 1876, pp. 467, 468. This source has been generally overlooked, and its vocabulary of some two hundred Washo items renders untrue Kroeber's statement (1907, p. 308) that no vocabulary of Washo had ever been published up to that time. The separateness of the Washo language was again discovered and stated rather obliquely by Gatschet (1882, pp. 254, 255). It is to this latter source that the credit for setting up a Washoan family is given in the Powell report (BAE-R 7.131 [1891]). Gatschet is apparently relying on the material collected by Stephen Powers for his classification, and he reproduces four Washo words in his article, two of which had been compared with Pit River words by Powers. The Powers vocabulary is presumably that which was collected in

1876 at Carson City, contains 211 words, and remains unpublished (reported in BAE-R 1.575 [1881]). The only other source of Washo forms known to me which may have been utilized by Gatschet is the vocabulary of 75 words collected at Carson City by Robert Ridgway, which is also unpublished (also reported, loc. cit.). The separation of Washo from other Indian tongues found further confirmation in the linguistic work done in 1883 by H. W. Henshaw, according to the statement in BAE-R 5.xxx (1887): "From the fragmentary vocabularies of this tongue before accessible the Washo had been supposed to be the sole representative of a linguistic stock, a supposition which the present vocabulary sustains."

Thus things remained for a number of years, with Washo generally held to be genetically isolated, until the announcement by John P. Harrington in 1917 (AA 19.154) of the discovery of a genetic relationship between Washo and Chumashan. This was followed later the same year by a note by Edward Sapir (AA 19.449-450) welcoming Harrington's announcement as confirmation of the opinion that Sapir had formed to the effect that Washo should be included in the Hokan family which had been set up by Dixon and Kroeber, since Chumash had previously been included in this group. Sapir claimed to have gathered "a quite considerable mass of lexical, phonologic, and morphologic data" that he considered to conclusively establish his hypothesis. He further stated that he judged Washo to be grammatically more typical of Hokan than Yana, which he thought clearly belonged to the group.

The linguistic evidence for this hypothesis appeared some two years later, on pp. 104-112 of Dixon and Kroeber, 1919, in the shape of two lists of comparisons of Washo forms found in other Hokan languages. The first list, containing 60 comparisons, was made by Dixon and Kroeber, using the latter author's published Washo material (Kroeber, 1907) and an unpublished vocabulary recorded by the former author. The second list contains 107 sets of comparisons made independently by Sapir, apparently using only Kroeber's published material.

The history of the setting up of the Hokan family prior to the addition of Washo may be briefly summarized as follows. After a preliminary announcement earlier the same year ("Relationship of the Indian Languages of California", Science 37. 225 [1913]), Dixon and Kroeber published in 1913 a small amount of evidence for the existence of a Hokan family, consisting of Karok, Chimariko, Shasta-Achomawi, Pomo, Yana, Esselen, and Yuman. This evidence consisted of a comparison of the words for 'tongue', 'eye', 'water', 'stone', and 'sleep'; the comparison of the Esselen noun ending -nax, -nex and Yana -na; a set of six general grammatical features shared by most of the languages; and the phonological observations that [f] was thought to occur in Karok, Pomo, and Esselen, but in no other languages in California, and that [v] had been found, outside of Shoshonean, only in Karok and Yuman. In the same article these authors set up an Iskoman family, consisting of Chumash and Salinan, and they supported

this grouping by 16 pairs of comparisons. They further pointed out that there was considerable evidence for the hypothesis of a relationship between Iskoman and Hokan, and they presented nine sets of comparisons to bolster this contention. Moreover, they suggested that new relatives of the group remained to be discovered, in addition to Seri, which they named as a probable though unproved congener.

The hypothesis of an Iskoman-Hokan relationship was supported by a brief announcement by J. P. Harrington in the same year and the same journal (AA 15.716 [1913]) that he had come to believe that Chumashan and Yuman were genetically related.

This work had been preceded by comparisons of some of the northern languages made by Dixon, culminating in his set of 57 comparisons between Chimariko, Shasta, Achomawi, and Atsugewi published in 1910. One might also mention the typological comparisons between languages of California, including Washo, made a decade earlier (1903) by these two authors, before they had any inkling of the reductions in the number of the state's language families that they were destined to bring about.

In 1891 Daniel G. Brinton had proposed a relationship between Chontal of Oaxaca (Tequistlatec), Seri, and Yuman. This was taken up by Kroeber in his 1915 article, in which he presented 35 sets of comparisons between Chontal, Seri, Mohave, and miscellaneous other Hokan languages, plus four sets of comparisons between either Chontal or Seri and other

Hokan languages, not including Yuman.

The first article to present a large body of evidence for the existence of a Hokan family was Edward Sapir's 1917 "The Position of Yana in the Hokan Stock". This paper presents about 200 sets of comparisons, and includes among the languages considered Salinan, Chumash, several Yuman languages, Seri, and Chontal, along with the more northerly languages. There is discussion of a few sound correspondences, and an attempt at the reconstruction of about a dozen stems.

Thus, the branches of the Hokan family recognized in the 1919 Dixon and Kroeber paper consisted of Karok, Chimariko, Shastan (including Achomawi and Atsugewi), Pomo, Yana, Esselen, Salinan, Chumash, Yuman, Seri, and Tequistlatecan, as well as Washo.

Also in 1919 appeared Paul Radin's attempt to demonstrate the genetic relationship of all the North American Indian languages. This article contains a few Washo forms, mostly affixes. This Washo data may result from fieldwork on the tribe which this investigator is said to have carried out.

Sapir's 1920 attempt to demonstrate a relationship between the Hokan and the Coahuiltecan languages does not include Washo data. His 1921 note on Salinan and Washo merely presents, on its last page, statements about the position of Washo in the Hokan stock and features it shares with other languages, and offers no new comparisons of forms.

In his 1920 compilation of data on the languages of Central America, Walther Lehmann presented comparisons to

show that Subtiaba and T_appanec, two closely related languages spoken respectively in Nicaragua and in southern Mexico, might be related to Washo. His evidence consisted of seven lexical juxtapositions and a noting of the similarity between the nominal d- prefixes of these languages. This lead was picked up by Sapir in his 1925 article, even though he was compelled to demonstrate that four of the lexical comparisons were untenable. Sapir of course pointed out that any relationship to Washo would have to be interpreted as a relationship to Hokan and Coahuiltecan. His attempt at confirming such a relationship presents 136 sets of lexical comparisons and includes a discussion of apparent Subtiaba sound changes and a comparative treatment of aspects of Subtiaba and Hokan morphology, especially derivational prefixes. Most of the Washo lexical material used in this paper had already been used for comparisons in the 1919 Dixon and Kroeber paper.

Gifford's grouping of presumably cognate Hokan kinship terms (1922, pp. 230-233) contains Washo forms in 19 of its sets.

Several later papers attempting to demonstrate wider relationships of the Hokan family include Washo among the Hokan languages compared. These are Rivet's 1926 attempt to demonstrate a relationship between Hokan and Malayo-Polynesian, the same author's 1942 attempt to show that the Yurumangí language of Colombia is Hokan, Harrington's 1943 attempt to show a relationship between Quechua and Hokan,

and Greenberg and Swadesh's 1953 attempted demonstration that the Jicaque language of Honduras is Hokan.

The Greenberg and Swadesh article, which contains Washo forms in 17 of its sets of comparisons, is the source of the glottochronological time depth figures for Washo as related to five other languages (Yana, Yuma, Chontal, Jicaque, Tomecrudo), which were discussed by Kroeber in 1955. The time depths for Washo range between 45 and 55 centuries, so that when compared with those obtaining between other languages, they are taken to imply that "... Washo went off on its own way, probably literally so, fairly early in the history of the superstock" (Kroeber, 1955, p. 95). Unfortunately, the source article shows internal inconsistencies in arithmetic and bookkeeping, and it violates some basic rules of procedure, in that it makes no adjustment for the varying lengths of the vocabularies compared. These drawbacks, in addition to the fact that the article is based on hit-or-miss comparisons rather than on a sound body of etymological research, means that the data cannot be relied upon to offer valid subgroupings, much less absolute datings, and that consequently any attempts at detailed historical interpretations are premature. I have the impression that Washo is not as aberrant a Hokan language as these figures would imply, and would suggest that these results may be due in part to a relative paucity of Washo data available to the researchers.

The 1954 article on "The Proto-Hokan-Coahuiltecan Word

for 'Water'" by Mary R. Haas includes a consideration of the relevant Washo forms.

The present author's 1958 comparison between Washo and Karok presents 123 sets of possible cognates between these two languages. Forms from other Hokan languages are included, as well as references to relevant comparisons presented in previous papers. There is a tabulation and relative grading of apparent sound correspondences and some discussion of certain conditioned sound shifts. I might take this occasion to mention the one good additional comparison between these two languages that has come to light since the publication of this paper: Washo íkid 'into or in fire': Karok kírih 'into or onto fire' G753.6. Cf. also Yana (Yahi and Northern) -giri 'fire goes out' (the dictionary examples suggest that this should possibly be glossed 'into fire').

It should be pointed out that the inventory of Washo phonemes given in this article, and also reproduced in Haas, 1963, p. 43, fn. 5, differs from that now recognized, and employed in the present grammar, in two ways: 1) there is no /N/; the assumption of this phoneme is now seen to have been due to incorrect transcriptions; 2) the affricates that were formerly written /ts/ and /ds/ are now considered to be unitary phonemes, for which the symbols /c/ and /z/ are used, but /ts/ is considered to be a sequence of two phonemes. A commonly-occurring difference between the morphophonemic transcription formerly used and that now employed should also be mentioned. The morphophoneme ‖A‖ for a harmonizing vowel,

represented phonemically by /a/ or /e/, is no longer used. Instead, this morphophoneme has been merged with ‖^{e}‖ (e-coloring), since the two were in complementary distribution and alternated in certain morphemes. Thus, for example, the Imperative prefix had the two allomorphs g^{e}- and gA- in the former system, whereas now it has just one, g^{e}-.

Olmsted's 1959 article on the dorsal stops of Palaihnihan and Shasta contains a few comparisons to Washo. The forms are taken from both Kroeber, 1907, and Jacobsen, 1958. Similarly, Haas's two recent papers on comparative Hokan, "Shasta and Proto-Hokan" (1963) and "California Hokan" (n.d.), include Washo among the languages compared. The forms are derived from my data, being taken both from Jacobsen, 1958, and from manuscript materials.

My article "Switch-Reference in Hokan-Coahuiltecan", now in press, includes a detailed description of the syntax of -š Reference Switching, a comparison of similar devices in Kashaya (Southwestern Pomo) and in Tonkawa, an attempt at a cognitive analysis of the device, contrastive notes on similar phenomena in other languages, and an inconclusive discussion of possible historical implications of the distribution of this feature in the southwestern United States.

Washo forms furnished by me also appear in Freed, 1960 and 1963 (kinship terms), and in Bright, 1960 (terms for animals of acculturation). The changes noted above in the notation of affricates apply to this data also; in the words appearing in Bright's monograph the digraph /ǎz/ was used

for the affricate now written /z/. In the Freed material a couple of final glottal stops have been omitted in printing (/lepísewiʔ/, /dimáʔšaʔ/); conversely, the word for 'cow' given in Bright, p. 222, should be /gúsu/, without a final glottal stop. A few of the forms in the Freed tables (1960, pp. 356-357, and 1963, pp. 11-13) are underanalyzed; that is, the forms in the Stem column are not all monomorphemic. Bright's monograph also includes some forms taken from Simpson, 1876, and from Henshaw, 1883b.

Brief mention may be made of other ancillary studies by the author reported in manuscripts that are as yet unpublished. The investigation into loanwords between Washo and the surrounding Indian languages (Jacobsen, 1957) uncovered words borrowed from each of the three surrounding families, although the total number of borrowed lexical items is not large. The direction of borrowing, so far as it can be determined, is overwhelmingly from the other languages into Washo, rather than the reverse. About 20 of these loanwords are ultimately from Spanish. This study has been hampered by the lack of extensive lexical data on Paviotso.

The examination of Washo words that had previously been used in comparative studies (Jacobsen, 1958c) sought to determine the extent to which inaccurately recorded forms had led to untenable comparisons. Although some cases were found of previous comparisons that are completely invalidated, and others that are considerably weakened, by more accurate knowledge of the forms involved, the majority of the forms

used for comparison were found to have been well enough recorded that the validity of the comparisons is not changed appreciably by a reliable recording and analysis of the forms.

The investigation into internal reconstruction in Washo reported in Jacobsen, 1960a and 1960b, yielded the following most basic results: 1) The two series of voiceless and voiced stops are shown to have arisen from a single earlier series, the contrasts having been introduced by the loss of an unidentified following consonant, perhaps */h/. 2) The loss of this consonant also gave rise, in whole or in part, to the contrasts of vowel length. Before this there had been allophonic variations in the length of stressed vowels, such vowels being longer in open syllables and shorter in closed syllables. 3) The phoneme /ɨ/ is secondary in origin, having been introduced partly through loan words and partly through internal developments. 4) The vowels /e/ and /o/ in unstressed syllables derive respectively from */a/ and */u/, through processes of vowel harmony within words. The last two points take us back to a system with five vowels, /i u e a o/, of which only three, /i u a/, occurred in unstressed syllables.

The comparison of the basic structural characteristics of the four Hokan languages on which the fullest data was available, Washo, Yuma, Karok, and Kashaya (Southwestern Pomo), (Jacobsen, 1961) revealed considerable underlying similarity, in spite of great differences in details. Sub-

sequent study of Yana shows it to be also similar. However, it is not certain that this sample is fully representative of the family, as some other Hokan languages, such as Salinan, Chumash, and the Palaihnihan languages, seem to be more aberrant in structural type.

The bibliography which follows this introduction includes the main sources for Washo linguistic and ethnographic data, as well as comparative and interpretive studies of such data. It includes comparative studies of Hokan languages, but not studies limited to single branches of Hokan other than Washo. Unpublished sources are included only if they have been accessible to me. d'Azevedo and Price have recently given us a full bibliography of Washo sources (1963). These two bibliographies were prepared largely independently of one another, but with some cross-fertilization on more than one occasion. The present bibliography includes a number of sources of linguistic interest that are not found in the d'Azevedo-Price bibliography. On the other hand, it does not attempt to include the following categories which are partly covered in the d'Azevedo-Price bibliography: treatments of the history of the area, ecology (flora, fauna, physiography), studies of neighboring tribes and languages, and unpublished field notes that have not been accessible to me. A number of sources making very brief mention of the Washo, that are found in the d'Azevedo-Price bibliography, were also not included herein. Furthermore, it does not include the many writings on descriptive and structural linguistics, both theoretical discussions

and descriptions of specific languages, from which I have greatly profited. Other bibliographies on related fields are Bright, 1955, on Hokan-Coahuiltecan studies, both descriptive and comparative, and Grosscup, 1957, on Nevada archaeology, including a broad variety of related topics.

My fieldwork on Washo has been supported by the Survey of California Indian Languages, Department of Linguistics, University of California, Berkeley. The periods in the field extended from late June to late September, and early November to early December, 1955; from early June to mid-September, 1956; from late July to mid-September, 1958, and a few days in August, 1959. The time spent in the field thus totals altogether about nine months. My informants, and the character of the work done with each, are as follows.

Roy James, of Woodfords, California. Work was started with Mr. James in mid-July of 1955 and continued during the entire period of my stay in the field. A large amount of lexical and grammatical information was secured from this informant. A quantity of texts were also obtained and have been translated, save for one lengthy autobiographical text recorded in September, 1958. Mr. James also translated the texts obtained from Frank Morgan, John Wiger, and Hank Pete. Without the enthusiastic cooperation of Mr. James, my understanding of the Washo language would have been much poorer.

Bertha Holbrook, of Dresslerville, Nevada. Work was begun with Mrs. Holbrook in early September of 1955 and continued during the remainder of my stay in the field.

Much lexical and grammatical information was obtained from her. A moderate amount of text material was obtained and has been translated. Mrs. Holbrook also translated texts recorded by Clara Frank. Her sympathetic and patient interest in my work greatly facilitated my progress in the recording and analysis of the language.

Hank Pete, of Dresslerville, Nevada. Mr. Pete was the first informant used. Much lexical information and some short, directly-dictated texts were obtained during the first summer. In spite of a desire to be cooperative, Mr. Pete did not prove to be temperamentally suited for the more analytical and tedious aspects of service as a linguistic informant, so that direct elicitation from him was discontinued after the first year. However, a large amount of textual material was tape recorded during the first year and also in September, 1958, and has been partly translated with the help of Roy James.

John Wiger, of Loyalton, California. Work was done with Mr. Wiger in November of 1955. A quantity of interesting texts was recorded, and these have been translated with the help of Roy James. A moderate amount of lexical material was also secured. Mr. Wiger's pleasant personality made working with him a distinct pleasure.

Frank Morgan, of Loyalton, California. A relatively small amount of work was done with Mr. Morgan in November of 1955 and August and September of 1956. A moderate amount of lexical and grammatical information was obtained. One

short text was also recorded, and has been translated, partly with his help and partly with the help of Roy James. Mr. Morgan's intelligent and friendly interest in the work of analyzing the Washo language made me regret that it was not possible to spend a greater amount of time with him.

Clara Frank, of Dresslerville, Nevada. A number of short texts were recorded from Mrs. Frank in August of 1956. Some of these have been translated with the help of Bertha Holbrook. Warren L. d'Azevedo has also kindly placed at my disposal a short pine nut festival prayer recorded from this informant in November of 1955, and this has also been translated.

Mike Holbrook, of Dresslerville, Nevada (late husband of Bertha Holbrook). Mr. Holbrook's physical condition did not permit him being used as an informant, but a few forms were obtained from him indirectly via Bertha Holbrook.

Lizzie Evans, of Loyalton, California. A few words were obtained from Mrs. Evans, a relatively young informant who was present during most of the sessions with John Wiger.

Wally John, of Woodfords, California. Several texts were recorded from Mrs. John in September of 1958 and have not yet been translated. As this informant appears to be an essentially monolingual Washo speaker, these texts should be of especial interest.

Doonie and Eenie Cornbread, of Dresslerville, Nevada. Some short texts were recorded from this couple, mostly from Eenie, in July, 1956, and have not yet been translated.

She is an essentially monolingual Washo speaker.

Roy and Jemimah Cornbread, of Woodfords, California. A few short texts were recorded from this couple in September, 1958, and have not yet been translated.

Informants are referred to throughout the grammar by their initials, in cases where there are known sporadic dialectal or idiolectal variants of forms, or where forms seem to be somewhat contrary to the general pattern, so that they might conceivably not be acceptable to all speakers.

A number of Washo who did not serve as informants nevertheless showed me many courtesies and expressions of interest in my work, that contributed to make my stay in Washo country the pleasant experience that it was. In this connection I would like to mention especially Mr. and Mrs. Richard Barrington, of Sierraville, California; Mrs. Annie Richards and John Paul Jones, of Loyalton, California; Mrs. Mazie James (wife of Roy) and Earl James, of Woodfords, California; George Snooks and Mr. and Mrs. Roma James, of Dresslerville, Nevada; Henry Moses Rupert, of Carson City, Nevada; and Fred Richards, of Toadlena, New Mexico and Dresslerville, Nevada.

I am grateful to the anthropologists Stanley A. Freed, Norman A. Scotch, and Warren L. d'Azevedo for much helpful information and other assistance during the period of my fieldwork.

Mrs. Juanita Schubert, of Minden, Nevada, has kindly identified a number of plants having names in Washo, both from specimens and from descriptions given by informants.

Miss Grace Dangberg, of Minden, Nevada, has generously made available notebooks containing her linguistic field notes.

Dr. Walter Dyk has also made available his valuable field notes. The Wenner-Gren Foundation assisted in the transfer of this material.

The Department of Anthropology, University of California, Berkeley, made available the manuscript Washo Grammar by Grace Dangberg, as well as the C. Hart Merriam vocabulary lists. The Bureau of American Ethnology, Smithsonian Institution, kindly prepared a list of manuscripts in its archives pertaining to the Washo, and furnished microfilms of desired manuscripts.

I am greatly indebted to Professor Mary R. Haas, who supervised the preparation of this dissertation and has given unstintingly of her time and interest. My thanks are due to Professors David L. Olmsted and Francis J. Whitfield, who have read and criticized drafts of the manuscript.

I wish also to acknowledge here my gratitude to my principal teachers in linguistics, Professors Joshua Whatmough, Louis F. Solano, and Peter M. Boyd-Bowman, of Harvard University, and Professors Madison S. Beeler, Murray B. Emeneau, Mary R. Haas, and Yakov Malkiel, of the University of California. Discussions extending over a period of years with Professor Sydney M. Lamb have greatly influenced the conceptual scheme underlying this grammar.

I am especially indebted to my wife, Virginia, for her

countless hours of assistance in many tedious aspects of this research. The amount of detail that is given regarding the distribution of many important morphemes would not have been possible without her help in the preparation of indexes to the field data permitting the examination of all occurrences in the corpus. She has also typed and re-typed and proofread the manuscript and assisted in many other ways, not the least of which have been her willingness to lend an ear to countless expositions of problems and alternative solutions, and her never-failing support and encouragement.

My greatest appreciation is due to my Washo informants and teachers, who have introduced me to their distinctive language, the many charms and subtleties of which the following pages mirror only imperfectly.

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Abbreviations Used

AA	American Anthropologist
AL	Anthropological Linguistics
BAE-A	Bureau of American Ethnology, Archives
BAE-B	Bureau of American Ethnology, Bulletin
BAE-R	Bureau of American Ethnology, Report
ICA-P	International Congress of Americanists, Proceedings
IJAL	International Journal of American Linguistics
JSAP	Journal de la Société des Américanistes de Paris
JWAS	Journal of the Washington Academy of Sciences
Lg.	Language
MAIHF-IN	Museum of the American Indian, Heye Foundation, Indian Notes
NSM-AP	Nevada State Museum Anthropological Papers
PMCM-B	Public Museum of the City of Milwaukee, Bulletin
UC-AR	University of California, Anthropological Records
UCAS-R	University of California Archaeological Survey, Report
UCPAAE	University of California Publications in American Archaeology and Ethnology
UCPL	University of California Publications in Linguistics
UP-MJ	University of Pennsylvania, The Museum Journal
UUAP	University of Utah Anthropological Papers
VFPA	Viking Fund Publications in Anthropology

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ABBREVIATIONS AND SPECIAL SYMBOLS

A	adverb
BH	Bertha Holbrook
C	consonant
CF	Clara Frank
coll.	collective
dist.	distributive
du.	dual
exc.	exclusive
FM	Frank Morgan
HP	Hank Pete
inc.	inclusive
JW	John Wiger
LE	Lizzie Evans
lit.	literally
N	(unrestricted) noun (stem)
Nap	attributive-possessed noun
Np	possessed noun
Nr	restricted noun stem
Pi	intransitive instrumental prefix
pl.	plural
Pt	transitive instrumental prefix
Q	quantitative stem
RJ	Roy James
sg.	singular
sp.	species; speaking

V	vowel
Va	auxiliary verb
Vd	dependent verb stem
Vi	intransitive verb stem
Vn	neutral verb stem
Vt	transitive verb stem
Vtt	double-transitive verb stem
<...>	Enclose transcriptions on the morphemic level.
[]...[]	Enclose transcriptions on the morphophonemic level.
/.../	Enclose transcriptions on the phonemic level.
[...]	1. Enclose transcriptions on the phonetic level. 2. Enclose an infix within another morpheme, in transcriptions on the morphophonemic level.
'...'	Enclose translations into English. These marks have also been placed around labels of the type 'a man's name', 'a woman's name', although these are not translations in a strict sense.
"..."	Enclose literal translations into English.
..	Indicate a discontinuous morph.
.	The "construction poirt". Used in transcriptions on the morphophonemic level to indicate the morpheme boundary currently under consideration.
-	Preceding a morph, indicates that it is a suffix. Following a morph, indicates that it is a prefix Surrounding a morph, indicate that it is an infix.
~	Separates allomorphs of morphemes.

, Separates dialectally varying forms of morphs or morph sequences.

> Used in formulas for morphophonemic rules. The morphophonemic transcription is given to the left of this arrowhead, its phonemic representation to the right.

* Precedes a hypothetical form.

Ø Zero. See 3 for an explanation of its use.

Transcriptions not surrounded by brackets are on the morphophonemic level, except in the charts of examples for phonotactics of section 2, where they are on the phonemic level.

See also 1.1 for a listing of the phoneme symbols, and 3.1 for a listing of the morphophoneme symbols.

1. Phonemics. This section describes the phonetic representations, or allophones, of the phonemes. Transcriptions enclosed in slashes /.../ are on the phonemic level, while transcriptions enclosed in square brackets [...] are on the phonetic level. As examples of the respective phonemes in the relevant environments can easily be found in the charts of examples of section 2, they are not given in this section. Section 1.1 presents a chart of the phonemes recognized. Besides the phonemes given there, the phonemes /f/ and /θ/ have been heard in certain partially assimilated English expressions, such as /fó·di šéniš/ 'forty cents' and /θí·di šéniš/ 'thirty cents'. These are not further discussed. Sections 1.2-1.6 present the allophones of the several classes of phonemes. Section 1.7 discusses a number of possible, and a few impossible, alternative assignments of the contrasting phones to phonemes.

1.1. The phonemes. The following phonemes have been recognized for Washo.

Consonants	labial	apical	apical affricate	frontal	velar	glottal
stops						
voiceless	p	t			k	ʔ
voiced	b	d̲	z		g	
glottalized	p̓	t̓	c̓		k̓	
fricatives						
voiceless		s		š		h
nasal resonants						
voiceless	M				Ŋ	
voiced	m	n			ŋ	
oral resonants						
voiceless	W	L		Y		
voiced	w	l		y		

Vowels	front unrounded	central unrounded	back rounded
high	i	ɨ	u
mid	e		o
low		a	

Stress — long: ´ written over vowels: í ɨ́ ú é ó á

weak: (unmarked)

Length — · written after vowels: i· ɨ· u· e· o· a·

Intonation — sustained: ,

fading: .

1.2. The allophony of the vowels is conditioned primarily by their length and by the character of the following consonant, to a lesser extent by the degree of stress. The most frequent allophones of the vowels when short are as follows:

/i/ lower-high front unrounded,

/ɨ/ lower-high unrounded, between central and back,

/u/ lower-high back rounded,

/e/ lowered lower-mid front unrounded, on the borderline between English /e/ and /æ/,

/o/ mean-mid back rounded,

/a/ lower-mid central unrounded.

When long, /i ɨ u/ are high rather than lower-high and are more tense, /e/ is lowered, the allophone varying noticeably from speaker to speaker, /o/ is slightly lowered, and /a/ is always low. A following glottal phoneme /ʔ h/ or glottalized stop conditions a high allophone of /i/ and a low allophone of /a/.

1.3. Consonants.

/p t k/ are voiceless stops in respectively bilabial, apico-alveolar, and velar positions of articulation. These may be slightly aspirated before a vowel or an intonation. They have close transition to a following consonant. /k/, like the other velar phonemes (/g k̓ ŋ ɲ/) varies in position depending on the surrounding vowels.

/ʔ/ is a glottal stop. When followed by a voiceless stop or fricative, there is open transition, often with a

very short voiced echo of the preceding vowel. This consonant is often aspirated before an intonation.

/b d̆ g/ are voiced stops in respectively bilabial, apico-alveolar, and velar positions of articulation.

/z/ is a voiced affricate equivalent to [d] released into a [z]. Occasionally the initial occlusion is not made.

/p̓ t̓ k̓/ are glottalized stops in respectively bilabial, apico-alveolar, and velar positions of articulation. The degree of fortisness varies considerably from speaker to speaker, but in general these are quite lenis.

/c̓/ is a glottalized affricate equivalent to [t̓] released into an [s].

/s š h/ are voiceless fricatives. /s/ is a groove spirant formed with the blade of the tongue; /š/ is a frontal spirant with the tip of the tongue higher than it is for the similar English phoneme. /h/ has little localized friction, and is best characterized as a non-syllabic voiceless vowel. /s/ and /š/ occasionally have voiced allophones when intervocalic after a long stressed vowel. Like the voiced nasal and oral resonants, these fricatives have lengthened allophones when intervocalic after a short stressed vowel.

/m n ŋ/ are voiced nasals in respectively bilabial, apico-alveolar, and velar positions of articulation. They have lengthened allophones when intervocalic after a short stressed vowel.

/m̥ ŋ̥/ are voiceless nasals in respectively bilabial and velar positions of articulation.

/w/ is a voiced labio-velar semivowel.

/l/ is a voiced alveolar lateral.

/y/ is a voiced palatal semivowel. The oral resonants /w l y/ have lengthened allophones when intervocalic after a stressed vowel.

/W L Y/ are voiceless resonants in the same positions of articulation as /w l y/.

1.4. Stresses. Syllables with strong stress have greater intensity and higher pitch than do syllables with weak stress. In general the pitch falls gradually over the successive syllables following a strongly stressed syllable until it is again raised by the next strong stress or affected by an intonation.

1.5. Length. Length is a prolongation of the preceding vowel to about twice its normal length. The effect of this phoneme on the quality of the preceding vowel has been described in 1.2.

1.6. Intonations. /,/ is characterized by a drawling of the preceding syllable together with a retention of the pitch at the same level.

/./ is characterized by a lesser amount of drawl and a fast fall in pitch on the preceding syllable.

1.7. Possible alternative analyses. The following ten sections discuss alternative assignments of the contrasting phones to phonemes. The discussion inevitably anticipates a certain amount of the information on phonotactics that is given in section 2, as well as some of the morphophonemic rules that are set forth in section 3. The first four sections deal with interrelated questions of stress, length, and semivowels. Section 1.7.5 discusses the question of the analysis of the affricates as single phonemes or clusters. The next section considers the question of the assignment of the syllable-final stops to one or another of the stop series. The last four sections take up the pros and cons of analyzing the glottalized stops and resonants as clusters containing /ʔ/ and the voiceless stops and resonants as clusters containing /h/.

The attractiveness, indeed even the possibility, of the alternative analyses is by no means uniform. Some of these sections describe alternatives that have positive features making them attractive (1.7.1, 1.7.6, 1.7.8, 1.7.9); the analyses set forth in other sections, while possible, have clearly undesirable features (1.7.3, 1.7.4, 1.7.5); and the remaining sections contain statements of the impossibility of certain analyses that might appear as potentialities (1.7.2, 1.7.7, 1.7.10). The alternatives are discussed in reference to the preferred analysis that is used throughout this grammar. This does not mean that any random selection of the possible ones could be adopted, as there are

relationships of compatibility and incompatibility among them. For example, adopting the alternative of 1.7.1 (setting up a "long stress") would preclude the adoption of that of 1.7.3 (analyzing long vowels as geminates), and vice versa; similarly, the adoption of the alternative of 1.7.8 (voiceless stops as clusters with /h/) would make less likely the adoption of that of 1.7.9 (glottalized resonants as unitary phonemes), and vice versa.

1.7.1. Long and short stress. There exists a relationship between stress and length which might be recognized by an alternative analysis to the one that has been adopted in this grammar. The present analysis assumes a phoneme of strong stress /ˊ/, a phoneme of weak stress, which is generally unmarked but which we mark /ˇ/ for the purpose of this exposition, and a phoneme of length /·/. The length phoneme occurs only after strongly stressed vowels, not after weakly stressed ones. Thus length presupposes strong stress while the reverse is not true. We therefore have the three following syllable nuclei:

V́· V́ V̌,

but not the logically possible *V̌·.

The alternative analysis would be to set up, instead of length, a "long stress", which might be symbolized /^/. This phoneme would be manifested by both strong stress and length of the vowel with which it occurred. Then the syllable nuclei would become:

V̂ V́ V̌.

An advantage of this analysis would be the simplification of syllable types (see 2.2). With every vowel there would occur one and only one stress phoneme. With the analysis that has been adopted, however, either one or two of these "suprasegmentals" occurs with any one vowel. This means that the length phoneme has a distribution which is not paralleled by that of any other phoneme.

This analysis would also make somewhat more straightforward the morphophonemic shortening that is a necessary concomitant of weakening of stress (3.18, 3.19). As things stand, we are forced to posit a change of two entities, stress and length, at the same time. The alternative analysis would bring it about that only one entity would be lost at any one time. There would not be a reduction in the total number of rules, however, for there would be two parallel rules operating in identical environments, one for the weakening of the long stress and the other for the weakening of the short stress.

The preferred analysis has the advantage of having a simpler relationship to the phonetic facts, in making a distinction between stress, phonetically a combination of greater loudness and higher pitch, and length, phonetically greater duration. In the alternative analysis, the phonetic stress would be shared by two phonemes.

If one prefers the alternative analysis, one can, of course, regard the symbol /ˊ·/ as a digraph for the "long stress" phoneme.

1.7.2. Length as a semivowel. It is almost, but not quite, possible to equate the length phoneme /·/ with the consonant /h/. This is because /h/ generally does not occur in syllable-final position (i.e., after a vowel and before a consonant), and never occurs word-finally. However, /h/ does occur after a vowel and before the resonants /m/ and /l/, in a very few morphemes, giving forms such as /wamáhmi/ 'it's cloudy' and /láhla/ 'in my leg'. But for these forms, one could assign length to /h/ and thereby give the latter a distribution much like that of the other fricatives, as well as the voiceless stops and voiced resonants, all of which may occur both syllable-initially and syllable-finally.

It is not possible to equate length with either of the semivowels /y/ or /w/, as it contrasts with the former after all vowels except /i/ and with the latter after all vowels except /u/.

1.7.3. Geminate vowels. Instead of postulating a phoneme of length /·/, it would be possible to interpret the phonetically long vowels as geminate sequences of the same vowel. That is, instead of /e· a· o· i· ɨ· u·/, one would write /ee aa oo ii ɨɨ uu/. Thus /dá·bal/ 'sagebrush' and /sí·su/ 'bird' would become /dáabal/ and /síisu/. If one does this, one would probably also want to reinterpret syllable-final /y/ and /w/ as /i/ and /u/ respectively, so as to introduce parallel heterophonous vowel clusters, which do not otherwise occur. This would be possible because of the non-occurrence of */iy/ and */uw/ elsewhere than before

a vowel. Doing this would give us, for example, /gíuleu/ instead of /gíwlew/ 'basket sp.', /ŋáuŋaŋ/ instead of /ŋáwŋaŋ/ 'child', and /Móišaigiši/ instead of /Móyšaygiši/ 'he's running along slowly'. The advantages of this analysis would be the reduction of the phoneme inventory by one member, and the regularization of phoneme distributions by the elimination of the uniquely distributed length phoneme. The latter advantage would be partially offset by differences in the distributions of vowels: only /i/ and /u/ would occur after vowels other than themselves and after geminate vowel clusters.

This alternative analysis would be morphophonemically disadvantageous. It would wreak havoc on the rule for the insertion of the empty morphophone /y/ between vowels (3.3), which could only be rescued by either the reestablishment of length on the morphophonemic level or the introduction of a special morphophonemic juncture occurring at morpheme boundaries. Less importantly, it would complicate the rules for vowel lengthening (3.15, 3.16), which would have to account for the insertion of any one of six different vowel phonemes, rather than the one length phoneme. Finally, this analysis would introduce an alternation between morpheme-final semivowels /y w/ and vowels /i u/, depending on whether or not they were followed by a vowel. For example, we would have /ʔásawi/ 'he's laughing' but /gásau/ 'laugh!', or /dáʔwa/ 'in the lake' but /dáʔau/ 'lake'.

1.7.4. Semivowels as vowels. The contrast between the semivowels /y/ and /w/ and the phonetically similar vowels /i/ and /u/ is very restricted. The majority of environments allow the occurrence of only one of the members of each pair of phonemes. When only one of these phonemes occurs in a sequence, the syllabic and non-syllabic phonemes are completely in complementary distribution. Between consonants, after a consonant and before an intonation, and before length, only the vowels occur; contiguous to a vowel (i.e., between vowels, after a consonant and before a vowel, or after a vowel and before a consonant or intonation), and after length, only the semivowels occur. The contrasts arise when two of these phonemes occur in succession. Even here they are restricted to certain environments. In the first place, if both phonemes are members of the same pair, /i y/ or /u w/, there is no contrast in possible sequences. Taking the former pair as an example, we may have /iy/ only when preceded by a consonant and followed by a vowel. The sequence /yi/, on the other hand, occurs before a consonant, /·/, or an intonation; it may be initial, or preceded by a vowel or /·/, but it may be preceded by a consonant only if this is preceded in turn by a vowel or /·/. In the second place, even if the two successive phonemes are members of different pairs, a contrast is still possible only in certain of the environments in which they occur. Let us take the sequences /iw/ and /yu/ as an example. Only /iw/ occurs before a vowel or after a consonant which is either initial or preceded by another

consonant. Only /yu/ occurs initially, or after a vowel or /·/, or before /·/ or a consonant cluster or a consonant followed by an intonation. The environment in which both /iw/ and /yu/ occur is when preceded by a vowel-consonant sequence and followed by an intonation or by a consonant-vowel sequence. Some words showing this contrast in the posttonic syllable are /tániw/ 'Miwok', /geyúsiw/ 'sell it!', /métiwlu/ 'with gray hair', /t̓é·liwhu/ 'man', vs. /dí?yu/ 'fire', /bányula?/ 'Mexican'.

It would be possible to find a complementary distribution of /i/ and /y/ and of /u/ and /w/, and thus to group them as allophones of two phonemes, by appealing to stress as a part of the relevant environment. Then we would have the syllabic allophones [i u] when stressed (including weakly stressed), and the non-syllabic allophones [y w] when unstressed. In order to have an unambiguous transcription it would be necessary to introduce a symbol for weak stress, say /ˇ/. Then we might rewrite /tániw/ 'Miwok' as /tániˇu/, and /dí?yu/ 'fire' as /dí?iˇu/. Such an analysis would complicate the phonetic description of the stress phonemes, and, more importantly, it would complicate the description of the phonotactics, since we would now have a new distribution class of semivowels, which would have most of the privileges of occurrence of both vowels and consonants. This would approximately quadruple the number of basic syllable types. For example, using S for this class of semivowels, in place of the one type CV́, we would have the four types CV́, CŚ, SV́,

and SŚ.

It would also be possible to adequately provide for the contrasts by uniting either /i/ and /y/ or /u/ and /w/ into one phoneme and keeping the other pair separate. This seems undesirable because the choice of which pair to unite and which pair to leave separate would be arbitrary.

1.7.5. The affricates. There occur three affricated consonant phones, [ts dz t̀s], which pose the question of whether they should be analyzed as unitary phonemes or as sequences of phonemes. At least three solutions present themselves. We might set up three unitary phonemes, /c z ć/, or we might recognize three two-phoneme clusters ending in /s/, /ts ds t̀s/. However, the analysis that has been adopted in this grammar sets up unitary phonemes for two of these, /z/ and /ć/, and considers /ts/ to be a cluster of two phonemes.

The case of /ć/ and /z/ is probably the more straightforward. The only factors in favor of the cluster analysis of these phones are their phonetic similarity to sequences of phonemes that are already present in the inventory, and the ensuing reduction of the phoneme inventory by two members. Even the phonetics would be strained in the case of /ds/, for we would have an anomalous voiced allophone of /s/ conditioned by the preceding voiced stop. Several compelling considerations point in favor of the analysis as units. There are no other syllable-initial or word-initial consonant clusters consisting of stop plus fricative, except possibly /tš/ in

nonce-borrowings of English words beginning with /č/. The fact that these phones occur only before vowels makes them like the other voiced or glottalized stops in distribution. The clusters would hence violate the patterns of phoneme distribution in that /d/ and /t̓/ do not otherwise occur before another consonant. More important would be the violation of the associated morphophonemic rule that would represent preconsonantal [d] or [t̓] by /t/ (3.4), and thus would represent both [ds] and [t̓s] by /ts/. In order to preserve phonemic /ds/ and /t̓s/ in the face of this rule it would be necessary to either introduce [z] and [c̓] as morphophonemes, or to introduce a special morphophoneme that is represented by the /s/ in these clusters but which does not count as a consonantal environment with respect to this morphophonemic rule, or to introduce a special morphophonemic juncture occurring at morpheme boundaries, restricting the application of the rule to stops followed by this juncture.

Turning to the phone [ts], we may observe that on the whole the analysis as a cluster /ts/ does not violate patterns of phoneme distribution. The phone does not occur word-initially or morpheme-initially, and with one exception it occurs only intervocalically, either across morpheme boundaries or within a few stems, of which the following is thought to be a complete list:

/bítsiš/ 'peaches'

/dátsimen/ 'Dutchman'

/gútsiluwe?/ 'quicksilver'

/ʔútsiš/ 'oats'

/gótsa/ 'a man's name'.

The last form has a variant /gósaʔ/ given by another informant. The first four of these are obvious loanwords from English. In them this phone reflects three different English sounds: /č/, /ks/, and /ts/. For 'quicksilver' there occurs also a less assimilated variant containing /kš/, /kwikšélwa/ (cf. /šélwa/ 'silver'). The only exception to the intervocalic distribution of this cluster is its occurrence finally in the onomatopoetic stem /wíts/, expressing the cry of a certain animal. Other stem-final clusters of stop plus fricative occur only in loanwords from English, such as /tékš/ 'tacks' and /há·pš/ 'hops' (variant form: /há·biš/). The analysis of [ts] as a unitary phoneme /c/ would also not conflict with the distributional patterns of phonemes, and would even be more in line with these patterns in the case of the syllable-final occurrence. The decision against the analysis as /c/ is based on the lack of contrast of this phoneme with the potentially available cluster /ts/ and the consequent necessity of introducing a morphophonemic rule that would be purely a matter of bookkeeping, to the effect that [ts] occurring across morpheme boundaries is represented by /c/. An example of this is

[ʔit sáʔ] /ʔitsáʔ/ 'container, holder, room, store',

which would be written /ʔicáʔ/ under the alternative analysis. A similar rule would have to apply to the potential clusters [ds] and [ṫs], which otherwise would also yield /ts/. The

cluster analysis of course has the advantage of not adding another phoneme to the inventory.

1.7.6. Syllable-final stops. There is a difference between the number of series of stops that occur before a vowel and those that occur in syllable-final position. In the latter environment we find, in addition to /ʔ/, only one series, which are considered in the analysis used in this grammar to be the voiceless stops /p t k/. Before vowels, all stops occur, so that there we find, in addition to /ʔ/, the voiceless stops /p t k/, the voiced stops and affricate /b d z g/, and the glottalized stops and affricate /p̓ t̓ c̓ k̓/. The pattern of contrasts would thus allow the syllable-final stops to be equated with those of any of the three prevocalic series, so that they might alternatively be said to be either /b d g/ or /p̓ t̓ k̓/. The preferred analysis is based on phonetic similarity, on the fact that the syllable-final stops sound more like the prevocalic voiceless stops than those of the other two series.

Assigning the syllable-final stops to the series of voiced stops would remove the alternation on the phonemic level between voiced and voiceless stops at the end of stems ending morphophonemically in voiced stops (3.4). For example, with the stem [[k̓éteb]] 'bottle', instead of the phonemic allomorphs /k̓étep/ and /k̓éteb/, as in the forms

[[k̓éteb]] /k̓étep/ 'bottle'

[[k̓éteb lu]] /k̓éteplu/ 'with a bottle'

[[k̓éteb a]] /k̓éteba/ 'in a bottle',

we would have just the one allomorph /ḱéteb/, these forms becoming

[ḱéteb] /ḱéteb/ 'bottle'

[ḱéteb lu] /ḱéteblu/ 'with a bottle'

[ḱéteb a] /ḱéteba/ 'in a bottle'.

This analysis would in general reduce the number of allomorphs on the phonemic level for such stems from two to one.

This alternative assignment would, however, introduce a new alternation between voiceless and voiced stops, in those stems which insert a vowel between their last two consonants, when the first of these consonants is a stop (3.13). For example, with the restricted noun stem [ápš] 'body', we have the phonemic allomorphs /ápɨš/ and /ápš/, as in the words

[ṫ ápš] /ṫápɨš/ 'his body'

[ṫ ápš a] /ṫápša/ 'on his body'.

The alternative analysis would introduce an alternation between /b/ and /p/ in the allomorphs, as they would become /ápɨš/ and /ábš/, the words then taking the shapes

[ṫ ápš] /ṫápɨš/ 'his body'

[ṫ ápš a] /ṫábša/ 'on his body'.

Stems ending in clusters of two stops make especially vivid the difference between the two analyses. Such a stem is [ákd] Vd 'slow, slowly'. With the preferred analysis it has the phonemic allomorphs /ákɨt/ and /ákd/, with an alternation of the final stop, while the alternative analysis would give us /ákɨd/ and /ágd/, the alternation moving to the

prefinal stop. The alternations introduced by this alternative analysis would not affect the number of phonemic allomorphs; they would merely make the allomorphs affected more dissimilar from one another. The description of these alternations would presumably entail new morphophonemic rules to the effect that voiceless stops are represented by phonemic voiced stops in the environment before a consonant or []+ . ,[].

As applied to the stem <ápd> Vt 'to peel, shell' (4.33.1), this alternative analysis would not change the number of allomorphs on the morphophonemic level, nor would it affect their similarity. With either analysis, these allomorphs are [ápd] and [ápɨd]. However, the alternative would reduce the number of phonemic allomorphs from three to two: the preferred analysis yields /ápd/, /ápɨt/, and /ápɨd/, and these would be replaced by /ábd/ and /ápɨd/.

The third possibility, the assignment of the syllable-final stops to the series of glottalized stops, has less to recommend it. It would give a comparable reduction in phonemic allomorphs, but this would apply to relatively few morphemes, and to only two, rather than three, pairs of phonemes (there is no alternation between /p/ and /p̓/). Such an analysis would, of course, introduce an alternation between voiceless and glottalized stops in stems of the type that have been discussed.

1.7.7. Glottalized stops. The question suggests itself of whether the glottalized stops might be analyzed as clusters of stops of one of the other two series and /ʔ/. This

is not possible, as they are in contrast with such clusters. Clusters of /ʔ/ plus voiceless stop occur both with stems, as in /máʔkiʔ/ 'rattlesnake', and across morpheme boundaries, as in /ʔímeʔtiʔgi/ 'he's going to drink', although they are not especially frequent. Clusters wherein a voiceless stop precedes /ʔ/ occur across morpheme boundaries, as in /gitʔá·ṫu/ 'his (own) older brother' and /tukʔáʔmi/ 'they're looking into water'. Quite common are clusters of /ʔ/ followed by voiced stop, as in /ʔíʔbi/ 'he's crying', /paʔdómċiluk/ 'swallow', /daláʔga/ 'on the mountain', and /ʔímeʔgabigi/ 'he's going to drink'. The fourth possibility, clusters of voiced stops plus /ʔ/, do not occur, but their absence is due to morphophonemic rules requiring the representation of preconsonantal voiced stops by the corresponding voiceless stops (3.4). This is to say that such clusters do occur on the morphophonemic level, and that they are represented phonemically by clusters of voiceless stop plus /ʔ/. An example of the representation of ‖gʔ‖ by /kʔ/ is furnished by a word given above, which may now be shown also in morphophonemic transcription:

‖Ø tug ʔ áʔam i‖ /tukʔáʔmi/ 'they're looking into water'.

Thus the adoption of this solution would require the introduction of either one or four additional morphophonemes, counteracting on the morphophonemic level the reduction in the number of units. It would also introduce an anomalous situation in which a sequence of phonemes would never correspond to the sequence of the corresponding morphophonemes

(e.g., /g?/ would never correspond to [g?]).

1.7.8. Voiceless stops. The question may be raised as to whether the voiceless stops might be alternatively analyzed as clusters of voiced stops either preceded or followed by /h/. The phonetically more plausible clusters wherein /h/ is the second member are not available, as they occur in contrast to the voiceless stops, across morpheme boundaries. Examples are:

/ph/: /léhephu/ 'our (pl. inc.) heads', /mí?iphé·ši/ 'are you crying?'

/th/: /láyathi/ 'I'll stay for the night', /githánaya/ 'in his mouth'

/kh/: /gé·bikha/ 'cook it!', /?itmukhénhen/ 'bass drum'.

On the other hand, analysis as clusters of /h/ plus voiced stop would in fact be possible, and would appear to give a viable analysis. Its main advantage would be the reduction of the inventory of phonemes by three members, while its most obvious disadvantage would be the somewhat strained phonetic correlation, as the voiceless stops are not preaspirated but postaspirated. Under this analysis, if we retain the symbols used for the voiceless stops, /píteli?/ 'lizard' would become /hpíhteli?/, while /dá·bal/ 'sagebrush' would be written /tá·pal/. Since [h] does not occur at the end of any morpheme, no morphophonemic changes would be either added or removed by this reanalysis. The syllable-final loss of glottalic action (3.4) would become the insertion of /h/ before the stop, so that, for example,

both []pC[] and []p̓C[] would be represented by /hpC/. Though this may seem a little queer, it presents no problem of description. The newly introduced /h/ + stop clusters would not be especially out of line, as there already occur the clusters /hm/ and /hl/ (see 1.7.10), as well as many two-consonant clusters beginning with the other glottal phoneme /ʔ/ and with the other fricatives /s š/. Even the syllable-initial and word-initial clusters beginning with /h/ would find a partial parallel in similarly distributed clusters beginning with /ʔ/. And the fact that some allomorphs of <R-> Plural would show these clusters when such clusters occur in the stems to which they are affixed would also be paralleled by the fact that clusters beginning with []ʔ[] or []ʾ[] are similarly conditioned in other allomorphs of this morpheme (4.7c[3,4]). The most fundamental violation of the phonotactic patterns would be constituted by the common and varied three-consonant clusters beginning with /h/ that would be introduced. Three-consonant clusters are very rare with the preferred analysis, with the exception of those having /ʔ/ as their middle member. There would also be introduced some fairly rare four-consonant clusters having /h/ as their first and third members, in forms wherein the preferred analysis has clusters of two voiceless stops. For example, /tukpépsi/ 'they're opening their eyes' would become /htuhkhpéhpsi/.

Two variations upon this theme suggest themselves that would bring the phonotactics more into line. The first would

be to say that, while the prevocalic voiceless stops were still the /h/ + stop clusters, the syllable-final stops would be clusters with the reverse ordering, stop + /h/. This is possible because the contrasting clusters of stop + /h/ mentioned at the beginning of this section occur only before vowels. Then the syllable-final loss of glottalic action would become the insertion of /h/ after, instead of before, the stop, which would seem more realistic. Thus [pC] and [p̓C] would be represented by /phC/. For example, /ḱétep/ 'bottle' would become /ḱéhteph/, and /ḱéteplu/ 'with a bottle' would become /ḱéhtephlu/, while /ḱéteba/ 'in a bottle' would become /ḱéhtepa/. This analysis with reversed orderings of the clusters in the two environments finds an analogy in the morphophonemic metathesis of clusters of [ʔ] + voiced resonant in syllable-final environment (3.7). A metathesis of the cluster would appear in phonemic allomorphs of stems of the type of [áhpš] 'body' (cf. the discussion in 1.7.5), so that /t̓ápiš/ 'his body' would now be /t̓áhpiš/, but /t̓ápša/ 'on his body' would be /t̓áphša/. The rules for the insertion of /i/ in stems of this type (3.13) would be made a little more complicated, as they would have to differentiate between [h] and the other consonants (so as not to produce a form like */t̓áhipša/). There would be no analogous morphophonemic rule applying to morpheme-final clusters, for the simple reason that no morpheme would end in [h] + stop in its preconsonantal allomorph (see 3.4 for fuller discussion). This analysis would make the newly introduced three-

consonant clusters more like the majority of those already present, in that the /h/ would become the middle, rather than the first, member, and thus would occupy the same position as the other glottal phoneme, /ʔ/. We would still be left with anomalous four-consonant clusters, but now they would have /h/ as the second and third members. The form /tukpépsi/ would thus become /htukhhpéphsi/.

The second variation would be to say that the syllable-final stops were the plain stops, rather than clusters with /h/ in either order. This is equivalent to equating the syllable-final stops with the voiced stops, and is subject to the morphophonemic advantages and disadvantages that have been discussed in section 1.7.6. Then [pC] and [p̓C] would be represented by /pC/. The word for 'bottle' would have the one phonemic allomorph /k̓éhtep/, so that the forms shown in the preceding paragraph would become /k̓éhtep/ 'bottle', /k̓éhteplu/ 'with a bottle', and /k̓éhtepa/ 'in a bottle'. The word for 'body' would have phonemic allomorphs showing an alternation between /hp/ and /p/, as in /t̓áhpɨš/ 'his body' and /t̓ápše/ 'on his body'. This analysis would be much less divergent phonotactically in that it would introduce three-consonant clusters with medial /h/ only in the rather infrequent case where the voiceless stop was the final member, and it would eliminate the four-consonant clusters. Thus /tukpépsi/ would become /htukhpépsi/.

1.7.9. Glottalized resonants. There are many factors making attractive an alternative analysis of the clusters of glottal stop plus voiced resonant as unitary glottalized resonant phonemes. This analysis would give us /m̀ ǹ ŋ̀ l̀ ẁ ỳ/ in place of /ʔm ʔn ʔŋ ʔl ʔw ʔy/. The inventory of phonemes would thereby be made more symmetrical, as the resonants would fall into three series, voiced, voiceless, and glottalized, just as the stops do. More important, the patterns of phoneme distribution would be made significantly more homogeneous. Syllable-initial and word-initial consonant clusters would be eliminated, except in recent loanwords from English (assuming, of course, that one did not adopt the alternative analysis of 1.7.5 for affricates or of 1.7.8 for voiceless stops). Likewise, most of the three-consonant clusters would become two-consonant clusters, as the majority of these end in glottal stop plus voiced resonant. As a corollary to the elimination of initial clusters, the shape of certain grammatically comparable prefixes would be made more parallel. Thus, in their prevocalic allomorphs, we would have l̀- First Person Objective and m̀- Second Person Objective, instead of ʔl- and ʔm-, parallel to the grammatically comparable k̀- Third Person Objective and t̀- Third Person Nominal in that all have the shape of a single glottalized consonant. Furthermore, the properties of the glottalizer morphophoneme /ˀ/ when infixed in stems (3.5.1) would be made more uniform, as it would coalesce with the following voiced consonant to give the corresponding glottalized consonant, whether this

consonant was a stop or a resonant. There would also be a simplification in the statement of the allomorphy of <R-> Plural. With the analysis that has been adopted, this morpheme has allomorphs containing a cluster of glottal stop plus voiced resonant when such a cluster occurs before the last vowel of a disyllabic stem to which it is affixed (4.7c[3,4]). The alternative analysis would remove all consonant clusters from allomorphs of this morpheme, except for clusters beginning with []'[], which would also be single consonants on the phonemic level. The conditioning of the glottalized resonants in these allomorphs would be completely identical with the regular conditioning of other single consonants (sections (3) and (4) of 4.7c would coalesce with sections (1) and (2) in this respect). A monosyllabic stem like á?m Vd 'to the west, from the east', which conditions an allomorph containing []?[], could still be said to contain the cluster []?m[] on the morphophonemic level, which would keep this allomorph regular.

In spite of these positive features the glottalized resonants have not been recognized in the preferred analysis used throughout this grammar. This is for the basic reason that there would be no contrast between these glottalized resonants and clusters of glottal stop followed by voiced resonants. The situation as regards the resonants thus differs from that of the stops, where, as stated in 1.7.7, the glottalized stops contrast with common clusters of glottal stop followed by voiced stops, as well as with clusters

of glottal stop followed by voiceless stops. Glottal stop occurs commonly syllable-finally, as well as morpheme-finally and word-finally. The alternative analysis would hence introduce morphophonemic changes of the clusters that would arise when a morpheme ending in [ʔ] was followed by a morpheme beginning with a voiced resonant. Such clusters would have to be represented phonemically by the glottalized resonants, but the morphophonemic rules would not reflect any loss of contrasts and so would be merely a matter of bookkeeping (recall the similar reasoning in regard to the affricate /ts/ in 1.7.5). Some examples of this are:

[g^{e} sáʔ lel] /gasáʔlel/ 'put it away for awhile!',
which would become /gasál̓el/;

[l^{e} ípuʔ leg i] /lépuʔlegi/ 'I found it',
which would become /lépul̓egi/; and

[l^{e} ímeʔ máma? i] /léməʔmáma?i/ 'I finished drinking',
which would become /lémem̓áma?i/.

Similar morphophonemic changes would be introduced in stems that lose their final vowel under certain conditions (3.15), when this vowel is preceded by [ʔ] and followed by a voiced resonant. Thus,

[dáʔaw a] /dáʔwa/ 'in the lake'
would become /dáw̓a/; the same change would occur in

[k̓ íʔiw i] /k̓íʔwi/ 'he's eating it',
which would become /k̓íw̓i/; and

[ø tug áʔam i] /tugáʔmi/ 'he's looking into the water'
would become /tugám̓i/.

There also occur clusters with the opposite ordering, consisting of voiced resonants plus /ʔ/. When these occur before a vowel, there would be no motivation for analyzing them as unitary phonemes, as this would only add morphophonemic changes without any compensating advantages, and moreover would be incompatible with the alternative analysis set forth above. Examples of such clusters are found in

[]ʔum ʔá·t̓u[] /ʔumʔá·t̓u/ 'your older brother' and

[]Ø ʔil ʔ áʔaš iʔ i[] /ʔilʔáʔšiʔi/ 'he hasn't any pep'.

Before a consonant, however, only clusters with this latter ordering occur. We might therefore want to say that here these clusters were also allophones of the glottalized resonants, if we had chosen to set them up. We would thereby avoid the morphophonemic metathesis of clusters of []ʔ[] plus resonant that we have with the preferred analysis (3.7). For example, a form such as

[]Ø tuʔm t^{e} íti? i[] /tumʔtéti?i/ 'he has both feet hanging down'

would become

[]Ø tum̓ t^{e} íti? i[] /tum̓téti?i/.

When the following consonant was a voiced resonant, we would have to decide whether the first or the second resonant of the reanalyzed cluster was glottalized. For example, we would have to decide whether to reinterpret /mʔm/ as /m̓m/ or as /mm̓/. Either way we would not avoid morphophonemic changes. Choosing the former alternative would avoid changes in forms parallel to the one we have just seen, such as

[]Ø tu?m m^{e} íme we? i[] /tum?mémewe?i/ 'he's sticking both feet out',

which would become

[]Ø tuḿ m^{e} íme we? i[] /tuḿmémewe?i/.

The other alternative would give us an interesting morphophonemic change whereby the glottalization would pass from the first to the second resonant:

[]Ø tuḿ m^{e} íme we? i[] /tumḿémewe?i/.

But the choice of the former alternative would introduce changes in other forms, such as

[]?um ?má·š[] /?um?má·š/ 'your pine nut territory',

which would become

[]?um ḿá·š[] /?uḿmá·š/.

In this latter case a morphophonemic change is avoided by the preferred analysis, as well as by the other alternative, which would give us /?umḿá·š/.

1.7.10. Voiceless resonants. It is not possible to analyze the voiceless resonants as clusters of voiced resonants either preceded or followed by /h/, as such clusters also occur in contrast to the voiceless resonants. Of the clusters beginning with /h/, /hm/ and /hl/ are found, as in /wamáhmi/ 'it's cloudy' and /láhla/ 'in my leg'. All six possible clusters wherein /h/ is the second member occur. Examples of each are the following:

/mh/: /ḱómho/ 'cow parsnip', /géšimha/ 'make him sing!', /?umhána/ 'your mouth'

/nh/: /bákwanhu/ 'Tahoe sucker', /nanhólwa/ 'wild currant'

/ŋh/: /ʔitmukhéŋheŋ/ 'bass drum', /diŋáʔmiŋhu/ 'our (pl. inc.) child'

/lh/: /ć̀é·gelhu/ 'wild onion sp.', /ʔilháwhawiʔi/ 'it's light'

/wh/: /daʔilháwhawiʔ/ 'light', /maṫ́ošawhu/ 'whitefish', /dewhíwi/ 'thunder'

/yh/: /dipáyhayi/ 'I lost it', /diwímayhi/ 'I'm going to go out looking for him'

2. Phonotactics. This section describes the arrangement of sequences of phonemes within word boundaries, on the hypothesis that this is potentially equivalent to describing the arrangement of phonemes within utterances, since utterances consist of an integral number of words and intonational phonemes. All examples in this section are on the phonemic level. Section 2.1 outlines the major distribution classes of phonemes, and section 2.2 describes the syllable types; the contents of the remaining sections is characterized in this latter section.

In the lists of examples throughout this section, loanwords from English are underlined. Such words are not used when the phoneme sequence in question occurs in non-loans. Also, in selecting these examples, meaningful words have been preferred to meaningless names of persons or places. In the charts of phoneme sequences, three kinds of marks have been introduced to indicate restrictions on the occurrence of certain sequences. Sequences occurring only in loanwords from English are again underlined. Sequences known to not be common to all speakers are enclosed in parentheses. Thirdly, sequences concerning which there is reason to suspect that they may not be common to all speakers are followed by a single "close parentheses" mark,). In both the lists of examples and the charts, the dash (--) indicates that the sequence in question could not occur, either because its occurrence is prevented by the operation of a morphophonemic rule or because it is a logical impossibility. In these lists

and charts, the symbol ± stands for following word boundary; this is not a phoneme.

2.1. Classes of phonemes. The main distribution classes of phonemes, as will appear from the description of the syllable in the following section, are the consonants, the vowels, the stresses, length, and the intonations.

There are no significant sub-classes of the intonations. The stresses differ primarily in that only strong stress may be followed by length. There is little patterned difference of distributions of the vowels; the clearest restrictions are that /u/ may not occur before /w/, and /i/ may not occur before /y/, in the same syllable (2.5.1).

The primary sub-classes of consonants that emerge from the study of the phonotactics are listed below, with brief indications of the defining criteria and references to the relevant following sections.

/p t k ʔ s š h m n ŋ w l y/ occur syllable-finally (2.3.2)

/b d z g ṕ t́ ć ḱ M Ń W L Y/ do not occur syllable-finally (2.3.2)

/b d z g M Ń L W Y/ do not occur intervocalically after short stressed vowels (2.5.1, 2.3.1)

/h/ restricted syllable-finally (2.3.2, 2.4.1, 2.5.1)

/ʔ/ medial in three-consonant clusters (2.4.2), initial in initial two-consonant clusters (2.4.3)

/y/ in final clusters (2.4.4), not after /i/ in the same syllable (2.5.1)

/w/ not after /u/ in the same syllable (2.5.1)

/š/ in initial and final clusters (in English loanwords) (2.4.3, 2.4.4)

/M Ŋ W/ do not occur intervocalically after a stressed (long or short) vowel (2.3.1)

/Ŋ W Y/ do not occur after a consonant and before a vowel, when the preceding syllable is stressed (2.3.1)

/Ŋ/ occurs only after a consonant and before a stressed vowel (2.3.1)

2.2. Syllable types. Washo utterances may be described as sequences of an integral number of syllables, with one of the intonational phonemes /. ,/ occurring between certain successive syllables and at the end of any complete utterance. The Washo nuclear syllable is tripartite, consisting of a consonant followed by a vowel, with one of the two stress phonemes. Length /·/ may occur after strongly stressed vowels. Syllable-initial single consonants are described in 2.3.1. A few syllable-initial consonant clusters occur; these are described in 2.4.3. Syllable-final consonants are limited in number; these are described in 2.3.2. A few syllable-final clusters of two and three consonants also occur; these are described respectively in 2.4.4 and 2.4.5. Two- and three-consonant clusters occurring at syllable boundaries are described in 2.4.1 and 2.4.2. Relationships between the initial consonant and the vowel of a syllable are discussed in 2.6, while relationships obtaining between a vowel and the following consonant, whether in the same or the following syllable, are discussed in 2.5.

2.3. Single consonants. The following two sections discuss the restrictions on the occurrence of single consonants in respectively syllable-initial and syllable-final position.

2.3.1. Syllable-initial single consonants. All consonants occur syllable-initially. When preceded by a vowel, all consonants except /Ŋ/ occur syllable-initially. Section a gives examples of such consonants in stressed syllables, before both long and short vowels. The absence of an example of /W/ before a long vowel and of /Y/ before a short vowel is probably accidental, due to the general infrequency of the voiceless resonants. Section b gives examples of single consonants in unstressed syllables, when the preceding syllable is stressed, after both long and short vowels. In this environment /M Ŋ W/ have not been found. The lack of voiced stops after short vowels corresponds to a definite restriction (2.5.1). After short vowels, /L Y/ also have not been found.

Word-initially, all consonants except /Ŋ/ occur before a stressed vowel, and all consonants except /M Ŋ Y/ occur before an unstressed vowel. Examples of these are given in section c.

After another consonant, all consonants occur before a stressed vowel, and all consonants except /Ŋ W Y/ occur before an unstressed vowel when the preceding syllable is stressed. /Ŋ/ thus occurs only after a consonant and before a stressed vowel. This environment is discussed more fully in 2.4.

a. Examples of pretonic intervocalic consonants.

	before long vowels		before short vowels	
p	dipú·lul	'my car'	gapálali	'he smells it'
t	datá·gil	'his knife'	datóʔo	'his throat'
k	gukú·	'owl sp.'	bokókoŋi	'they're snoring'
ʔ	diʔá·ṫu	'my older brother'	woʔóʔši	'it's autumn'
b	sabá·samhu	'wild rhubarb'	dubáldiʔ	'five'
d	madá·ṫak	'mud hen'	kogidésmiʔ	'death camas'
z	hɨzɨ́·	'brrr!'	dezítzidiʔ	'snowbird'
g	mugí·guš	'fence'	mugíwɨt	'basket sp.'
ṗ	daṗá·ṗɨš	'his lungs'	tuṗípiwiʔ	'skunk'
ṫ	baṫá·du	'bait'	paṫálŋiʔ	'eagle'
ć	paćá·gaʔ	'flint'	maćáʔyaʔ	'moss'
ḱ	yeḱí·ćɨli	'it's nicked'	deṗeḱímum	'its marrow'
s	gusú·ṫiʔ	'woodpecker sp.'	masáṫi	'flint arrowhead'
š	mašó·niʔ	'pumice'	ṗušálaʔ	'mouse'
h	ʔawahó·ṗi	'bullsnake'	ʔuhétiʔi	'they fell'
m	dimó·ḱo	'my knee'	simíši	'lodge-pole pine'
n	dɨnɨ́·nɨyi	'it's roaring'	nanómba	'sugar pine sugar'
ŋ	ʔuŋá·bi	'salt'	daŋámuʔ	'his daughter'
l	silá·ṫawhu	'tiger lily'	palóloyi	'there's a blister'
w	diwí·gi	'my eye'	ḱawáʔyaʔ	'manzanita sp.'
y	geyú·dumi	'he's pulling it'	geyúsiwi	'he's selling it'
M	diMá·š	'my face'	weMéʔši	'there are waves'
L	meLú·Lu	'old men'	geLéʔši	'he's chasing it'
W			diWáʔi	'I'm the one who's doing it'

Y diYá·mi 'that's what I'm
talking about'

b. Examples of posttonic intervocalic consonants.

	after long vowels		after short vowels	
p	gemelé·pɨs	'jump up!'	dípi?	'blanket'
t	dulé·ti?i	'he's holding his hand down'	píteli?	'lizard'
k	ć́á·kɨ	'spider'	bókoŋi	'he's snoring'
?	?á·?a	'bird sp.'	dá?aw	'lake'
b	ć́í·bel	'louse'	--	
d	dí·dew	'sinew'	--	
z	hilí·za	'mountain lion'	--	
g	?ó·gal	'mountain sheep'	--	
ṕ	daṕá·ṕɨš	'his lungs'	t́áṕɨl	'its tail'
t́	gó·t́a?	'frog'	wát́a	'river'
ć	ṕí·ć́imhu	'periwinkle'	díćem	'woodpecker'
ḱ	ḱá·ḱa?	'heron'	bíḱus	'cradle basket'
s	sí·su	'bird'	diṕísew	'my ear'
š	hú·šim	'buzzard'	t́áša?	'cottonwood'
h	mé·hu	'boy'	dáhal	'pigweed'
m	bá·muš	'muskrat'	hímu	'willow'
n	mašó·ni?	'pumice'	tániw	'Miwok'
ŋ	gabó·ŋi	'call him back!'	káŋa	'cave'
l	wá·laš	'bread'	dílek	'duck'
w	memdé·wi	'deer'	géwe	'coyote'
y	dimlá·ya?	'my wife'	?áyɨs	'antelope'
L	mé·Lu	'old man'		
Y	t́á·Yaŋi	'he's hunting'		

c. Examples of initial single consonants.

	before stressed vowels		before unstressed vowels	
p	páša	'wood rat'	paṭálŋi?	'eagle'
t	tániw	'Miwok'	tulí·ši?	'wolf'
k	kókši?	'sego lily'	kukú·	'owl sp.'
?	?úc̓uli?	'chipmunk'	?uŋá·bi	'salt'
b	bík̓us	'cradle basket'	bukwéwe?	'log'
d	délem	'shrew'	dalá?ak	'mountain'
z	zíwziwhu	'woodpecker sp.'	ziŋí·ŋiyi	'it's ringing'
g	géwe	'coyote'	gusú·ṭi?	'woodpecker sp.'
p̓	p̓éwlel	'east'	p̓ušála?	'mouse'
ṭ	ṭáša?	'cottonwood'	ṭugé·bił	'winnowing basket'
c̓	c̓úpum	'grouse'	c̓imyáŋa	'sand'
k̓	k̓ómol	'ball'	k̓awá?ya?	'manzanita sp.'
s	síyuk	'sage hen'	silá·ṭawhu	'tiger lily'
š	šáwa?	'white fir'	šilí·liyi	'it's rattling'
h	hélme?	'three'	hilí·za	'mountain lion'
m	mík̓u	'faeces'	memdé·wi	'deer'
n	nénṭušu	'old lady'	nanhólwa	'wild currant'
ŋ	ŋáwŋaŋ	'child'	ŋaŋáwŋaŋ	'children'
l	léhep	'my head'	lawgác̓abi	'he's kicking me'
w	wáṭa	'river'	waší·šiw	'Washoes'
y	yóšo?	'broad-footed mole'	yeŋí?ši	'they're running'
M	Mú?ši	'he's running'		
L	Lé?i	'I am'	Layá·m	'tell me!'
W	Wá?i	'he's the one who's doing it'	Weyú?ši?i	'that's the one that smells'

Y Yá·mi 'that's what he's
talking about'

2.3.2. Syllable-final single consonats. In syllable-final position, that is, before a consonant or /, ./, only half the consonants occur. These are the voiceless stops /p t k ʔ/, the voiceless fricatives /s š h/, and the voiced nasal and oral resonants /m n ŋ w l y/. The consonants that do not occur syllable-finally are thus the voiced stops /b d z g/, the glottalized stops /p̓ t̓ c̓ k̓/, and the voiceless nasal and oral resonants /M N̥ W L Y/. The occurrence here of the voiced and glottalized stops is avoided by the operation of morphophonemic rules (3.4), whereas the lack of voiceless resonants in this environment may be due to their general infrequency and to limitations of the historical processes that have given rise to these phonemes.

In word-final position all these consonants except /h/ occur, after both stressed and unstressed vowels, but /n ŋ y/ occur after stressed vowels only in loanwords from English. Examples are shown in section a.

All these consonants also occur before at least some following consonants. Consonant clusters are described more fully in 2.4.

a. Examples of final single consonants.

	after stressed vowels	after unstressed vowels
p	dawma?gá·p 'wet place'	ḱétep 'bottle'
t	wá·t 'tomorrow'	ťá·ťat 'magpie'
k	šu?wé·k 'clam'	dílek 'duck'
?	wá·? 'here'	bá·du? 'elderberry'
s	ťugí·s 'basket sp.'	gális 'winter'
š	ťí·š 'its fur'	dí·geš 'net'
m	diŋá·m 'my son'	délem 'shrew'
n	kó·n 'corn'	dešúnťen 'his nostril'
ŋ	?išdáliŋ 'string'	wá·diŋ 'now'
l	mudá·l 'winnowing basket'	dáwal 'buckberry'
w	ṕá·w 'valley'	wá·šiw 'Washo'
y	zuláy 'July'	da?mukáyḱay 'mosquito'

2.4. Consonant clusters. Clusters of two consonants occur initially, intervocalically, and finally, and clusters of three consonants occur intervocalically and finally. The following five sections treat groups of these clusters, according to their positions and the number of consonants that they contain.

2.4.1. Intervocalic two-consonant clusters. With rather few restrictions, syllable-final single consonants may be followed by syllable-initial single consonants to form intervocalic two-consonant clusters. Most of the restrictions on such clusters are implied by the morphophonemic rules for the simplification of consonant clusters of 3.6, which account for the lack of clusters of identical consonants and of certain homorganic consonants, clusters such as */kk/, */šš/, */mm/, */ʔh/, and */mw/. /h/ occurs initially only in two clusters, /hm/ and /hl/, and only after a stressed vowel.

Section a charts the pretonic clusters and section b charts the posttonic ones, while section c charts all intervocalic two-consonant clusters without regard to the distinction between pretonic and posttonic. Sections d-p present examples of such clusters beginning with the respective syllable-final consonants. The left-hand column of each of these charts shows pretonic clusters, the right-hand column, posttonic clusters.

a. Pretonic intervocalic two-consonant clusters.

	p	t	k	?	s	š	h	m	n	ŋ	l	w	y
p			kp					mp	np		lp	wp	
t			kt					mt			lt	wt	
k								mk			lk		
?		t?	k?					m?			l?	w?	
b		tb		?b		šb		mb			lb	wb	
d	pd	td	kd	?d	sd			md			ld	wd	
z								mz					
g	pg	tg	kg	?g		šg		mg		(ŋg	lg	wg	
p'		tp'						mp'			lp'	wp'	
t'			kt'					mt'		ŋt'	lt'	wt'	
c'	pc'		kc'					mc'			lc'	wc'	
k'	pk'				sk'			mk'			lk'		
s		ts						ms			ls	ws	
š	pš	tš						mš			lš		
h		th	kh					mh	nh		lh	wh	
m		tm	km	?m							lm	wm	
n								mn			ln		yn
ŋ		tŋ	kŋ	?ŋ				mŋ			lŋ	wŋ	
l	pl	tl	kl	?l				ml				wl	
w		tw	kw	?w				mw			lw		yw
y		ty	ky	?y				my			ly	wy	

M	tM (kM)		wM
N	(kN		wN
L	(kL)	mL	wL
W	(kW)		
Y		(mY)	wY

b. Posttonic intervocalic two-consonant clusters.

	p	t	k	?	s	š	h	m	n	ŋ	l	w	y
p		tp						mp			lp		yp
t			kt						(nt	ŋt	lt	wt	yt
k				?k		šk			nk	ŋk	lk	wk	yk
?													y?
b	pb	tb	kb	?b	sb			mb			lb	wb	yb
d	pd	td	kd	?d	sd	šd		md	nd	ŋd	ld	wd	yd
z		(tz	kz		(sz)			mz	nz	ŋz		wz	yz
g		tg	kg	?g	sg	šg		mg		ŋg	lg	wg	
ṕ		tṕ				šṕ		mṕ			lṕ		
t́	pt́				st́			mt́	nt́	ŋt́	lt́		yt́
ć	pć		kć					mć	nć		lć	wć	yć
ḱ	pḱ	tḱ						mḱ	nḱ	ŋḱ		wḱ	yḱ
s	ps	ts	ks	?s				ms	ns	ŋs	ls	ws	
š	pš	tš	kš	?š				mš			lš	wš	yš
h								mh		ŋh	lh	wh	yh
m			km	?m	sm	šm	hm				lm		ym
n	pn	tn	kn	?n		śn							yn
ŋ				?ŋ							lŋ	wŋ	yŋ
l	pl	tl	kl	?l		šl	hl	ml	nl	ŋl		wl	yl
w		tw	kw	?w	sw				nw		lw		yw
y		ty		?y				my	ny		ly		

M

N

L

W

Y

lM

wL

c. Intervocalic two-consonant clusters.

	p	t	k	ʔ	s	š	h	m	n	ŋ	l	w	y
p		tp	kp					mp	np		lp	wp	yp
t			kt					mt	(nt	nt	lt	wt	yt
k				ʔk		šk		mk	nk	ŋk	lk	wk	yk
ʔ		tʔ	kʔ					mʔ			lʔ	wʔ	yʔ
b	pb	tb	kb	ʔb	sb	šb		mb			lb	wb	yb
d	pd	td	kd	ʔd	sd	šd		md	nd	ŋd	ld	wd	yd
z		(tz	kz		(sz)			mz	nz	ŋz		wz	yz
g	pg	tg	kg	ʔg	sg	šg		mg		ŋg	lg	wg	
p'		tp'				šp'		mp'			lp'	wp'	
t'	pt'		kt'		st'			mt'	nt'	ŋt'	lt'	wt'	yt'
c'	pc'		kc'					mc'	nc'		lc'	wc'	yc'
k'	pk'	tk'			sk'			mk'	nk'	ŋk'	lk'	wk'	yk'
s	ps	ts	ks	ʔs				ms	ns	ŋs	ls	ws	
š	pš	tš	kš	ʔš				mš			lš	wš	yš
h		th	kh					mh	nh	ŋh	lh	wh	yh
m		tm	km	ʔm	sm	šm	hm				lm	wm	ym
n	pn	tn	kn	ʔn		šn		mn			ln		yn
ŋ		tŋ	kŋ	ʔŋ				mŋ			lŋ	wŋ	yŋ
l	pl	tl	kl	ʔl		šl	hl	ml	nl	ŋl		wl	yl
w		tw	kw	ʔw	sw			mw	nw		lw		yw
y		ty	ky	ʔy				my	ny		ly	wy	

M	tM	(kM)		lM	wM
Ñ		(kÑ			wÑ
L		(kL)	mL		wL
W		(kW)			
Y			(mY)		wY

d. Examples of intervocalic two-consonant clusters beginning with /p/.

	pretonic		posttonic	
b			ʔlópbewe?i	'it caved in'
d	gesepdɨ́ŋdɨ̀ŋi	'it's making it vibrate'	ḱápdi	'he's peeling them'
g	di?epgí·giyi	'I'm feeling it'		
ṫ			ċigáptabuwe?i	'he has large, fat buttocks'
ċ	gum?epċúċuši	'they're scratching each other'	Múpċibi	'it's running perfectly'
ḱ	le?epḱɨ́wḱɨ̀wi	'it made long, deep scratches on me'	welḱípḱip	'black face-paint'
s			dibípsi	'I'm picking it up'
š	ge?epší·šibi	'he's relocating it'	lápša	'in my body'
n			geliwípnebi	'he's flattening it out'
l	la?aplálaŋi	'it scratched me deeply'	yeḱíplebeti?i	'he has a flat face'

e. Examples of intervocalic two-consonant clusters beginning with /t/.

	pretonic	posttonic
p		wátpat 'Woodfords'
ʔ	gitʔí·sa 'his older sister'	
b	ʔitbá·c̓uk 'quiver'	deyétbiʔ 'flour'
d	metdé·t̓ali? 'minnow sp.'	ʔildútduyiʔi 'he's short'
z		wátziha 'fox sp.'
g	ditgí·biʔ 'my forehead'	c̓ótgiʔ 'blackbird'
p̓	gitp̓áyʔla 'at his cheek'	gawgap̓ótp̓othayi 'he's making it crackle'
k̓		k̓ótk̓odi 'it's clucking'
s	gitsú· 'her distant female relative'	gótsa 'a man's name'
š	gitšú· 'his chest'	tútši 'a man's name'
h	githánaya 'in his mouth'	
m	gitmésuʔa 'on its antlers'	
n		ʔétnaš 'a woman's name'
ŋ	gitŋá·m 'his son'	
l	gitlá·ʔ 'his mother'	yagátludi 'it's soft'
w	ʔitwé·ge 'broom'	ʔilwítwidiʔi 'it's stiff'
y	ʔityéwsiw 'ski'	degítyedayʔ 'basket sp.'
M	gitMá·dut 'his tongue'	

f. Examples of intervocalic two-consonant clusters beginning with /k/.

	pretonic		posttonic	
p	tukpépsi	'they're opening their eyes'		
t	tuktéti?i	'they're looking down'	dewgeltúktuk	'gasoline engine'
?	tuk?á?mi	'they're looking into water'		
b			bákbagi	'he's smoking'
d	tukdá·šugi	'they're looking in here'	dulakákdi	'he's moving his hands slowly'
z			?lúkzek	'a woman's name'
g	mekgémi?i	'it's being blown out'	mókgo	'shoe'
ʔ	tukʔóʔomuwe?i	'they're looking down in'		
ʔc	tukʔcímʔcimi	'he's blinking'	ʔcɨkʔcɨkhu	'pelican'
s			dawbáksik	'donkey'
š			kókši?	'sego lily'
h	?itmukhéŋheŋ	'bass drum'		
m	tukmémewe?i	'they're looking out'	mákmak	'bird sp.'
n			píknik	'picnic'
ŋ	tukŋáŋa?i	'they're keeping their eyes fixed on it'		

l tuklé̱liwe?i 'they're looking up' sóklit 'chocolate'

w bukwéwe? 'log' bákwanhu 'Tahoe sucker'

y tukyá·buwe?i 'they're looking through a hole'

M dikMá·š 'my face'

Ŋ dekŊétep 'pot-bellied'

L gekLé?ši 'he's driving them'

g. Examples of intervocalic two-consonant clusters beginning with /ʔ/.

	pretonic		posttonic	
k			máʔkiʔ	'rattlesnake'
b	meʔbú·geli	'he's dizzy'	léʔbi	'I'm crying'
d	paʔdómc̓iluk	'swallow'	p̓áʔdubi	'it's sticking'
g	paʔgó·t̓omhu	'grasshopper'	daláʔga	'on the mountain'
s			k̓íʔsi	'he's taking it'
š			Múʔši	'he's running'
m	daʔmá·š	'his pine nut territory'	daʔmóʔmoʔ	'woman'
n			t̓áʔnɨp	'boat'
ŋ	diʔŋáŋaʔ	'my pillow'	dáʔŋiš	'mink'
l	diʔlúweʔi	'we're sitting'	paʔlóʔlo	'butterfly'
w	peʔwéc̓eliʔ	'weasel'	k̓íʔwi	'he's eating it'
y	puʔyéwliʔ	'swamp onion'	díʔyu	'fire'

h. Examples of intervocalic two-consonant clusters beginning with /s/.

	pretonic	posttonic
b		bísbut 'Bridgeport'
d	bibisdéyk 'beefsteak'	mósdi 'it's wet'
z		wásziha 'fox sp.'
g		hésge? 'two'
t́		tulísta? 'deer-hide'
ḱ	deweskí?im 'cold wind'	
m		sésmi 'he's vomiting'
w		wíswisi 'it's squeaking'

i. Examples of intervocalic two-consonant clusters beginning with /š/.

	pretonic	posttonic
k		ʔilkúškuši?i 'he's short'
b	mušbí·biw 'bird sp.'	
d		bóšdi? 'wild onion sp.'
g	mešgíćet 'arrow'	lášga 'on my back'
p̓		hóšp̓i? 'hay'
m		ʔíšmi 'he's singing'
n		pášnap 'parsnip'
l		téšlu̓ti? 'young'

j. Examples of intervocalic two-consonant clusters beginning with /h/.

	posttonic
m	wamáhmi 'it's cloudy'
l	láhla 'in my leg'

k. Examples of intervocalic two-consonant clusters beginning with /m/.

	pretonic		posttonic	
p	ʔumpálali	'you're smelling it'	ʔámpɨdi	'he's peeling'
t	ʔumtóʔo	'your throat'		
k	gumkí·ši	'they're kissing'		
ʔ	ʔumʔá·t̓u	'your older brother'		
b	gumbíweʔi	'he's taking a step'	nanómba	'sugar pine sugar'
d	memdé·wi	'deer'	c̓ámduʔ	'chokecherry'
z	ʔumzɨ́tzɨyi	'you're playing basket hand-game'	yeʔmɨ́mzɨmi	'he has coarse whiskers'
g	ʔumgóyʔ	'your father'	ʔímgiʔ	'large trout'
p̓	ʔump̓ísew	'your ear'	wémp̓eli	'he's digging'
t̓	simt̓á·gɨm	'sugar pine'	ʔémt̓egi	'he's gutting'
c̓	ʔumc̓álul	'your saliva'	bámc̓i	'sugar'
k̓	ʔumk̓ɨ́·ši	'you're burping'	ʔitdámk̓ɨt	'spoon'
s	ʔumsú·	'your female friend (sp. to w.)'	sámsaʔ	'Shaman's rattle'
š	dumšé·gɨl	'wildcat'	ʔámšak	'spring'
h	ʔumháŋa	'your mouth'	k̓ómho	'cow parsnip'
n	ʔumnént̓uši	'you're an old lady'		
ŋ	ʔumŋá·m	'your son'		
l	dimlá·yaʔ	'my wife'	démlu	'food'

w	humwút 'Homewood'		
y	ćimyáŋa 'sand'	lémyew	'my buried food'
L	gumLémlemi 'he's fanning himself'		
Y	ʔumYá·mi 'that's what you're talking about'		

1. Examples of intervocalic two-consonant clusters beginning with /n/.

	pretonic	posttonic
p	šenpé·pa 'sandpaper'	
t		bą́nti 'a man's name'
k		de?ilkínkini? 'black'
d		ćilóndo?eti?i 'he has small hips'
z		?ánza 'a woman's name'
ť		húnťuši 'he has tuberculosis'
ć		?ulipánća 'cress sp.'
ǩ		geMénǩunha 'dent it!'
s		le?lesénseni 'it's nibbling me'
h	nanhólwa 'wild currant'	
l		pą́·nli 'Fernley'
w		pénwin 'Penryn'
y		bányula? 'Mexican'

m. Examples of intervocalic two-consonant clusters beginning with /ŋ/.

	pretonic		posttonic	
t			yéŋt̓in	'Yerington'
k			yagáŋkašemi?i	'it's empty'
d			gesepdáŋdi̓ŋi	'it's making it vibrate'
z			da?lóŋziŋ	'thick'
g	maŋgólolo?	'sierra plum'	šáŋgu?ewe?i	'there's a small amount'
t̓	yaŋt̓á·t̓imi	'they're running apart'	?it̓óŋt̓oŋ	'Jew's-harp'
k̓			píŋk̓eŋi	'it's blowing in and out'
s			gayáŋsi	'it's bumping into it and glancing off'
h			?itmukhéŋheŋ	'bass drum'
l			táŋlel	'west'

n. Examples of intervocalic two-consonant clusters beginning with /l/.

	pretonic		posttonic	
p	ʔilpópoši?i	'it's gray'	gelélpil	'flatten it out!'
t	ʔiltétebi?i	'he's stout'	ʔiltúltuli?i	'it's coarse'
k	ʔilkúškuši?i	'he's short'	ʔélku	'Elko'
ʔ	ʔilʔáʔši?i	'he hasn't any pep'		
b	dihulbɨ́psi	'I'm prying it up'	dúlbewe?i	'he collapsed from heat'
d	ʔildútduyi?i	'he's short'	dubáldi?	'five'
g	ʔilgólgoši?i	'he's short and fat'	yeḱílgi	'it's sharp'
ṕ	ʔilṕílṕili?i	'it's blue'	tugílṕili	'he's blue-eyed'
ṫ	ʔilṫɨ́nṫɨni?i	'it's rough'	ya?mólṫali	'it's blunted'
ć	ʔilćíćiši?i	'it's black'	ćélćel	'squirrel sp.'
ḱ	balḱó·ši	'he's drilling a hole'		
s	ʔilsásaŋi?i	'it's red'	dimugálsali	'I'm chopping it up fine'
š	ʔilšášɨši?i	'it's heavy'	ʔélšɨmi	'he's sleeping'
h	ʔilháwhawi?i	'it's light'	mukélhel	'a woman's name'
m	ʔilmé·mesi?eti?i	'he's getting goose pimples'	mólmoli	'it's boiling'
n	wa?ilnápnabi?i	'it's wet and slippery'		
ŋ	balŋáćaŋ	'antelope brush'	paṫálŋi?	'eagle'

w	ʔilwítwidiʔi	'it's stiff'	nanhólwa	'wild currant'
y	ʔilyá·wiʔi	'it's black'	ʔatélyan	'Italian'
M			sélMu	'edible insect sp.'

o. Examples of intervocalic two-consonant clusters beginning with /w/.

	pretonic		posttonic	
p	gewpúpuyi	'he stabbed it repeatedly'		
t	gewtéte	'walk on both sides of her!'	šáwtak	'a woman's name'
k			kéwku	'unidentified group of people'
ʔ	baw?á?mi	'he stepped in water with both feet'		
b	dewbímiš	'Maidu'	máwbi	'he's bundling it'
d	dewdí?iš	'tree'	dapáwda	'in the evening'
z			zíwziwhu	'woodpecker sp.'
g	gewgíwli	'he's touching it'	gówgow	'goose sp.'
p̓	dawp̓á?tumuwa?a	'at sundown'		
t̓	dewt̓é?eš	'air'		
c̓	gawc̓ác̓abi	'he's kicking them'	gadáwc̓awi	'it crushed it'
k̓			da?ilk̓áwk̓awi?	'hard'
s	gewsúsuyi	'he's splitting it up'	síwsiwhu	'bird sp.'
š			di?éwši?	'my father's brother'
h	dewhíwi	'thunder'	da?ilháwhawi?	'light'
m	dawmáhim	'cloud'		
ŋ	dewŋí?iš	'forest fire'	ŋáwŋaŋ	'child'

l	diwlá·dut	'my wife's brother'	p̓éwlel	'east'
y	dawyác̓im	'smoke'		
M	dewMé?eš	'wave'		
Ŋ	dewŊéti?	'steep hillside'		
L	dawLášdɨmi?	'person that doesn't tell secrets'	madukwáwLu	'sunflower'
Y	dewYú?li?	'spirits of the dead'		

p. Examples of intervocalic two-consonant clusters beginning with /y/.

	pretonic	posttonic
p		dewgíypiy 'narrow'
t		láytił 'a man's name'
k		?ilkáykayi?i 'he's tall'
?		?íy?iyi 'he's sobbing'
b		šáybil 'Sierraville'
d		gebéydi 'he's combing him'
z		dikMáyzuyi 'I have scraggly hair'
ṫ		páyṫi?i 'he's playing'
ċ		péyċuyi 'he's sunbathing'
ḱ		da?muḱáyḱay 'mosquito'
š		Móyšaygiši 'he's running along slowly'
h		dipáyhayi 'I lost it'
m		wáymu 'a man's name'
n	waynáynayi 'it's muddy'	dóynayi 'it's cooked soft'
ŋ		máyŋa 'fawn'
l		?áyleme? 'a man's name'
w	deywí·wi 'young man'	páywayi 'he's shading his eyes'

2.4.2. Intervocalic three-consonant clusters. Most intervocalic three-consonant clusters have medial /ʔ/, usually with the first and third consonants being voiced resonants, but always with at least one of these consonants being of this type. The only consonants other than voiced resonants that have been found in these positions are /t/ as first consonant and /b d g s/ as third consonant. Section a presents examples of the clusters that have been noted.

Only four clusters have been observed in which the medial consonant is other than /ʔ/; these are presented in section b. It will be seen that three of the words are loanwords from English. These clusters also each contain at least one voiced resonant. The two clusters ending in voiced stop plus /w/ violate the general morphophonemic rule of preconsonantal unvoicing (3.4). In order to preserve this rule, if these words are to be considered part of the Washo lexicon, it would be necessary to introduce labialized voiced stop morphophonemes ▯d^w▯ and ▯g^w▯, or to introduce a special ▯w▯ morphophoneme that did not condition unvoicing.

a. Examples of intervocalic three-consonant clusters with medial /ʔ/.

m?t tum?téti?i 'he has both feet hanging down'

m?b kóm?bom 'name of a certain tribe'

m?d tum?dá·ši 'he has both feet in it'

m?g tum?gá·galami 'he has both feet towards the north'

m?s tum?sópsobi 'he's splashing his feet'

m?m ?um?má·š 'your pine nut territory'

m?ŋ ?um?ŋáŋa? 'your pillow'

m?l šum?léliwe?i 'he's throwing upwards repeatedly'

m?w šum?wáwdi 'he's throwing over it repeatedly'

m?y tum?yá·buwe?i 'he's sticking his feet through'

n?y de?il?yín?yini? 'varicolored'

ŋ?d yaŋ?dá·šugi 'they're lying with their heads in here'

ŋ?g yaŋ?gá·galami 'they're lying with their heads to the north'

ŋ?m yaŋ?mámadami 'they're lying with their heads to the south'

l?m da?il?mól?moli? 'big and round'

l?ŋ lákaŋ tál?ŋi? 'a man's name': "having just one arm"

l?l da?il?lá?lagi? 'smooth and shiny'

l?y de?il?yín?yini? 'varicolored'

w?l káw?lak 'owl sp.'

y?l gitmá·may?lu 'with her burden basket'

t?m git?má·š 'his pine nut territory'

t?ŋ ?it?ŋáŋa? 'pillow'

t?l git?lá·m 'his mortar'

b. Examples of intervocalic three-consonant clusters without medial /ʔ/.

mpk̓ ʔempk̓ɨ́wk̓ɨwi 'it's clawing, scratching' (FM)

ydw šaydwó·k 'sidewalk' (RJ)

šgw ʔišgwáš 'squash' (RJ)

nsm plénsmen 'Frenchman' (RJ)

2.4.3. Initial two-consonant clusters. The only initial two-consonant clusters that occur in indigenous words are of the type /ʔ/ plus voiced resonant. These are exemplified in section a. Loanwords from English show two other types: stop plus voiced resonant /l/ or /w/ (section b) and /š/ plus voiceless stop /p/ or /t/ (section c).

a. Examples of initial two-consonant clusters consisting of /ʔ/ plus voiced resonant.

ʔm ʔmí·giyi 'he sees you'

ʔn ʔnúkubi 'it's no good'

ʔŋ ʔŋáŋaʔ 'pillow'

ʔl ʔlúweʔi 'they're sitting'

ʔw ʔwé·š 'bird sp.'

b. Examples of initial two-consonant clusters consisting of stop plus voiced resonant.

pl plénsmen 'Frenchman' (RJ)

bl blákwey 'Brockway' (RJ)

kl klím 'cream' (RJ)

tw twenitú· '22-rifle' (RJ)

kw kwikšélwa 'quicksilver' (RJ)

c. Examples of initial two-consonant clusters consisting of /š/ plus voiceless stop.

šp špá·kš 'Sparks' (RJ)

št štówa 'store'

2.4.4. Final two-consonant clusters. The only final consonant cluster occurring in indigenous words is /yʔ/. Final two-consonant clusters occurring in loanwords from

English may be divided into three types, which are exemplified in the sections indicated: /y/ plus voiceless stop, /š/, or /n/ (section a); nasal plus homorganic voiceless stop (section b); and voiceless stop /p k/ plus /š/ (section c).

a. Examples of final two-consonant clusters beginning with /y/.

yp páyp 'pipe' (RJ)

yt lekšáyt 'Lakeside' (RJ)

yk banáyk 'a man's name'

y? digóy? 'my father'

yš dáyš 'dice' (RJ)

yn náyn 'nine'

b. Examples of final two-consonant clusters consisting of nasal plus homorganic voiceless stop.

mp pámp 'tire pump' (RJ)

nt šiménṭ 'cement' (RJ)

c. Examples of final two-consonant clusters consisting of voiceless stop plus /š/.

pš há·pš 'hops' (RJ, BH)

kš tékš 'tacks' (RJ)

2.4.5. Final three-consonant clusters. Two instances of final three-consonant clusters have been noted, both of them in loanwords from English.

mpš mámpš 'mumps'

ynt páynṭ 'pint'

2.5. Vowels before consonants. Section 2.5.1 discusses the occurrence of vowels before consonants, while section 2.5.2 provides illustrative examples.

2.5.1. Discussion of vowels before consonants. This section discusses restrictions on the occurrence of given vowels before given consonants, under certain conditions of the environment: whether the vowel, if stressed, is short or long; whether, if unstressed, it is pretonic or posttonic; and whether or not a syllable boundary intervenes between the vowel and the consonant.

Sections a-d chart vowels before consonants in open syllables, i.e., when the consonant belongs to the following syllable, under varying conditions of stress and length. It will be seen that there are only random gaps in the charts. The gaps in the columns for /ɨ/ throughout this and the following section are apparently due to the relative infrequency of this vowel more than to any patterned restrictions on its occurrence.

The absence of stressed short vowels in open syllables before voiced stops that is apparent in section a corresponds to the operation of a morphophonemic rule (3.17.1). It seems possible also that some informants may allow only long vowels in open syllables before /ʔ/.

As appears in section c, only certain informants show pretonic /i/ and /u/ before voiceless resonants; others have a /k/ intervening, in the corresponding utterances. In section d, the gaps in the occurrence of vowels before voiceless

stops, glottalized stops, and voiceless resonants are due more to restrictions on the shapes of morphemes than to restrictions on the distribution of phonemes *per se*.

Sections *e*-*h* chart vowels before consonants in closed syllables, under parallel conditions of stress and length. As indicated in 2.3.2, only thirteen of the consonants may close syllables. It may be noted that before /h/ in closed syllables there occur only three short stressed vowels, and no long or unstressed vowels. A comparison of sections *e* and *f* will show that stressed long vowels are relatively restricted in closed syllables, many of the sequences occurring only in loanwords from English.

Section *i* charts stressed vowels in open syllables, ignoring the distinction between long and short vowels. Section *j* charts unstressed vowls before consonants in open syllables, ignoring the distinction between pretonic and posttonic. Sections *k* and *l* are charts of vowels in closed syllables under parallel conditions. The latter makes plain the lack of /h/ after unstressed vowels in closed syllables.

Sections *m*-*p* chart vowels under four conditions of length and stress, ignoring the distinction between open and closed syllables.

Sections *q* and *r* chart short vowels before consonants in open and in closed syllables, ignoring distinctions of stress. Section *s* further abstracts from these by charting short vowels before consonants, ignoring also the distinction between open and closed syllables.

Sections t and u chart vowel qualities before consonants in open syllables and in closed syllables, ignoring distinctions of stress and length. The latter chart brings out the absence of /u/ before /w/ and of /i/ before /y/ in the same syllable, as well as the occurrence of /h/ after only three vowel qualities.

Section v charts vowel qualities before consonants, ignoring all other distinctions, and is consequently the most abstracted of these charts. Noteworthy is the low number of gaps; with the exception of sequences involving the voiceless resonants, the only missing sequences are /ɨ/ before /t̓/ and, probably for some informants, /u/ before /z/.

Sections w and x chart respectively stressed and unstressed vowels before consonants, ignoring distinctions of length as well as the distinction between open and closed syllables.

a. Stressed short vowels before consonants in open syllables.

	á	é	í	ǽ	ó	ú
p	áp	ép	íp	ǽp)	óp	úp
t	át	ét	ít		ót	út
k	ák	ék	ík		ók	úk
ʔ	áʔ)	éʔ)	íʔ)		óʔ)	úʔ)
b	--	--	--	--	--	--
d	--	--	--	--	--	--
z	--	--	--	--	--	--
g	--	--	--	--	--	--
p̓	áp̓	ép̓	íp̓	ǽp̓	óp̓	úp̓
t̓	át̓		ít̓		ót̓	út̓
c̓	ác̓	éc̓	íc̓		óc̓	úc̓
k̓	ák̓	ék̓	ík̓	ǽk̓	ók̓	úk̓
s	ás	és	ís		ós	ús
š	áš	éš	íš		óš	úš
h	áh	éh	íh	ǽh)	óh	úh
m	ám	ém	ím	ǽm	óm	úm
n	án	én)	ín	ǽn)		ún
ŋ	áŋ	éŋ	íŋ		óŋ	úŋ
l	ál	él	íl	ǽl)	ól	úl
w	áw	éw	íw	ǽw)	ów	úw
y	áy	éy	íy		óy	úy

M

N

L

W

Y

\+ -- -- -- -- -- --

b. Stressed long vowels before consonants in open syllables.

	á·	é·	í·	ǽ·	ó·	ú·
p	á·p	é·p	í·p			ú·p
t	á·t)	é·t	í·t		ó·t	
k	á·k)	é·k		ǽ·k		
ʔ	á·ʔ)					
b	á·b	é·b	í·b		ó·b	ú·b
d	á·d	é·d	í·d	ǽ·d	ó·d	ú·d
z	á·z	é·z	í·z	ǽ·z	ó·z	ú·z)
g	á·g	é·g	í·g	ǽ·g	ó·g	ú·g
p̓	á·p̓		í·p̓		ó·p̓	ú·p̓
t̓	á·t̓	é·t̓	í·t̓		ó·t̓	ú·t̓
c̓	á·c̓	é·c̓	í·c̓	ǽ·c̓	ó·c̓	ú·c̓
k̓	á·k̓	é·k̓	í·k̓	ǽ·k̓)	ó·k̓	ú·k̓
s	á·s	é·s	í·s		ó·s)	ú·s
š	á·š	é·š	í·š	ǽ·š)	ó·š	ú·š
h	á·h	é·h				ú·h
m	á·m	é·m	í·m	ǽ·m)	ó·m	ú·m
n	á·n	é·n)	í·n	ǽ·n)	ó·n	ú·n
ŋ	á·ŋ	é·ŋ	í·ŋ	ǽ·ŋ)	ó·ŋ	
l	á·l	é·l	í·l	ǽ·l)	ó·l	ú·l
w	á·w	é·w	í·w	ǽ·w)	ó·w	ú·w
y	á·y		í·y	ǽ·y)	ó·y	ú·y

M

N̪

L é·L ú·L

W

Y á·Y

+ á·+ é·+ í·+ ɨ́·+ ó·+ ú·+

c. Pretonic vowels before consonants in open syllables.

	a	e	i	ɨ	o	u
p	ap	ep	ip		op	up
t	at	et	it			ut
k	ak	ek	ik		ok	uk
ʔ	aʔ	eʔ	iʔ		oʔ	uʔ
b	ab	eb	ib		ob	ub
d	ad	ed	id	ɨd)		ud
z		ez	iz	ɨz)		
g	ag	eg	ig		og	ug
p'	ap'	ep'	ip'	ɨp'		ip'
t'	at'	et'	it'			ut'
c'	ac'	ec'	ic'			uc'
k'	ak'	ek'	ik'	ɨk'	ok'	uk'
s	as	es	is			us
š	aš	eš	iš			uš
h	ah	eh	ih		oh)	uh)
m	am	em	im	ɨm		um
n	(an)	en	in	ɨn	(on)	un
ŋ	aŋ	eŋ	iŋ	ɨŋ		uŋ
l	al	el	il	ɨl	ol	ul
w	aw	ew	iw	ɨw)	(ow)	uw
y	ay	ey	iy	ɨy		uy

M	aM	eM	(iM)	(uM)
N				
L		eL	(iL)	
W			(iW)	(uW)
Y			(iY)	

d. Posttonic vowels before consonants in open syllables.

	a	e	i	ɨ	o	u
p				ɨp		
t					ot	
k	(ak)		ik	(ɨk)	(ok)	
ʔ	aʔ		iʔ	ɨʔ)	oʔ	uʔ
b	ab	eb	ib	ɨb	ob	ub
d	ad	ed	id	ɨd	od	ud
z	az	ez)	iz			
g	ag	eg	ig	ɨg	og	ug
p̓						
t̓			it̓			ut̓
c̓						
k̓		ek̓	ik̓			uk̓
s			is			us
š	aš	eš	iš	ɨš	oš	uš
h			ih			uh
m	am	em	im	ɨm	om	um
n	an	en	in	ɨn)	on	un)
ŋ	aŋ		iŋ	ɨŋ)	oŋ	
l	al	el	il	ɨl	ol	ul
w	aw	ew	iw	ɨw		
y	ay	ey	iy	ɨy	oy	uy

M

N̪

L

W

Y

+ a+ e+ i+ ɨ+ o+ u+

e. Stressed short vowels before consonants in closed syllables.

	á	é	í	ɨ́	ó	ú
p	áp		íp	ɨ́p)	óp	úp
t	át	ét	ít	ɨ́t)	ót	út
k	ák	ék	ík	ɨ́k	ók	úk
ʔ	áʔ	éʔ	íʔ	ɨ́ʔ	óʔ	úʔ

(Voiced and glottalized stops do not close syllables.)

s	(ás)	és	ís	(ɨ́s)	ós	
š	áš	éš	íš	ɨ́š	óš	úš
h	áh			ɨ́h	óh	
m	ám	ém	ím	ɨ́m	óm	úm
n	án	én	ín	ɨ́n	ón	ún
ŋ	áŋ	éŋ	íŋ	ɨ́ŋ	óŋ	úŋ
l	ál	él	íl	ɨ́l	ól	úl
w	áw	éw	íw	ɨ́w	ów	
y	áy	éy		ɨ́y	óy	úy

(Voiceless resonants do not close syllables.)

f. Stressed long vowels before consonants in closed syllables.

	á·	é·	í·	ɨ́·	ó·	ú·
p	á·p	é·p)	**í·p**	**ɨ́·p**		**ú·p**
t	á·t		**í·t**		ó·t	(ú·t)
k	á·k)	é·k	**í·k**	ɨ́·k)	**ó·k**	ú·k)
ʔ	á·ʔ	é·ʔ		ɨ́·ʔ)	(ó·ʔ)	ú·ʔ

(Voiced and glottalized stops do not close syllables.)

s	á·s)	é·s	í·s	**ɨ́·s**		
š	á·š	é·š	í·š	**ɨ́·š**	ó·š	**ú·š**
h						
m	á·m	é·m	**í·m**			
n		**é·n**		**ɨ́·n**	**ó·n**	**ú·n**
ŋ						
l	á·l	é·l)	í·l	ɨ́·l)	ó·l	ú·l)
w	á·w			ɨ́·w)		
y				ɨ́·y)		

(Voiceless resonants do not close syllables.)

g. Pretonic vowels before consonants in closed syllables.

	a	e	i	ɨ	o	u
p	ap	ep				
t	at	et	it			
k	ak	ek	ik	ɨk)		uk
ʔ	aʔ	eʔ	iʔ		(oʔ)	uʔ

(Voiced and glottalized stops do not close syllables.)

s			<u>is</u>			
š	aš	eš	iš			uš
h						
m	am	em	im	(ɨm)		(um)
n	an	<u>en</u>	<u>in</u>			
ŋ	aŋ	eŋ				
l	al	el	il	ɨl)	ol)	ul
w	aw	ew	iw			
y	ay	ey)				uy

(Voiceless resonants do not close syllables.)

h. Posttonic vowels before consonants in closed syllables.

	a	e	i	ɨ	o	u
p	ap	ep	ip	ɨp	op	
t	at	et	it	ɨt	ot	ut
k	ak	ek	ik	ɨk	ok	uk
ʔ	aʔ	eʔ	iʔ	ɨʔ)	oʔ	uʔ

(Voiced and glottalized stops do not close syllables.)

s			is	ɨs	os	us
š	aš	eš	iš	ɨš	oš	uš
h						
m	am	em	im	ɨm	om	um
n	an	en	in	ɨn	on	un
ŋ	aŋ	eŋ	iŋ	ɨŋ	oŋ	uŋ
l	al	el	il	ɨl	ol	ul
w	aw	ew	iw	ɨw	ow	
y	ay	ey		ɨy		

(Voiceless resonants do not close syllables.)

i. Stressed (short or long) vowels before consonants in open syllables.

	á	é	í	ɨ́	ó	ú
p	áp	ép	íp	ɨ́p)	óp	úp
t	át	ét	ít		ót	út
k	ák	ék	ík		ók	úk
ʔ	áʔ	éʔ	íʔ		óʔ	úʔ
b	áb	éb	íb		ób	úb
d	ád	éd	íd	ɨ́d	ód	úd
z	áz	éz	íz	ɨ́z	óz	úz)
g	ág	ég	íg	ɨ́g	óg	úg
p̓	áp̓	ép̓	íp̓	ɨ́p̓	óp̓	úp̓
t̓	át̓	ét̓	ít̓		ót̓	út̓
c̓	ác̓	éc̓	íc̓	ɨ́c̓	óc̓	úc̓
k̓	ák̓	ék̓	ík̓	ɨ́k̓	ók̓	úk̓
s	ás	és	ís		ós	ús
š	áš	éš	íš	ɨ́š)	óš	úš
h	áh	éh	íh	ɨ́h)	óh	úh
m	ám	ém	ím	ɨ́m	óm	úm
n	án	én)	ín	ɨ́n)	ón	ún
ŋ	áŋ	éŋ	íŋ	ɨ́ŋ)	óŋ	úŋ
l	ál	él	íl	ɨ́l)	ól	úl
w	áw	éw	íw	ɨ́w)	ów	úw
y	áy	éy	íy	ɨ́y)	óy	úy

M

Ŋ

L éL úL

W

Y áY

+ á+ é+ í+ ǽ+ ó+ ú+

j. Unstressed vowels before consonants in open syllables.

	a	e	i	ɨ	o	u
p	ap	ep	ip	ɨp	op	up
t	at	et	it		ot	ut
k	(ak)	ek	ik	(ɨk)	ok	uk
ʔ	aʔ	eʔ	iʔ	ɨʔ)	oʔ	uʔ
b	ab	eb	ib	ɨb	ob	ub
d	ad	ed	id	ɨd	od	ud
z	az	ez	iz	ɨz)		
g	ag	eg	ig	ɨg	og	ug
p'	ap'	ep'	ip'	ɨp'		up'
t'	at'	et'	it'			ut'
c'	ac'	ec'	ic'			uc'
k'	ak'	ek'	ik'	ɨk'	ok'	uk'
s	as	es	is			us
š	aš	eš	iš	ɨš	oš	uš
h	ah	eh	ih		oh)	uh
m	am	em	im	ɨm	om	um
n	an	en	in	ɨn	on	un
ŋ	aŋ	eŋ	iŋ	ɨŋ	oŋ	uŋ
l	al	el	il	ɨl	ol	ul
w	aw	ew	iw	ɨw	(ow)	uw
y	ay	ey	iy	ɨy	oy	uy

M	aM	eM	(iM)			(uM)
Ŋ						
L		eL	(iL)			
W			(iW)			(uW)
Y			(iY)			
+	a+	e+	i+	ɨ+	o+	u+

k. Stressed (short or long) vowels before consonants in closed syllables.

	á	é	í	ɨ́	ó	ú
p	áp	ép)	íp	ɨ́p)	óp	úp
t	át	ét	ít	ɨ́t)	ót	út
k	ák	ék	ík	ɨ́k	ók	úk
ʔ	áʔ	éʔ	íʔ	ɨ́ʔ	óʔ	úʔ

(Voiced and glottalized stops do not close syllables.)

s	ás	és	ís	(ɨ́s)	ós	
š	áš	éš	íš	ɨ́š	óš	úš
h	áh			ɨ́h	óh	
m	ám	ém	ím	ɨ́m	óm	úm
n	án	én	ín	ɨ́n	ón	ún
ŋ	áŋ	éŋ	íŋ	ɨ́ŋ	óŋ	úŋ
l	ál	él	íl	ɨ́l	ól	úl
w	áw	éw	íw	ɨ́w	ów	
y	áy	éy		ɨ́y	óy	úy

(Voiceless resonants do not close syllables.)

1. Unstressed vowels before consonants in closed syllables.

	a	e	i	ɨ	o	u
p	ap	ep	ip	ɨp	op	
t	at	et	it	ɨt	ot	ut
k	ak	ek	ik	ɨk	ok	uk
ʔ	aʔ	eʔ	iʔ	ɨʔ)	oʔ	uʔ

(Voiced and glottalized stops do not close syllables.)

s			is	ɨs	os	us
š	aš	eš	iš	ɨš	oš	uš
h						
m	am	em	im	ɨm	om	um
n	an	en	in	ɨn	on	un
ŋ	aŋ	eŋ	iŋ	ɨŋ	oŋ	uŋ
l	al	el	il	ɨl	ol	ul
w	aw	ew	iw	ɨw	ow	
y	ay	ey)		ɨy		uy

(Voiceless resonants do not close syllables.)

m. Stressed long vowels before consonants.

	á·	é·	i·	ɨ́·	ó·	ú·
p	á·p	é·p	<u>í·p</u>	<u>ɨ́·p</u>		<u>ú·p</u>
t	á·t	é·t	<u>í·t</u>		ó·t	(ú·t)
k	á·k)	é·k	<u>í·k</u>	ɨ́·k	<u>ó·k</u>	ú·k)
ʔ	á·ʔ	é·ʔ		ɨ́·ʔ)	(ó·ʔ)	ú·ʔ
b	á·b	é·b	í·b		ó·b	ú·b
d	á·d	é·d	í·d	ɨ́·d	ó·d	ú·d
z	á·z	<u>é·z</u>	í·z	ɨ́·z	ó·z	ú·z)
g	á·g	é·g	í·g	ɨ́·g	ó·g	ú·g
p̓	á·p̓		í·p̓		ó·p̓	ú·p̓
t̓	á·t̓	é·t̓	í·t̓		ó·t̓	ú·t̓
c̓	á·c̓	é·c̓	í·c̓	ɨ́·c̓	ó·c̓	ú·c̓
k̓	á·k̓	é·k̓	í·k̓	ɨ́·k̓)	ó·k̓	ú·k̓
s	á·s	é·s	í·s	<u>ɨ́·s</u>	ó·s)	ú·s
š	á·š	é·š	í·š	ɨ́·š)	ó·š	ú·š
h	á·h	é·h				ú·h
m	á·m	é·m	<u>í·m</u>	ɨ́·m)	ó·m	<u>ú·m</u>
n	á·n	é·n)	í·n	ɨ́·n)	ó·n	ú·n
ŋ	á·ŋ	é·ŋ	í·ŋ	ɨ́·ŋ)	ó·ŋ	
l	á·l	é·l	í·l	ɨ́·l)	ó·l	ú·l
w	á·w	é·w	í·w	ɨ́·w)	ó·w	<u>ú·w</u>
y	á·y		í·y	ɨ́·y)	ó·y	ú·y

M

N

L é·L ú·L

W

Y á·Y

+ á·+ é·+ í·+ ɛ́·+ ó·+ ú·+

n. Stressed short vowels before consonants.

	á	é	í	ɨ́	ó	ú
p	áp	ép	íp	ɨ́p)	óp	úp
t	át	ét	ít	ɨ́t)	ót	út
k	ák	ék	ík	ɨ́k	ók	úk
ʔ	áʔ	éʔ	íʔ	ɨ́ʔ	óʔ	úʔ
b	--	--	--	--	--	--
d	--	--	--	--	--	--
z	--	--	--	--	--	--
g	--	--	--	--	--	--
p̓	áp̓	ép̓	íp̓	ɨ́p̓	óp̓	úp̓
t̓	át̓		ít̓		ót̓	út̓
c̓	ác̓	éc̓	íc̓		óc̓	úc̓
k̓	ák̓	ék̓	ík̓	ɨ́k̓	ók̓	úk̓
s	ás	és	ís	(ɨ́s)	ós	ús
š	áš	éš	íš	ɨ́š	óš	úš
h	áh	éh	íh	ɨ́h	óh	úh
m	ám	ém	ím	ɨ́m	óm	úm
n	án	én	ín	ɨ́n	ón	ún
ŋ	áŋ	éŋ	íŋ	ɨ́ŋ	óŋ	úŋ
l	ál	él	íl	ɨ́l	ól	úl
w	áw	éw	íw	ɨ́w	ów	úw
y	áy	éy	íy	ɨ́y	óy	úy

M

N

L

W

Y

\+ -- -- -- -- -- --

o. Pretonic vowels before consonants.

	a	e	i	ɨ	o	u
p	ap	ep	ip		op	up
t	at	et	it			ut
k	ak	ek	ik	ɨk)	ok	uk
ʔ	aʔ	eʔ	iʔ		oʔ	uʔ
b	ab	eb	ib		ob	ub
d	ad	ed	id	ɨd)		ud
z		ez	iz	ɨz)		
g	ag	eg	ig		og	ug
p'	ap'	ep'	ip'	ɨp'		up'
t'	at'	et'	it'			ut'
c'	ac'	ec'	ic'			uc'
k'	ak'	ek'	ik'	ɨk'	ok'	uk'
s	as	es	is			us
š	aš	eš	iš			uš
h	ah	eh	ih		oh)	uh)
m	am	em	im	ɨm		um
n	an	en	in	ɨn	(on)	un
ŋ	aŋ	eŋ	iŋ	ɨŋ		uŋ
l	al	el	il	ɨl	ol	ul
w	aw	ew	iw	ɨw)	(ow)	uw
y	ay	ey	iy	ɨy		uy

M	aM	eM	(iM)	(uM)
Ŋ				
L		eL	(iL)	
W			(iW)	(uW)
Y			(iY)	

p. Posttonic vowels before consonants.

	a	e	i	ɨ	o	u
p	ap	ep	ip	ɨp	op	
t	at	et	it	ɨt	ot	ut
k	ak	ek	ik	ɨk	ok	uk
ʔ	aʔ	eʔ	iʔ	ɨʔ)	oʔ	uʔ
b	ab	eb	ib	ɨb	ob	ub
d	ad	ed	id	ɨd	od	ud
z	az	ez)	iz			
g	ag	eg	ig	ɨg	og	ug
p̓						
t̓			it̓			ut̓
c̓						
k̓		ek̓	ik̓			uk̓
s			is	ɨs	os	us
š	aš	eš	iš	ɨš	oš	uš
h			ih			uh
m	am	em	im	ɨm	om	um
n	an	en	in	ɨn	on	un
ŋ	aŋ	eŋ	iŋ	ɨŋ	oŋ	uŋ
l	al	el	il	ɨl	ol	ul
w	aw	ew	iw	ɨw	ow	
y	ay	ey	iy	ɨy	oy	uy

M

N̈

L

W

Y

+ a+ e+ i+ ɨ+ o+ u+

q. Short (stressed or unstressed) vowels before consonants in open syllables.

	a	e	i	ɨ	o	u
p	ap	ep	ip	ɨp)	op	up
t	at	et	it		ot	ut
k	ak	ek	ik	(ɨk)	ok	uk
ʔ	aʔ	eʔ	iʔ	ɨʔ)	oʔ	uʔ
b	ab	eb	ib	ɨb	ob	ub
d	ad	ed	id	ɨd	od	ud
z	az	ez	iz	ɨz)		
g	ag	eg	ig	ɨg	og	ug
p̓	ap̓	ep̓	ip̓	ɨp̓	op̓	up̓
t̓	at̓	et̓	it̓		ot̓	ut̓
c̓	ac̓	ec̓	ic̓		oc̓	uc̓
k̓	ak̓	ek̓	ik̓	ɨk̓	ok̓	uk̓
s	as	es	is		os	us
š	aš	eš	iš	ɨš	oš	uš
h	ah	eh	ih	ɨh)	oh	uh
m	am	em	im	ɨm	om	um
n	an	en	in	ɨn	on	un
ŋ	aŋ	eŋ	iŋ	ɨŋ	oŋ	uŋ
l	al	el	il	ɨl	ol	ul
w	aw	ew	iw	ɨw	ow	uw
y	ay	ey	iy	ɨy	oy	uy

M	aM	eM	(iM)			(uM)
N						
L		eL	(iL)			
W			(iW)			(uW)
Y			(iY)			
+	a+	e+	i+	ɨ+	o+	u+

r. Short (stressed or unstressed) vowels before consonants in closed syllables.

	a	e	i	ɨ	o	u
p	ap	ep	ip	ɨp	op	up
t	at	et	it	ɨt	ot	ut
k	ak	ek	ik	ɨk	ok	uk
ʔ	aʔ	eʔ	iʔ	ɨʔ	oʔ	uʔ

(Voiced and glottalized stops do not close syllables.)

s	(as)	es	is	ɨs	os	us
š	aš	eš	iš	ɨš	oš	uš
h	ah			ɨh	oh	
m	am	em	im	ɨm	om	um
n	an	en	in	ɨn	on	un
ŋ	aŋ	eŋ	iŋ	ɨŋ	oŋ	uŋ
l	al	el	il	ɨl	ol	ul
w	aw	ew	iw	ɨw	ow	
y	ay	ey		ɨy	oy	uy

(Voiceless resonants do not close syllables.)

s. Short (stressed or unstressed) vowels before consonants.

	a	e	i	ɨ	o	u
p	ap	ep	ip	ɨp	op	up
t	at	et	it	ɨt	ot	ut
k	ak	ek	ik	ɨk	ok	uk
ʔ	aʔ	eʔ	iʔ	ɨʔ	oʔ	uʔ
b	ab	eb	ib	ɨb	ob	ub
d	ad	ed	id	ɨd	od	ud
z	az	ez	iz	ɨz)		
g	ag	eg	ig	ɨg	og	ug
p'	ap'	ep'	ip'	ɨp'	op'	up'
t'	at'	et'	it'		ot'	ut'
c'	ac'	ec'	ic'		oc'	uc'
k'	ak'	ek'	ik'	ɨk'	ok'	uk'
s	as	es	is	ɨs	os	us
š	aš	eš	iš	ɨš	oš	uš
h	ah	eh	ih	ɨh	oh	uh
m	am	em	im	ɨm	om	um
n	an	en	in	ɨn	on	un
ŋ	aŋ	eŋ	iŋ	ɨŋ	oŋ	uŋ
l	al	el	il	ɨl	ol	ul
w	aw	ew	iw	ɨw	ow	uw
y	ay	ey	iy	ɨy	oy	uy

M	aM	eM	(iM)			(uM)
N						
L		eL	(iL)			
W			(iW)			(uW)
Y			(iY)			
+	a+	e+	i+	ɨ+	o+	u+

t. Vowel qualities before consonants in open syllables.

	a	e	i	ɨ	o	u
p	ap	ep	ip	ɨp)	op	up
t	at	et	it		ot	ut
k	ak	ek	ik	(ɨk)	ok	uk
ʔ	aʔ	eʔ	iʔ	ɨʔ)	oʔ	uʔ
b	ab	eb	ib	ɨb	ob	ub
d	ad	ed	id	ɨd	od	ud
z	az	ez	iz	ɨz	oz	uz)
g	ag	eg	ig	ɨg	og	ug
p'	ap'	ep'	ip'	ɨp'	op'	up'
t'	at'	et'	it'		ot'	ut'
c'	ac'	ec'	ic'	ɨc'	oc'	uc'
k'	ak'	ek'	ik'	ɨk'	ok'	uk'
s	as	es	is		os	us
š	aš	eš	iš	ɨš	oš	uš
h	ah	eh	ih	ɨh)	oh	uh
m	am	em	im	ɨm	om	um
n	an	en	in	ɨn	on	un
ŋ	aŋ	eŋ	iŋ	ɨŋ	oŋ	uŋ
l	al	el	il	ɨl	ol	ul
w	aw	ew	iw	ɨw	ow	uw
y	ay	ey	iy	ɨy	oy	uy

M	aM	eM	(iM)			(uM)
N						
L		eL	(iL)			uL
W			(iW)			(uW)
Y	aY		(iY)			
+	a+	e+	i+	ɨ+	o+	u+

u. Vowel qualities before consonants in closed syllables.

	a	e	i	ɨ	o	u
p	ap	ep	ip	ɨp	op	up
t	at	et	it	ɨt	ot	ut
k	ak	ek	ik	ɨk	ok	uk
ʔ	aʔ	eʔ	iʔ	ɨʔ	oʔ	uʔ

(Voiced and glottalized stops do not close syllables.)

s	as)	es	is	ɨs	os	us
š	aš	eš	iš	ɨš	oš	uš
h	ah			ɨh	oh	
m	am	em	im	ɨm	om	um
n	an	en	in	ɨn	on	un
ŋ	aŋ	eŋ	iŋ	ɨŋ	oŋ	uŋ
l	al	el	il	ɨl	ol	ul
w	aw	ew	iw	ɨw	ow	
y	ay	ey		ɨy	oy	uy

(Voiceless resonants do not close syllables.)

v. Vowel qualities before consonants.

	a	e	i	ɨ	o	u
p	ap	ep	ip	ɨp	op	up
t	at	et	it	ɨt	ot	ut
k	ak	ek	ik	ɨk	ok	uk
ʔ	aʔ	eʔ	iʔ	ɨʔ	oʔ	uʔ
b	ab	eb	ib	ɨb	ob	ub
d	ad	ed	id	ɨd	od	ud
z	az	ez	iz	ɨz	oz	uz)
g	ag	eg	ig	ɨg	og	ug
p̓	ap̓	ep̓	ip̓	ɨp̓	op̓	up̓
t̓	at̓	et̓	it̓		ot̓	ut̓
c̓	ac̓	ec̓	ic̓	ɨc̓	oc̓	uc̓
k̓	ak̓	ek̓	ik̓	ɨk̓	ok̓	uk̓
s	as	es	is	ɨs	os	us
š	aš	eš	iš	ɨš	oš	uš
h	ah	eh	ih	ɨh	oh	uh
m	am	em	im	ɨm	om	um
n	an	en	in	ɨn	on	un
ŋ	aŋ	eŋ	iŋ	ɨŋ	oŋ	uŋ
l	al	el	il	ɨl	ol	ul
w	aw	ew	iw	ɨw	ow	uw
y	ay	ey	iy	ɨy	oy	uy

M	aM	eM	(iM)			(uM)
Ŋ						
L		eL	(iL)			uL
W			(iW)			(uW)
Y	aY		(iY)			
+	a+	e+	i+	ɨ+	o+	u+

w. Stressed (short or long) vowels before consonants.

	á	é	í	ɨ́	ó	ú
p	áp	ép	íp	ɨ́p)	óp	úp
t	át	ét	ít	ɨ́t)	ót	út
k	ák	ék	ík	ɨ́k	ók	úk
ʔ	áʔ	éʔ	íʔ	ɨ́ʔ	óʔ	úʔ
b	áb	éb	íb		ób	úb
d	ád	éd	íd	ɨ́d	ód	úd
z	áz	éz	íz	ɨ́z	óz	úz)
g	ág	ég	íg	ɨ́g	óg	úg
p'	áp'	ép'	íp'	ɨ́p'	óp'	úp'
t'	át'	ét'	ít'		ót'	út'
c'	ác'	éc'	íc'	ɨ́c'	óc'	úc'
k'	ák'	ék'	ík'	ɨ́k'	ók'	úk'
s	ás	és	ís	(ɨ́s)	ós	ús
š	áš	éš	íš	ɨ́š	óš	úš
h	áh	éh	íh	ɨ́h	óh	úh
m	ám	ém	ím	ɨ́m	óm	úm
n	án	én	ín	ɨ́n	ón	ún
ŋ	áŋ	éŋ	íŋ	ɨ́ŋ	óŋ	úŋ
l	ál	él	íl	ɨ́l	ól	úl
w	áw	éw	íw	ɨ́w	ów	úw
y	áy	éy	íy	ɨ́y	óy	úy

M

N

L éL úL

W

Y áY

+ á+ é+ í+ ±+ ó+ ú+

x. Unstressed vowels before consonants.

	a	e	i	ɨ	o	u
p	ap	ep	ip	ɨp	op	up
t	at	et	it	ɨt	ot	ut
k	ak	ek	ik	ɨk	ok	uk
ʔ	aʔ	eʔ	iʔ	ɨʔ)	oʔ	uʔ
b	ab	eb	ib	ɨb	ob	ub
d	ad	ed	id	ɨd	od	ud
z	az	ez	iz	ɨz)		
g	ag	eg	ig	ɨg	og	ug
p̓	ap̓	ep̓	ip̓	ɨp̓		up̓
t̓	at̓	et̓	it̓			ut̓
c̓	ac̓	ec̓	ic̓			uc̓
k̓	ak̓	ek̓	ik̓	ɨk̓	ok̓	uk̓
s	as	es	is	ɨs	os	us
š	aš	eš	iš	ɨš	oš	uš
h	ah	eh	ih		oh)	uh
m	am	em	im	ɨm	om	um
n	an	en	in	ɨn	on	un
ŋ	aŋ	eŋ	iŋ	ɨŋ	oŋ	uŋ
l	al	el	il	ɨl	ol	ul
w	aw	ew	iw	ɨw	ow	uw
y	ay	ey	iy	ɨy	oy	uy

M	aM	eM	(iM)			(uM)
Ŋ						
L		eL	(iL)			
W			(iW)			(uW)
Y			(iY)			
+	a+	e+	i+	ɨ+	o+	u+

2.5.2. Examples of vowels before consonants. The following subsections provide examples of vowels before consonants, arranged in charts. The sections fall into four groups of six charts each, one for each of the six vowel qualities, in the order /a e i ɨ o u/. Sections a-f show stressed long vowels; sections g-l, stressed short vowels; sections m-r, pretonic vowels; and sections s-x, posttonic vowels. The left-hand column of each chart shows the vowel in open syllables; the right-hand column, in closed syllables.

a. Examples of /á·/ before consonants.

	open syllables	closed syllables
p	gá·pidi? 'cabbage'	dawma?gá·p 'wet place'
t	ná·tuk 'a woman's name'	wá·t 'tomorrow'
k	gá·ku 'duck sp.'	ǩá·k 'a man's name'
?	?á·?a 'bird sp.'	wá·? 'here'
b	dá·bal 'sagebrush'	--
d	dá·da? 'bed'	--
z	gá·zagaza 'bird sp.'	--
g	ťá·gim 'pine nut'	--
p̓	dap̓á·p̓iš 'his lungs'	--
t̓	t̓á·t̓at 'magpie'	--
c̓	bá·c̓uk 'ammunition'	--
k̓	k̓á·k̓a? 'heron'	--
s	yá·sa? 'again'	bá·s 'a man's name'
š	wá·šiw 'Washo'	dakMá·š 'his face'
h	?á·huyi 'they are standing'	
m	bá·muš 'muskrat'	diŋá·m 'my son'
n	?á·ni 'ant sp.'	
ŋ	k̓á·ŋi 'it's roaring'	
l	wá·laš 'bread'	mudá·l 'basket sp.'
w	p̓á·wa 'in the valley'	p̓á·w 'valley'
y	dimlá·ya? 'my wife'	
Y	t̓á·Yaŋi 'he's hunting'	
+	dá· 'there'	--

b. Examples of /é·/ before consonants.

	open syllables	closed syllables
p	gemelé·pɨs 'jump up!'	né·p 'a woman's name'
t	dulé·ti?i 'he's holding his hand down'	
k	bé·kin 'bacon'	šu?wé·k 'clam'
?		wé·?muhu 'name of a monster'
b	t́é·be? 'snow on ground'	--
d	lé·dew 'my sinew'	--
z	né·zi 'a man's name'	--
g	gé·geli 'he's sitting'	--
t́	t́é·t́ɨl 'valley quail'	--
ć	wé·ćɨp 'stocking'	--
ḱ	t́é·ḱe? 'many'	--
s	?eŋé·si 'there's plenty'	hakgedé·s 'don't say that!'
š	gé·šu? 'earthworm'	di?mé·š 'my husband'
h	mé·hu 'boy'	
m	yé·mi 'he's swimming'	geyé·m 'swim!'
n	?é·nu 'a woman's name'	ké·n 'can'
ŋ	heŋé·ŋeyi 'it's roaring'	
l	t́é·limhu 'man'	ćimehé·l 'beaver'
w	memdé·wi 'deer'	
L	mé·Lu 'old man'	
+	yé· 'yes'	--

c. Examples of /í·/ before consonants.

	open syllables	closed syllables
p	?í·pɨn 'apron'	ší·p 'sheep'
t	lí·ta 'a woman's name'	wí·t 'wheat'
k		kí·k 'cake'
b	ć́í·bel 'louse'	--
d	dí·dew 'sinew'	--
z	hilí·za 'mountain lion'	--
g	dí·geš 'net'	--
ṕ	mí·ṕɨli 'it's full'	--
t́	gegí·t́i?i 'he's biting it'	--
ć	ṕí·ć́imhu 'periwinkle'	--
ḱ	gewgí·ḱɨli 'he's stirring it'	--
s	sí·su 'bird'	t́ugí·s 'basket sp.'
š	tulí·ši? 'wolf'	t́í·š 'its fur'
m	zí·mi? 'a man's name'	klí·m 'cream'
n	deší·nayi? 'ant sp.'	
ŋ	ziŋí·ŋiyi 'it's ringing'	
l	šilí·liyi 'it's rattling'	dewgesí·l 'shallow'
w	bí·wi? 'red squirrel'	
y	?í·yeli 'it's big'	
+	watlí· 'morning'	--

d. Examples of /ɛ́·/ before consonants.

	open syllables	closed syllables
p		sɛ́·p 'syrup'
k	c̓ɛ́·kɨ 'spider'	hɛ́·kgagali 'he's gasping for breath'
ʔ		mɛ́·ʔde 'black bear'
d	wegeldɛ́·dɨdi 'she's giggling'	--
z	gedegɛ́·zɨk 'tickle him!'	--
g	gɛ́·gɨši? 'flea'	--
c̓	hɛ́·c̓ɨyi 'it's heehawing'	--
k̓	hɛ́·k̓a 'fly sp.'	--
s		zɛ́·s 'judge'
š	k̓ɛ́·ši 'he's burping'	šɛ́·š 'Schurz'
m	t̓ɛ́·muwe?i 'he's passing wind loudly'	
n	dɨnɛ́·nɨyi 'it's roaring'	pɛ́·nli 'Fernley'
ŋ	bɨŋɛ́·ŋɨyi 'it's humming'	
l	bɨlɛ́·lɨyi 'it's chirping'	dimɛ́·ldi 'I won'
w	gep̓išɛ́·wi 'he's sucking it up fast'	p̓ɛ́·wgiši 'it's whistling along'
y	siyɛ́·yɨyi 'he's humming'	šɛ́·y 'a man's name'
+	hɨdɛ́· 'ouch!'	--

e. Examples of /ó·/ before consonants.

	open syllables	closed syllables
t	dó·ti 'a woman's name'	ʔló·t 'yesterday'
k		hatdó·k 'hot dog'
ʔ		hó·ʔ 'there'
b	mó·baʔ 'mat'	--
d	mó·dop 'goal'	--
z	gó·ziʔ 'pig'	--
g	ʔó·gal 'mountain sheep'	--
p̓	ʔawahó·p̓i 'bullsnake'	--
t̓	gó·t̓aʔ 'frog'	--
c̓	gó·c̓i 'yellowjacket'	--
k̓	dadó·k̓o 'his heel'	--
s	damó·siš 'a woman's name'	
š	c̓ó·šiŋiʔ 'ant sp.'	gaʔló·š 'dance!'
m	dó·mat 'hell-diver'	
n	mašó·niʔ 'pumice'	kó·n 'corn'
ŋ	gabó·ŋi 'call him back!'	
l	c̓išó·liʔ 'wild lettuce sp.'	dac̓igó·l 'his kidney'
w	nó·wi 'medicinal root sp.'	
y	waʔwó·yi 'it's howling'	
+	ʔaŋahó· 'pigeon'	--

f. Examples of /ú·/ before consonants.

	open syllables	closed syllables
p	kú·pa 'a man's name'	lú·p 'a man's name'
t		tú·t 'owl sp.'
k		gegumhul?yú·k 'wrestle!'
?		dú·? 'there'
b	hú·bi?i 'wind has gotten here'	--
d	gú·diŋa 'who'	--
z	?ú·zi 'a woman's name'	--
g	šú·gil 'wooly wyethia'	--
p̓	de?ep̓ú·p̓u? 'his brother's daughter's children'	--
t̓	gusú·t̓i? 'woodpecker sp.'	--
c̓	dedú·c̓u 'his elbow'	--
k̓	mú·k̓i 'snowshoe rabbit'	--
s	ye?mú·suli 'it's forked'	
š	hú·šim 'buzzard'	tú·š 'toast'
h	mehú·hu 'boys'	
m	lú·miš 'Loomis'	
n	dú·ni? 'golden brodiaea'	?išlú·n 'saloon'
l	pú·lul 'car'	lú·l 'a woman's name'
w	?išdú·wit 'Stewart'	
y	dišú·ya 'at my chest'	
L	meLú·Lu 'old men'	
+	dišú· 'my chest'	--

g. Examples of /á/ before consonants.

	open syllables	closed syllables
p	lápɨš 'my body'	lápša 'in my body'
t	gayátɨk 'kill him!'	gayátgi 'he's killing him'
k	máku 'decayed tooth'	bákwanhu 'Tahoe sucker'
ʔ	dáʔaw 'lake'	dáʔŋiš 'mink'
p̓	t̓áp̓ɨl 'its tail'	--
t̓	wát̓a 'river'	--
c̓	pác̓il 'pus'	--
k̓	lák̓aʔ 'one'	--
s	yásaŋi 'it's hot'	wásziha 'fox sp.'
š	dášaŋ 'blood'	lášga 'at my back'
h	dáhal 'pigweed'	láhla 'in my leg'
m	dámuʔ 'skirt'	bámc̓i 'sugar'
n	tániw 'Miwok'	ʔulipánc̓a 'cress sp.'
ŋ	ƛáŋa 'cave'	táŋlel 'west'
l	šálaʔ 'pitch'	dubáldiʔ 'five'
w	dáwal 'buckberry'	ŋáwŋaŋ 'child'
y	ʔáyɨs 'antelope'	máyŋa 'fawn'

h. Examples of /é/ before consonants.

	open syllables		closed syllables	
p	lépi?	'my blanket'		
t	ḱétep	'bottle'	wétwedi	'it's quacking'
k	zékeš	'jackass'	wékwegi	'it's quacking'
?	dé?ek	'rock'	dé?ga	'on a rock'
ṕ	mépɨ́li	'he's stacking it'	--	
ć	pe?wéćeli?	'weasel'	--	
ḱ	séḱeš	'root sp.'	--	
s	sésu?	'aquatic insect sp.'	hésge?	'two'
š	géšɨm	'sing!'	léšmi	'I'm singing'
h	léhep	'my head'		
m	demémew	'his rib'	mémlew	'hummingbird'
n	méne	'a man's name'	néńtušu	'old lady'
ŋ	gumbéŋili	'he's exercising'	?itmukhéŋheŋ	'bass drum'
l	pélew	'jack rabbit'	hélme?	'three'
w	géwe	'coyote'	ṕéwlel	'east'
y	léyek	'my tooth'	gebéydi	'he's combing it'

i. Examples of /í/ before consonants.

	open syllables	closed syllables
p	dípi? 'blanket'	dibípsi 'I'm picking it up'
t	píteli? 'lizard'	mítlegi 'you said'
k	píkɬ̣l 'pickle'	níkšin 'Nixon, Nevada'
?	dewdí?iš 'tree'	dí?yu 'fire'
p̓	dip̓ek 'white paint'	--
t̓	dit̓eš 'belding ground squirrel'	--
c̓	dic̓em 'woodpecker'	--
k̓	bik̓us 'cradle basket'	--
s̓	dep̓ísew 'his ear'	wíswisi 'it's squeaking'
š	díšu 'digging stick'	?íšmi 'he's singing'
h	míhep 'your head'	
m	díme? 'water'	?ímgi? 'large trout'
n	zínun 'a man's name'	de?ilkínkini? 'black'
ŋ	?e?íŋawi 'it's moving'	píŋk̓eŋi 'it's blowing in and out'
l	dílek 'duck'	tugílp̓ili 'he's blue-eyed'
w	dewhíwi 'thunder'	gíwlew 'basket sp.'
y	síyuk 'sage hen'	

j. Examples of /ɬ/ before consonants.

	open syllables	closed syllables
p	gəhulbɬ́pɨs 'pry it up!'	dihulbɬ́psi 'I'm prying it up'
t		zɬ́tzɨyi 'he's playing basket hand-game'
k		c̓ɬ́kc̓ɨkhu 'pelican'
ʔ		šɬ́ʔwa 'burlap sack'
p̓	memɬ́p̓ɨliʔ 'tickle grass'	--
k̓	dibɬ́k̓ɨ 'my grandmother's sister'	--
s		zɬ́szɨyi 'he's playing basket hand-game'
š		dewsɨp̓ɬ́šp̓ɨš 'having long, narrow eyes'
h	mɬ́hɨnaʔ 'a man's name'	diwɬ́hli 'I'm cold'
m	hɨmɬ́mɨyi 'they're buzzing'	yeʔmɬ́mzɨmi 'he has coarse whiskers'
n	tɬ́nɨpiʔ 'turnip'	c̓iluṭ́nṭ́n 'carrot'
ŋ		gesepdɬ́ŋdɨŋi 'it's making it vibrate'
l	mɬ́lɨm 'a man's name'	šɬ́lk̓a 'plant sp.'
w	kɬ́wi 'a man's name'	geʔepk̓ɬ́wk̓ɨwi 'it scratched him'
y		ʔɬ́yʔɨyi 'he's sobbing'

k. Examples of /ó/ before consonants.

	open syllables	closed syllables
p	badópo? 'skunk cabbage'	dópnabi 'it's cooked soupy'
t	gahóta 'be careful!'	ć́ótgi? 'blackbird'
k	bókoŋi 'he's snoring'	mókgo 'shoe'
?	dabó?o 'white man'	ć́ó?ya? 'tule'
ṕ	dóṕawi 'it exploded'	--
t́	góṫa?i 'it broke apart'	--
ć	góć́iga?yi 'he's got a sprain'	--
ḱ	ḱóḱogi 'it's oinking'	--
s	dawmósot 'wet place'	mósdi 'it's wet'
š	yóšo? 'broad-footed mole'	bóšdi? 'wild onion sp.'
h	hóhadi 'wind is blowing across'	?lóhma 'at the rocky hills'
m	ḱómol 'ball'	pa?dómć́iluk 'swallow'
n		ć́ilóndo?eti?i 'he has small hips'
ŋ	Móŋili 'it's growing'	da?lóŋziŋ 'thick'
l	palóloyi 'there's a blister'	mólmoli 'it's boiling'
w	witówinuk 'name of a monster'	gówgow 'goose sp.'
y	bóyoŋ 'pine needle'	dóynayi 'it's cooked soft'

1. Examples of /ú/ before consonants.

	open syllables	closed syllables
p	ćúpum 'grouse'	?lúpdebi 'it's thin'
t	ye?mútebi 'he's puffing out his cheeks'	didútwidi 'I'm stiff'
k	súku? 'dog'	dewgeltúktuk 'gasoline engine'
?	degú?u 'her mother's mother'	degú?yi? 'her daughter's child'
ṕ	dewgelṕúṕu? 'a woman's name'	--
ť	húť e? 'something'	--
ć	?úćuli? 'chipmunk'	--
ḱ	?lúḱemhu 'bittern'	--
s	geyúsiwi 'he's selling it'	
š	digúšu? 'my pet'	múšgulhu 'water snake'
h	debegúhul 'his eyebrow'	
m	detúmu 'leader'	šúmšu? 'salt grass'
n	deygúnen 'long and slimy'	dešúnťen 'his nostril'
ŋ	húŋa 'how'	ye?múŋḱeŋi 'he's puffing his cheeks in and out'
l	yúliyi 'he's dead'	dúlbewe?i 'he collapsed from heat'
w	?lúwe?i 'they're sitting'	
y	dešúyep 'his nose'	hulúyluyi 'a breeze is blowing'

m. Examples of pretonic /a/ before consonants.

	open syllables		closed syllables	
p	gapálali	'he smells it'	ga?aplálaŋi	'it scratched her repeatedly'
t	dató?o	'his throat'	datmálit̓i?	'trapper'
k	maká·di	'a man's name'	makgá·guyi	'he's making a bother'
?	da?á·t̓u	'his older brother'	da?mó?mo?	'woman'
b	sabá·samhu	'wild rhubarb'	--	
d	madá·t̓ak	'mud hen'	--	
g	p̓agá?aw	'soda spring'	--	
p̓	dap̓á·p̓iš	'his lungs'	--	
t̓	pat̓álŋi?	'eagle'	--	
c̓	mac̓á?ya?	'moss'	--	
k̓	dak̓áyaw	'black-faced'	--	
s	masát̓i	'flint arrowhead'		
š	mašó·ni?	'pumice'	dašgá?al	'fat on rump of deer'
h	dahán̓a	'his mouth'		
m	wamáhmi	'it's cloudy'	damt̓á?ŋa?	'hunter'
n	nanómba	'sugar pine sugar'	nanhólwa	'wild currant'
ŋ	daŋámu?	'his daughter'	yaŋt̓á·t̓imi	'they're running apart'
l	dalá?ak	'mountain'	balŋác̓aŋ	'antelope brush'
w	pawáwli?	'squirrel sp.'	dawmáhim	'cloud'
y	wayámhu	'plant sp.'	may?lólo	'water moss'
M	daMá·š	'his face'		

n. Examples of pretonic /e/ before consonants.

	open syllables	closed syllables
p	depú·lul 'his car'	di?epgí·giyi 'I'm feeling it'
t	duletílik 'a man's name'	detgí·bi? 'his forehead'
k	meké·nik 'mechanic'	mekgémi?i 'it's being blown out'
?	de?í·sa 'his older sister'	pe?wé̓celi? 'weasel'
b	debéyu 'his younger brother'	--
d	dedé?eš 'falling snow'	--
z	dezítzidi? 'snowbird'	--
g	degúšu? 'his pet'	--
p̓	hep̓íšeyi 'he's sneezing'	--
t̓	net̓únt̓ušu 'old ladies'	--
c̓	dec̓élelel 'on his left'	--
k̓	dek̓éše 'living being'	--
s	desé·wi 'its stinger'	
š	dešú· 'his chest'	mešgíc̓et 'arrow'
h	mehú·hu 'boys'	
m	demémew 'his rib'	memdé·wi 'deer'
n	bené·ne 'banana'	šenpé·pa 'sandpaper'
ŋ	heŋé·ŋeyi 'it's roaring'	yeŋ?mémiwe?i 'they're lying with heads towards east'
l	melé?yɨgi 'he's drunk'	dewgelsí·lu 'person with a foreign accent'
w	dewí·gis 'his trousers'	dewhíwi 'thunder'
y	beyé?ši 'he's shooting'	deywí·wi 'young man'
M̀	weM̀é?ši 'there are waves'	
L	meLú·Lu 'old men'	

o. Examples of pretonic /i/ before consonants.

	open syllables		closed syllables	
p	dipálali	'I smell it'		
t	ditó?o	'my throat'	ditgí·bi?	'my forehead'
k	dikí·ši	'I'm kissing her'	dikMá·š	'my face'
?	ṗi?é?ši	'he's crawling around'	di?ló·ši	'I'm dancing'
b	dibá·ba?	'my father's father'	--	
d	kogidésmi?	'death camas'	--	
z	dizɨ́tzɨyi	'I'm playing basket hand-game'	--	
g	c̓igó·gomhu	'hail'	--	
ṗ	diṗísew	'my ear'	--	
ṫ	diṫá·Yaŋi	'I'm hunting'	--	
c̓	dic̓ác̓a?	'my chin'	--	
k̓	dik̓ɨ́·ši	'I'm burping'	--	
s	disé?ši	'I'm wading'	bibisdéyk	'beefsteak'
š	bišápu?i	'he's hungry'	?išgé?ši	'he's moving'
h	dihápa	'my mouth'		
m	simíši	'lodge-pole pine'	c̓imyáŋa	'sand'
n	hiná·yayi	'she's playing hand-game'	winpí·l	'a man's name'
ŋ	diŋá·m	'my son'		
l	silá·ṫawhu	'tiger lily'	?ilyá·wi?i	'it's black'
w	diwí·gi	'my eye'	diwhólsali	'I have messy hair'
y	diyáli?i	'I'm standing'		

M diMá·š 'my face'

L diLé?ši 'I'm chasing it'

W diWá?i 'I'm the one who's doing it'

Y diYá·mi 'that's what I'm talking about'

p. Examples of pretonic /i̱/ before consonants.

	open syllables		closed syllables	
k			ʔitmi̱kdí·di̱t	'snare drum'
d	hi̱dí·	'ouch!'	--	
z	hi̱zí·	'brrr!'	--	
p̓	dewsi̱p̓íšp̓i̱š	'having long, narrow eyes'	--	
k̓	dibi̱k̓ík̓i̱	'my grandmother's sisters'	--	
m	hi̱mími̱yi	'they're buzzing'	di̱mšé·gi̱l	'wildcat'
n	di̱ní·ni̱yi	'it's roaring'		
ŋ	bi̱ŋí·ŋi̱yi	'it's humming'		
l	bi̱lí·li̱yi	'it's chirping'	mahi̱l̓tálal	'cat-tail tule
w	mek̓i̱wí·ki̱	'scorpion'		
y	si̱yí·yi̱yi	'he's humming'		

q. Examples of pretonic /o/ before consonants.

	open syllables		closed syllables	
p	dopópoši	'it was burnt in several places'		
k	bokókoŋi	'they're snoring'		
ʔ	woʔóʔši	'it's autumn'	poʔgó·ṫomhu	'grasshopper'
b	nobémba	'November'	--	
g	mogókgo	'many shoes'	--	
ḱ	dimoḱó·ḱo	'my knees'	--	
h	ʔohó·š	'hat'		
n	nonómba	'sugar pine sugar'		
l	palolóloyi	'he has blisters all over'	golsísiʔ	'wild potato'
w	šowówlamhu	'girls'		

r. Examples of pretonic /u/ before consonants.

	open syllables	closed syllables
p	gupépdi 'it's unravelling'	
t	tutí·ya 'tortilla'	
k	gukú· 'owl sp.'	bukwéwe? 'log'
?	gesu?é?ši 'he's examining it'	šu?wétɨk 'service berry'
b	dubáldi? 'five'	--
d	mudá·l 'winnowing basket'	--
g	mugí·guš 'fence'	--
p̓	tup̓íp̓iwi? 'skunk'	--
t̓	dituẗí·yel 'my thumb'	--
c̓	gumšuc̓ác̓ili 'they're flirting'	--
k̓	gesuk̓ák̓ɨmi 'he's watching over it'	--
s	gusú·t̓i? 'woodpecker sp.'	
š	p̓ušála? 'mouse'	mušbí·biw 'bird sp.'
h	?um?uhć·š 'your hat'	
m	dibumé·li? 'my husband'	dumšé·gɨl 'wildcat'
n	huná·zɨyi 'he's drunk'	
ŋ	?uŋá·bi 'salt'	
l	ditulíc̓ik 'my finger'	gumhul?yú·gi 'they're wrestling'
w	?uwí·gi 'your eye'	
y	k̓uyé?ši 'he's swimming'	k̓uy?é?ši 'they're swimming'
M	?uMá·dut 'your tongue'	

s. Examples of posttonic /a/ before consonants.

	open syllables		closed syllables	
p			daméyap	'his foot'
t			ṫá·ṫat	'magpie'
k	?á?waku	'sucker sp.'	dalá?ak	'mountain'
?	gagáma?i	'he ate it up'	ḱá·ḱa?	'heron'
b	musásabi	'he's whispering'	--	
d	tugáhadi	'he's looking across'	--	
z	má?kazi?	'wood tick'	--	
g	ḱáḱagi	'it's cackling'	--	
š	wá·laši	'she's making bread'	wá·laš	'bread'
m	?ánami?	'a woman's name'	sabá·samhu	'wild rhubarb'
n	?í·zana	'a woman's name'	bákwanhu	'Tahoe sucker'
ŋ	ṫá·Yaŋi	'he's hunting'	ŋáwŋaŋ	'child'
l	háŋalel	'south'	dáwal	'buckberry'
w	lásawi	'I'm laughing'	silá·ṫawhu	'tiger lily'
y	wáṫaya	'in the river'	má·may?	'burden basket'
+	ṫá·ba	'grizzly bear'	--	

t. Examples of posttonic /e/ before consonants.

	open syllables	closed syllables
p		kétep 'bottle'
t		mešgícet 'arrow'
k		tíyek 'his tooth'
ʔ		péleʔ 'yellow-bellied marmot'
b	kéteba 'in the bottle'	--
d	wétwedi 'it's quacking'	--
z	yé·mezi 'a man's name'	--
g	léyega 'in my tooth'	--
k	ʔímeki 'he has a cold'	--
š	yéweša 'in the road'	dí·geš 'net'
m	sémsemi 'he's begging'	délem 'shrew'
n	leʔlesénseni 'it's nibbling me'	dešúnten 'his nostril'
ŋ		ʔitmukhéŋheŋ 'bass drum'
l	píteliʔ 'lizard'	cí·bel 'louse'
w	dipísewa 'in my ear'	mémlew 'hummingbird'
y	géweyi 'he's gambling'	blákwey 'Brockway'
+	géwe 'coyote'	--

u. Examples of posttonic /i/ before consonants.

	open syllables	closed syllables
p		dewgí·šip 'level place'
t		c̓éhit 'charcoal'
k	lú·bikin 'Rubicon'	bíc̓ik 'pestle'
ʔ	yáliʔi 'he's standing'	dípiʔ 'blanket'
b	šuʔmí·šibi 'he's throwing straight'	--
d	k̓íkidiʔ 'silver trout'	--
z	gá·biziʔ 'cabbage'	--
g	ditulíc̓iga 'on my finger'	--
t̓	málit̓i 'he's trapping'	--
k̓	gópik̓i 'he's whistling'	--
s	wagálisi 'it's winter'	gális 'winter'
š	wíliši 'oak sp.'	dáʔŋiš 'mink'
h	wátziha 'fox sp.'	
m	lesí·dimi 'he's cheating me'	hú·šim 'buzzard'
n	ʔudénkini 'it's dark'	dá·zin 'a man's name'
ŋ	c̓ó·šiŋi 'ant sp.'	wá·diŋ 'now'
l	gáŋili 'he's shouting'	šú·gil 'wooly wyethia'
w	t̓é·liwi 'he's a man'	wá·šiw 'Washo'
y	lí·giyi 'I see it'	
+	memdé·wi 'deer'	--

v. Examples of posttonic /ɨ/ before consonants.

	open syllables		closed syllables	
p	tánɨpi?	'turnip'	t̓á?nɨp	'boat'
t			séwɨt	'porcupine'
k	c̓ík̓cɨku	'pelican'	dášɨk	'cicada'
?	gawá·yɨ?a	'on a horse'	gawá·yɨ?	'horse'
b	t̓á?nɨba	'in a boat'	--	
d	wá·gɨdi	'it's croaking'	--	
g	gayá·p̓ɨgi	'he cut him'	--	
s			?áyɨs	'antelope'
š	gɨ́·gɨši?	'flea'	t̓ímɨš	'its juice'
m	?élšɨmi	'he's sleeping'	t̓á·gɨm	'pine nut'
n	mɨ́hɨna?	'a man's name'	bílšɨn	'a man's name'
ŋ	?á·zɨŋa	'a man's name'	t̓álɨŋ	'his arm'
l	metdé·t̓ɨ́li?	'minnow sp.'	t̓áhɨl	'his leg'
w	ge?epk̓ɨ́wk̓ɨwi	'it scratched him'	ge?epk̓ɨ́wk̓ɨw	'scratch him!'
y	p̓ɨ́?lɨyi	'he's fishing'	hanawɨ́ywɨy	'name of a monster'
+	c̓ɨ́·kɨ	'spider'	--	

w. Examples of posttonic /o/ before consonants.

	open syllables	closed syllables
p		mó·dop 'goal'
t	mó·noto? 'Monitor'	dawmósot 'wet place'
k	ćidó·doku 'robin'	da?mósok 'pig'
?	?mó?mo?i 'she's a woman'	yóšo? 'broad-footed mole'
b	mó·doba 'through the goal'	--
d	kótkodi 'it's clucking'	--
g	kókogi 'it's oinking'	--
s		wóswos 'Wadsworth'
š	da?ilpópoši? 'gray'	?ó?oš 'autumn'
m	da?ilšómšomi? 'brown'	ćigó·gomhu 'hail'
n	šó·šoni? 'Shoshone'	hó·son 'Hawthorne'
ŋ	bókoŋi 'he's snoring'	bóyoŋ 'pine needle'
l	mólmoli 'it's boiling'	kómol 'ball'
w		gówgow 'goose sp.'
y	dimó·koya 'on my knee'	
+	dadó·ko 'his heel'	--

x. Examples of posttonic /u/ before consonants.

	open syllables	closed syllables
t		dakMá·dut 'his tongue'
k		síyuk 'sage hen'
ʔ	métuʔi 'it's frozen'	bá·duʔ 'elderberry'
b	šúpšubi 'he's crying gently'	--
d	dikMá·duda 'on my tongue'	--
g	debemú·ćugiʔ 'doctor'	--
ť	téšluťiʔ 'young'	--
ǩ	ʔíhuǩi 'it's dry'	--
s	debíǩusiʔ 'woman with a small child'	bíǩus 'cradle basket'
š	nénťušu 'old lady'	máťuš 'worm'
h	wé·ʔmuhu 'name of a monster'	
m	meʔpímumiʔ 'bumblebee'	ćúpum 'grouse'
n	dá·guniʔ 'Achumawi'	zínun 'a man's name'
ŋ		pámuŋ 'alone'
l	ʔúćuliʔ 'chipmunk'	ćálul 'saliva'
y	lá·duya 'in my hand'	
+	ťánu 'person'	--

2.6. Vowels after consonants. Section 2.6.1 discusses the occurrence of vowels after consonants, while section 2.6.2 provides illustrative examples.

2.6.1. Discussion of vowels after consonants. This section discusses restrictions on the occurrence of given vowels after given consonants, under certain conditions of the environment: whether the vowel, if stressed, is short or long; whether, if unstressed, it is pretonic or posttonic; and whether the consonant is, on the one hand, preceded by a vowel or, on the other hand, either initial or preceded by a consonant (this is like the distinction between open and closed syllables, in the opposite direction).

Sections a-c chart vowels after postvocalic consonants, under the following conditions of stress and length: stressed short, stressed long, and posttonic. The gaps in these charts are for the most part random. It will be seen that there is a tendency for the voiceless stops /t k/ and the resonant /n/ to occur in loanwords from English, especially before long vowels. It is also apparent that many sequences beginning with voiceless resonants are limited to certain informants.

Sections d-f chart in parallel fashion vowels after initial or postconsonantal consonants. Here it may be noted that the voiceless stops /p t k/, the voiced affricate /z/, and the voiced resonant /n/ have a strong tendency to occur only in loanwords from English, especially before long vowels.

Section g charts pretonic vowels after consonants, without making a distinction between classes of phonemes preceding

the consonant; it is hard to find a great enough variety of words with two syllables before the stressed syllable to make the distinction of postvocalic vs. initial or post-consonantal worthwhile here.

Sections h and i chart stressed vowels after consonants, ignoring distinctions of length. It will be seen by comparison with sections a-b and d-e that this abstraction considerably reduces the number of sequences found only in English loanwords.

Sections j-l present charts of stressed long, stressed short, and posttonic vowels after consonants, ignoring (as did section g) any distinctions between classes of environments preceding the consonant.

Sections m and n chart stressed or posttonic vowels, maintaining the distinction between postvocalic and initial or postconsonantal consonants, but ignoring distinctions of length.

Sections o and p chart stressed and unstressed vowels after consonants, ignoring distinctions of length as well as of environment preceding the consonant.

Section q charts short vowels after consonants, ignoring all other distinctions.

Finally, section r charts pure vowel qualities after consonants. In this most abstracted of the charts it is noteworthy that there are very few gaps. Aside from sequences beginning with voiceless resonants, the only missing sequences are */zo/, */ŋu/, and, for many speakers, /ŋo/.

a. Stressed short vowels after postvocalic consonants.

	á	é	í	ɨ́	ó	ú
p	pá	pé	pí		pó	
t	tá	té	tí		tó	tú
k		ké			kó	kú
ʔ	ʔá	ʔé		ʔɨ́	ʔó	ʔú
b	bá	bé	bí	bɨ́	bó	bú
d	dá	dé	dí		dó	dú
z			zí	zɨ́		
g	gá	gé	gí		gó	gú
p̓	p̓á		p̓í	p̓ɨ́	p̓ó	
t̓	t̓á	t̓é		t̓ɨ́	t̓ó	t̓ú
c̓	c̓á	c̓é	c̓í	c̓ɨ́	c̓ó	c̓ú
k̓	k̓á	k̓é	k̓í	k̓ɨ́		
s	sá	sé	sí		só	sú
š	šá	šé	ší	šɨ́	šó	šú
h	há	hé	hí		hó	hú
m	má	mé	mí	mɨ́	mó	mú
n	ná	né	ní		nó	
ŋ	ŋá		ŋí			
l	lá	lé	lí		ló	lú
w	wá	wé	wí	wɨ́	(wó)	
y	yá	yé			yó	yú

M	Má)	Mé		(Mó)	(Mú)
Ñ					
L		(Lé)	(Lí)		
W	(Wá)				
Y					

b. Stressed long vowels after postvocalic consonants.

	á·	é·	í·	ɨ́·	ó·	ú·
p	pá·		pí·			pú·
t	tá·	té·	tí·			tú·
k	ká·	ké·	kí·			kú·
ʔ	ʔá·	ʔé·	ʔí·			
b	bá·	bé·	bí·		bó·	bú·
d	dá·	dé·	dí·	dɨ́·	dó·	dú·
z			zí·	zɨ́·		
g	gá·	gé·	gí·	gɨ́·	gó·	gú·
ˀp	ˀpá·		ˀpí·			ˀpú·
ˀt	ˀtá·	ˀté·	ˀtí·	ˀtɨ́·)	ˀtó·	
ˀc	ˀcá·		ˀcí·	ˀcɨ́·	ˀcó·	ˀcú·
ˀk	ˀká·	ˀké·	ˀkí·	ˀkɨ́·		
s	sá·	sé·	sí·		só·	sú·
š	šá·	šé·	ší·	šɨ́·	šó·	šú·
h	há·	hé·			hó·	hú·
m	má·	mé·	mí·	mɨ́·)	mó·	mú·
n	ná·	né·	ní·	nɨ́·		
ŋ	ŋá·	ŋé·	ŋí·	ŋɨ́·		
l	lá·	lé·	lí·	lɨ́·	lǫ́·	lú·
w	wá·	wé·	wí·	wɨ́·	wǫ́·	
y	yá·	yé·		yɨ́·	yó·	yú·

M	(Má·)	(Mó·)	(Mú·)
Ŋ			
L	(Lá·)		Lú·
W			
Y	(Yá·)		

c. Posttonic vowels after postvocalic consonants.

	a	e	i	i̯	o	u
p	pa	pe	pi	pi̯	po	pu
t	ta	te	ti	ti̯		tu
k		ke	ki	ki̯	ko	ku
ʔ	ʔa	ʔe	ʔi		ʔo	ʔu
b	ba	be	bi	bi̯	bo	bu
d	da	de	di	di̯	do	du
z	za		zi	zi̯		zu
g	ga	ge	gi	gi̯	go	gu
p̓	p̓a	p̓e	p̓i	p̓i̯	p̓o	p̓u
t̓	t̓a	t̓e	t̓i	t̓i̯	t̓o	t̓u
c̓	c̓a	c̓e	c̓i	c̓i̯		c̓u
k̓	k̓a	k̓e	k̓i	k̓i̯	k̓o	k̓u
s	sa	se	si	si̯	so	su
š	ša	še	ši	ši̯	šo	šu
h	ha	he	hi	hi̯	ho	hu
m	ma	me	mi	mi̯	mo	mu
n	na	ne	ni	ni̯	no	nu
ŋ	ŋa	ŋe	ŋi	ŋi̯		
l	la	le	li	li̯	lo	lu
w	wa	we	wi	wi̯	wo	
y	ya	ye	yi	yi̯	yo	yu

M

N

L Le) Lu

W

Y Ya

d. Stressed short vowels after initial or postconsonantal consonants.

	á	é	í	ɨ́	ó	ú
p	pá	pé	pí		pó	
t	tá	té	tí	tɨ́	tó	tú
k	ká	ḵé	kí	kɨ́)	kó	kú
ʔ	ʔá	ʔé	ʔí	ʔɨ́	ʔó	ʔú
b	bá	bé	bí	bɨ́	bó	bú
d	dá	dé	dí	dɨ́	dó	dú
z	zá	zé	zí	zɨ́		zú
g	gá	gé	gí		gó	gú
p̓	p̓á	p̓é	p̓í	p̓ɨ́	p̓ó	p̓ú
t̓	t̓á	t̓é	t̓í		t̓ó	
c̓	c̓á	c̓é	c̓í	c̓ɨ́	c̓ó	c̓ú
k̓	k̓á	k̓é	k̓í	k̓ɨ́	k̓ó	
s	sá	sé	sí	sɨ́)	só	sú
š	šá	šé	ší	šɨ́	šó	šú
h	há	hé	hí		hó	hú
m	má	mé	mí	mɨ́	mó	mú
n	ná	né	ní		nó	
ŋ	ŋá		ŋí		(ŋó)	
l	lá	lé	lí		ló	lú
w	wá	wé	wí	wɨ́		wú)
y	yá	yé			yó	yú

M	Má	Mé		Mó	Mú
Ŋ	Ŋá	Ŋé			
L	Lá	Lé	Lí		
W	Wá				
Y					Yú

e. Stressed long vowels after initial or postconsonantal consonants.

	á·	é·	í·	ǽ·	ó·	ú·
p	pá·	pé·)	pí·	pǽ·	pó·	pú·
t	tá·	té·	tí·	tǽ·)	tó·	tú·
k	ká·)	ké·	kí·	kǽ·	kó·	kú·
ʔ	ʔá·	ʔé·	ʔí·		ʔó·	ʔú·
b	bá·	bé·	bí·	bǽ·)	bó·	bú·
d	dá·	dé·	dí·	dǽ·	dó·	dú·
z	zá·	zé·	zí·	zǽ·		zú·
g	gá·	gé·	gí·	gǽ·	gó·	gú·
p̓	p̓á·	p̓é·	p̓í·	p̓ǽ·)		
t̓	t̓á·	t̓é·	t̓í·	t̓ǽ·)		
c̓		c̓é·	c̓í·	c̓ǽ·	c̓ó·	c̓ú·)
k̓	k̓á·		k̓í·	k̓ǽ·	k̓ó·	
s	sá·	sé·	sí·	sǽ·)	só·	sú·
š	šá·	šé·	ší·	šǽ·)	šó·	šú·
h	há·	hé·		hǽ·	hó·	hú·
m	má·	mé·	mí·	mǽ·)	mó·	mú·
n	ná·	né·)			mó·	nú·
ŋ	ŋá·					
l	lá·	lé·	lí·	lǽ·	ló·	lú·
w	wá·	wé·	wí·		wó·	wú·
y	yá·	yé·		yǽ·)	yó·	yú·

M	Má·	Mó·	Mú·
Ñ			
L	Lá·		
W			
Y	Yá·		

f. Posttonic vowels after postconsonantal consonants.

	a	e	i	i̱	o	u
p	pa		pi	pi̱		pu
t	ta		ti	ti̱		tu
k	ka		ki	ki̱		ku
ʔ				ʔi̱		
b	ba	be	bi	bi̱	bo	bu
d	da	de	di	di̱	do	du
z	za	ze	zi	zi̱		
g	ga	ge	gi	gi̱	go	gu
ṕ		ṕe	ṕi	ṕi̱	ṕo	
ť	ťa	ťe	ťi	ťi̱	ťo	ťu
ć	ća	će	ći	ći̱	ćo	ću
ḱ	ḱa	ḱe	ḱi	ḱi̱	ḱo	ḱu
s	sa	se	si	si̱		su
š	ša	še	ši	ši̱	šo	šu
h	ha	he	hi	hi̱	ho	hu
m	ma	me	mi	mi̱	mo	mu
n	na	ne	ni	ni̱		
ŋ	ŋa		ŋi			
l	la	le	li	li̱	lo	lu
w	wa	we	wi	wi̱	wo	wu
y	ya	ye	yi	yi̱		yu

M	Mu
N	
L	Lu
W	
Y	

g. Pretonic vowels after consonants.

	a	e	i	ɨ	o	u
p	pa	pe	pi		(po)	pu
t	ta	te	ti)	tɨ	to	tu
k	(ka)			kɨ	ko	ku)
ʔ	ʔa	ʔe	ʔi		ʔo)	ʔu
b	ba	be	bi	bɨ	bo	bu
d	da	de	di	dɨ	do)	du
z			zi	zɨ		zu
g	ga	ge	gi	gɨ	(go)	gu
ˀp	ˀpa	ˀpe	ˀpi			ˀpu
ˀt	ˀta	ˀte				ˀtu
ˀc			ˀci	(ˀcɨ)		ˀcu
ˀk	ˀka	ˀke	ˀki	(ˀkɨ)		ˀku
s	sa	se	si	sɨ	so	su
š	ša	še	ši	šɨ	(šo)	šu
h	ha	he	hi	hɨ	ho	hu
m	ma	me		mɨ	mo	mu
n	na	ne	ni		no)	nu
ŋ	ŋa				(ŋo)	
l	la	le	li		lo	lu
w	wa	we	wi		wo	wu
y	ya	ye				yu

M			Mi
Ŋ			
L	La		Li)
W	Wa	We	
Y	Ya)		

h. Stressed (short or long) vowels after postvocalic consonants.

	á	é	í	ɨ́	ó	ú
p	pá	pé	pí		pó	pú
t	tá	té	tí		tó	tú
k	ká	ké	kí		kó	kú
ʔ	ʔá	ʔé	ʔí	ʔɨ́	ʔó	ʔú
b	bá	bé	bí	bɨ́	bó	bú
d	dá	dé	dí	dɨ́	dó	dú
z			zí	zɨ́		
g	gá	gé	gí	gɨ́	gó	gú
ˀp	ˀpá		ˀpí	ˀpɨ́	ˀpó	ˀpú
ˀt	ˀtá	ˀté	ˀtí	ˀtɨ́	ˀtó	ˀtú
ˀc	ˀcá	ˀcé	ˀcí	ˀcɨ́	ˀcó	ˀcú
ˀk	ˀká	ˀké	ˀkí	ˀkɨ́		
s	sá	sé	sí		só	sú
š	šá	šé	ší	šɨ́	šó	šú
h	há	hé	hí		hó	hú
m	má	mé	mí	mɨ́	mó	mú
n	ná	né	ní	nɨ́	nó	
ŋ	ŋá	ŋé	ŋí	ŋɨ́		
l	lá	lé	lí	lɨ́	ló	lú
w	wá	wé	wí	wɨ́	wó	
y	yá	yé		yɨ́	yó	yú

M	Má)	Mé		(Mó)	(Mú,
Ŋ					
L	(Lá)	(Lé)	(Lí)		Lú
W	(Wá)				
Y	(Yá)				

i. Stressed (short or long) vowels after initial or postconsonantal consonants.

	á	é	í	ǽ	ó	ú
p	pá	pé	pí	pǽ	pó	pú
t	tá	té	tí	tǽ)	tó	tú
k	ká	ké	kí	kǽ)	kó	kú
ʔ	ʔá	ʔé	ʔí	ʔǽ	ʔó	ʔú
b	bá	bé	bí	bǽ	bó	bú
d	dá	dé	dí	dǽ	dó	dú
z	zá	zé	zí	zǽ		zú
g	gá	gé	gí	gǽ	gó	gú
p̓	p̓á	p̓é	p̓í	p̓ǽ	p̓ó	p̓ú
t̓	t̓á	t̓é	t̓í	t̓ǽ)	t̓ó	
c̓	c̓á	c̓é	c̓í	c̓ǽ	c̓ó	c̓ú
k̓	k̓á	k̓é	k̓í	k̓ǽ	k̓ó	
s	sá	sé	sí	sǽ)	só	sú
š	šá	šé	ší	šǽ	šó	šú
h	há	hé	hí	hǽ	hó	hú
m	má	mé	mí	mǽ	mó	mú
n	ná	né	ní		nó	nú
ŋ	ŋá		ŋí		(ŋó)	
l	lá	lé	lí	lǽ	ló	lú
w	wá	wé	wí	wǽ	wó	wú
y	yá	yé		yǽ)	yó	yú

M	Má	Mé		Mó	Mú
Ŋ	Ŋá	Ŋé			
L	Lá	Lé	Lí		
W	Wá				
Y	Yá				Yú

j. Stressed long vowels after consonants.

	á·	é·	í·	ɨ́·	ó·	ú·
p	pá·	pé·)	pí·	pɨ́·	pó·	pú·
t	tá·	té·	tí·	tɨ́·)	tó·	tú·
k	ká·)	ké·	kí·	kɨ́·)	kó·	kú·
ʔ	ʔá·	ʔé·	ʔí·		ʔó·	ʔú·
b	bá·	bé·	bí·	bɨ́·)	bó·	bú·
d	dá·	dé·	dí·	dɨ́·	dó·	dú·
z	zá·	zé·	zí·	zɨ́·		zú·
g	gá·	gé·	gí·	gɨ́·	gó·	gú·
p̓	p̓á·	p̓é·	p̓í·	p̓ɨ́·)		p̓ú·
t̓	t̓á·	t̓é·	t̓í·	t̓ɨ́·)	t̓ó·	
c̓	c̓á·	c̓é·	c̓í·	c̓ɨ́·	c̓ó·	c̓ú·
k̓	k̓á·	k̓é·	k̓í·	k̓ɨ́·	k̓ó·	
s	sá·	sé·	sí·	sɨ́·)	só·	sú·
š	šá·	šé·	ší·	šɨ́·	šó·	šú·
h	há·	hé·		hɨ́·	hó·	hú·
m	má·	mé·	mí·	mɨ́·)	mó·	mú·
n	ná·	né·)	ní·	nɨ́·	nó·	nú·
ŋ	ŋá·	ŋé·	ŋí·	ŋɨ́·		
l	lá·	lé·	lí·	lɨ́·	ló·	lú·
w	wá·	wé·	wí·	wɨ́·	wó·	wú·
y	yá·	yé·		yɨ́·	yó·	yú·

M	Má·	Mó·	Mú·
Ŋ			
L	Lá·		Lú·
W			
Y	Yá·		

k. Stressed short vowels after consonants.

	á	é	í	ɨ́	ó	ú
p	pá	pé	pí		pó	
t	tá	té	tí	<u>tɨ́</u>	tó	tú
k	ká	ké	kí	kɨ́)	kó	kú
ʔ	ʔá	ʔé	ʔí	ʔɨ́	ʔó	ʔú
b	bá	bé	bí	bɨ́	bó	bú
d	dá	dé	dí	dɨ́	dó	dú
z	zá	<u>zé</u>	zí	zɨ́		<u>zú</u>
g	gá	gé	gí		gó	gú
p̓	p̓á	p̓é	p̓í	p̓ɨ́	p̓ó	p̓ú
t̓	t̓á	t̓é	t̓í	t̓ɨ́	t̓ó	t̓ú
c̓	c̓á	c̓é	c̓í	c̓ɨ́	c̓ó	c̓ú
k̓	k̓á	k̓é	k̓í	k̓ɨ́	k̓ó	
s	sá	sé	sí	sɨ́)	só	sú
š	šá	šé	ší	šɨ́	šó	šú
h	há	hé	hí		hó	hú
m	má	mé	mí	mɨ́	mó	mú
n	ná	né	<u>ní</u>		nó	
ŋ	ŋá		ŋí		(ŋó)	
l	lá	lé	lí		ló	lú
w	wá	wé	wí	wɨ́	(wó)	wú)
y	yá	yé			yó	yú

M	Má	Mé		Mó	Mú
Ŋ	Ŋá	Ŋé			
L	Lá	Lé	Lí		
W	Wá				
Y					Yú

1. Posttonic vowels after consonants.

	a	e	i	ɨ	o	u
p	pa	pe	pi	pɨ	po	pu
t	ta	te	ti	tɨ		tu
k	ka	ke	ki	kɨ	ko	ku
ʔ	ʔa	ʔe	ʔi	ʔɨ	ʔo	ʔu
b	ba	be	bi	bɨ	bo	bu
d	da	de	di	dɨ	do	du
z	za	ze	zi	zɨ		zu
g	ga	ge	gi	gɨ	go	gu
p̓	p̓a	p̓e	p̓i	p̓ɨ	p̓o	p̓u
t̓	t̓a	t̓e	t̓i	t̓ɨ	t̓o	t̓u
c̓	c̓a	c̓e	c̓i	c̓ɨ	c̓o	c̓u
k̓	k̓a	k̓e	k̓i	k̓ɨ	k̓o	k̓u
s	sa	se	si	sɨ	so	su
š	ša	še	ši	šɨ	šo	šu
h	ha	he	hi	hɨ	ho	hu
m	ma	me	mi	mɨ	mo	mu
n	na	ne	ni	nɨ	no	nu
ŋ	ŋa	ŋe	ŋi	ŋɨ		
l	la	le	li	lɨ	lo	lu
w	wa	we	wi	wɨ	wo	wu
y	ya	ye	yi	yɨ	yo	yu

M			Mu
N			
L		Le)	Lu
W			
Y	Ya		

m. Stressed or posttonic vowels after postvocalic consonants.

	a	e	i	ɨ	o	u
p	pa	pe	pi	pɨ	po	pu
t	ta	te	ti	tɨ	to	tu
k	ka	ke	ki	kɨ	ko	ku
ʔ	ʔa	ʔe	ʔi	ʔɨ	ʔo	ʔu
b	ba	be	bi	bɨ	bo	bu
d	da	de	di	dɨ	do	du
z	za		zi	zɨ		zu
g	ga	ge	gi	gɨ	go	gu
p̓	p̓a	p̓e	p̓i	p̓ɨ	p̓o	p̓u
t̓	t̓a	t̓e	t̓i	t̓ɨ	t̓o	t̓u
c̓	c̓a	c̓e	c̓i	c̓ɨ	c̓o	c̓u
k̓	k̓a	k̓e	k̓i	k̓ɨ	k̓o	k̓u
s	sa	se	si	sɨ	so	su
š	ša	še	ši	šɨ	šo	šu
h	ha	he	hi	hɨ	ho	hu
m	ma	me	mi	mɨ	mo	mu
n	na	ne	ni	nɨ	no	nu
ŋ	ŋa	ŋe	ŋi	ŋɨ		
l	la	le	li	lɨ	lo	lu
w	wa	we	wi	wɨ	wo	
y	ya	ye	yi	yɨ	yo	yu

M	Ma)	Me		(Mo)	(Mu)
Ŋ					
L	(La)	Le)	(Li)		Lu
W	(Wa)				
Y	Ya				

n. Stressed or posttonic vowels after initial or postconsonantal consonants.

	a	e	i	ɨ	o	u
p	pa	pe	pi	pɨ	po	pu
t	ta	te	ti	tɨ)	to	tu
k	ka	ke	ki	kɨ	ko	ku
ʔ	ʔa	ʔe	ʔi	ʔɨ	ʔo	ʔu
b	ba	be	bi	bɨ	bo	bu
d	da	de	di	dɨ	do	du
z	za	ze	zi	zɨ		zu
g	ga	ge	gi	gɨ	go	gu
p̓	p̓a	p̓e	p̓i	p̓ɨ	p̓o	p̓u
t̓	t̓a	t̓e	t̓i	t̓ɨ	t̓o	t̓u
c̓	c̓a	c̓e	c̓i	c̓ɨ	c̓o	c̓u
k̓	k̓a	k̓e	k̓i	k̓ɨ	k̓o	k̓u
s	sa	se	si	sɨ)	so	su
š	ša	še	ši	šɨ	šo	šu
h	ha	he	hi	hɨ	ho	hu
m	ma	me	mi	mɨ	mo	mu
n	na	ne	ni	nɨ	no	nu
ŋ	ŋa		ŋi		(ŋo)	
l	la	le	li	lɨ	lo	lu
w	wa	we	wi	wɨ	wo	wu
y	ya	ye	yi	yɨ	yo	yu

M	Ma	Me		Mo	Mu
Ɲ	Ɲa	Ɲe			
L	La	Le	Li		Lu
W	Wa				
Y	Ya				Yu

o. Stressed (short or long) vowels after consonants.

	á	é	í	ǽ	ó	ú
p	pá	pé	pí	pǽ	pó	pú
t	tá	té	tí	tǽ)	tó	tú
k	ká	ké	kí	kǽ)	kó	kú
ʔ	ʔá	ʔé	ʔí	ʔǽ	ʔó	ʔú
b	bá	bé	bí	bǽ	bó	bú
d	dá	dé	dí	dǽ	dó	dú
z	zá	zé	zí	zǽ		zú
g	gá	gé	gí	gǽ	gó	gú
p̓	p̓á	p̓é	p̓í	p̓ǽ	p̓ó	p̓ú
t̓	t̓á	t̓é	t̓í	t̓ǽ	t̓ó	t̓ú
c̓	c̓á	c̓é	c̓í	c̓ǽ	c̓ó	c̓ú
k̓	k̓á	k̓é	k̓í	k̓ǽ	k̓ó	
s	sá	sé	sí	sǽ)	só	sú
š	šá	šé	ší	šǽ	šó	šú
h	há	hé	hí	hǽ	hó	hú
m	má	mé	mí	mǽ	mó	mú
n	ná	né	ní	nǽ	nó	nú
ŋ	ŋá	ŋé	ŋí	ŋǽ	(ŋó)	
l	lá	lé	lí	lǽ	ló	lú
w	wá	wé	wí	wǽ	wó	wú
y	yá	yé		yǽ	yó	yú

M	Má	Mé		Mó	Mú
Ɲ	Ɲá	Ɲé			
L	Lá	Lé	Lí		Lú
W	Wá				
Y	Yá				Yú

p. Unstressed vowels after consonants.

	a	e	i	ɨ	o	u
p	pa	pe	pi	pɨ	po	pu
t	ta	te	ti	tɨ	to	tu
k	ka	ke	ki	kɨ	ko	ku
ʔ	ʔa	ʔe	ʔi	ʔɨ	ʔo	ʔu
b	ba	be	bi	bɨ	bo	bu
d	da	de	di	dɨ	do	du
z	za	ze	zi	zɨ		zu
g	ga	ge	gi	gɨ	go	gu
p̓	p̓a	p̓e	p̓i	p̓ɨ	p̓o	p̓u
t̓	t̓a	t̓e	t̓i	t̓ɨ	t̓o	t̓u
c̓	c̓a	c̓e	c̓i	c̓ɨ	c̓o	c̓u
k̓	k̓a	k̓e	k̓i	k̓ɨ	k̓o	k̓u
s	sa	se	si	sɨ	so	su
š	ša	še	ši	šɨ	šo	šu
h	ha	he	hi	hɨ	ho	hu
m	ma	me	mi	mɨ	mo	mu
n	na	ne	ni	nɨ	no	nu
ŋ	ŋa	ŋe	ŋi	ŋɨ	(ŋo)	
l	la	le	li	lɨ	lo	lu
w	wa	we	wi	wɨ	wo	wu
y	ya	ye	yi	yɨ	yo	yu

M			Mi	Mu
Ɲ				
L	La	Le)	Li)	Lu
W	Wa	We		
Y	Ya			

q. Short (stressed or unstressed) vowels after consonants.

	a	e	i	ɨ	o	u
p	pa	pe	pi	pɨ	po	pu
t	ta	te	ti	tɨ	to	tu
k	ka	ke	ki	kɨ	ko	ku
ʔ	ʔa	ʔe	ʔi	ʔɨ	ʔo	ʔu
b	ba	be	bi	bɨ	bo	bu
d	da	de	di	dɨ	do	du
z	za	ze	zi	zɨ		zu
g	ga	ge	gi	gɨ	go	gu
p̓	p̓a	p̓e	p̓i	p̓ɨ	p̓o	p̓u
t̓	t̓a	t̓e	t̓i	t̓ɨ	t̓o	t̓u
c̓	c̓a	c̓e	c̓i	c̓ɨ	c̓o	c̓u
k̓	k̓a	k̓e	k̓i	k̓ɨ	k̓o	k̓u
s	sa	se	si	sɨ	so	su
š	ša	še	ši	šɨ	šo	šu
h	ha	he	hi	hɨ	ho	hu
m	ma	me	mi	mɨ	mo	mu
n	na	ne	ni	nɨ	no	nu
ŋ	ŋa	ŋe	ŋi	ŋɨ	(ŋo)	
l	la	le	li	lɨ	lo	lu
w	wa	we	wi	wɨ	wo	wu
y	ya	ye	yi	yɨ	yo	yu

M	Ma	Me	Mi	Mo	Mu
Ɲ	Ɲa	Ɲe			
L	La	Le	Li		Lu
W	Wa	We			
Y	Ya				Yu

r. Vowel qualities after consonants.

	a	e	i	ɨ	o	u
p	pa	pe	pi	pɨ	po	pu
t	ta	te	ti	tɨ	to	tu
k	ka	ke	ki	kɨ	ko	ku
ʔ	ʔa	ʔe	ʔi	ʔɨ	ʔo	ʔu
b	ba	be	bi	bɨ	bo	bu
d	da	de	di	dɨ	do	du
z	za	ze	zi	zɨ		zu
g	ga	ge	gi	gɨ	go	gu
p̓	p̓a	p̓e	p̓i	p̓ɨ	p̓o	p̓u
t̓	t̓a	t̓e	t̓i	t̓ɨ	t̓o	t̓u
c̓	c̓a	c̓e	c̓i	c̓ɨ	c̓o	c̓u
k̓	k̓a	k̓e	k̓i	k̓ɨ	k̓o	k̓u
s	sa	se	si	sɨ	so	su
š	ša	še	ši	šɨ	šo	šu
h	ha	he	hi	hɨ	ho	hu
m	ma	me	mi	mɨ	mo	mu
n	na	ne	ni	nɨ	no	nu
ŋ	ŋa	ŋe	ŋi	ŋɨ	(ŋo)	
l	la	le	li	lɨ	lo	lu
w	wa	we	wi	wɨ	wo	wu
y	ya	ye	yi	yɨ	yo	yu

M	Ma	Me	Mi	Mo	Mu
Ŋ	Ŋa	Ŋe			
L	La	Le	Li		Lu
W	Wa	We			
Y	Ya				Yu

2.6.2. Examples of vowels after consonants. The following subsections provide examples of vowels after consonants, arranged in charts. As was the case in 2.5.2, the sections fall into four groups of six charts each, one for each of the six vowel qualities, in the order /a e i ɨ o u/. Sections a-f show stressed long vowels; sections g-l, stressed short vowels; sections m-r, pretonic vowels; and sections s-x, posttonic vowels. With the exception of the charts for the pretonic vowels, the left-hand column of each chart shows the consonant when initial or preceded by another consonant, with a preference for the former when possible, while the right-hand column shows the consonant when preceded by a vowel.

a. Examples of /á·/ after consonants.

	initial or postconsonantal		postvocalic	
p	pá·šugi	'he's falling in here'	gapá·šuk	'fall in here!'
t	tá·gil	'knife'	datá·gil	'his knife'
k	ká·na	'a person's name'	maká·di	'a man's name'
ʔ	ʔá·huyi	'they are standing'	diʔá·ṫu	'my older brother'
b	bá·duʔ	'elderberry'	sabá·samhu	'wild rhubarb'
d	dá·bal	'sagebrush'	madá·ṫak	'mud hen'
z	zá·š	'a man's name'		
g	gá·du	'windbreak'	ċigá·bat	'summer'
ṗ	ṗá·šugi	'he's coming in'	gaṗá·šuk	'come in!'
ṫ	ṫá·ṫat	'magpie'	baṫá·du	'bait'
ċ			paċá·gaʔ	'flint'
k̇	k̇á·k̇aʔ	'heron'	dahak̇á·k̇iʔ	'liar'
s	sá·mi	'he stamped his foot'	diʔisá·sa	'my older sisters'
š	šá·ṫiweʔi	'they're flying up'	šišá·wiʔ	'an Indian tribe'
h	há·diʔ	'that one'	ʔuhá·šugi	'they're falling in here'
m	má·mayʔ	'burden basket'	dimá·gu	'my sister's child'
n	ná·bu	'prickly pear'	hiná·yayi	'she's playing hand-game'
ŋ	ʔumŋá·m	'your son'	ʔuŋá·bi	'salt'
l	lá·ċaʔ	'my calf'	silá·ṫawhu	'tiger lily'

w	wá·šiw 'Washo'	dawá·laš 'his bread'
y	yá·sa? 'again'	gayá·mi 'he's telling him'
M	Má·ṫiwe?i 'it's lying extending up and away'	diMá·š 'my face'
L	gakLá·šuk 'chase it in here!'	gaLá·šugi 'he's chasing it in here'
Y	Yá·mi 'that's what he's talking about'	diYá·mi 'that's what I'm talking about'

b. Examples of /é·/ after consonants.

	initial or postconsonantal	postvocalic
p	pé·š 'a man's nickname'	
t	té·bɨ̀l 'table'	guté·šŋahé·š 'when?'
k	ké·s 'carrots'	meké·nik 'mechanic'
ʔ	ʔé·nu 'a woman's name'	ʔeʔé·si 'he isn't (there)'
b	detbé·k̓ɨ̀liʔ 'butcher'	p̓ibé·biʔi 'they have come crawling'
d	dé·guš 'wild sweet potato'	didé·gumi 'I met him'
z	zé·gɨ̀ʔ 'a man's nickname'	
g	gé·šuʔ 'earthworm'	t̓ugé·bɨ̀l 'winnowing basket'
p̓	ʔump̓é·p̓ɨ̀li 'they are full'	
t̓	t̓é·t̓ɨ̀l 'valley quail'	wet̓é·beʔi 'there's snow on the ground'
c̓	c̓é·gelhu 'wild onion sp.'	
k̓		ʔíhuk̓é·si 'it isn't dry'
s	sé·gi '(water) reaches up (to)'	desé·wi 'its stinger'
š	dumšé·gɨ̀l 'wildcat'	detmušé·gewiʔ 'story-teller'
h	mamhé·ši? 'very big'	behé·ziŋ 'little'
m	mé·hu 'boy'	dibumé·liʔ 'my husband'
n	né·p 'a woman's name'	bené·ne 'banana'
ŋ		heŋé·ŋeyi 'it's roaring'
l	lé·bu 'my nape'	c̓ilé·bɨ̀lhu 'wild onion sp.'
w	wé·geyi 'she's sweeping'	diwé·c̓ɨ̀p 'my socks'
y	yé·mi 'he's swimming'	deyé·liʔ 'big (pl.)'

c. Examples of /í·/ after consonants.

	initial		postvocalic	
p	pí·šipgiši	'it's rolling straight along'	gepí·gelay?	'fall backwards!'
t	tí·	'tea'	tutí·ya	'tortilla'
k	kí·di	'cat'	gekí·ši	'he's kissing her'
?	?í·p̓igi	'it's smouldering'	di?í·sa	'my older sister'
b	bí·wi?	'red squirrel'	debí·t̓uyi?	'sweater'
d	dí·geš	'net'	wedí·šibi	'it's standing straight'
z	zí·gin	'chicken'	lezí·	'a man's name'
g	gí·buya	'at his nape'	mugí·guš	'fence'
p̓	p̓í·c̓imhu	'periwinkle'	dip̓í·gelayhi	'I'll return'
t̓	t̓í·bu	'his nape'	dit̓ut̓í·yel	'my thumb'
c̓	c̓í·bel	'louse'	weyuc̓í·geli	'it's tangled'
k̓	k̓í·giyi	'he sees it'	yek̓í·c̓ili	'it's nicked'
s	sí·su	'bird'	lesí·dimi	'he's cheating me'
š	ší·bi?i	'they have come flying'	waší·šiw	'Washoes'
m	mí·bi?	'awl'	dic̓imí·bi?	'my hips'
n			zepení·	'Japanese'
ŋ			ziŋí·ŋiyi	'it's ringing'
l	lí·giyi	'I see it'	tulí·ši?	'wolf'
w	wí·di?	'this one'	diwí·gi	'my eye'

d. Examples of /á·/ after consonants.

	initial or postconsonantal	postvocalic
p	pá·nli 'Fernley'	
t	tá·ša?nu 'small bird sp.'	
k	ká· 'exclamation of disgust'	
b	bá·nɨna 'a man's name'	
d	?itmɨkdá·dɨt 'snare drum'	hɨdá· 'ouch!'
z	zá·s 'judge'	hɨzá· 'brrr!'
g	gá·gɨši? 'flea'	gedegá·zɨk 'tickle him!'
p̓	p̓á·wgiši 'it's whistling along'	
t̓	t̓á·muwe?i he's passing wind loudly'	diṭ̓á·muwe?i 'I'm passing wind loudly'
c̓	c̓á·kɨ 'spider'	mec̓á·lɨli? 'wasp sp.'
k̓	k̓á·ši 'he's burping'	dik̓á·ši 'I'm burping'
s	sá·gemi?i 'it's hissing'	
š	šá·wgayabi 'it's whistling by'	gep̓išá·wi 'he's sucking it up fast'
h	há·c̓ɨyi 'it's heehawing'	
m	má·c̓ɨyi 'he was guessed (in hand-game) just short of winning'	dimá·c̓ɨyi 'I was guessed (in hand-game) just short of winning'
n		dɨná·nɨyi 'it's roaring'
ŋ		bɨŋá·ŋɨyi 'it's humming'
l	deylá·lɨli? 'pure white'	bɨlá·lɨyi 'it's chirping'
w		c̓iwá·dɨdi? 'killdeer'
y	yá·yɨ 'seed sp.'	sɨyá·yɨyi 'he's humming'

e. Examples of /ó·/ after consonants.

	initial or postconsonantal		postvocalic	
p	pó·ga	'poker'		
t	tó·l	'stone used in a game'		
k	kó·n	'corn'		
?	?ó·gal	'mountain sheep'		
b	bó·p̓o?	'sticky-leafed rabbitbrush'	gabó·ŋi	'call him back!'
d	dó·c̓a?	'Indian balsam'	didó·k̓o	'my heel'
g	gó·t̓a?	'frog'	c̓igó·gomhu	'hail'
t̓			di?at̓ó·t̓o	'my older brothers'
c̓	c̓ó·šiŋi?	'ant sp.'	dic̓ó·šiŋi	'I'm sliding downhill'
k̓	balk̓ó·ši	'he's drilling a hole'		
s	?umsó·šugi	'you're carrying it in here'	gasó·šugi	'he's carrying it in here'
š	šó·šoni?	'Shoshone'	mašó·ni?	'pumice'
h	hó·šugi	'wind is blowing in here'	?awahó·p̓i	'bullsnake'
m	mó·dop	'goal'	dimó·k̓o	'my knee'
n	nó·wi	'medicinal root sp.'		
w	wa?wó·yi	'it's howling'	šuwó·woyi	'it's roaring'
l	di?ló·ši	'I'm dancing'	dic̓ilό·l	'my hips'
y	ma?yó·dop	'hood on cradle basket'	bayó·šogi	'it's flowing in here'
M	Mó·šugi	'he's running in here'	diMó·šuwehi	'I'll run in there'

f. Examples of /ú·/ after consonants.

	initial or postconsonantal		postvocalic	
p	pú·lul	'car'	dipú·lul	'my car'
t	tú·t	'owl sp.'	ditú·ši	'I'm making toast'
k	kú·pa	'a man's name'	gukú·	'owl sp.'
?	?ú·zi	'a woman's name'		
b	bú·gul	'framework'	dibú·c̓ił	'crown of my head'
d	dú·bi?	'rat sp.'	didú·c̓u	'my elbow'
z	zú·lu	'a man's name'		
g	gú·diŋa	'who'	dic̓igú·guš	'my stomach'
p̓			de?ep̓ú·p̓u?	'his brother's daughter's children'
c̓	c̓ú·šim	'buzzard'	muc̓ú·li	'it's very tasty'
s	?umsú·	'your female friend (sp. to w.)'	gusú·s̓ti?	'woodpecker sp.'
š	šú·gil	'wocly wyethia'	dišú·	'my chest'
h	hú·šim	'buzzard'	mehú·hu	'boys'
m	mú·c̓uk	'medicine'	bemú·k̓uli	'he's chewing'
n	nú·dił	'noodle'		
l	lú·li?	'a woman's name'	tulú·lu	'squirrel'
w	wú·yi	'it's howling'		
y	gumyú·dumi	'they're pulling each other'	geyú·dumi	'he's pulling it'
M	Mú·bi?i	'he has come running'	diMú·bi?i	'I have come running'
L			meLú·Lu	'old men'

g. Examples of /á/ after consonants.

	initial or postconsonantal		postvocalic	
p	páša	'wood rat'	gapálali	'he smells it'
t	tániw	'Miwok'	datá?wi?	'his knife'
k	káŋa	'cave'		
?	?áyis	'antelope'	di?áma?	'my father's mother'
b	bámci	'sugar'	dubáldi?	'five'
d	dášik	'cicada'	gadámali	'he hears it'
z	zánam	'a woman's name'		
g	gális	'winter'	pagá?aw	'soda spring'
ṗ	ṗáyti?i	'he's playing'	daṗála?	'its seed'
ṫ	ṫáša?	'cottonwood'	paṫálŋi?	'eagle'
ċ	ċáli?	'cottontail'	maċá?ya?	'moss'
ḳ	ḳáw?lak	'owl sp.'	da?muḳáyḳay	'mosquito'
s	sámsa?	'Shaman's rattle'	masáti	'flint arrowhead'
š	šáwa?	'white fir'	pušála?	'mouse'
h	háŋalel	'south'	daháŋa	'his mouth'
m	máyŋa	'fawn'	damáyap	'his foot'
n	náyduk	'energetically'	banáyk	'a man's name'
ŋ	ŋáwŋaŋ	'child'	daŋámu?	'his daughter'
l	láhil	'my leg'	dalá?ak	'mountain'
w	wáṫa	'river'	ḳawá?ya?	'manzanita sp.'
y	yáli?i	'he's standing'	wayáḳeši	'it's hot'
M	Máščimi	'he's hiding'	diMáščimi	'I'm hiding'
Ŋ	dakŊášiw	'white-bellied'		
L	Lá?a?	'I was'		
W	Wá?i	'he's the one who's doing it'	diWá?i	'I'm the one who's doing it'

h. Examples of /é/ after consonants.

	initial or postconsonantal		postvocalic	
p	péle?	'yellow-bellied marmot'	dipéy̓cuyi	'I'm sunbathing'
t	téšdiw	'recently'	patét	'a man's name'
k	kéwku	'unidentified group of people'	mukélhel	'a woman's name'
?	?émluyi	'he's eating'	di?éwši?	'my father's brother'
b	?umbéydi	'you're combing it'	gebéydi	'he's combing it'
d	délem	'shrew'	kogidésmi?	'death camas'
z	zékeš	'jackass'		
g	géwe	'coyote'	digéweyi	'I'm gambling'
p̓	p̓éwlel	'east'		
t̓	t̓émle	'his heart'	dit̓é?ši	'I'm riding in a boat'
c̓	c̓éhit	'charcoal'	dic̓élelel	'on my left'
k̓	k̓étep	'bottle'	dek̓éše	'living creature'
s	séwɨt	'porcupine'	disésmi	'I'm vomiting'
š	šéšmi	'they're singing'	dešémuk	'her brother's child'
h	hélme?	'three'	?uhémi?i	'they fell out'
m	mémlew	'hummingbird'	demémew	'his ribs'
n	nén̓tušu	'old lady'	dinén̓tuši	'I'm an old lady'
l	léhep	'my head'	melé?yɨgi	'he's drunk'
w	wélmel	'north'	pewéwɨlgiši	'it's rolling along'
y	yéweš	'road'	diyéwsiwi	'I'm sliding'
M	dewMé?eš	'wave'	weMé?ši	'there are waves'

Ŋ dewŊéti? 'steep hillside'

L gumLémlemi 'he's fanning geLé?ši 'he's chasing it'
himself'

i. Examples of /í/ after consonants.

	initial or postconsonantal	postvocalic
p	píteli? 'lizard'	dipíti?i 'I fell'
t	tímbɨl 'thimble'	duletílik 'a man's name'
k	de?ilkínkini? 'black'	
?	?íšmi 'he's singing'	
b	bík̓us 'cradle basket'	gebípsi 'he's picking it up'
d	dílek 'duck'	bedíli? 'match'
z	zíwziwhu 'woodpecker sp.'	dezítzidi? 'snowbird'
g	gíwlew 'basket sp.'	mugíwɨt 'basket sp.'
p̓	p̓í?ši 'he's crawling'	tup̓íp̓iwi? 'skunk'
t̓	t̓íhep 'his head'	
c̓	c̓íc̓idi 'it's peeping'	gec̓ípubi 'she's stitching it'
k̓	k̓ík̓idi? 'silver trout'	dep̓ek̓ímum 'its marrow'
s	síyuk 'sage hen'	wegesísidi 'it's rattling'
š	ší?ši 'they are flying'	sešíšiyi 'he's dancing the slow dance'
h	hímu 'willow'	gehílbi 'he's slurping it up'
m	mík̓u 'faeces'	simíši 'lodge-pole pine'
n	níkšin 'Nixon, Nevada'	nuním 'a man's name'
ŋ	ŋílmi 'he's staying underneath'	weŋí?ši 'forest-fire is burning'
l	?líšla? 'he gave (it) to me'	ditulípi? 'my fingernail'
w	wíliši? 'oak sp.'	diwíc̓uk 'my younger sister'
L	Lísi? 'between'	deLísi? 'between them'

j. Examples of /ɨ́/ after consonants.

	initial or postconsonantal	postvocalic
t	tɨ́nɨpi? 'turnip'	
k	kɨ́wi 'a man's name'	
?	?ɨ́y?ɨyi 'he's sobbing'	di?ɨ́y?ɨyi 'I'm sobbing'
b	dihulbɨ́psi 'I'm prying it up'	dibɨ́kɨ 'my grandmother's sister'
d	gesepdɨ́ŋdɨŋi 'it's making it vibrate'	
z	zɨ́tzɨyi 'he's playing basket hand-game'	dizɨ́tzɨyi 'I'm playing basket hand-game'
p'	p'ɨ́?lɨyi 'he's fishing'	dip'ɨ́?lɨyi 'I'm fishing'
t'		c'ilut'ɨ́nt'ɨn 'carrot'
c'	c'ɨ́kc'ɨkhu 'pelican'	wegec'ɨ́?nɨyi 'it's squeaking'
k'	ge?epk'ɨ́wk'ɨwi 'it scratched him'	dibik'ɨ́kɨ 'my grandmother's sisters'
s	sɨ́lk'a 'plant sp.'	
š	šɨ́?wa 'burlap sack'	dišɨ́?wa 'my burlap sack'
m	mɨ́hɨna? 'a man's name'	hɨmɨ́mɨyi 'they're buzzing'
w	wɨ́hli 'he's cold'	hanawɨ́ywɨy 'name of a monster'

k. Examples of /ó/ after consonants.

	initial or postconsonantal	postvocalic
p	da?ilpópoši? 'gray'	ye?mupópo?i 'they're white-tipped'
t	?umtó?o 'your throat'	ditó?o 'my throat'
k	kókši? 'sego lily'	bokókoŋi 'they're snoring'
?	?óŋa? 'grass sp.'	wo?ó?ši 'it's autumn'
b	bóyoŋ 'pine needle'	dabó?o 'white man'
d	dópoši 'it burned up'	gadóŋaha 'burn it!'
g	gópiki 'he's whistling'	dagóy? 'his father'
p̓	p̓ó?lo 'wood rat'	gawgap̓ót̓pothayi 'he's making it crackle'
t̓	da?ilt̓ót̓odi? 'rough'	mat̓ótšawhu 'whitefish'
c̓	c̓ótgi? 'blackbird'	dic̓ópal 'my snot'
k̓	k̓ómol 'ball'	
s	tum?sópsobi 'he's splashing his feet'	dasólŋa 'on its summit'
š	da?ilšóšoŋi? 'red'	wagašómšomi '(water) is dark'
h	hóhadi 'it's blowing across'	gahóta 'be careful!'
m	mólmoli 'it's boiling'	diŋamómo? 'my daughters'
n	nópada 'a man's name'	t̓anóno 'people'
ŋ	ŋówa 'ground'	
l	may?lólo 'water moss'	palóloyi 'there's a blister'
w		šowówlamhu 'girls'
y	yóšo? 'broad-footed mole'	dayó?wi? 'his thigh'
M	Móhadi 'he's running across'	diMóhadi 'I'm running across'

1. Examples of /ú/ after consonants.

	initial or postconsonantal		postvocalic	
t	túmuyi	'he's leading'	letúše	'give me some of your winnings!'
k	?ilkúškuši?i	'he's short'	sukúku?	'dogs'
?	?úc̓uli?	'chipmunk'	di?úc̓igi	'I'm hiccupping'
b	búye?	'wild onion sp.'	lebú?u	'feed me!'
d	dúmlemi	'it's red hot'	wedú?ši	'it's burning along'
z	zúlšiš	'soldier'		
g	gúsuyi	'it split'	digúšu?	'my pet'
p̓	dewgelp̓úp̓u?	'a woman's name'		
t̓			net̓únt̓ušu	'old ladies'
c̓	c̓úpum	'grouse'	meguc̓úc̓uši?	'buckskin'
s	súku?	'dog'	gesúwami	'he took it there'
š	šúpšubi	'he's crying gently'	dešúyep	'his nose'
h	húnt̓uši	'he has tuberculosis'	dihúnt̓uši	'I have tuberculosis'
m	múmluyi	'they're eating'	demúkweyi?	'male'
l	he?lúšluši	'it's snowing heavily'	hulúyluyi	'breeze is blowing'
w	wúlpi	'a man's name'		
y	yúliyi	'he's dead'	geyúsiwi	'he's selling it'
M	Mú?ši	'he's running'	diMú?ši	'I'm running'
Y	dewYú?li?	'spirits of the dead'		

m. Examples of pretonic /a/ after consonants.

p paṫálŋi? 'eagle'

t dita?yá?am 'my reflection in water'

k kawánaḋi 'turtle'

? di?aṫó·ṫo 'my older brothers'

b baṫá·du 'bait'

d dalá?ak 'mountain'

g diga?lɛ́·mi 'I like it'

ṗ ṗagá?aw 'soda spring'

ṫ ṫanóno 'people'

ḳ ḳawá?ya? 'manzanita sp.'

s sabá·samhu 'wild rhubarb'

š dišašáša? 'my mother's sisters'

h dahaḳá·ḳi? 'liar'

m masáṫi 'flint arrowhead'

n nanhólwa 'wild currant'

ŋ ŋaŋáwŋaŋ 'children'

l ladámal 'listen to me!'

w waší·šiw 'Washoes'

y yaŋá·šugi 'they're running in here'

L gakLa?á?ši 'he's telling it'

W Wayá·mi 'that's where he's talking about'

Y diwYayá·mi 'that's where I'm spanking them'

n. Examples of pretonic /e/ after consonants.

p pe?wéc̓eli? 'weasel'

t tešúšlut̓i? 'young (pl.)'

? di?ebú·bu 'my mother's father's brothers'

b dibeyúyu 'my younger brothers'

d dep̓ísew 'his ear'

g gegí·t̓i?i 'it's biting him'

p̓ dep̓ek̓ímum 'its marrow'

t̓ t̓elí·liwhu 'men'

k̓ k̓eŋé·ŋeyi 'it's roaring'

s sešíšiyi 'he's dancing the slow dance'

š dešemúmuk 'her brother's children'

h hep̓íšeyi 'he's sneezing'

m memdé·wi 'deer'

n net̓ún t̓ušu 'old ladies'

l legí·t̓i?i 'it's biting me'

w weyú?ši 'it smells'

y yeŋí?ši 'they're running'

W Weyú?ši?i 'that's the one that smells'

o. Examples of pretonic /i/ after consonants.

p piléndi 'a man's name'

t tiwá?i 'I'm the one who's doing it'

? di?isá·sa 'my older sisters'

b bišápu?i 'he's hungry'

d diŋá·m 'my son'

z ziŋí·ŋiyi 'it's ringing'

g kogidésmi? 'death camas'

p̓ dip̓isésew 'my great-grandparents'

c̓ c̓imyáŋa 'sand'

k̓ k̓ilí·liyi 'it's ringing'

s silá·t̓awhu 'tiger lily'

š šilí·liyi 'it's rattling'

h hilí·za 'mountain lion'

n twenitú· '22-rifle'

l ?ulihóla? 'gooseberry sp.'

w diwic̓úc̓uk 'my younger sisters'

M dikMilúlu 'my male friends (m. sp.)'

L gakLit̓á·t̓im 'chase them apart!'

p. Examples of pretonic /ɨ/ after consonants.

t tɨlét 'thread'

k kɨlák 'clock'

b bɨŋí·ŋɨyi 'it's humming'

d dɨní·nɨyi 'it's roaring'

z zɨyí·yɨyi 'he's whistling softly through his teeth'

g gɨlípiš 'grapes'

ć ćɨwí·dɨdi? 'killdeer'

ḱ meḱɨwí·kɨ 'scorpion'

s sɨyí·yɨyi 'he's humming'

š gešɨlín 'gasoline'

h hɨmímɨyi 'they're buzzing'

m ?itmɨkdí·dɨt 'snare drum'

q. Examples of pretonic /o/ after consonants.

p po?gó·t́omhu 'grasshopper'

t dito?ó?o 'my grandmother's brothers'

k ?elkohó·l 'alcohol'

? ?o?o?ó?oyi 'it's crowing'

b bokókoŋi 'they're snoring'

d dopópoši 'it was burnt in several places'

g golsísi? 'wild potato'

s solŋásuk 'forked tree'

š šowówlamhu 'girls'

h ?ohohóy? 'woodpecker sp.'

m dimoḱó·ḱo 'my knees'

n nonómba 'sugar pine sugar'

ŋ ?oŋchó· 'pigeon'

l palolóloyi 'he has blisters all over'

w wo?ó?ši 'it's autumn'

r. Examples of pretonic /u/ after consonants.

p pu?yéwli? 'swamp onion'

t tulí·ši? 'wolf'

k kukú· 'owl sp.'

? ?uŋá·bi 'salt'

b bukwéwe? 'log'

d dubáldi? 'five'

z zuláy 'July'

g gusú·t̓i? 'woodpecker sp.'

p̓ p̓ušála? 'mouse'

t̓ t̓ugé·bił 'winnowing basket'

c̓ mec̓uŋé·? 'water baby'

k̓ k̓uyé?ši 'he's swimming'

s sukúku? 'dogs'

š šuwó·woyi 'it's roaring'

h huwó·woyi 'it's roaring'

m mudá·l 'winnowing basket'

n ?nuyéyši? 'old folks'

l ?luc̓ác̓imi 'he has smallpox'

w wudé·gu? 'sheep'

y gayuháhiyi 'he's pulling them out'

s. Examples of posttonic /a/ after consonants.

	postconsonantal	postvocalic
p	túypa 'a man's name'	dicópal 'my snot'
t	šáwtak 'a woman's name'	gahóta 'be careful!'
k	má?kazi? 'wood tick'	
?		dá?aw 'lake'
b	bákbagi 'he's smoking'	dá·bal 'sagebrush'
d	gabáždawi 'he misses him'	dá·da? 'bed'
z	?ánza 'a woman's name'	hilí·za 'mountain lion'
g	lážga 'on my back'	?ó·gal 'mountain sheep'
p'		dóp'awi 'it exploded'
t'	t'áp't'ap 'a man's name'	wá't'a 'river'
c'	?ulipán'ca 'cress sp.'	da'cá'ca? 'his chin'
k'	da?ilk'áw'kawi? 'hard'	lá'ka? 'one'
s	sámsa? 'Shaman's rattle'	lásawi 'I'm laughing'
š	?ámšak 'spring'	tóšap 'sack'
h	da?ilháwhawi? 'light'	dáhal 'pigweed'
m	mákmak 'bird sp.'	gadámali 'he hears it'
n	pážnap 'parsnip'	deší·nayi? 'ant sp.'
ŋ	máyŋa 'fawn'	káŋa 'cave'
l	šáwlamhu 'girl'	wá·laš 'bread'
w	bákwanhu 'Tahoe sucker'	dáwal 'buckberry'
y	c'ó?ya? 'tule'	c'áya? 'nits'
Y		t'á·Yaŋi 'he's hunting'

t. Examples of posttonic /e/ after consonants.

	postconsonantal	postvocalic
p		ʔípɛši 'it's rotten'
t		píteli? 'lizard'
k		zékeš 'jackass'
ʔ		déʔek 'rock'
b	wegelbélbeli 'he's high-voiced'	ćí·bel 'louse'
d	ʔémdegi 'he's digging'	dí·ɖew 'sinew'
z	ʔlúkzek 'a woman's name'	
g	hésgeʔ 'two'	dí·geš 'net'
ṕ	wémṕeli 'he's digging'	ɖíṕek 'white paint'
ṫ	dešúṅten 'his nostril'	díṫeš 'belding ground squirrel'
ć	ćélćel 'squirrel sp.'	mešgíćet 'arrow'
ḱ	píŋḱeŋi 'it's blowing in and out'	séḱeš 'root sp.'
ɛ	sémsemi 'he's begging'	dipísew 'my ear'
š	demémšewiʔ 'thief'	ṫíšew 'his gall bladder'
h	ʔitmukhéŋheŋ 'bass drum'	léhep 'my head'
m	hélmeʔ 'three'	díme? 'water'
n	níknek 'animal cookies'	ʔúneŋ 'a man's name'
ŋ		heŋé·ŋeyi 'it's roaring'
l	mémlew 'hummingbird'	ɖélem 'shrew'
w	wétwedi 'it's quacking'	géwe 'coyote'
y	ʔémyewi 'he's burying food'	búyeʔ 'wild onion sp.'
L		belé·Leʔemiʔ 'frozen cakes'

u. Examples of posttonic /i/ after consonants.

	postconsonantal		postvocalic	
p	gelélpil	'flatten it out!'	dípi?	'blanket'
t	bínti	'a man's name'	píti?i	'he's falling'
k	má?ki?	'rattlesnake'	bé·kin	'bacon'
?			degí?im	'wind'
b	máwbi	'he's bundling it'	mí·bi?	'awl'
d	bóšdi?	'wild onion sp.'	wá·diŋ	'now'
z	wátziha	'fox sp.'	dá·zin	'a man's name'
g	ć́ótgi?	'blackbird'	dewí·gis	'his trousers'
ṕ	tugílṕili	'he's blue-eyed'	tuṕíṕiwi?	'skunk'
t́	ṕáyt́i?i	'he's playing'	masáti	'flint arrowhead'
ć	bámć́i	'sugar'	gó·ć́i	'yellowjacket'
ḱ	deyḱípḱibi?	'sparkling'	ḱíḱidi?	'silver trout'
s	síwsiwhu	'bird sp.'	geyúsiwi	'he's selling it'
š	kókši?	'sego lily'	wá·šiw	'Washo'
h	bíwhiw	'a man's name'	ć́éhit	'charcoal'
m	sésmi?	'soap plant'	si?dúmim	'willow sp.'
n	šáyni?	'Chinese'	tániw	'Miwok'
ŋ	pat́álŋi?	'eagle'	Móŋili	'it's growing'
l	pawáwli?	'squirrel sp.'	ć́áli?	'cottontail'
w	tá?wi?	'knife'	bí·wi?	'red squirrel'
y	legú?yi?	'my daughter's child (w. sp.)'	detšú·yi?	'performer'

v. Examples of posttonic /ɨ/ after consonants.

	postconsonantal		postvocalic	
p	de?ilpɨ́ypɨyi?	'long and narrow'	lápɨš	'my body'
t	yéŋtɨn	'Yerington'	ʼtétɨk	'its seed'
k	dɨ́ŋkɨl	'a man's name'	ʼcɨ́·kɨ	'spider'
?	?ɨ́y?ɨyi	'he's sobbing'		
b	lámbɨŋi	'I'm pulling tules'	ʼtugé·bɨl	'winnowing basket'
d	Mášdɨmi	'he's hiding'	ʼtí·dɨm	'its fat'
z	zɨ́tzɨyi	'he's playing basket hand-game'	gedegɨ́·zɨk	'tickle him!'
g	píŋgɨl	'a man's name'	gɨ́·gɨši?	'flea'
ʼp	dewsɨʼpɨ́šʼpɨš	'having long, narrow eyes'	ʼtápɨl	'its tail'
ʼt	ʼcilutɨ́ntɨn	'carrot'	ʼté·tɨl	'valley quail'
ʼc	ʼcɨ́kʼcɨkhu	'pelican'	pʼí·cɨmhu	'periwinkle'
ʼk	ge?epkʼɨ́wkɨwi	'it scratched him'	dibɨ́kɨ	'my grandmother's sister'
s	pénsɨl	'pencil'	sésɨmlegi	'he vomited'
š	?élšɨmi	'he's sleeping'	léšɨk	'my back'
h	de?mɨ́yhɨy	'a man's name'	láhɨl	'my leg'
m	kɨ́šmɨš	'Christmas'	ʼtímɨš	'its juice'
n	ʼtá?nɨp	'boat'	dɨnɨ́·nɨyi	'it's roaring'
ŋ			bɨŋɨ́·ŋɨyi	'it's humming'
l	dabášlɨm	'its front quarter'	lálɨŋ	'my arm'

w	hanawɬ́ywɨy	'name of a monster'	séwɨt	'porcupine'
y	melé?yɨgi	'he's drunk'	?áyɨs	'antelope'

w. Examples of posttonic /o/ after consonants.

	postconsonantal	postvocalic
p		da?ilpópoši? 'gray'
k		bókoŋi 'he's snoring'
?		dabó?o 'white man'
b	da?ilbólboli? 'spherical'	gayó·boli 'he's uprooting it'
d	ċilóndo?eti?i 'he has small hips'	mó·dop 'goal'
g	gówgow 'goose sp.'	ċigó·gomhu 'hail'
ṗ	gawgaṗótṗothayi 'he's making it crackle'	bó·ṗo? 'sticky-leafed rabbitbrush'
ṫ	?iṫóŋṫoŋ 'Jew's-harp'	pa?gó·ṫomhu 'grasshopper'
ċ	da?ilċólċoli? 'spotted'	
ḳ	ḳótḳodi 'it's clucking'	dadó·ḳo 'his heel'
s		dawmósot 'wet place'
š	da?ilšómšomi? 'brown'	yóšo? 'broad-footed mole'
h	ḳómho 'cow parsnip'	?lóhom 'rocky hills'
m	mólmoli 'it's boiling'	ḳówol 'ball'
n		ṫanóno 'people'
l	ṗó?lo 'wood rat'	palóloyi 'there's a blister'
w	wóswos 'Wadsworth'	šuwó·woyi 'it's roaring'
y		bóyoŋ 'pine needle'

x. Examples of posttonic /u/ after consonants.

	postconsonantal		postvocalic	
p	ʔémpuʔdelemi	'it sounds like he found something'	ćúpum	'grouse'
t	dewgeltúktuk	'gasoline engine'	métuʔi	'it's frozen'
k	ʔilkúškuši?i	'he's short'	súkuʔ	'dog'
ʔ			digúʔu	'my mother's mother'
b	dekɲélbul	'fat-chested'	ťí·bu	'his nape'
d	ćámduʔ	'chokecherry'	baťá·du	'bait'
z			ʔú·zun	'a man's name'
g	múšgulhu	'water snake'	mugí·guš	'fence'
ṕ			deʔeṕú·ṕuʔ	'his brother's daughter's children'
ť	nénťušu	'old lady'	máťuš	'worm'
ć	yaḱálćuleti?i	'he has a freckled face'	bá·ćuk	'ammunition'
ḱ	ḱulámḱumi	'he's sitting hunched over'	míḱu	'faeces'
s	yeḱílsušeti?i	'he has a wrinkled face'	sí·su	'bird'
š	šúpšubi	'he's crying gently'	díšu	'digging stick'
h	wayámhu	'plant sp.'	mé·hu	'boy'
m	wé·ʔmuhu	'name of a monster'	dámuʔ	'skirt'
n			ťánu	'person'

l	démlu	'food'	ćálul	'saliva'
w	wéšwut	'Westwood'		
y	dí?yu	'fire'	síyuk	'sage hen'
M	sélMu	'edible insect sp.'		
L	madukwáwLu	'sunflower'	mé·Lu	'old man'

3. Morphophonemics. This section describes the alternative phonemic representations of the morphophonemes, as conditioned by surrounding morphophonemes. The morphophonemic rules are conceived of as rules operating upon strings of morphophonemes, without regard to syllable boundaries, morpheme boundaries, or immediate constituency of the morphemes represented.

Section 3.1 lists the morphophonemes that have been introduced in addition to the morphophonemes corresponding to each phoneme. Section 3.2 points out some basic classes of morphophonemes with respect to these rules. The remaining sections present the morphophonemic rules, and they are grouped according to the classes of morphophonemes affected. Sections 3.3-3.7 treat of consonants; sections 3.8-3.15 have to do with vowels and vowel-colorings; length is the subject matter of sections 3.16-3.18; stress is treated in sections 3.19-3.20; and the necessity for the juncture morphophoneme is explained in 3.21.

The format for the presentation of the examples in this section is as follows. The morphemes involved are first presented in linear order from left to right, giving for each morpheme the appropriate allomorph on the morphophonemic level and an identification consisting of either a class symbol and a meaning or a label; the successive morphemes are separated by semicolons. When the same morpheme recurs in successive examples, it is not always identified beyond giving its allomorph. A colon is placed after the last of

these morpheme identifications, after which the series of allomorphs is repeated without the identificational material, to aid in the visualization of the string of morphophonemes. In this transcription spaces are left between the successive morphs. Finally, the phonemic representation for the sequence of morphophonemes is given, enclosed in slashes /.../.

Both a zero morphophoneme [Ø] and a zero phoneme /Ø/ are assumed to be present on their respective levels between every pair of successive units. These may correspond to non-zero units in either direction. Thus [Ø] may be represented by a consonant, such as /y/ according to the rule of 3.2, or by a vowel, as by the rules of 3.13 and 3.14. This type of rule is sometimes referred to in what follows as "insertion". Conversely, /Ø/ may be the phonemic representation of a consonant, as in 3.6, or of a vowel, as in 3.15; this latter case is sometimes called "loss". A zero is usually written on the morphophonemic level only when it is the complete representation of a morpheme; the recurrent case in what follows is the allomorph [Ø-] of the Third Person prefix <?->. Either kind of zero may also be written in the formula for a morphophonemic rule.

In the remainder of this grammar, morphophonemic transcriptions may either be enclosed in [...] or left unenclosed. There are certain symbols that may occur amongst the morphophonemes of a morphophonemic transcription but which are not morphophonemes but presentational devices. These are the hyphen (-), the construction point (.), and the square brackets

used to set off infixes ([...]). The occurrence of these symbols is irrelevant to the operation of morphophonemic rules.

An important convention that should be kept in mind is that throughout the remainder of the grammar, unless otherwise stated, all examples are considered to be followed on the morphophonemic level by the juncture morphophoneme [+], even though this is not written, so that they take the phonemic shape that is conditioned by this morphophoneme.

As headings for some of the subsections on morphophonemics, partial formulas for morphophonemic rules are occasionally used, in which an arrowhead (>) points from the morphophoneme to its phonemic representation. These headings are often not complete formulas, in that they may omit indication of the relevant environment.

3.1. The morphophonemes. There is one morphophoneme corresponding to each of the phonemes listed in 1.1, and in addition the following morphophonemes have been introduced. The list shows the symbols, the names by which each may be referred to in speaking, and the sections of the grammar in which their functions are explained. The morphophoneme [E] has been merely suggested as a possible alternative analysis to avoid an irregularity of <R-> Plural.

symbol	name	section of grammar
e	e-coloring	3.8.1, 3.9.1, 3.10.1
ɛ	ɛ-coloring	3.8.2, 3.9.2
u	u-coloring	3.8.3, 3.9.3
a	a-coloring	3.8.4
ɨ	ɨ-coloring	3.8.5
i	i-coloring	3.8.6
E	E-coloring	3.8.7, 4.7b
ˇ	lengthener	3.16, 3.9.4, 3.10.2
˜	shortener	3.18
ʾ	glottalizer	3.5
ˮ	stress weakener	3.19
+	juncture	3.21

3.2. Classes of morphophonemes. The primary classes of morphophonemes that behave similarly with respect to morphophonemic rules are listed below, with references to the relevant following sections.

the vowels	most sections
▯a o▯	3.10
▯e i ɨ u▯	3.10
the vowel-colorings	3.8, 3.9
the consonants and ▯+ . ,▯	3.4, 3.6, 3.13
the consonants	most sections
vd. and gl. stops	3.4
vd. stops	3.17.1
vl. stops	3.4
vd. stops and resonants	3.5.1
vd. resonants	3.7
▯w▯	3.14
▯ʔ h▯	3.6, 3.11.2
▯ʔ▯	3.5, 3.7, 3.11.1, 3.15
▯ˀ▯	3.5
▯·▯	3.16, 3.17, 3.18
▯˘▯	3.9.2, 3.16
▯˜▯	3.18
▯ˊ▯	3.19, 3.20
▯ˈ▯	3.19
▯+▯	3.17, 3.21
▯ø▯	3.3, 3.13, 3.14

3.3. Empty morphophone /y/. When two vowels come together on the morphophonemic level, either directly or with an intervening vowel coloring []$^{\varepsilon}$[] or []^{u}[] or the sequence []$^{\varepsilon}$"[], a /y/ is found between the phonemic representations of the vowels. Formulaically, this may be expressed as:

$$_{V}(u,\varepsilon(\text{"}))_{V} > /VyV/.$$

If we factor out as much as possible into the environment, we may restate the rule to speak of morphophonemic zero in the environment between two vowels (or with a vowel coloring []$^{\varepsilon}$[] or []^{u}[] or the sequence []$^{\varepsilon}$"[] separating it from one of the vowels) being represented by /y/. The formula then becomes:

$$\emptyset > /y/ \; [] \; V_(u,\varepsilon,(\text{"}))_{V}.$$

An example is furnished by the stem á·du Nr 'hand' followed by the Locative suffix -a:

1^{e}- First Person; á·du Nr 'hand'; -a Locative:

1^{e} á·du a /lá·duya/ 'in my hand'.

The stem occurs without a following /y/ when it is either word-final or followed by a suffix beginning with a consonant:

1^{e}-; á·du: 1^{e} á·du /lá·du/ 'my hand'

1^{e}-; á·du; -lu Instrumental:

1^{e} á·du lu /lá·dulu/ 'with my hand'.

Similarly, the suffix occurs without a preceding /y/ when it follows a stem ending in a consonant:

1^{e}-; ánal Nr 'house'; -a: 1^{e} ánal a /lánala/ 'in my house'.

a. Occurrence with respect to surrounding morpho-

phonemes. The /y/ is inserted between two successive vowels regardless of their qualities. The first of the two vowels may be any one of the six vowels, since stems occur ending in all the vowels, and non-final suffixes occur ending in [a i u]. The second vowel may be one of four, [a e i u], since stems of the appropriate class begin with [a] or [i], and suffixes occur that begin with each of these four vowels.

(1) The following examples show the occurrence of this empty morphophone after each of the six vowels at the end of a stem. The examples are grouped in pairs: the first member of each pair shows the stem occurring word-finally, and hence with no following /y/; the second member shows the stem followed by a vowel-initial suffix, with intervening /y/.

-e:

l^{e}- First Person; émle Nr 'heart': l^{e} émle /lémle/ 'my heart'

l^{e}-; émle; -a Locative: l^{e} émle a /lémleya/ 'in my heart'

-a:

wáʔta N 'river': wáʔta /wáʔta/ 'river'

wáʔta; -a: wáʔta a /wáʔtaya/ 'in the river'

-o:

di- First Person; dó·ʔko N 'heel': di dó·ʔko /didó·ʔko/ 'my heel'

di-; dó·ʔko; -a: di dó·ʔko a /didó·ʔkoya/ 'at my heel'

-i:

g^{e}- Imperative; émʔci Vi 'to awaken, be awake':

g^{e} émʔci /gémʔci/ 'wake up!'

l^e- First Person; émc̓i; -i Imperfect:

l^e émc̓i i /lémc̓iyi/ 'I'm awake'

-ɨ:

g^e- Imperative; p̓ɨ́ʔlɨ Vi 'to fish with hook and line':

g^e p̓ɨ́ʔlɨ /gep̓ɨ́ʔlɨ/ 'fish with hook and line!'

Ø- Third Person; p̓ɨ́ʔlɨ; -i Imperfect:

Ø p̓ɨ́ʔlɨ i /p̓ɨ́ʔlɨyi/ 'he's fishing with hook and line'

-u:

g^e- Imperative; á·hu Vi '(plural) to stand':

g^e á·hu /gá·hu/ 'stand (plural)!'

ʔ- Third Person; á·hu; -i Imperfect:

ʔ á·hu i /ʔá·huyi/ 'they are standing'

(2) The following paired examples show the /y/ occurring after each of the vowels [a i u] when these are at the end of a non-final suffix.

-a:

g^e- Imperative; émc̓i Vi 'to awaken, be awake'; -ha Causative:

g^e émc̓i ha /gémc̓iha/ 'wake him up!'

l^e- First Person; émc̓i; -ha; -i Imperfect:

l^e émc̓i ha i /lémc̓ihayi/ 'I'm waking him up'

-i:

l^e- First Person; ánal Nr 'house'; -ši Dual Inclusive:

l^e ánal ši /lánalši/ 'our (du. inc.) house'

l^e-; ánal; -ši; -a Locative: l^e ánal ši a /lánalšiya/ 'on our (du. inc.) house'

-u:

l^e-; ánal; -hu Plural Inclusive: l^e ánal hu /lánalhu/ 'our

(pl. inc.) house'

l^{e}-; áŋal; -hu; -a Locative: l^{e} áŋal hu a /láŋalhuya/ 'on our (pl. inc.) house'

(3) The examples of the preceding two sections have shown the /y/ occurring before the vowels [a] and [i] in the suffixes -a Locative and -i Imperfect. The following examples show this occurring also before the vowels [e] and [u] in the suffixes -é·s Negative and -uš Durative.

Ø- Third Person; ḱéše Vi 'to be alive'; -é·s Negative; -i Imperfect: Ø ḱéše é·s i /ḱéšeyé·si/ 'he's dead'

ʔ- Third Person; émlu Vi 'to eat'; -uš Durative; -i: ʔ émlu uš i /ʔémluyuši/ 'he keeps on eating'

(4) The following examples show the /y/ before the vowels [a] and [i] when they are stem-initial.

di- First Person; ḱéše Vi 'to be alive'; -^{ɛ} Instrumental Prefix Formative (ḱéše ^{ɛ}- means 'to breathe'); á·gal Vd 'down the throat'; -uwe? 'hence'; -i Imperfect: di ḱéše ^{ɛ} á·gal uwe? i /diḱéšeyá·galuwe?i/ 'I'm breathing in'

di-; mó·ḱo N 'knee'; -^{ɛ}; íwe? Vd 'on the ground'; -i: di mó·ḱo ^{ɛ} íwe? i /dimó·ḱoyéwe?i/ 'I'm kneeling'

(5) The insertion of the /y/ is independent of the stress patterns on the surrounding vowels. Most commonly, both the preceding and the following vowels are unstressed; the examples in (1) and (2) and the first example in (3) show this. The following vowel may be stressed, as is shown by the first example in (3) and the examples in (4). Like-

wise, the preceding vowel may be stressed, as in these examples:

l^{e}- First Person; í Pronoun Stem; -a Locative:

l^{e} í a /léya/ 'on me'

di- First Person; šú N 'chest'; -a: di šú a /dišúya/ 'on my chest'

dá A 'there'; -uwe? 'thither': dá uwe? /dáyuwe?/ 'away towards there'

(6) The position of the [Ø] that is represented by /y/ with respect to the vowel colorings [$^{\varepsilon}$] or [^{u}] or the sequence of vowel coloring and stress weakener [$^{\varepsilon}$"] that may also occur between the two vowels is indeterminate, since these morphophonemes are themselves represented by /Ø/. The [Ø] is arbitrarily considered to precede these other morphophonemes in the factored formula given above, so that their effect on the quality and degree of stress of the following vowel may be more readily visualized. In the examples in (4) the [$^{\varepsilon}$] is in immediate constituency with the preceding morpheme, as is the [^{u}] in this example:

Ø- Third Person; p̓á?lɨ Vi 'to fish with hook and line';

-^{u} Instrumental Prefix Formative; í·bi? Vd 'to have come';

-i Imperfect: Ø p̓á?lɨ ^{u} í·bi? i /p̓á?lɨyú·bi?i/ 'he has come home from fishing with hook and line'.

On the other hand, the [$^{\varepsilon}$"] in the following example are in immediate constituency with the following morpheme:

g^{e}- Imperative; á·hu Vi '(pl.) to stand'; $^{\varepsilon}$- Auxiliary Verb Formative; " Tactic Juncture; íti? Vd 'down' (here used

with inchoative force); -a Narrative Tense; -š Reference Switching: g^{e} á·hu $^{\varepsilon}$ " íti? a š /gá·huyeti?aš/ 'take up a stance (pl.) and ...'.

(7) The /y/ is inserted between two vowels even in the case where the preceding vowel is lost by another morphophonemic rule:

di- First Person; tó?o N 'throat'; -a Locative:

di tó?o a /ditó?ya/ 'at my throat'.

For fuller discussion and further examples see 3.15.

3.4. Syllable-final stops. Both the voiced stops and the glottalized stops are represented phonemically by the homorganic voiceless stops when they are followed by a consonant, juncture, or an intonation, as well as by [$^{\varepsilon}$] followed by a consonant (in which environment [$^{\varepsilon}$] is represented by zero). This rule applies to three voiced stops, [b d g], which are represented in this environment by /p t k/, and to two glottalized stops [t̀ k̀], which are represented here by /t k/. These stop alternations can thus be summed up in terms of distinctive features as loss of glottalic action in syllable-final position. The labial glottalized stop [p̀] and the voiced and glottalized affricates [z c̀] do not occur morpheme-finally and consequently do not undergo parallel changes. The complementary environments in which these stops are represented by corresponding voiced or glottalized stops are when followed by a vowel, or by a vowel-coloring morphophoneme other than [$^{\varepsilon}$], or by [$^{\varepsilon}$] followed by a vowel; i.e., environments which place the stop before a vowel on the phonemic level. The prevocalic forms of morphemes are taken as basic with respect to these alternations, of course, because of the contrast between the two series there, as opposed to the one series in syllable-final position, and the consequent unidirectional predictability.

The only morphemes known to end in a voiceless stop in their prevocalic allomorphs on the morphophonemic level are the prefix p- Pi 'to fall' and the onomatopoetic stem c̀út Vi '(marmot) to make its cry, say "tsoot"' (see 22.2a). This is

to say that, these morphemes excepted, a phonemic voiceless stop at the end of a morpheme in syllable-final position never remains as such when the morpheme comes to stand before a vowel; it always, so to speak, reverts to the homorganic voiced or glottalized stop in this position. Thus the symbols for voiceless stops at the end of other morphemes on the morphophonemic level are used as signs of ignorance, to indicate that the morphemes containing them have not been noted in a prevocalic environment. Examples of such morphemes are the stems mó·gop N 'red fox', bá·bap N 'bird sp.', bá·sat N 'squirrel sp.', t̓á·t̓at N 'magpie', dílek N 'duck', and síyuk N 'sage hen', and the prefix <?it–> ?it- ~ it- ~ t- Attributive-Instrumental. Of course, voiceless stops do occur before vowels elsewhere, but these stops are nonfinal in morphemes and hence cannot enter into these alternations.

The alternations involving voiced stops are overwhelmingly more frequent than those involving glottalized stops, and are the productive type into which loanwords are fitted. An example is píknig Vi,N 'to have a picnic; picnic', from English, as in

Ø píknig i /píknigi/ 'he's having a picnic' (RJ).

The morphemes ending in glottalized stops are all stems. Most of the morphemes ending in voiced stops and occurring in environments such that the stops show this unvoicing are also stems. There are two instrumental prefixes ending in ⟦b^{ε}⟧, $?^{e}b^{\varepsilon}$- Pt 'by scratching, squeezing with the hand' and $s^{e}b^{\varepsilon}$- Pt 'to blow', and one prefinal suffix ending in ⟦b⟧, -gab

Distant Future, which rarely occurs other than before a vowel. The morphemes that end in [d] and show unvoicing are all stems (-ud Sequential occurs only before a vowel). There are four instrumental prefixes ending in [g], such as tug- Pi 'to look', and one ending in [g$^{\varepsilon}$], ćug$^{\varepsilon}$- Pt 'to carry, put small objects'. Also ending in [g] and showing this unvoicing are the stem formative suffixes -šeg 'almost but not' and <-ug> -ug ~ -wg 'hither'; the prefinal suffix -leg Recent Past shows the unvoicing only in one possibly ungrammatical form in which it is followed by -le Redundant (see 28.8).

See 1.7.6 and 1.7.8 for the effect that alternative phonemic analyses of the stops would have on these morphophonemic changes.

a. b > /p/.

ḱéteb N 'bottle': ḱéteb /ḱétep/ 'bottle'

ḱéteb; -lu Instrumental: ḱéteb lu /ḱéteplu/ 'with a bottle'

m- Second Person; íheb Nr 'head': m íheb /míhep/ 'your head'

l^{e}- First Person; íheb; -ši Dual Inclusive:

l^{e} íheb ši /léhepši/ 'our (du. inc.) heads'

l^{e}-; íheb; -hu Plural Inclusive: l^{e} íheb hu /léhephu/ 'our (pl. inc.) heads'

g^{e}- Imperative; í?ib Vi 'to cry': g^{e} í?ib /gé?ep/ 'cry!'

m- Second Person; í?ib; -hé·š Interrogative; -i Imperfect:

m í?ib hé·š i /mí?iphé·ši/ 'are you crying?'

g^{e}- Third Person Objective; ?^{e}b$^{\varepsilon}$- Pt 'by scratching, squeezing with the hand'; š- Plural; í·šib Vd 'straight, correct,

right'; -i Imperfect: g^{e} ʔ$^{e}b^{\varepsilon}$ š í·šib i /geʔepší·šibi/ 'he's fixing it (broken bone, dislocated joint)'

b. d > /t/.

g^{e}- Imperative; áyad Vi 'to spend the night':

g^{e} áyad /gáyat/ 'spend the night!'

l^{e}- First Person; áyad; -hi Optative: l^{e} áyad hi /láyathi/ 'I'll spend the night'

g^{e}- Imperative; béyd Vt 'to comb': g^{e} béyd /gebéyɨt/ 'comb him!'

c. g > /k/.

m- Second Person; íyeg Nr 'tooth': m íyeg /míyek/ 'your tooth'

m-; íyeg; -lu Instrumental: m íyeg lu /míyeklu/ 'with your tooth'

di- First Person; wíc̓ug Np 'younger sister':

di wíc̓ug /diwíc̓uk/ 'my younger sister'

Ø- Third Person; tug- Pi 'to look'; t^{e}- Plural; íti? Vd 'down, downwards'; -i Imperfect:

Ø tug t^{e} íti? i /tuktéti?i/ 'they're looking down'

g^{e}- Third Person Objective; c̓ug$^{\varepsilon}$- Pt 'to carry, put small objects'; d- Plural; á·š Vd 'in, into'; -ug 'hither'; -i Imperfect: g^{e} c̓ug$^{\varepsilon}$ d á·š ug i /gac̓ukdá·šugi/ 'they're carrying them in here'

g^{e}- Imperative; íye Vi 'to walk, go'; -wg 'hither':

g^{e} íye wg /géyewk/ 'come here!'

d. ɨ́ > /t/.

ʔit- Attributive-Instrumental; m- Intransitive; álɨ́t Vn

'to trap': ʔit m álit̓ /ʔitmálit/ 'trap'

e. k̓ > /k/.

g^{e}- Imperative; í·bik̓ Vi 'to be cooked, ripe'; -ha Causative: g^{e} í·bik̓ ha /gé·bikha/ 'cook it!, ripen it!'

ʔ- Third Person; íhuk̓ Vi,Vd 'to be dry'; -giš Motion; -i Imperfect: ʔ íhuk̓ giš i /ʔíhukgiši/ 'it's getting dry'

d^{e}- Nominal; w- Static; íhuk̓: d^{e} w íhuk̓ /dewíhuk/ 'dry place'

3.5. [ʔ] Glottalizer. The glottalizer morphophoneme [ʔ] occurs only in allomorphs of <-i?> Attributive-Agentive (4.17) and in allomorphs of <R-> Plural (4.7c). In spite of its limited occurrence this morphophoneme is introduced because of the link phonemes that arise when it precedes voiced stops. The representations of this morphophoneme when infixed in stems and when suffixed to stems are distinct problems that are treated separately in the two following sections.

3.5.1. Infixed in stems. When [ʔ] is infixed after the stressed syllable of stems, or when it occurs in allomorphs of <R-> Plural that are conditioned by such infixed morph-partials plus the following consonants, it has two different representations, depending on the following consonant. When followed by a voiced resonant ([m ŋ l w y] occur), this morphophoneme is represented by /ʔ/. When followed by a voiced stop ([b d g] occur), the [ʔ] is represented by zero, and the stop, in turn, is represented by the corresponding glottalized stop ([p̓ t̓ k̓]).

a. Before voiced resonants.

l^{e}- First Person Objective; sáma? Np 'grandfather's sister'; -ʔ-..-ʔ Attributive-Agentive: l^{e} sá[ʔ]ma? ʔ /lasáʔmaʔ/ 'my brother's grandchild (woman sp.)'

d^{e}- Third Person Nominal; ć́aŋa N 'buttocks'; -ʔ-..-ʔ Attributive-Agentive; -é·s Negative: d^{e} ć́a[ʔ]ŋa ʔ é·s /daćáʔŋaʔé·s/ 'a man's name': "having no buttocks"

t̓- Third Person Nominal; íye? Vi 'to walk, go'; -:-..-ʔ

Attributive-Agentive; -a Locative: t̓ íɬ·]ye? · a /t̓í?ya?a/ 'going after him'

b. Before voiced stops.

1e- First Person Objective; bá·ba? Np 'father's father'; -'-..-' Attributive-Agentive: 1e bá·[·]ba? · /labá·p̓a?/ 'my son's child (man sp.)'

t̓- Third Person Nominal; í·ge? Vt 'to grind'; -'-..-' Attributive-Agentive: t̓ í·[·]ge? · /t̓í·k̓e?/, occurring in: /dé·guš t̓í·k̓e?/ 'a man's name': "grinding wild sweet potatoes"

3.5.2. Suffixed to stems. When []'[] is suffixed to stems, it has two different phonemic representations, depending on the preceding phoneme, which will be either a vowel or []?[]. When preceded by a vowel, this morphophoneme is represented by /?/, and when preceded by []?[], it is represented by zero. The recognition of this morphophoneme at the end of the allomorph -'-..-' of <-i?> Attributive-Agentive is not strongly motivated. It would of course be possible to obviate its use here by recognizing two allomorphs instead of the one: -'-..-? and -'-. Alternatively, one might assume that we have here just the one allomorph -'-..-?, and that the simplification of the clusters of two glottal stops that would arise when this is added to stems ending in []?[] is due to a regular morphophonemic rule. A complication that arises in connection with the recognition of stem-final []'[] is the fact that this does not have the effect upon a following voiced stop that the infixed morphophoneme has. An example is:

k̓ ém[ˀ]lu ˀ gab a? /k̓ém?lu?gaba?/ 'they will have them for food',

in which the sequence [ˀg] is represented by /?g/, not by */k̓/. One could appeal to the position with respect to stress as a differentiating environmental factor, and say that the effect on following voiced stops described in the preceding section occurs only when the cluster of [ˀ] plus stop immediately precedes or follows a stressed vowel.

a. After vowels.

l^{e}- First Person Objective; ?é·bu Np 'mother's father's brother'; -ˀ-..-ˀ Attributive-Agentive: l^{e} ?é·[ˀ]bu ˀ /le?é·p̓u?/ 'my brother's daughter's child (man sp.)'

b. After [?].

d^{e}- Third Person Nominal; ?áma? Np 'father's mother'; -ˀ-..-ˀ Attributive-Agentive: d^{e} ?á[ˀ]ma? ˀ /da?á?ma?/ 'her son's child'

3.6. Simplification of consonant clusters. The following patterns of simplification of consonant clusters are found.

a. One of a cluster of two identical voiced resonants is lost.

di- First Person; dámal Vt 'to hear'; -leg Recent Past; -i Imperfect: di dámal leg i /didámalegi/ 'I heard it'

b. [m] is lost before [w] and [kw̃].

?um- Second Person; wí·gis N 'trousers': ?um wí·gis /?uwí·gis/ 'your trousers'

?um-; kMá·š N 'face': ?um kMá·š /?ukMá·š/, /?uMá·š/ 'your face'

c. One of a cluster of two identical fricatives is lost.

1^{e}- First Person; íme? Vi 'to drink'; -hé·š Interrogative; -ši Dual Inclusive; -ti? Intermediate Future; -i Imperfect: 1^{e} íme? hé·š ši ti? i /lémehé·šiti?i/ 'are we (du. inc.) going to drink?'

d. []š[] is lost after []s[].

1^{e}-; íme?; -áša? Near Future; -é·s Negative; -ši; -i: 1^{e} íme? áša? é·s ši i /léma?áša?é·siyi/ 'we (du. inc.) aren't going to drink'

e. []?[] is lost before []h[]. See the example of section c.

f. []?[] is lost before a glottalized stop.

Ø- Third Person; p̓- Vi '(person) to crawl'; í·bi? Vi,Vd 'to have come'; -k̓eŋ Restrictive; -i Imperfect; " Tactic Juncture; g- Third Person Subjective; í Pronoun Stem: Ø p̓ í·bi? k̓eŋ i " g í /p̓í·bik̓eŋigi/ 'he has come crawling'

g. []k[] before []M[] is lost for all speakers when initial or after []t[]; for some speakers also after []m[].

Ø- Third Person; kM^{u}- Pi '(sg.) to run'; í?iš Vd Empty Stem; -i Imperfect: Ø kM^{u} í?iš i /Mú?ši/ 'he's running'

g- Third Person Subjective; it- Attributive-Instrumental; kMá·š N 'face': g it kMá·š /gitMá·š/ 'his face'

See also the second example of section b.

3.7. Metathesis of consonant clusters. Consonant clusters consisting of glottal stop plus voiced resonant show a metathesis, so that they are represented phonemically by clusters of voiced resonant plus glottal stop, when they come to stand in syllable-final position, that is, when they are followed by a consonant, juncture, or an intonation. However, if the following consonant is glottal, [ʔ] or [h], or a glottalized stop, the glottal stop of the cluster is lost (3.6). The clusters [ʔm ʔŋ ʔy] have been noted undergoing these changes.

The cluster [ʔw] occurs at the end of a morpheme only in the instrumental prefix ʔuʔw- Pi 'to have one's back turned towards'. When this prefix occurs before a consonant, the [w] is lost. This can probably be understood as a combination of a metathesis and the loss of [w] due to the prohibition on */uw/ within a syllable (2.5.1). If the following consonant is glottal or a glottalized stop, both the [ʔ] and the [w] are lost. This allomorph has been found before consonants only in the material from RJ. BH shows the preconsonantal allomorph ʔuʔw^{e}-. Examples are given in section d.

Morphemes ending in such clusters are rather few in number. The clusters [ʔm ʔŋ ʔw] occur only at the end of the instrumental prefixes that are exemplified in sections a, b, and d. The cluster [ʔy] occurs at the end of a few stems and suffixes, after both stressed and unstressed vowels, but not at the end of prefixes. The clusters [ʔl] and [ʔn] have not been found to occur morpheme-finally.

See 1.7.9 for the effect that alternative phonemic analyses setting up unitary glottalized resonants would have on these morphophonemic changes.

a. ʔm > /mʔ/.

Ø- Third Person; tuʔm- Pi 'with the foot'; t^e- Plural; íti? Vd 'down, downwards'; -i Imperfect:
Ø tuʔm t^e íti? i /tumʔtétiʔi/ 'he has both feet hanging down'

Ø-; tuʔm-; ŋ- Plural; áŋaʔ Vd 'on, upon'; -i:
Ø tuʔm ŋ áŋaʔ i /tumʔŋáŋaʔi/ 'he has both feet on it'

Ø-; šuʔm- Pi 'to throw'; w- Plural; áwd Vd 'over the summit'; -i Imperfect: Ø šuʔm w áwd i /šumʔwáwdi/ 'he's throwing over it repeatedly'

Ø-; šuʔm-; l^e- Plural; íli Vd 'up, upwards'; -weʔ 'hence'; -i: Ø šuʔm l^e íli weʔ i /šumʔléliweʔi/ 'he's throwing upwards repeatedly'

b. ʔŋ > /ŋʔ/.

y^e- Third Person; ʔŋ- Pi 'to lie with head towards'; d- Plural; á·š Vd 'in, into'; -ug 'hither'; -i Imperfect:
y^e ʔŋ d á·š ug i /yaŋʔdá·šugi/ 'they're lying with their heads in here'

y^e-; ʔŋ-; m- Plural; ámad Vd 'to the south, from the north'; -am 'away to'; -i: y^e ʔŋ m ámad am i /yaŋʔmámadami/ 'they're lying with their heads to the south'

c. ʔy > /yʔ/.

má·maʔy N 'large conical burden basket': má·maʔy /má·mayʔ/

g- Third Person Subjective; it- Attributive-Instrumental;

má·ma?y; -lu Instrumental: g it má·ma?y lu /gitmá·may?lu/ 'with her burden basket'

di- First Person; gó?y Np 'father': di gó?y /digóy?/ 'my father'

d. ?w > /?/.

Ø- Third Person; ?u?w- Pi 'to have one's back turned towards'; g- Plural; á·gal Vd 'to the north, from the south'; -am 'away to'; -i Imperfect: Ø ?u?w g á·gal am i /?u?gá·galami/ 'they have their backs turned towards the north' (RJ)

Ø-; ?u?w-; m^{e}- Plural; ími Vd 'to the east, from the west'; -we? 'hence'; -i: Ø ?u?w m^{e} ími we? i /?u?mémiwe?i/ 'they have their backs turned towards the east' (RJ)

3.8. Vowel-coloring. An understanding of the vowel-coloring morphophonemes is probably, more than any other aspect of the morphophonemics, the key to the proper segmentation and analysis of Washo forms. These are morphophonemes that, when followed by a vowel, are themselves represented by zero, but which may affect the vowel to change its quality. Vowels so affected by these morphophonemes thus constitute link phonemes that resist non-arbitrary segmentation on the phonemic level. For example, in the form

l^{e} íheb /léhep/ 'my head',

the fact that the stressed vowel is /e/, and not /i/, is a property of the prefix; contrast

m íheb /míhep/ 'your head'.

But the fact that this vowel is /e/, and not, say, /a/, is a property of the stem; contrast, for example,

l^{e} áhl /láhɨl/ 'my leg'.

These vowel-coloring morphophonemes are symbolized by raised or capitalized vowel symbols [^{e} ɛ u a i ɨ E]. Besides these, there is the lengthener morphophoneme [ˇ], which has vowel-coloring properties in addition to the effect it has on vowel length, and which is described in 3.15. The shortener morphophoneme [¯] has a distribution similar to that of these morphophonemes, but it affects only the length of following vowels, and not their quality; this is described in 3.17.

The following chart summarizes the effect of these morphophonemes on immediately following vowels. On the vertical

axis are listed the vowel-coloring morphophonemes, as well as the lengthener and shortener morphophonemes, while along the horizontal axis are arranged the six vowel morphophonemes. Within the chart are entered the vowel phonemes that arise when the vowel-coloring pertaining to a given row precedes the vowel pertaining to a given column, insofar as these sequences occur. The effect that [ˇ] and [¯] may have on the length of the following vowel is not shown on the chart.

From this chart it will be seen that [¯] has no effect on the quality of a following vowel. The three morphophonemes [^{e} ~ $^{\varepsilon}$] all color following vowels in the same way, insofar as the same vowels occur after them. Their effect is perceptible when an [i] or [u] follows, but not when an [a] or [e] follows. [ˇ] differs from the other two in that it also lengthens following vowels under certain conditions. The difference between [^{e}] and [$^{\varepsilon}$] has to do with their representation before consonants; the former is represented by /a/ or /e/, while the latter is represented by zero. The u-coloring morphophoneme [^{u}] has an effect on following [a e i], but not on following [ɨ]. The morphophoneme [^{a}] affects the two vowels, [i] and [o], before which it occurs. The i-coloring morphophoneme [^{i}] affects following [a] and [e]; it has no effect on following [i], and is in fact used before this vowel to inhibit the effect of other preceding vowel-coloring morphophonemes. The morphophoneme [^{ɨ}] occurs only before [i], and the tentatively suggested morphophoneme [E] occurs only before [a] in one morpheme.

vowel-coloring	following vowel					
	a	e	i	ɨ	o	u
~	a		i			
e	a	e	e			e
˘	a		e			
ɛ	a		e			
u	o	u	u	ɨ		
a			a		a	
i	i	i	i			
ɨ			ɨ			
E	e					

Four of these morphophonemes, [^{e} $^{\vee}$ $^{\varepsilon}$ ^{u}], also occur before consonants; their representations in this environment are described in 3.9.

The fact that the vowel-coloring properties of these morphophonemes are independent of the consonants that precede them is largely demonstrated by the existence of prefixes containing the same consonantism and differing only in vowel-coloring morphophonemes or their absence. A sampling of such prefixes may be charted as follows:

d-	d^{e}-	d^{u}-				
m-	m^{e}-	m^{u}-				
ʔt-	ʔt^{e}-					
	h^{e}-	ɬ^{u}-	h^{a}-			
b-				b$^{\vee}$-		
š-					š$^{\sim}$-	

The following is the identification of these prefixes, row by row.

d- Nominal; Pt 'to shoot, throw rock at'

d^{e}- Pi 'to snow'; Pt 'to strike with part of body'

d^{u}- Pi 'fire to burn; by fire or heat'

m- Pt 'to throw; fell a tree'

m^{e}- Pt 'to track'

m^{u}- Pi 'water to soak; Pi 'descriptive of nose, snout'; Pt 'to taste, do in mouth'

ʔt- Third Person Nominal

ʔt^{e}- Pi 'long object to move lengthwise'

h^{e}- Pt 'to pour'

h^{u}- Pi 'wind to blow'

h^{a}- Pi 'to rain'

b- Pt 'by holding in the hand, in a container'

b˘- Pi 'to cut, saw'

š- Pi '(pl.) to fly, swim'

š˜- Pi '(sg.) to walk'.

Further indication of the independence of these morphophonemes from any preceding morphophonemes is given by the fact that both [$^{\varepsilon}$] and [^{u}] constitute, by themselves, complete allomorphs of morphemes, which may occur after vowels as well as consonants.

The fact that several of these vowel-coloring morphophonemes either have the same effect or have no effect on certain following vowels gives rise to the possibility of homophonous forms on the phonemic level that differ only in vowel-colorings on the morphophonemic level. The only instances of this that have been noted concern the identity of representation of prefixes lacking vowel-coloring and those ending in [^{e}] when they occur before [a] or [e]. An example involving the prefixes m- Pt 'to throw' and m^{e}- Pt 'to track' is

/gamá·galam/ 'throw it to the north!; track it to the north!',

which represents the two forms

g^{e} m á·gal am 'throw it to the north!'

and

g^{e} m^{e} á·gal am 'track it to the north!'.

Evidence for the formal differentiation of these prefixes is

provided by forms in which they occur before [i], such as

g^{e} m ími we? /gemímiwe?/ 'throw it to the east!'

as contrasted with

g^{e} m^{e} ími we? /gemémiwe?/ 'track it to the east!'.

A completely parallel example involving the prefixes d- Pt 'to shoot' and d^{e}- Pt 'to strike with part of body (usually fist)' is

/gadá·baš/ 'kill them by shooting!; kill them by hitting with fist!',

which represents both

g^{e} d á·baš 'kill them by shooting!'

and

g^{e} d^{e} á·baš 'kill them by hitting with fist!'.

These prefixes may be distinguished in forms such as

g^{e} d ílb$^{\varepsilon}$ " íwe? /gedílbewe?/ 'shoot him down!'

and

g^{e} d^{e} ílb$^{\varepsilon}$ " íwe? /gedélbewe?/ 'knock him down!'.

Similar cases of homophones involving g- Third Person Subjective and g^{e}- Imperative are discussed in 8.4.1b. Cases of homophony involving the shortener morphophoneme [~], which are not, strictly speaking, a matter of vowel-coloring, are discussed in 3.17.

It follows from the preceding that when prefixes are elicited, they should be obtained on stems beginning with [i], in order to determine whether they end in a vowel-coloring morphophoneme. Such stems would show up all vowel-colorings except [^{i}], which occurs at the end of affixes

only in allomorphs of <R-> Plural. Conversely, in order to determine the quality of the initial vowel of a stem, it should be obtained after a prefix lacking vowel-coloring. For an example, we may consider the following noun forms.

	áŋal 'house'	émle 'heart'	ípi? 'blanket'
l^e- 'my'	/láŋal/	/lémle/	/lépi?/
m- 'your'	/máŋal/	/mémle/	/mípi?/

These are restricted noun stems beginning with the three vowels, ⟦a e i⟧. Each stem is shown with the prefixes l^e- First Person and m- Second Person. Comparison of the two forms of each stem shows again what the above homophonous forms have demonstrated, that the e-coloring of l^e- is apparent phonemically only before the stem beginning with ⟦i⟧, ípi? 'blanket'. Horizontal comparison of the stems taking the same prefix shows that the difference between initial ⟦e⟧ and initial ⟦i⟧ is masked by the e-coloring of the First Person prefix, but is apparent phonemically after the Second Person prefix. This masking effect is not much of a problem in practice, however, as dependent verb stems begin only with ⟦a⟧ or ⟦i⟧, and other stems beginning with ⟦e⟧ are relatively few.

Another consequence of the restriction of the effects of these morphophonemes to certain following vowels is the latitude available in analyzing the vowel-colorings of allomorphs of <R-> Plural, as described in 4.7d.

These vowel-coloring morphophonemes differ considerably in their distribution with respect to morphemes. Only ⟦^{e}⟧

occurs at the end of prevocalic allomorphs of inflectional prefixes. There are two such prefixes, 1^{e}- First Person and g^{e}- Imperative. On the other hand, seven different vowel-colorings, $\{^{e}\ \breve{}\ \varepsilon\ u\ a\ \dot{\imath}\ \tilde{}\}$, occur at the end of instrumental prefixes. The six vowel-colorings $\{^{e}\ u\ i\ a\ \dot{\imath}\ E\}$ occur at the end of allomorphs of <R-> Plural. Two such morphophonemes, $\{^{\varepsilon}\}$ and $\{^{u}\}$, constitute Instrumental Prefix Formatives, and the former occurs also as an Auxiliary Verb Formative. Finally, $\{^{i}\}$ occurs before {i} at the beginning of a couple of verb stems, where it prevents coloring of the vowel. In addition to these prevocalic occurrences, the morphophoneme $\{^{e}\}$ has a broad occurrence in preconsonantal environments, where it is represented by /a/ or /e/ according to rules for vowel harmony. In this function it occurs both within and at the end of a variety of prefixes.

The following sections describe and exemplify the properties of the individual vowel-coloring morphophonemes.

3.8.1. e-coloring. The vowel-coloring morphophoneme $\{^{e}\}$ occurs in prevocalic allomorphs of the inflectional prefixes <1^{e}-> 1^{e}- First Person and g^{e}- Imperative, which come to stand before the vowels {a e i}, in several instrumental prefixes, which occur before the vowels {a i}, and in allomorphs of <R-> Plural occurring before {i u}. Its presence is apparent only when followed by {i} or {u}. For the preconsonantal representation of this morphophoneme, see 3.9.1.

a. a > /a/.

l^e- First Person; áyuš Nr 'hair': l^e áyuš /láyuš/ 'my hair'

g^e- Imperative; ásaw Vi 'to laugh': g^e ásaw /gásaw/ 'laugh!'

ø- Third Person; s^e- Pi 'to wade'; áhad Vd 'across'; -i Imperfect: ø s^e áhad i /sáhadi/ 'he's wading across'

b. e > /e/.

l^e- First Person; émle Nr 'heart': l^e émle /lémle/ 'my heart'

g^e- Imperative; élšim Vi 'to sleep': g^e élšim /gélšim/ 'sleep!'

c. i > /e/.

l^e- First Person; í·bi? Nr 'bone': l^e í·bi? /lé·bi?/ 'my bone'

g^e- Imperative; íšm Vi 'to sing': g^e íšm /géšim/ 'sing!'

ø- Third Person; d^e- Pi 'to snow'; í?iš Vd Empty Stem; -i Imperfect: ø d^e í?iš i /dé?ši/ 'it's snowing'

ø- Third Person; $?w^e$- Plural; í?iw Vt 'to eat'; -i Imperfect: ø $?w^e$ í?iw i /?wé?wi/ 'they're eating'

For the treatment of stems resisting this coloring, see 3.8.5c.

d. u > /e/. The sequence [^{e}u] occurs only in the plural form of the stem exemplified.

g^e- Imperative; ^{i}í·gi Vt,Vd 'to see, sense'; -uw^e- Plural; dúwe? Va,Vt 'to try to, want to; look for'; -giš Motion; -a? Aorist: g^e ^{i}í·gi d[uw^e]úwe? giš a? /gí·giduwéwe?giša?/ 'go along looking for them!'

3.8.2. ε-coloring. The vowel-coloring morphophoneme []$^{\varepsilon}$[] has the same effect on following vowels as does []^{e}[], and differs from the latter only in its representation before consonants (3.9.3). It occurs before []a[] and []i[], but does not share the occurrence of []^{e}[] before []e[] and []u[]. This vowel-coloring occurs at the end of several instrumental prefixes, and it also forms the complete allomorphic representation of an Auxiliary Verb Formative (25.2) and of an Instrumental Prefix Formative (19.1, 19.2). It has a phonemically apparent effect upon following []i[], but not upon following []a[]. The intervention of the morphophoneme []"[] between []$^{\varepsilon}$[] and a following vowel does not inhibit its effect on the vowel.

a. a > /a/.

g^{e}- Third Person Objective; ćug^{e}- Pt 'to carry, put small objects'; á·gal Vd 'into the mouth, down the throat'; -i Imperfect: g^{e} ćug$^{\varepsilon}$ á·gal i /gaćugá·gali/ 'he's putting them in his mouth'

di- First Person; $^{?e}b^{\varepsilon}$- Pt 'to squeeze with hand'; á·baš Vd 'to kill (pl.)'; -i Imperfect: di $^{?e}b^{\varepsilon}$ á·baš i /di?abá·baši/ 'I'm squeezing them to death'

g^{e}- Third Person Objective; $s^{e}b^{\varepsilon}$- Pt 'to blow'; ílb Vd 'to push, impel'; $^{\varepsilon}$- Auxiliary Verb Formative; " Tactic Juncture; á?y Vd 'away'; -i Imperfect: g^{e} $s^{e}b^{\varepsilon}$ ílb $^{\varepsilon}$ " á?y i /gesebélba?yi/ 'he's blowing it away'

?- Third Person; í·biḱ Vi 'to be cooked, ripe'; -$^{\varepsilon}$ Instrumental Prefix Formative; áynay Vd 'soft, muddy, gooey';

-i Imperfect: ʔ íˑbiḱ $^{\varepsilon}$ áynay i /ʔíˑbiḱáynayi/ 'it's soft from over-cooking, from being over-ripe'

b. i > /e/.

Ø- Third Person; ḱuy$^{\varepsilon}$- Pi 'to swim'; íʔiš Vd Empty Stem; -i Imperfect: Ø ḱuy$^{\varepsilon}$ íʔiš i /ḱuyéʔši/ 'he's swimming'

g^{e}- Third Person Objective; s^{e}b$^{\varepsilon}$- Pt 'to blow'; íteb Vd 'bloated, swollen'; -i Imperfect: g^{e} s^{e}b$^{\varepsilon}$ íteb i /gesebétebi/ 'he's blowing it up'

ʔ- Third Person; íhuḱ Vi 'to be dry'; $^{\varepsilon}$- Auxiliary Verb Formative; " Tactic Juncture; íti? Vd 'down' (here used with inchoative force); -i Imperfect: ʔ íhuḱ $^{\varepsilon}$ " íti? i /ʔíhuḱeti?i/ 'it's getting dry'

Ø- Third Person; métuʔ Vi 'to be frozen'; -$^{\varepsilon}$ Instrumental Prefix Formative; ítwid Vd 'stiff'; -i Imperfect: Ø métuʔ $^{\varepsilon}$ ítwid i /métuʔétwidi/ 'it's frozen stiff'

For the treatment of stems resisting this coloring, see 3.8.5c and 4.29.

3.8.3. u-coloring. The vowel-coloring morphophoneme ⟦^{u}⟧ occurs at the end of prevocalic allomorphs of many instrumental prefixes, and it also forms the complete allomorphic representation of an Instrumental Prefix Formative (19.1, 19.3). In the former case it occurs before the vowels ⟦a i ±⟧, while in the latter case it has been found before ⟦a i⟧. It also occurs in allomorphs of <R-> Plural, before the vowels ⟦a e i⟧. This vowel-coloring has a phonemically apparent effect upon following ⟦a e i⟧, but not upon following ⟦±⟧. For the preconsonantal representation of this morphophoneme,

see 3.9.4.

a. ɔ > /o/.

g^{e}- Imperative; d^{u}- Pi 'fire to burn'; áŋa? Vd 'on, upon';
-ha Causative: g^{e} d^{u} áŋa? ha /gadóŋaha/ 'burn it!'

ø- Third Person; h^{u}- Pi 'wind to blow'; ámad Vd 'to the south, from the north'; -ug 'hither'; -i Imperfect:
ø h^{u} ámad ug i /hómadugi/ 'wind is blowing from the north'

ø- Third Person; wg^{u}- Pi 'hole to exist'; áyab Vd 'through'; -i Imperfect: ø wg^{u} áyab i /wagóyabi/ 'there's a hole through it'

ø- Third Person; ḱul^{e}- Pi 'to sit, be located'; áŋa? Vd 'on, upon'; -^{u} Instrumental Prefix Formative; á·š Vd 'in, into'; -ug 'hither'; -i Imperfect:
ø ḱul^{e} áŋa? ^{u} á·š ug i /ḱuláŋa?ó·šugi/ 'he's riding in here on it'

-an^{u}- Plural; ṫánu N 'person': ṫ[an^{u}]ánu /ṫanóno/ 'people'

b. e > /u/. The sequence []^{u}e[] occurs only in the plural forms of several stems.

ø- Third Person; m^{u}- Plural; émlu Vi,N 'to eat; food'; -i Imperfect: ø m^{u} émlu i /múmluyi/ 'they're eating'

-eṫ^{u}- Plural; néntuš Vi 'to be an old woman'; -u Nominalizing:
n[eṫ^{u}]éntuš u /neṫúntušu/ 'old women'

-eh^{u}- Plural; mé·hu Vi,N 'to be a boy; boy':
m[eh^{u}]é·hu /mehú·hu/ 'boys'

di- First Person; -eb^{u}- Plural; ?é·bu Np 'mother's father's brother': di ?[eb^{u}]é·bu /di?ebú·bu/ 'my mother's father's brothers'

c. i > /u/.

Ø- Third Person; h^{u}- Pi 'wind to blow'; í·bi? Vi,Vd 'to have come'; -i Imperfect: Ø h^{u} í·bi? i /hú·bi?i/ 'wind has come'

Ø- Third Person; wh^{u}- Pi 'descriptive of head-hair'; ípel Vd 'grayish white'; -i Imperfect: Ø wh^{u} ípel i /wehúpeli/ 'his hair is grayish white'

l^{e}- First Person Objective; má?ag N 'wood'; $-^{u}$ Instrumental Prefix Formative; í·bi? Vi,Vd 'to have come'; -ha Causative; -i Imperfect: l^{e} má?ag ^{u} í·bi? ha i /lama?gú·bihayi/ 'he has come bringing wood for me'

$-is^{u}$- Plural; sí·su N 'bird': s[is^{u}]í·su /sisú·su/ 'birds'

di- First Person; $-ic'^{u}$- Plural; wíc'ug Np 'younger sister': di w[ic'^{u}]íc'ug /diwic'úc'uk/ 'my younger sisters'

d. ɨ > /ɨ/.

Ø- Third Person; $c'il^{u}$- Pi 'descriptive of hips, tree trunk'; ɨ́pɨ́y Vd 'narrow'; $^{\varepsilon}$- Auxiliary Verb Formative; " Tactic Juncture; íti? Vd 'downwards'; -i Imperfect: Ø $c'il^{u}$ ɨ́pɨ́y $^{\varepsilon}$ " íti? i /c'ilɨ́pɨ́yeti?i/ 'he has small, even hips, it has a small, even trunk'

Ø- Third Person; wh^{u}- Pi 'descriptive of head-hair'; ɨ́?yɨ́l Vd 'curly'; -uwe? 'hence'; -i Imperfect: Ø wh^{u} ɨ́?yɨ́l uwe? i /wehɨ́?yɨ́luwe?i/ 'she has curly hair'

3.8.4. a-coloring. The vowel-coloring morphophoneme [^{a}] occurs only in the two instrumental prefixes h^{a}- Pi 'to rain' and $ŋ^{a}$- Pi 'descriptive of the belly' and in the two allomorphs of the Plural morpheme that are exempli-

fied below, and these have been found only before the stems that are shown. It occurs before the vowels ⟦i⟧ and ⟦o⟧.

a. i > /a/.

Ø- Third Person; h^a- Pi 'to rain'; ʔíʔiš Vd Empty Stem;
-i Imperfect: Ø h^a ʔíʔiš i /háʔši/ 'it's raining'

Ø-; h^a-; ʔí·biʔ Vd 'to have come'; -i:
Ø h^a ʔí·biʔ i /há·biʔi/ 'rain has gotten here'

Ø-; $ŋ^a$- Pi 'descriptive of the belly'; ʔí·bug Vd 'bloated';
-i: Ø $ŋ^a$ ʔí·bug i /ŋá·bugi/ 'he's bloated in the stomach'

di- First Person; $-is^a$- Plural; ʔí·sa Np 'older sister':
di ʔ[is^a]í·sa /diʔisá·sa/ 'my older sisters'

b. o > /a/.

d^e- Third Person Unexpressed; $-oy^a$- Plural; móya N 'shoulder':
d^e m[oy^a]óya /damoyáya/ 'their shoulders'

3.8.5. i-coloring. The vowel-coloring morphophoneme ⟦^{i}⟧, when it stands before the vowels ⟦a e⟧, occurs only in allomorphs of <R-> Plural (4.7d[4]). The allomorphs occurring before ⟦e⟧ are regular for the stem type, but those occurring before ⟦a⟧ are irregular. In its occurrence before ⟦i⟧, this morphophoneme is used as a device to prevent vowel-coloring of this vowel, as explained in section c. This latter usage creates the only situation in which a morpheme boundary does not intervene between a vowel-coloring morphophoneme and the following vowel.

a. a > /i/.

$-aš^i$- Plural; wá·šiw N 'Washo': w[$aš^i$]á·šiw /waší·šiw/ 'Washoes'

di- First Person; -a?m^{i}- Plural; ŋá?miŋ Vi,N 'to give birth; child': di ŋ[a?m^{i}]á?miŋ /diŋa?mí?miŋ/ 'my children'

?um- Second Person; -am^{i}- Plural; ŋá·m, ŋám Np 'son': ?um ŋ[am^{i}]á·m /?umŋamí·m/, ?um ŋ[am^{i}]ám /?umŋamím/ 'your sons'

b. e > /i/.

-ew^{i}- Plural; memdé·wi N 'deer': memd[ew^{i}]é·wi /memdewí·wi/ 'deer (pl.)'

-el^{i}- Plural; t́é·liw Vi 'to be a man'; -hu Nominalizing: t́[el^{i}]é·liw hu /t́elí·liwhu/ 'men'

di- First Person; -eš^{i}- Plural; ?éwši? Np 'father's brother': di ?[eš^{i}]éwši? /di?ešíwši?/ 'my father's brothers'

Ø- Third Person; ć^{i}- Plural; émći Vi 'to wake up'; -i Imperfect: Ø ć^{i} émći i /ćímćiyi/ 'they woke up'

c. i > /i/. The morphophoneme ⟦^{i}⟧ occurs before ⟦i⟧ only in two stems, ^{i}í·gi Vt,Vd 'to see, sense', which does not show the effect of e-coloring, and the allomorphs ^{i}í·ḱil and possibly ^{i}íḱil of <í·ḱil> Vd 'here and there, back and forth, in various directions, from time to time, for awhile', which do not show the effect of ɛ-coloring. These are the only instances of stems beginning with a vowel-coloring morphophoneme. The convention must be established that the vowel-coloring morphophonemes ⟦^{e}⟧ and ⟦^{ɛ}⟧ have no effect on a following ⟦i⟧ when the morphophoneme ⟦^{i}⟧ intervenes, or, put another way, that if a sequence of vowel-coloring morphophonemes (⟦^{ei}⟧, ⟦^{ɛi}⟧) occurs before a vowel, only the last one affects the vowel, and thereby cancels out the effect

of the preceding one. Sequences of vowel-coloring morphophonemes without intervening phonemes do not otherwise occur.

l^{e}- First Person; ^{i}í·gi Vt,Vd 'to see, sense'; -i Imperfect:

l^{e} ^{i}í·gi i /lí·giyi/ 'I see it'

g^{e}- Imperative; ^{i}í·gi: g^{e} ^{i}í·gi /gí·gi/ 'look!'

Ø- Third Person; kM^{u}- Pi '(sg.) to run'; áhad Vd 'across'; $^{\varepsilon}$- Auxiliary Verb Formative; " Tactic Juncture; ^{i}í·ḱɨl Vd 'back and forth'; -i Imperfect:

Ø kM^{u} áhad $^{\varepsilon}$ " ^{i}í·ḱɨl i /Móhadiḱɨli/ 'he ran back and forth across'

For the allomorphy of <í·ḱɨl>, and further examples, see 4.29.

Alternative analyses. The recognition of the vowel-coloring morphophoneme [^{i}] in these stems may be somewhat ad hoc. It is based merely on phonemic similarity, i.e., on the fact that the occurring vowels [a] and [e] are also represented by /i/ after this morphophoneme. Alternative treatments would be to set up an additional "buffer" morphophoneme [^{x}] to prevent vowel coloring, so that the stems would have the forms ^{x}í·gi and ^{x}í·ḱɨl, or to set up an additional vowel morphophoneme [I] which would be represented by /i/ regardless of preceding vowel colorings, so that the stems would take the forms Í·gi and Í·ḱɨl.

A basically different alternative treatment would be, of course, to recognize allomorphs of preceding morphemes that lack vowel coloring. In the case of í·gi, this would mean setting up allomorphs l- and g- of the two inflectional prefixes that have e-coloring. However, since this stem is

a member of Vd, the theoretical possibility exists of its occurring immediately after instrumental prefixes having e-coloring. In the attested examples of its use with instrumental prefixes, g- Plural always intervenes between the stem and the prefix. For í·k̓ál one would have to set up an allomorph Ø- or ^{i}- of <$^{\varepsilon}$-> Auxiliary Verb Formative, and perhaps also an allomorph -Ø or -^{i} of <-$^{\varepsilon}$> Instrumental Prefix Formative. The larger number of allomorphs that would be recognized by following this treatment constitutes the reason for not adopting it.

It does not seem realistic to ascribe this resistance to vowel-coloring to other aspects of the phonological make-up of these stems, since all other stems beginning with ⟦i⟧ show the coloring, including some that are similar in shape; thus, compared with ^{i}í·gi, í·bi? Vi,Vd 'to have come' has the same two vowels; í·ge? Vt 'to grind' has the same initial vowel and medial consonant.

A partial parallel may be found in the fact that ímí Vd 'to the east, from the west' does not show e-coloring when preceded by <R-> Plural in the forms obtained from BH, but does show the coloring in the forms given by RJ (4.7d[2]). This could have been alternatively handled by recognizing a variant form of the stem, ^{i}ímí, for BH, with the same form of the prefix, m^{e}-, for both informants. Unfortunately, this stem has not been found after instrumental prefixes with vowel-coloring morphophonemes in the material obtained from BH. This stem resembles ^{i}í·gi in that both have two ⟦i⟧'s

and do not have a final consonant. The e-coloring in the forms from RJ may well be due, historically, to confusion with <ímiʔ> ímiʔ ~ ími ~ ím Vd 'out, out from'.

The alternative treatment of the vowel-colorings of the Plural morpheme (4.7d) would generate many more instances of the sequence []^{i}i[], in the regular allomorphs of this prefix before stems containing []í..i[].

3.8.6. i̱-coloring. The vowel-coloring morphophoneme []$^{i̱}$[] occurs only in the instrumental prefix hulb$^{i̱}$-, hi̱lb$^{i̱}$- Pi 'to pry, lift with long object' and in the regular allomorphs of <R-> Plural that occur with stems containing the vowel sequence []í..i̱[] (4.7d[6]). It occurs only before the vowel []i[].

a. i > /i̱/.

di- First Person; hulb$^{i̱}$- Pi 'to pry, lift with long object'; íps Vd 'up from a surface'; -i Imperfect:
di hulb$^{i̱}$ íps i /dihulbi̱psi/ 'I'm prying it up, lifting it with a long object'

Ø- Third Person; ʔil- Descriptive; š$^{i̱}$- Plural; íši̱š Vd 'heavy'; -iʔ Attributive-Agentive; -i Imperfect:
Ø ʔil š$^{i̱}$ íši̱š iʔ i /ʔilšíši̱šiʔi/ 'it's heavy'

ćil^{u}- Pi 'descriptive of hips, tree trunks, roots'; t̰$^{i̱}$- Plural; íntin Vd 'rough': ćil^{u} t̰$^{i̱}$ íntin /ćilut̰íntin/ 'carrots': "rough roots"

3.8.7. E-coloring. The vowel-coloring morphophoneme []E[] occurs only in the form shown, and only as a possible alternative analysis. For discussion, see 4.7b.

a. a > /e/.

-a?lE- Plural; bá?lew N 'Paiute':

b[a?lE]á?lew /ba?lé?lew/ 'Paiutes'

3.9. Vocalization of vowel-colorings. Only four of the vowel-coloring, lengthening, or shortening morphophonemes occur elsewhere than before a vowel. The four that are attested before a consonant are [^{e} ˘ $^{\varepsilon}$ $_{u}$]. In this environment [$^{\varepsilon}$] is represented by zero, while the other three morphophonemes are represented by vowels.

3.9.1. e-coloring. The vowel-coloring morphophoneme [^{e}] is represented by /a/ or /e/ when before a consonant, according to the rules for vowel harmony that are set forth in 3.10. Further examples are given in that section.

a. ^{e} > /a/.

g^{e}- Imperative; ṕáýt́i? Vi 'to play': g^{e} ṕáýt́i? /gaṕáýt́i?/ 'play!'

Ø- Third Person; s^{e}- Pi 'to do with feet, wade'; d- Plural; á·š Vd 'in, into'; -ug 'hither'; -i Imperfect:

Ø s^{e} d á·š ug i /sadá·šugi/ 'they're wading in here'

b. ^{e} > /e/.

g^{e}- Imperative; béyu Vtt 'to pay': g^{e} béyu /gebéyu/ 'pay him!'

Ø- Third Person; s^{e}- Pi 'to do with feet, wade'; š- Plural; íši Vd 'to drag'; -i Imperfect: Ø s^{e} š íši i /sešíšiyi/ 'he's doing the slow dance'

3.9.2. [˘] Lengthener. The lengthener morphophoneme [˘] is also represented by /a/ or /e/ when before a consonant,

according to the rules for vowel harmony that are set forth in 3.10. Further examples are given in that section. Possible lengthening of the following vowel is discussed in 3.16.

a. ˇ > /a/.

Ø- Third Person; $m^{e}l$ˇ- Pi 'to jump'; w- Plural; áwd Vd 'over the summit'; -giš Motion; -i Imperfect:

Ø $m^{e}l$ˇ w áwd giš i /malawáwɨtgiši/ 'he's jumping along over things'

Ø- Third Person; dulˇ- Pi 'with the hand'; k- Plural; ákd Vd 'slowly'; -i Imperfect: Ø dulˇ k ákd i /dulakákdi/ 'he's moving his hands slowly'

b. ˇ > /e/.

Ø- Third Person; $m^{e}l$ˇ- Pi 'to jump'; p^{e}- Plural; íps Vd 'up from a surface'; -i Imperfect:

Ø $m^{e}l$ˇ p^{e} íps i /melepépsi/ 'he's jumping up and down'

Ø- Third Person; dulˇ- Pi 'with the hand'; t^{e}- Plural; íti? Vd 'down, downwards'; -i Imperfect:

Ø dulˇ t^{e} íti? i /duleté·ti?i/ 'he's holding both hands down'

3.9.3. ε-coloring. The vowel-coloring morphophoneme ⟦$^{\varepsilon}$⟧ is represented by zero when before a consonant or before ⟦"⟧ followed by a consonant. It thus differs from ⟦^{e}⟧ in its preconsonantal representation (cf. 3.9.1), although these two vowel-colorings have the same effect on following vowels. It is noteworthy that all prefixes known to end in this morphophoneme have the shape CVC$^{\varepsilon}$- or C^{e}C$^{\varepsilon}$-. This means that they all form a separate syllable on the phonemic level.

The second consonant in all these prefixes is either a voiced stop (which is unvoiced preconsonantally, 3.4) or a voiced resonant.

a. $^{\varepsilon}$ > /ø/.

ø- Third Person; k̓uy$^{\varepsilon}$- Pi 'to swim'; ʔ^{e}- Plural; íʔiš Empty Stem; -i Imperfect: ø k̓uy$^{\varepsilon}$ ʔ^{e} íʔiš i /k̓uyʔéʔši/ 'they (dist.) are swimming'

g^{e}- Third Person Objective; c̓ug$^{\varepsilon}$- Pt 'to carry, put small objects'; d- Plural; á·š Vd 'in, into'; -ug 'hither'; -i Imperfect: g^{e} c̓ug$^{\varepsilon}$ d á·š ug i /gac̓ukdá·šugi/ 'they're carrying them in here'

g^{e}- Third Person Objective; y$^{\check{}}$- Pt 'to cut'; á·k̓ɨm Vd 'to cut'; $^{\varepsilon}$- Auxiliary Verb Formative; " Tactic Juncture; t̓á·t̓ɨm Vd 'apart'; -i Imperfect: g^{e} y$^{\check{}}$ á·k̓ɨm $^{\varepsilon}$ " t̓á·t̓ɨm i /gayá·k̓ɨmt̓at̓ɨmi/ 'he's cutting it apart'

ø- Third Person; mó·k̓o N 'knee'; -$^{\varepsilon}$ Instrumental Prefix Formative; w^{e}- Plural; íwe? Vd 'on the ground'; -i Imperfect: ø mó·k̓o $^{\varepsilon}$ w^{e} íwe? i /mó·k̓owéwe?i/ 'they're kneeling'

3.9.4. u-coloring. The vowel-coloring morphophoneme ‖^{u}‖ is usually represented by /u/ when before a consonant. There are a few recordings showing it sporadically represented by /o/ when the following syllable contains ‖^{u}á‖ (which is itself represented by /ó/).

a. ^{u} > /u/.

ø- Third Person; g^{u}- Pi 'rope-like object to extend, be

located'; w^{e}- Plural; íwe? Vd 'on the ground'; -i Imperfect:
Ø g^{u} w^{e} íwe? i /guwéwe?i/ 'rope-like objects are touching the ground'

d^{e}- Nominal; wg^{u}- Pi 'hole to occur'; m- Plural; ámad Vd 'in or into a tubular opening': d^{e} wg^{u} m ámad /dawgumámat/ 'macaroni': "tubular holes"

Ø- Third Person; d^{u}- Pi 'fire to burn; by fire or heat'; ṫ- Plural; áṫa? Vd 'to crack'; -i Imperfect:
Ø d^{u} ṫ áṫa? i /duṫáṫa?i/ 'it cracked into several pieces from the heat'

Ø- Third Person; má?ag N 'wood'; $-^{u}$ Instrumental Prefix Formative; d- Plural; á·š Vd 'in, into'; -ug 'hither'; -i Imperfect: Ø má?ag ^{u} d á·š ug i /má?gudá·šugi/ 'they're bringing wood in here'

b. $^{u} > /o/$.

Ø- Third Person; d^{u}- Pi 'fire to burn; by fire or heat'; p^{u}- Plural; ápuš Vd 'gray'; -i Imperfect:
Ø d^{u} p^{u} ápuš i /dopópoši/ 'it got burned in several places' (FM)

3.10. Vowel harmony. There are three different situations in which a morphophonemic choice between /a/ and /e/ according to patterns of vowel harmony is made in a syllable preceding the stressed syllable of the word, and the rules for the choice are the same in each case. The situations arise in the preconsonantal representation of [^{e}] (3.9.1), the preconsonantal representation of [$^{\smile}$] (3.9.2), and the insertion of a vowel after [w] (3.14). This choice of vowel quality is conditioned by the quality of a certain following vowel. All speakers agree as to the correlation between the quality of this vowel and the choice of /a/ or /e/, but there is a dialectal difference regarding the placement of the conditioning vowel. In the southernmost dialect, represented by RJ, the conditioning vowel is the next following one, regardless of whether or not it is stressed. In the remainder of the area the conditioning vowel is the next stressed vowel, regardless of whether or not there are intervening unstressed vowels.

For this conditioning the vowels divide into the two classes [a o], which condition /a/, and [e i ɨ u], which condition /e/. These are illustrated by the words of sections a and b. These words show the conditioning applied to [^{e}]. In them the first following vowel is stressed, so that there is no dialectal difference of the phonemic forms.

We may ask whether coloring of the conditioning vowel by a vowel-coloring morphophoneme affects the rules for vowel harmony. Inspection of the chart of section 3.8 will show

that most patterns of vowel-coloring leave the resultant vowel within the same one of these two classes. There are, however, two instances of vowel-coloring in which the morphophonemic vowel and its phonemic representation are in opposite classes. These instances are the representation of []^{a}i[] by /a/ (3.8.4a) and the representation of []^{i}a[] by /i/ (3.8.5a). The vowels subjected to both patterns of vowel-coloring condition the vowel /a/ by vowel harmony. This means that the rule for vowel harmony must be amplified to state that []i[] conditions /e/ except when preceded by []^{a}[], in which case it conditions /a/. An example of this is given in section c. The example of section d shows the vowel []a[] after []^{i}[] conditioning /a/, even for those speakers for whom the following stressed vowel is the relevant environment.

Instances of dialectal variation of the phonemic representation of forms arise when the vowel that is subject to the rules for vowel harmony is followed by an unstressed vowel []i[] or []u[] which is followed by stressed []a[]. Then the harmonizing vowel is /e/ in the southernmost dialect, being conditioned by the unstressed []i[] or []u[], but /a/ in the other dialects, being conditioned by the stressed []a[]. Examples of this situation are given in section e.

a. Conditioning of /a/ by []á ó[].

d^{e}- Third Person Nominal; hánạ N 'mouth':

d^{e} hánạ /dahánạ/ 'his mouth'

d^{e}-; tó?o N 'throat': d^{e} tó?o /dató?o/ 'his throat'

b. Conditioning of /e/ by [é í ɨ́ ú].

d^e- Third Person Nominal; ḱéteb N 'bottle':

d^e ḱéteb /deḱétep/ 'his bottle'

d^e-; ṕísew N 'ear': d^e ṕísew /deṕísew/ 'his ear'

d^e-; bɨ́ḱɨ Np 'grandmother's sister': d^e bɨ́ḱɨ /debɨ́ḱɨ/ 'his grandmother's sister'

d^e-; gú?u Np 'mother's mother': d^e gú?u /degú?u/ 'his mother's mother'

c. Conditioning of /a/ by [^{a}í].

d^e- Nominal; h^a- Pi 'to rain'; í?iš Vd Empty Stem:

d^e h^a í?iš /dahá?aš/ 'rain'

d. Conditioning of /a/ by [^{i}á].

d^e- Third Person Nominal; -a?m^i- Plural; ŋá?miŋ Np 'child':

d^e ŋ[a?m^i]á?miŋ /daŋa?mí?miŋ/ 'her children'

e. Words showing a dialectal difference of conditioning vowel.

g^e- Imperative; šu?m- Pi 'to throw'; áwd Vd 'over the summit':

g^e šu?m áwd /gešu?máwɨt/, /gašu?máwɨt/ 'throw it over!'

g^e-; ṕi- Pi '(person) to crawl'; d- Plural; á·š Vd 'in, into'; -ug 'hither': g^e ṕi d á·š ug /geṕidá·šuk/, /gaṕidá·šuk/ 'come in (pl.)!'

3.11. Vowel assimilation across glottals. Assimilation of vowels separated by the glottal morphophonemes []? h[] occurs in both directions, as explained in the two subsections.

3.11.1. Assimilation to preceding vowel. In stems of the shape V́?V(C), when the initial vowel undergoes vowel-coloring (3.8), the second vowel assimilates to it in quality (except when it is lost by the rules of 3.15). The two vowels in stems of this shape are always identical, so that the vowel-coloring morphophonemes can be looked upon as affecting both vowels in identical fashion.

a. i > /e/.

g^{e}- Imperative; í?iw Vt 'to eat': g^{e} í?iw /gé?ew/ 'eat it!'

g^{e}-; $k\acute{u}y^{\varepsilon}$- Pi 'to swim'; í?iš Vd Empty Stem:

g^{e} $k\acute{u}y^{\varepsilon}$ í?iš /gekúyé?eš/ 'swim!'

b. i > /u/.

g^{e}-; $?m^{u}$- Pi '(pl.) to walk'; í?iš:

g^{e} $?m^{u}$ í?iš /ge?mú?uš/ 'walk (pl.)!'

c. i > /a/.

d^{e}- Nominal; h^{a}- Pi 'to rain'; í?iš: d^{a} h^{a} í?iš /dahá?aš/ 'rain'

d. a > /o/.

g^{e}- Imperative; kM^{u}- Pi '(sg.) to run'; á?am Vd 'in or into water': g^{e} kM^{u} á?am /gakMó?om/ 'run into the water (sg.)!'

3.11.2. Assimilation to following vowel. An []e[] usually assimilates to a following []a[] from which it is separated by []?[], []h[], or the cluster []?h[]. (The []?[] is lost from this cluster by 3.6e). The operation of this rule is somewhat

sporadic.

a. e > /a/.

d- Nominal; íme? Vi,Nr 'to drink; water'; -a 'in':

d íme? a /díma?a/ 'in the water'

g^{e}- Imperative; ḱéše Vi 'to be alive'; -ha Causative:

g^{e} ḱéše ha /geḱéšaha/ 'save his life!'

g^{e}-; íme? Vi,Nr 'to drink; water'; -ha: g^{e} íme? ha /gémaha/ 'make him drink!'

3.12. Vowel assimilation within words. A []u[] is assimilated to /o/ when it comes after the sequence []^{u}á[] in the preceding syllable (which is itself represented by /ó/). Sporadically this assimilation is extended to another unstressed []u[] in the following syllable.

a. u > /o/.

-an^{u}- Plural; ťánu N 'person': ť[an^{u}]ánu /ťanóno/ 'people'

di- First Person; -ag^{u}- Plural; má·gu Np 'sister's child':

di m[ag^{u}]á·gu /dimagó·go/ 'my sister's children'

Ø- Third Person; d^{u}- Pi 'fire to burn; by fire or heat'; ápuš Vd 'gray'; -i Imperfect: Ø d^{u} ápuš i /dópoši/ 'it burned up'

Ø- Third Person; ṗi- Pi 'to crawl'; ť^{u}- Plural; áťum Vd 'in, down in'; -uwe? 'hence'; -i:

Ø ṗi ť^{u} áťum uwe? i /ṗiťóťomuwe?i/ 'they kept crawling down in'

3.13. Insertion of vowels in stems. A vowel is inserted between the last two consonants of stems ending in the sequence -V́CC when such stems come to stand before a consonant, juncture []+[], or an intonation []. ,[]. In most cases the inserted vowel is /ɨ/, but it is /o/ when the stressed syllable has []^{u}á[] and /u/ when the stressed syllable has either []ú[] or []^{u}í[].

a. Ø > /ɨ/.

g^{e}- Imperative; álŋ Vt 'to lick': g^{e} álŋ /gálɨŋ/ 'lick it!'

ḱ- Third Person Objective; álŋ; máma? Va 'to finish'; -i Imperfect: ḱ álŋ máma? i /ḱálɨŋmáma?i/ 'he's finished licking it'

g^{e}- Imperative; íšm Vi 'to sing': g^{e} íšm /géšɨm/ 'sing!'

l^{e}- First Person; ášg Nr 'back': l^{e} ášg /lášɨk/ 'my back'

b. Ø > /o/.

g^{e}- Imperative; kM̆^{u}- Pi '(sg.) to run'; ákd Vd 'slow, slowly'; -giš 'along': g^{e} kM̆^{u} ákd giš /gakM̆ókotgiš/ 'run along slowly (sg.)!'

c. Ø > /u/.

d^{e}- Nominal; wg^{u}- Pi 'hole to exist'; ílm Vd 'under, underneath': d^{e} wg^{u} ílm /dewgúlum/ 'hole underneath'

3.14. Insertion of vowels after []w[]. When []w[] is followed by a consonant and preceded by either a consonant, []+[], or the beginning of the utterance, a vowel is inserted between the []w[] and the following consonant. This vowel is usually /a/ or /e/, according to the rules for vowel harmony (3.10); however it is /o/ when the []w[] is followed by []ʔ6[].

Ø- Third Person; w- Static; máhm Vi 'to be cloudy'; -i Imper-

fect: Ø w máhm i /wamáhmi/ 'it's cloudy'

Ø-; wd- Pi 'tree to stand'; íʔiš Vd Empty Stem; -i:

Ø wd íʔiš i /wedíʔši/ 'a tree is standing'

Ø-; w- Static; ʔóʔoš N 'autumn'; -i: Ø w ʔóʔoš i /woʔóʔši/ 'it's autumn'

3.15. Loss of vowels after []ʔ[]. Unstressed vowels are lost when preceded by V́ʔ and followed within the same word by either a vowel or a single consonant followed by a vowel. When a vowel follows, a /y/ is inserted by the rule of 3.3. Similarly, an unstressed []i[] is lost when preceded by unstressed []iʔ[] and followed within the same word by a single consonant followed by a vowel. Unstressed []i[] is also apparently lost when preceded by []yʔ[] or []lʔ[] (cf. 28.9, 28.4).

d^e- Third Person Nominal; tóʔo N 'throat'; -a 'at':

d^e tóʔo a /datóʔya/ 'at his throat'

l^e- First Person Objective; gúʔu Np 'mother's mother'; -iʔ Attributive-Agentive: l^e gúʔu iʔ /legúʔyiʔ/ 'my daughter's child (woman sp.)'

g^e- Third Person Objective; búʔu Vtt 'to feed'; -leg Recent Past; -i Imperfect: g^e búʔu leg i /gebúʔlegi/ 'he fed him'

l^e- First Person; émlu Vi 'to eat'; -tiʔ Intermediate Future; -i Imperfect; " Tactic Juncture; g- Third Person Subjective; í Pronoun Stem: l^e émlu tiʔ i " g í /lémlutiʔgi/ 'I'm going to eat'

l^e-; émlu; -ayʔ Intermediate Past; -i; "; g-; í:

l^e émlu ayʔ i " g í /lémluyayʔgi/ 'I ate'

3.16. [ˇ] Lengthener. The Lengthener morphophoneme [ˇ], which occurs at the end of several instrumental prefixes, has a lengthening effect upon immediately following stressed vowels, and it also colors following [i] to /e/ in the same manner as [^{e}]. The lengthening may be inhibited by certain patterns of consonants following the vowel, the rules for which have not been fully worked out. It seems likely, however, that the inhibiting environment consists of either a consonant cluster or a glottal morphophoneme [ʔ h]. When the vowel is in such an environment, the [ˇ] has no effect upon an [a], while it colors an [i] to /e/ without lengthening it; examples of these cases are given in sections c and d. If the following vowel is already long, its length is not affected; here again the only perceptible effect of this morphophoneme is the coloring of [i·] to /e·/. See sections e and f for examples of this type. For the preconsonantal representation of this morphophoneme, see 3.9.2. The evidence is unfortunately conflicting as to whether this morphophoneme lengthens a following stressed vowel from which it is separated by a single consonant.

a. a > /a·/.

Ø- Third Person; m^{e}lˇ- Pi 'to jump'; áŋaʔ Vd 'on, upon'; -i Imperfect: Ø m^{e}lˇ áŋaʔ i /malá·ŋaʔi/ 'he's jumping on it'

Ø-; dulˇ- Pi 'with the hand'; áŋaʔ; -i:

Ø dulˇ áŋaʔ i /dulá·ŋaʔi/ 'he has his hand on it'

b. i > /e·/.

Ø-; m^{e}lˇ- Pi 'to jump'; ítiʔ Vd 'down, downwards'; -i:

Ø m^{e}lˇ ítiʔ i /melé·tiʔi/ 'he's jumping down'

Ø-; dulˇ- Pi 'with the hand'; ímiʔ Vd 'out, out from'; -i:

Ø dulˇ ímiʔ i /dulé·miʔi/ 'he's sticking his hand out'

c. a > /a/.

Ø-; $m^{e}l^{\check{}}$-; áwd Vd 'over the summit'; -i:

Ø $m^{e}l^{\check{}}$ áwd i /maláwdi/ 'he's jumping over'

d. i > /e/.

Ø-; $m^{e}l^{\check{}}$-; íps Vd 'up from a surface'; -i:

Ø $m^{e}l^{\check{}}$ íps i /melépsi/ 'he's jumping up'

e. a· > /a·/.

Ø-; dulˇ- Pi 'with the hand'; á·gal Vd 'from the south, to the north'; -am 'away to'; -i: Ø dulˇ á·gal am i /dulá·galami/ 'he's extending his hand towards the north'

f. i· > /e·/.

Ø-; dulˇ-; í·k̓ɨl Vd 'here and there'; -i:

Ø dulˇ í·k̓ɨl i /dulé·k̓ɨli/ 'she's cooking'

3.17. Other vowel lengthening. Short stressed vowels are lengthened in two classes of following environments.

3.17.1. Before voiced consonant plus vowel. Short stressed vowels are lengthened before voiced stops which are followed by vowels, i.e., which are not themselves represented by voiceless stops according to 3.4.

wí Near Demonstrative Stem; -di Demonstrative Formative;
-w Personal Plural: wí di w /wí·diw/ 'these (pl.)'

l^e- First Person; í Pronoun Stem; -duŋ 'like':
l^e í duŋ /lé·duŋ/ 'like me'

ʔ- Third Person; íd̰ Vi 'to say'; -aʔ Aorist:
ʔ íd̰ aʔ /ʔí·daʔ/ 'he said ...'

3.17.2. Word-finally. Short stressed vowels are also lengthened word-finally, that is, before [] + . ,[].

m- Second Person; í Pronoun Stem: m í /mí·/ 'you (sg.)'

dá A 'there': dá /dá·/

3.18. [~] Shortener. The shortener morphophoneme [~] shortens an immediately following long vowel, unless this is followed by a voiced stop. Put another way, length [·] is represented by zero when preceded by [~V́], except when followed by a voiced stop. This morphophoneme is itself represented by zero, and it has no effect on vowel quality.

This morphophoneme is known to occur only in one morpheme, š~- Pi '(sg. person) to walk'. It seems possible that it may actually be present in other prefixes which are now taken as ending in consonants, since it would give evidence of its presence only before a limited number of stems, i.e., those that begin with a long vowel followed by a consonant other than a voiced stop. In fact, the shortening effect of this morphophoneme is attested on only one stem, á·ti Vd 'uphill, upstream, upwards', in forms such as this:

Ø- Third Person; š~- Pi '(sg. person) to walk'; á·ti Vd 'uphill, upstream, upwards'; -we? 'hence'; -i Imperfect:

Ø š~ á·ti we? i /šátiwe?i/ 'he's walking uphill, upstream'.

There exists another instrumental prefix which differs from this one only by lacking [~], namely š- Pi '(pl.) to fly, swim'. This prefix also occurs with this dependent verb stem, to give forms that differ minimally from otherwise morphemically identical forms containing š-, in that they retain the long vowel of the stem. With the above form compare the following:

Ø š á·ti we? i /šá·tiwe?i/ 'they're flying up, swimming up'.

The environments in which [~] leaves no phonemic trace

of its presence are before short vowels and before long vowels that are followed by voiced stops. When these two prefixes occur before stems whose initial morphophonemes constitute such an environment, the resulting forms will naturally be homophonous. The following are examples of this, first when before the short vowels [a i], and then when before the long vowels [a· i·] when they are followed by a voiced stop.

áhi? Vd 'into a thicket':

Ø š˜ áhi? i /šáhi?i/ 'he walked into the thicket'

Ø š áhi? i /šáhi?i/ 'they flew into the thicket'

ími Vd 'to the east, from the west'; -we? 'hence':

Ø š˜ ími we? i /šímiwe?i/ 'he's walking east'

Ø š ími we? i /šímiwe?i/ 'they're flying east'

á·gal Vd 'to the north, from the south'; -am 'away to':

Ø š˜ á·gal am i /šá·galami/ 'he's walking north'

Ø š á·gal am i /šá·galami/ 'they're flying north'

í·bi? Vi,Vd 'to have come':

Ø š˜ í·bi? i /ší·bi?i/ 'he has come walking'

Ø š í·bi? i /ší·bi?i/ 'they have come flying'

3.19. []"[] Stress weakener. The stress weakener morphophoneme []"[] brings it about that the next following vowel, which is always stressed on the morphophonemic level, is unstressed phonemically. This morphophoneme occurs as a tactic juncture in constructions of three types, as indicated in the following sections.

a. In the derivation of auxiliary verbs. See 25.

Ø- Third Person; ʔud^{e}- Pi 'light to shine'; ášiw Vd 'clear, bright'; $^{\varepsilon}$- Auxiliary Verb Formative; "; íti? Vd 'down' (here used with inchoative force); -i Imperfect:
Ø ʔud^{e} ášiw $^{\varepsilon}$ " íti? i /ʔudášiweti?i/ 'it's gotten light'

?- Third Person; íye? Vi 'to walk'; g- Auxiliary Verb Formative; "; ámad Vd 'to the south, from the north'; -am 'away to'; -i Imperfect: ? íye? g " ámad am i /ʔíye?gamadami/ 'he's walking south'

b. In the Plural Exhortative construction. See 29.5.

l^{e}- First Person; íme? Vi 'to drink'; -hu Plural Inclusive; "; l^{e}- First Person; í Pronoun Stem; -w Personal Plural:
l^{e} íme? hu " l^{e} í w /lémehulew/ 'let's (pl.) drink!'

c. In the nominalization and adverbialization of clauses. See 31.1-3.

?- Third Person; íye Vi 'to walk'; -we? 'hence'; -i Imperfect; "; g- Third Person Subjective; í Pronoun Stem:
? íye we? i " g í /ʔíyewe?igi/ 'he went away'

?-; émlu Vi 'to eat'; -uŋil Defunctive; -i; "; g^{e}- Imperative; í: ? émlu uŋil i " g^{e} í /ʔémluyuŋilige/ 'what he had

just eaten'

?-; ípam Vi 'to arrive'; -i; "; dá A 'there':

? ípam i " dá /?ípamida/ 'he got there and ...'

3.20. Other weakening of stress. When two stressed syllables occur in succession, the stress on the first syllable is generally weakened. Similarly, when two stressed syllables are separated by a syllable which loses its vowel by 3.15, the first stress is again weakened.

máln N 'acorn'; á·ć́i Diminutive: máln á·ć́i /malná·ć́i/ 'small acorn sp.' (BH)

dé?eg N 'stone, rock'; -á·ć́i: dé?eg á·ć́i /de?gá·ć́i/ 'gravel'

1^{e}- First Person; íšm Vi 'to sing'; -é·s Negative; -i Imperfect: 1^{e} íšm é·s i /lešmé·si/ 'I'm not singing'

sésm Vi 'to vomit'; -éwe? Resultative: sésm éwe? /sesméwe?/ 'vomit'

Ø- Third Person; sésm Vi 'to vomit'; -áša? Near Future; -i Imperfect: Ø sésm áša? i /sesmáša?i/ 'he's going to vomit'

Ø-; h^{a}- Pi 'to rain'; í?iš Vd Empty Stem; -áša?; -i: Ø h^{a} í?iš áša? i /ha?šáša?i/ 'it's going to rain'

3.21. []+[] Juncture. As word boundary is a relevant part of the environment in certain morphophonemic rules, it is necessary to introduce the Juncture morphophoneme []+[], occurring at word boundaries, to make these environments morphophonemically different. This morphophoneme is itself always represented phonemically by zero. An example of a situation calling for the introduction of this morphophoneme is found in the rule for the insertion of vowels after []w[] (3.14). If the []w[] is preceded by a vowel in the same word,

a vowel is not inserted, but if the vowel preceding the [w] belongs to the preceding word (so that [+] intervenes), then the insertion takes place. Another rule making necessary the introduction of this morphophoneme is that of word-final lengthening of stressed vowels (3.17.2). See section 5 for the position of this morphophoneme in the morphotactics.

4. Morphemics. This section describes the allomorphy of morphemes which is not handled by morphophonemic rules, usually because it is not recurrent. It is important to note that the term allomorph as used in this grammar refers to a unit occurring on the morphophonemic, not the phonemic, level. When it is desired to refer to morphemes directly to their representations on the phonemic level, the term phonemic allomorph is used. Sections 4.1-4.14 treat the allomorphy of prefixes; sections 4.15-4.25, of suffixes; and 4.26-4.39, of stems.

4.1. Allomorphy of prefixes. Allomorphs of prefixes are conditioned in three ways: phonologically, by the following morphophoneme (4.2-4.5), morphologically, by the following morpheme (4.6-4.11), and morphologically, by the preceding morpheme (4.12-4.14). A few prefixes show combinations of more than one of these types of conditioning.

4.2. Allomorphy of prefixes conditioned by following vowel vs. consonant. A series of prefixes show a pair of allomorphs conditioned by whether the following morphophoneme is a vowel or a consonant. The pairs of allomorphs show alternations in consonants (4.3), in internal vowels (4.4), and in vowels and vowel-colorings (4.4). A few prefixes show alternations of more than one type. In choosing the symbol for prefixes with this type of conditioning, the preconsonantal allomorph has been taken.

4.3. Consonantal alternations. The following consonantal alternations are found. In listing the allomorphs of prefixes undergoing this kind of conditioning, the prevocalic allomorph is always given first, then the preconsonantal allomorph.

a. []ʔ[] ~ []Ø[].

ʔ- ~ Ø- Third Person

buʔ- ~ bu- Dual

b. Glottalized stop ~ voiced stop.

k̓- ~ g^{e}- Third Person Objective

t̓- ~ d^{e}- Third Person Nominal

c. []kM[] ~ []gVm[].

kM- ~ gum- Impersonal-Reflexive

kM^{e}- ~ gum- Pi 'to lie'

d. []ʔ[] + voiced resonant ~ voiced resonant.

ʔl- ~ l^{e}- First Person Objective

ʔm- ~ m^{e}- Second Person Objective

e. []l[] ~ []d[].

l^{e}- ~ di- First Person

f. []C[] ~ []ʔVC[].

m- ~ ʔum- Second Person

4.4. Alternation of internal vowel. Three prefixes show an internal vowel [u] in their preconsonantal allomorph which is lacking in their prevocalic allomorph.

M- ~ gum- Impersonal-Reflexive

M^{e}- ~ gum- Pi 'to lie'

m- ~ ʔum- Second Person

4.5. Alternations of final vowels and vowel-colorings. Four patterns of alternation between vowels, vowel-colorings, and [Ø] are found at the end of prefixes.

4.5.1. An alternation [^{e}] ~ [i] is found in the two prefixes shown, but it is not certain that the preconsonantal allomorph of the second of these is common to all speakers.

l^{e}- ~ di- First Person

kL^{e}- ~ kLi- Pt 'to drive, chase a group of animals'

4.5.2. An alternation [^{e}] ~ [u] is found in one instrumental prefix, <y^{e}-> y^{e}- ~ yu- Pi '(sg.) to fly'.

Ø y^{e} á·ṫi we? i /yá·ṫiwe?i/ 'it's flying up and away'

Ø yu ṫ á·ṫi we? i /yuṫá·ṫiwe?i/ 'they're flying up and away one at a time'

Ø y^{e} á·dab i /yá·dabi/ 'it (fish) is jumping'

Ø yu d á·dab i /yudá·dabi/ 'they are jumping'

4.5.3. An alternation [Ø] ~ [^{e}] is found at the end of the five inflectional prefixes that are listed.

d- ~ d^{e}- Nominal

ṫ- ~ d^{e}- Third Person Nominal

k̓- ~ g^{e}- Third Person Objective

?l- ~ l^{e}- First Person Objective

?m- ~ m^{e}- Second Person Objective

4.5.4. An alternation [Ø] ~ [i] is found in two (homophonous) instrumental prefixes and in two derivational prefixes. Since this alternation is recurrent, it might alternatively be treated by setting up an additional morphophoneme.

a. <ṕ-> ṕ- ~ ṕi- Pi '(four-legged animal) to walk, (person) to crawl; (with some stems) (person) to walk'.

g^{e} ṕ á·š ug /gaṕá·šuk/ 'come in (sg.)!'

g^{e} ṕi d á·š ug /gaṕidá·šuk/ 'come in (pl.)!'

Ø ṕ í·bi? i /ṕí·bi?i/ 'it (four-legged animal) has come, he has come crawling'

Ø ṕi b^{e} í·bi? i /ṕibé·bi?i/ 'they have come, they have come crawling'

b. <ṕ-> ṕ- ~ ṕi- Pt 'to suck, sip, puff'.

g^{e} ṕ ísid i /geṕísidi/ 'he's sipping it'

g^{e} ṕi šɬ́·w i /geṕišɬ́·wi/ 'he's guzzling it'

c. <tul-> tul- ~ tuli- 'pertaining to the fingers'.

di tul ípi? 'my fingernail'

di tuli p ípi? 'my fingernails'

d. <w-> w- ~ wi- occurring only in the stem shown.

di w ^{i}í·gi /diwí·gi/ 'my eye'

di wi g ^{i}í·gi /diwigí·gi/ 'my eyes'

4.6. Allomorphy of prefixes conditioned by following morphemes. Only a few prefixes are morphologically conditioned in their allomorphy by the morphemes that follow them. There are <R-> Plural, which accomodates itself in a complicated fashion to the shape of the stem to which it is affixed (4.7), prefixes with partly infixed allomorphs (4.8), <m-> Second Person (4.9), <?-> Third Person (4.10), and <?m-> Second Person Objective (4.11).

4.7. <R-> Plural. The affix <R-> Plural is a chameleon or reduplicative morpheme, that is, a morpheme with many allomorphs that in general takes on aspects of the form of the stems to which it is affixed. A moderate amount of irregularity in the conditioning of the allomorphs of this morpheme makes it inappropriate to attempt to handle this as a matter of morphophonemics. Also going counter to this possibility is the fact that many allomorphs end in vowel-colorings, to which the regular morphophonemic rules apply.

The following four sections consider separate aspects of the form of this affix: a. its position with respect to the stem, b. the initial vowel of infixed allomorphs, c. the consonant(s) of the allomorphs, and d. the vowel-coloring of the allomorphs. As this section is concerned only with the form of this morpheme, the meanings of the plural forms are not given. On the phonemic level, the forms are shown in their prevocalic allomorph, if there is one. It should be noted that most of these plural forms, in particular the verb and quantitative stems, are not complete words. Furthermore, the affix would not necessarily be in immediate constituency with the stem with which it occurs. This is true of certain kinship terms, members of Np, which take the affix only in derived reciprocal terms, members of Nap, and it is also apparently true of many dependent verb stems.

a. Position with respect to stem. If the stem to which this morpheme is affixed begins with a vowel, the allomorph is prefixed to it. If the stem begins with a consonant, the allomorph is infixed immediately before the stressed vowel.

(1) Examples with prefixed allomorphs.

á·bab Vd 'spotted': b á·bab /bá·bab/

ínkin Vd 'black': k ínkin /kínkin/

í·hu Vd 'striped': h^{u} í·hu /hú·hu/

ámk̓um Vd 'arched, hunched': $k̓^{u}$ ámk̓um /k̓ómk̓om/

émc̓i Vi 'to wake up': $c̓^{i}$ émc̓i /c̓ímc̓i/

(2) Examples with infixed allomorphs.

bókoŋ Vi 'to snore': b[ok]ókoŋ /bokókoŋ/

mókgo N 'shoe': m[og]ókgo /mogókgo/

dá?a Np 'mother's brother': d[a?]á?a /da?á?a/

mé·hu Vi, N 'to be a boy; boy': m[eh^{u}]é·hu /mehú·hu/

?é·bu Np 'mother's father's brother': ?[eb^{u}]é·bu /?ebú·bu/

?éwši? Np 'father's brother': ?[$eš^{i}$]éwši? /?ešíwši?/

nént̓uš Vi 'to be an old woman': n[$et̓^{u}$]ént̓uš /net̓ún̓t̓uš/

?mó?mo? Vi 'to be a woman': ?m[o?m]ó?mo? /?mo?mó?mo?/

sú Np 'distant female relative or friend (of a woman)': s[u]ú /suyú·/

bá·[ʾ]ba? ʾ Nap 'son's child (of a man)': b[aʾb]á·[ʾ]ba? ʾ /bap̓á·p̓a?/

b. Initial vowel of infixed allomorph. If the allomorph is prefixed to a vowel-initial stem, it begins with a consonant. The examples of section a(1) show this. If

the allomorph is infixed in a consonant-initial stem, it begins with a short unstressed vowel. With one exception this vowel is identical with the immediately following (stressed) vowel. The exception is constituted by the noun bá?lew 'Paiute', which has the allomorph bé?lew when this infix is present. The initial vowel of the infix is ⟦a⟧, as though the stem still retained its other allomorph. The plural form is thus:

b[a?l]é?lew /ba?lé?lew/ 'Paiutes'.

It would be possible to remove this irregularity of the initial vowel of the infix, as well as the stem allomorphy, by introducing a special vowel-coloring morphophoneme, say ⟦E⟧, which would color the ⟦á⟧ to /é/. The form would then be:

b[a?lE]á?lew /ba?lé?lew/.

As this is the only stem in the language containing the vowel sequence ⟦á..e⟧, the occurrence of this vowel-coloring would be conditioned in a way parallel to that of the other vowel-colorings in this morpheme (see section d). The only objection to this morphophoneme would be its non-recurrence.

Because of the regularity of this aspect of the form of this morpheme, one might want to handle it as a matter of morphophonemics, introducing a special morphophoneme, say ⟦V⟧, which would take the place of the initial vowels of the infixed allomorphs (except for the allomorph -a?l- with bé?lew if the ⟦E⟧ was not set up). This ⟦V⟧ would be represented phonemically by a vowel corresponding to the

next following (stressed) vowel. The objection to this morphophoneme would be its occurrence only in this one morpheme. Contrary to what one might at first expect, the reduction in the number of allomorphs of this morpheme that would be brought about by the use of this morphophoneme would be only moderate, due primarily to the large number of theoretically possible vowel-initial allomorphs that do not actually occur, and also to the limitations on successive vowels within stems, which indirectly brings it about that allomorphs differing in initial vowels tend to differ also in vowel-colorings.

(1) Examples of allomorphs beginning with -e-.

ʔélel Np 'mother's father': ʔ[el]élel /ʔelélel/

ʔé·bu Np 'mother's father's brother': ʔ[eb^{u}]é·bu /ʔebú·bu/

mé·hu Vi, N 'to be a boy; boy': m[eh^{u}]é·hu /mehú·hu/

t̓é·liw Vi 'to be a man': t̓[el^{i}]é·liw /t̓elí·liw/

(2) Examples of allomorphs beginning with -a-.

dámal Vt 'to hear': d[am]ámal /damámal/

t̓ánu N 'person': t̓[an^{u}]ánu /t̓anónu/

má·gu Np 'sister's child': m[ag^{u}]á·gu /magó·go/

wá·šiw N 'Washo': w[aš^{i}]á·šiw /waší·šiw/

(3) Examples of allomorphs beginning with -o-.

bókoŋ Vi 'to snore': b[ok]ókoŋ /bokókoŋ/

mó·k̓o N 'knee': m[ok̓]ó·k̓o /mok̓ó·k̓o/

mókgo N 'shoe': m[og]ókgo /mogókgo/

ʔmóʔmoʔ Vi 'to be a woman': ʔm[oʔm]óʔmoʔ /ʔmoʔmóʔmoʔ/

(4) Examples of allomorphs beginning with -i-.

wícug Np 'younger sister': w[ic^{u}]ícug /wicúcug/

sí·su N 'bird': s[is^{u}]í·su /sisú·su/

?í·sa Np 'older sister': ?[is^{a}]í·sa /?isá·sa/

písew N 'ear': p[is^{e}]ísew /pisésew/

(5) Examples of allomorphs beginning with -ɨ-.

bɨ́kɨ Np 'grandmother's sister': b[ɨk]ɨ́kɨ /bɨkɨ́kɨ/

(6) Examples of allomorphs beginning with -u-.

súku? N 'dog': s[uk]úku? /sukúku?/

gúšu? N 'pet': g[uš]úšu? /gušúsu?/

gú?u Np 'mother's mother': g[u?]ú?u /gu?ú?/

sú Np 'distant female relative or friend (of a woman)': s[u]ú /suyú·/

c. Consonants of allomorphs. Most allomorphs of this morpheme contain one or two consonants. These come at the beginning of the prefixed allomorph or immediately after the initial vowel of the infixed allomorph. The only two-consonant clusters occurring consist of [?] plus voiced resonant or of [ʔ] plus voiced resonant or voiced stop. The conditioning of these consonants depends in part on the shape of the stem to which this morpheme is affixed, and there are a number of irregularities. A few infixed allomorphs, discussed in section (7), possibly lack a consonant after their initial vowel.

The rules are presented in the following sections according to the shapes of the stems, polysyllabic stems in (1) through (4) and monosyllabic stems in (5) through (7).

(1) Polysyllabic stems having a stressed penult and a single consonant between the last two vowels condition a consonant identical with this single consonant. There is just one irregularity: the transitive verb í?iw 'to eat' conditions the allomorph ?w^{e}-. The plural form of this stem is thus:

?w^{e} í?iw /?wé?w/.

Regular examples:

áhad Vd 'across': h áhad /háhad/

á·gal Vd 'to the north, from the south': g á·gal /gá·gal/

í·bi? Vi, Vd 'to have come': b^{e} í·bi? /bé·bi?/

ác̓im Vd 'green, yellow': c̓ ác̓im /c̓ác̓im/

ík̓ɨg Vd 'rough': k̓^{ɨ} ík̓ɨg /k̓ík̓ɨg/

ášuŋ Vd 'red': š^{u} ášuŋ /šóšoŋ/

í?ib Vi 'to cry, weep': ?^{e} í?ib /?é?b/

?é·bu Np 'mother's father's brother': ?[eb^{u}]é·bu /?ebú·bu/

wíc̓ug Np 'younger sister': w[ic̓^{u}]íc̓ug /wic̓úc̓ug/

(2) Polysyllabic stems having a stressed penult and a two-consonant cluster, other than a cluster of []?[] plus voiced resonant or a cluster beginning with []'[], between the last two vowels regularly condition a consonant identical with the second consonant of the cluster. This is basically similar to the pattern of section (1), in that in both cases it is the consonant beginning the final syllable that is the conditioning factor. However, there are eight stems that constitute an exception to this statement. Stems containing a consonant cluster beginning with []?[] behave differently ac-

cording to the second consonant of the cluster. Those wherein the second consonant is a voiced resonant condition an identical two-consonant cluster, as described in section (3). The one stem containing the cluster []?d[] follows the regular pattern:

í?deb Vd 'wrinkled': d^{e} í?deb /dé?deb/,

as does the one stem containing the cluster []?s[]:

í?si? Vd 'fast': s í?si? /sí?si?/.

On the other hand, the two stems containing the cluster []?š[] condition a consonant identical with the first, rather than the second, consonant of the cluster:

á?šam Vd 'to lie': ? á?šam /?á?šam/

má?ša? Np 'brother's child (of a man)': m[a?]á?ša? /ma?á?ša?/.

There are six other stems that condition a consonant identical with the first consonant of the cluster that they contain. Four of these contain clusters of two voiced resonants; the other two contain clusters consisting of a voiceless fricative followed by a voiced stop:

émlu Vi, Nr 'to eat; food': m^{u} émlu /múmlu/

máyŋa N 'fawn': m[ay]áyŋa /mayáyŋa/

šáwlam, šówlam Vi 'to be a girl': š[aw]áwlam /šawáwlam/, š[ow]ówlam /šowówlam/

hélme Q 'three': h[el]élme /helélme/

hésge Q 'two': h[es]ésge /hesésge/

áš̟d̟̈m Vt 'to hide': š áš̟d̟̈m /šáš̟d̟̈m/.

There are no stems containing clusters of the latter type that follow the regular pattern, but there are several stems

containing clusters of two voiced resonants that condition regular allomorphs. However, the clusters in these regular stems are not exactly the same as those in the irregular stems given above. For example, the cluster [yŋ] is found in the stem máyŋa 'fawn', shown above, but stems containing the partly identical clusters [yn] and [wŋ] condition regular allomorphs:
áynay Vd 'muddy, gooey': n áynay /náynay/
ŋáwŋaŋ Vi,N 'to be a child; child': ŋ[aŋ]áwŋaŋ /ŋaŋáwŋaŋ/.
There may be historical implications in some of these irregularities. In particular they may indicate that there were (or still are) morpheme boundaries immediately after the consonant clusters, which would make the stems regular monosyllabic ones of the type described in section (5). The stem á?šam 'to lie' is especially suspect of containing the suffix -am 'away to'; this suffix may also be present in šáwlam, šówlam 'to be a girl', although this is not semantically evident. Two of these irregular stems are quantitative stems, the numerals 'two' and 'three'; the allomorphic alternation between the vowels [e] and [i] that they both show following the consonant cluster may be further evidence in this direction. Apparent cognates of émlu 'to eat; food' lack an l; the irregularity in question may be evidence that this consonant has not always been in the Washo form.

Further regular examples:
émći Vi 'to wake up': ć^{i} émći /ćímći/
íṕcib Vd 'perfect': ć íṕcib /ćíṕcib/
álbul Vd 'spherical': b^{u} álbul /bólbol/

ámham Vd 'light (in weight)': h ámham /hámham/

áŋkaš Vd 'hollow': k áŋkaš /káŋkaš/

élšɨm Vi 'to sleep': š élšɨm /šélšɨm/

ʔéwši ʔ Np 'father's brother': ʔ[eš^{i}]éwši ʔ /ʔešíwši ʔ/

sáksag Np 'father's father's brother': s[ɑs]áksag /sasáksag/

nénṭuš Vi 'to be an old woman': n[eṭ^{u}]énṭuš /neṭúnṭuš/

mókgo N 'shoe': m[og]ókgo /mogókgo/

(3) Polysyllabic stems having a stressed penult and a two-consonant cluster consisting of either ▯ʔ▯ plus voiced resonant or ▯ʾ▯ plus voiced resonant or voiced stop between the last two vowels condition an identical two-consonant cluster. The clusters ▯ʔl ʔw ʔy ʔm ʾb ʾm▯ occur.

á ʔlag Vd 'flattened, smooth': ʔl á ʔlag /ʔlá ʔlag/

bá ʔlew N 'Paiute': b[a ʔl]é ʔlew (or b[a ʔlE]á ʔlew) /ba ʔlé ʔlew/

í ʔwid Vd 'to wave': ʔw í ʔwid /ʔwí ʔwid/

há ʔwa Q 'four': h[a ʔw]á ʔwa /ha ʔwá ʔwa/

á ʔyaŋ Vd 'to billow (?)': ʔy á ʔyaŋ /ʔyá ʔyaŋ/

í ʔyew Vd '(?)': ʔy^{e} í ʔyew /ʔyé ʔyew/

ŋá ʔmiŋ Vi,N 'to give birth; child': ŋ[a ʔm^{i}]á ʔmiŋ /ŋa ʔmí ʔmiŋ/

ʔmó ʔmo ʔ Vi 'to be a woman': ʔm[o ʔm]ó ʔmo ʔ /ʔmo ʔmó ʔmo ʔ/

bá·[ʾ]ba ʔ ʾ Nap 'son's child (of a man)': b[a ʾb]á·[ʾ]ba ʔ ʾ /baṗá·ṗa ʔ/

ʔé·[ʾ]bu ʾ Nap 'brother's daughter's child (of a man)': ʔ[e ʾb^{u}]é·[ʾ]bu ʾ /ʔeṗú·ṗu ʔ/

ʔá[ʾ]ma ʔ ʾ Nap 'son's child (of a woman)': ʔ[a ʾm]á[ʾ]ma ʔ ʾ /ʔa ʔmá ʔma ʔ/

sá[ʾ]ma ʔ ʾ Nap 'brother's grandchild (of a woman)':

s[a'm]á[']ma? ' /sa?má?ma?/

(4) Polysyllabic stems having a stressed penult and a three-consonant cluster consisting of a glottal stop surrounded by two voiced resonants between the last two vowels condition a two-consonant cluster identical with the last two consonants of the cluster. This pattern is basically similar to that of the preceding section. There are only two stems falling into this category. The clusters conditioned are []?y ?m[].

ín?yin Vd 'varicolored': ?y^{i} ín?yin /?yín?yin/

ál?mul Vd 'big and round': ?m^{u} ál?mul /?mól?mol/

(5) Monosyllabic stems ending in a two-consonant cluster condition a consonant identical with the first consonant of the cluster. This type is essentially identical with that of section (1), because of the morphophonemic rules of insertion or loss of vowels which cause many stems to alternate between the two shapes on the phonemic level. The pattern contrasts with that of section (2) in that it is the first, rather than the second, consonant of the cluster that is the conditioning factor. It similarly contrasts with that of section (3) when the cluster consists of glottal stop plus voiced resonant.

ákd Vd 'slowly': k ákd /kákd/

íps Vd 'up from a surface': p^{e} íps /péps/

íšm Vi,Nr 'to sing; song': š^{e} íšm /šéšm/

íšl Vtt 'to give': š^{e} íšl /šéšl/

áwd Vd 'over the summit': w áwd /wáwd/

ílm Vd 'under, underneath': l^{e} ílm /lélm/

á?m Vd 'to the west, from the east': ? á?m /?á?m/

sésm Vi 'to vomit': s[es]ésm /sesésm/

(6) Monosyllabic stems ending in a single consonant other than []?[] fall into three types. The presumably regular type is formed by two stems ending in []m[], which condition allomorphs containing this consonant:

á·m Vd 'to hit with body part': m á·m /má·m/

ŋá·m Np 'son': ŋ[am^{i}]á·m /ŋamí·m/, ŋ[am^{i}]ám /ŋamím/.

The following stem irregularly conditions the allomorph d-:

á·š Vd 'in, into': d á·š /dá·š/.

The several stems of this shape which are allomorphs of stems that elsewhere are either disyllabic, having a []y[] between the two syllables, or monosyllabic, ending in a consonant cluster beginning with []y[], condition allomorphs containing a []y[]. That is, they condition the allomorphs that they regularly would according to sections (1) or (5) if the other stem allomorph were retained after this prefix. See 4.28 for the allomorphy of these stems. Note the different allomorphs conditioned by the two stems of the shape á·m, the one shown in the first paragraph of this section regularly conditioning m-, but the one shown below, being an allomorph of a stem that elsewhere has the shape áyam, conditioning y-.

áyam Vd 'to hit with an instrument': y á·m /yá·m/

áyaw Vd 'black': y á·w /yá·w/

áyab Vd 'through a narrow opening': y á·b /yá·b/

íyeb Vt 'to copulate': y^{e} í·b /yé·b/

áyuk Nr 'parent-in-law': y^u á·k /yó·k/

áys Vd 'to miss': y^u á·s /yó·s/

(7) Monosyllabic stems either ending in []ʔ[] or having no final consonant condition an allomorph lacking a consonant. All stems of this type that take this affix begin with a consonant, so that, in accordance with sections a and b, the allomorph consists merely of an infixed vowel. The /y/ that occurs between this vowel and the stem vowel is considered to be the empty morphophone that is regularly inserted between two vowels (3.3). It would of course be possible to say alternatively that the allomorph of the infix contained a []y[].

sú Np 'distant female relative or friend (of a woman)':

s[u]ú /suyú·/

yá·ʔ Np 'father's sister': y[a]á·ʔ /yayá·ʔ/

d. Vowel colorings of allomorphs. The final consonant of an allomorph of this morpheme may be followed by one of the vowel-coloring morphophonemes [] $^{e\ u\ i\ a\ \pm}$ [], and possibly []E[]. There is also one allomorph which ends, irregularly, in the vowel []i[]. The conditioning of the vowel-coloring is the aspect of the allomorphy of the Plural morpheme that has the most irregularity, and it is also the aspect that is most open to alternative treatments. This is because any of these vowel-coloring morphophonemes has an effect only on certain following vowels, giving leeway for the optional recognition of either its presence or its absence before those vowels on which it has no effect. Two extremes of approach are possible: one can either avoid recognizing the

presence of these morphophonemes before vowels on which they have no effect, thus keeping the allomorphs as short as possible, at the expense of a greater complication in the rules for the conditioning of the allomorphs, or one can choose to keep these rules as simple as possible, at the expense of recognizing otiose vowel-colorings at the end of many allomorphs. The former alternative has been chosen in this grammar. For example, the allomorph occurring infixed in the noun stem súku? 'dog' could be said to be either -uk- or -uk^{u}-, the plural form /sukúku?/ being interpreted morphophonemically as either []s[uk]úku?[] or []s[uk^{u}]úku?[]. It would be expected that []^{u}[] would have no effect on the following []u[]; however the sequence []^{u}u[] does not turn up elsewhere than with this affix on stems of this type. The advantage of the recognition of []^{u}[] here derives from the fact that all stems containing posttonic []u[] and having a stressed vowel that can be affected by u-coloring, namely []á é í[], condition allomorphs ending in []^{u}[]. Thus, recognizing this vowel-coloring here also would mean that it would occur with any stem having posttonic []u[], without having to take into account the stressed vowel.

With either approach the most relevant feature of a stem in determining the vowel-coloring of the allomorph of this morpheme is the posttonic vowel, but the stressed vowel must also be taken into account, to a greater extent in the preferred analysis than in the alternative one. Length after the stressed stem vowels does not seem to be relevant and is hence ignored in the following descriptions of stem types. With one

exception, there is not more than one regular and one irregular allomorph occurring with stems having any one vowel pattern. The exception is constituted by monosyllabic stems containing []á[], which condition two types of irregular allomorphs.

Sections (1) through (8) consider the respective vowel-colorings or lack thereof, and are arranged in order of decreasing variety of stems that condition each. Section (9) summarizes this data from the point of view of conditioning stem types. Section (10) briefly presents the alternative analysis explained above.

(1) No vowel-coloring. Three main types of stems regularly condition allomorphs lacking vowel-coloring. The first type consists of polysyllabic stems stressed on the penult and having a sequence of identical vowels in their last two syllables. The only irregularities occur with stems containing []í..i[].

Stems with []é..e[].

?élel Np 'mother's father': ?[el]élel /?elélel/

hélme Q 'three': h[el]élme /helélme/

t̓é·k̓e Q 'many': t̓[ek̓]é·k̓e /t̓ek̓é·k̓e/

géwe N 'coyote': g[ew]éwe /gewéwe/

Stems with []á..a[].

á·bab Vd 'spotted': b á·bab /bá·bab/

áhad Vd 'across': h áhad /háhad/

áŋkaš Vd 'hollow': k áŋkaš /káŋkaš/

há?wa Q 'four': h[a?w]á?wa /ha?wá?a/

dá?a Np 'mother's brother': d[a?]á?a /da?á?a/

dámal Vt 'to hear': d[am]ámal /damámal/

Stems with []ó..o[].

bókoŋ Vi 'to snore': b[ok]ókoŋ /bokókoŋ/

mókgo N 'shoe': m[og]ókgo /mogókgo/

mó·k̓o N 'knee': m[ok̓]ó·k̓o /mok̓ó·k̓o/

?mó?mo? Vi 'to be a woman': ?m[o?m]ó?mo? /?mo?mó?mo?/

Stems with []í..i[]. There are a number of stems containing this vowel sequence that condition allomorphs containing the morphophoneme []^{e}[]; see section (2).

ínkin Vd 'black': k ínkin /kínkin/

ílp̓il Vd 'blue': p̓ ílp̓il /p̓ílp̓il/

íc̓iš Vd 'black': c̓ íc̓iš /c̓íc̓iš/

bíŋil Vt,Va 'to try': b[iŋ]íŋil /biŋíŋil/

Stems with []ɨ́..ɨ́[].

ɨ́ypɨy Vd 'narrow, slim': p ɨ́ypɨy /pɨ́ypɨy/

ɨ́yc̓ɨy Vd 'finely cracked': c̓ ɨ́yc̓ɨy /c̓ɨ́yc̓ɨy/

ɨ́·lɨl Vd 'pure white': l ɨ́·lɨl /lɨ́·lɨl/

bɨ́k̓ɨ́ Np 'grandmother's sister': b[ɨk̓]ɨ́k̓ɨ́ /bɨk̓ɨ́k̓ɨ́/

Stems with []ú..u[].

gú?u Np 'mother's mother': g[u?]ú?u /gu?ú?/

súku? N 'dog': s[uk]úku? /sukúku?/

gúšu? N 'pet': g[uš]úšu? /gušúšu?/

The second type of stem that regularly conditions allomorphs lacking vowel-coloring contains a sequence of two different vowels. Stems containing the sequences []á..i[], []á..ɨ[], and []é..ɨ[] regularly belong to this type, as does

one irregular stem with the sequence []ó..a[].

Stems with []á..i[]. There are two irregular stems containing this vowel sequence that condition allomorphs containing the morphophoneme []^{i}[]; see section (4).

ácim Vd 'green, yellow': c ácim /c ácim/

á·ti Vd 'upwards, uphill': t á·ti /tá·ti/

ášiw Vd 'clear': š ášiw /šášiw/

báli? Vt 'to shoot': b[al]áli? /baláli?/

Stems with []á..ɨ[]. There is apparently one irregular stem containing this vowel sequence that conditions an allomorph containing the morphophoneme []^{u}[]; see section (3).

ášdɨm Vt 'to hide': š ášdɨm /šášdɨm/

á·pɨg Vd 'to cut, sever': p á·pɨg /pá·pɨg/

Stem with []é..ɨ[]. There is only one example of this type.

élšɨm Vi 'to sleep': š élšɨm /šélšɨm/

Stem with []ó..a[]. The dialectal variant šówlam Vi 'to be a girl' irregularly conditions an allomorph lacking vowel-coloring. This allomorph is regular for the more widespread variant of the stem, šáwlam. The regular allomorph for stems with this vowel sequence is taken to be that with the morphophoneme []^{a}[], described in section (5), even though there is only one example of this type. šówlam is considered to be the irregular stem because of the dialectal differentiation and because of the irregularity in the consonant of the allomorph, discussed in section c(2).

šówlam Vi 'to be a girl': š[ow]ówlam /šowówlam/

The third type of stem that regularly conditions allo-

morphs lacking vowel-coloring is comprised of stressed monosyllabic stems or polysyllabic stems stressed on the last syllable. The stressed vowels occurring are ⟦á⟧, ⟦é⟧, and ⟦ú⟧.

Stems with ⟦á⟧. There are irregular stems of this type that condition allomorphs containing both ⟦^{u}⟧ and ⟦^{i}⟧; see sections (3) and (4).

ákd Vd 'slowly': k ákd /kákd/

áwd Vd 'over the summit': w áwd /wáwd/

á·š Vd 'in, into': d á·š /dá·š/

áyaw Vd 'black': y á·w /yá·w/

Stems with ⟦é⟧.

sésm Vi 'to vomit': s[es]ésm /sesésm/

ṫešéšg N 'joint, knuckle': ṫeš[eš]éšg /ṫešešéšg/

Stem with ⟦ú⟧. There is only one example of this type.

sú Np 'distant female relative or friend (of a woman)':
s[u]ú /suyú·/

(2) e-coloring. The morphophoneme ⟦^{e}⟧ occurs with stems of several types, all but one of which have ⟦í⟧ as the stressed vowel. The stem types regularly conditioning this morphophoneme are those containing the sequences ⟦í..e⟧ and ⟦ú..e⟧, and monosyllabic stems containing the vowel ⟦í⟧. This vowel-coloring is also conditioned irregularly by certain stems containing the sequences ⟦í..i⟧, ⟦í..ȧ⟧, and ⟦í..a⟧.

Stems with ⟦í..e⟧.

íleg Vd 'red': l^{e} íleg /léleg/

íwkew Vd 'stiff': k^{e} íwkew /kéwkew/

ípeš Vd 'black': p^{e} ípeš /pépeš/

p̓ísew N 'ear': p̓[is^{e}]ísew /p̓isésew/

c̓í·ge Vd 'to scratch': c̓[ig^{e}]í·ge /c̓igé·ge/

Stem with []ú..e[]. There is only one example of this type.

dúwe? Va 'to try to, want to': d[uw^{e}]úwe? /duwéwe?/

Monosyllabic stems with []í[]. Some of these stems are allomorphs of stems that in most environments have allomorphs containing the sequences []í..e[] or []í..i[].

íps Vd 'up from a surface': p^{e} íps /péps/

ílm Vd 'under, underneath': l^{e} ílm /lélm/

íšl Vtt 'to give': š^{e} íšl /šéšl/

<ímí?> ím Vd 'out from': m^{e} ím /mém/

<íwe> íw Vd 'in a certain direction': w^{e} íw /wéw/

íyeb Vt 'to copulate': y^{e} í·b /yé·b/

Stems with []í..i[]. There are a fairly large number of stems of this type which irregularly condition the morphophoneme []^{e}[]. The regular allomorphs for this stem type lack vowel-coloring, as described in section (1). Taking into account the consonant between the two vowels, we may note that all stems having a []?[] in this position fall into this category; such stems have monosyllabic phonemic allomorphs that could be taken as morphophonemically basic, thus making them regular stems of the type described in the preceding paragraph. With stems of this shape there is a slight amount of dialectal or sporadic variation between the regular and the irregular types. The stem ímí Vd 'to the east, from the west' belongs to the irregular type for RJ, but is of the regular type for BH. The stem íḱiŋ Vd 'rough', attested

only for RJ, seems to show forms of both types. There may be some significance in the fact that all other stems in this category end in [ʔ] in their only or least restricted allomorph. This listing of examples is not exhaustive.

íˑbiʔ Vi,Vd 'to have come': b^{e} íˑbiʔ /béˑbiʔ/

ítiʔ Vd 'down, downwards': t^{e} ítiʔ /téˑtiʔ/

íʔib Vi 'to cry, weep': $ʔ^{e}$ íʔib /ʔéʔb/

íʔiš Vd Empty Stem: $ʔ^{e}$ íʔiš /ʔéʔš/

íʔiw Vt 'to eat': $ʔw^{e}$ íʔiw /ʔwéʔw/

Stems with [íˑˑi]. There are two stems of this type that irregularly condition this morphophoneme. Stems of this type regularly condition allomorphs with [$\dot{i}$]; see section (6).

íˑc̓im Vd 'closed, clogged': $c̓^{e}$ íˑc̓im /c̓éˑc̓im/

íˑp̓il Vt(?) 'full': $p̓^{e}$ íˑp̓il /p̓éˑp̓il/

Stem with [íˑˑa]. There is one stem, apparently containing this vowel sequence, that conditions this morphophoneme. However, there is a possibility that the stem may be polymorphemic. The presumed regular allomorph with stems of this type has [^{a}], as described in section (5), although there is only one example of the type.

íˑyaluʔ Nr 'relative': y^{e} íˑyaluʔ /yéˑyaluʔ/

(3) u-coloring. The morphophoneme [^{u}] occurs with stems having the following vowel sequences, wherein the second vowel is [u]: [áˑˑu], [éˑˑu], and [íˑˑu], and also irregularly on one stem having the vowel sequence [áˑˑi] and on two monosyllabic stems containing the vowel [á].

Stems with []á..u[].

ášuŋ Vd 'red': š^{u} ášuŋ /šóšoŋ/

ámk̓um Vd 'arched': k̓^{u} ámk̓um /k̓ómk̓om/

ál?mul Vd 'big and round': ?m^{u} ál?mul /?mól?mol/

t̓ánu N 'person': t̓[an^{u}]ánu /t̓anóno/

?á·t̓u Np 'older brother': ?[at̓^{u}]á·t̓u /?at̓ó·t̓o/

má·gu Np 'sister's child': m[ag^{u}]á·gu /magó·go/

Stems with []é..u[].

émlu Vi,Nr 'to eat; food': m^{u} émlu /múmlu/

nént̓uš Vi 'to be an old woman': n[et̓^{u}]ént̓uš /net̓únt̓uš/

béyu Np 'younger brother': b[ey^{u}]éyu /beyúyu/

šémug Np 'brother's child (of a woman)': š[em^{u}]émug /šemúmug/

?é·bu Np 'mother's father's brother': ?[eb^{u}]é·bu /?ebú·bu/

mé·hu Vi,N 'to be a boy; boy': m[eh^{u}]é·hu /mehú·hu/

Stems with []í..u[].

í·hu Vd 'striped': h^{u} í·hu /hú·hu/

íškuš Vd 'short': k^{u} íškuš /kúškuš/

ípu? Vt 'to find': p^{u} ípu? /púpu?/

sí·su N 'bird': s[is^{u}]í·su /sisú·su/

wíc̓ug Np 'younger sister': w[ic̓^{u}]íc̓ug /wic̓úc̓ug/

Stem with []á..i[]. The vowel-coloring []^{u}[] occurs irregularly on one stem containing this vowel sequence. This stem is áp̓il Nr 'tail', and the presumed plural form is found only in the expression /gó·t̓a? p̓óp̓oli?/ 'tadpoles', lit. "frogs having tails", if this analysis is correct. The regular allomorphs with stems having this vowel sequence lack vowel coloring, as described in section (1).

ápɨ́l Nr 'tail': p^{u} ápɨ́l /pópol/

Monosyllabic stems with ⟦á⟧. There are two stems of this shape that irregularly condition allomorphs containing the morphophoneme ⟦^{u}⟧. Both of these are allomorphs of stems that have a different allomorph elsewhere than with this affix. One of these other allomorphs contains the sequence ⟦á..u⟧, which would regularly condition ⟦^{u}⟧. Stems of this type regularly condition allomorphs with no vowel-coloring.

áyuk Nr 'parent-in-law': y^{u} á·k /yó·k/

áys Vd 'to miss': y^{u} á·s /yó·s/

(4) i-coloring. The morphophoneme ⟦^{i}⟧ regularly occurs with stems having the vowel sequence ⟦é..i⟧. It also occurs, irregularly, with two stems having the sequence ⟦á..i⟧ and one monosyllabic stem containing ⟦á⟧.

Stems with ⟦é..i⟧. There is one irregular stem of this type, which conditions ⟦i⟧ instead of ⟦^{i}⟧; see section (8).

émci Vi 'to wake up': c^{i} émci /címci/

ʔéwši? Np 'father's brother': ʔ[eš^{i}]éwši? /ʔešíwši?/

té·liw Vi 'to be a man': t[el^{i}]é·liw /telí·liw/

memdé·wi N 'deer': memd[ew^{i}]é·wi /memdewí·wi/

Stems with ⟦á..i⟧. Only the two stems listed condition this morphophoneme. Stems containing this vowel sequence regularly condition allomorphs with no vowel-coloring.

ŋáʔiŋ Vi,N 'to give birth; child': ŋ[aʔm^{i}]áʔiŋ /ŋaʔmíʔiŋ/

wá·šiw N 'Washo': w[aš^{i}]á·šiw /waší·šiw/

Monosyllabic stem with ⟦á⟧. Only the stem shown conditions this morphophoneme. Stems of this type regularly

condition allomorphs with no vowel-coloring.

ŋá·m Np 'son': ŋ[am^{i}]á·m /ŋamí·m/, ŋ[am^{i}]ám /ŋamím/

(5) a-coloring. The morphophoneme []^{a}[] regularly occurs with stems containing the vowel sequences []í..a[] and []ó..a[]. Only one example of each type occurs.

Stem with []í..a[]. There is one irregular stem of this shape which conditions the morphophoneme []^{e}[]; see section (2).

ʔí·sa Np 'older sister': ʔ[is^{a}]í·sa /ʔisá·sa/

Stem with []ó..a[]. There is one irregular, dialectally restricted stem of this shape which conditions an allomorph lacking vowel-coloring; see section (1).

móya N 'shoulder': m[oy^{a}]óya /moyáya/

(6) i̱-coloring. The morphophoneme []$^{i̱}$[] regularly occurs with stems having the vowel sequence []í..i̱[]. There are irregular allomorphs containing []^{e}[] occurring with certain stems of this shape; see section (2).

íkʼi̱g Vd 'rough': kʼ$^{i̱}$ íkʼi̱g /kʼíkʼi̱g/

íši̱š Vd 'heavy': š$^{i̱}$ íši̱š /šíši̱š/

íntʼi̱n Vd 'wrinkled, rough': tʼ$^{i̱}$ íntʼi̱n /tʼíntʼi̱n/

íšpʼi̱š Vd 'narrow (of eyes)': pʼ$^{i̱}$ íšpʼi̱š /pʼíšpʼi̱š/

ín?yi̱n Vd 'varicolored': ?y$^{i̱}$ ín?yi̱n /?yín?yi̱n/

(7) E-coloring. If the morphophoneme []E[] is introduced, as discussed in section b, to account for the irregularity of the plural form of bá?lew 'Paiute', its occurrence would be conditioned by the vowel sequence []á..e[].

bá?lew N 'Paiute': b[a?lE]á?lew /ba?lé?lew/

If, alternatively, this stem is considered to have the allo-

morph bé?lew when taking this affix, the latter would regularly lack vowel-coloring, according to the rules of section (1).

(8) The vowel [i]. The adjectival stem <hé·zi> 'little, small', which has the allomorph é·zi when taking this affix, conditions an allomorph irregularly ending in the vowel [i] instead of the regular i-coloring; cf. section (4).
hé·zi 'little, small': zi é·zi /ziyé·zi/

(9) The following two charts sum up the data of section d, arranging it according to the vowels of the stems rather than according to the vowel-colorings conditioned. In the first chart the stems with the same posttonic vowels are grouped together. The two right-hand columns show respectively the regular and the irregular vowel-colorings conditioned by the stems of each shape. The symbol Ø in these charts stands for lack of vowel-coloring.

The second chart brings out the greater relevance of the posttonic vowel as opposed to the stressed vowel of a stem by plotting them along the two axes, with the type of vowel-coloring conditioned shown at the point of intersection. The greater homogeneity of the rows as opposed to the columns is apparent.

unstressed vowel	vowel sequence	regular vowel-coloring	irregular vowel-coloring
a	á..a	ø	
	í..a	a	e
	ó..a	a	ø
e	á..e	(E)	
	é..e	ø	
	í..e	e	
	ú..e	e	
i	á..i	ø	i
	é..i	i	i (the vowel)
	í..i	ø	e
ɨ	á..ɨ	ø	u
	é..ɨ	ø	
	í..ɨ	ɨ	e
	ɨ́..ɨ	ø	
o	ó..o	ø	
u	á..u	u	
	é..u	u	
	í..u	u	
	ú..u	ø	
none	á	ø	u, i
	é	ø	
	í	e	
	ú	ø	

posttonic vowel	stressed vowel					
	á	é	í	ɨ́	ó	ú
a	ø		a (e)		a (ø)	
e	E	ø	e			e
i	ø (i)	i (i)	ø (e)			
ɨ	ø (u)	ø	ɨ (e)	ø		
o					ø	
u	u	u	u			ø
none	ø (u, i)	ø	e			ø

(10) Alternative analysis. The following chart displays the alternative analysis in which the conditioning of the vowel-colorings is simplified by allowing the occurrence in allomorphs of the Plural morpheme of vowel-colorings which have no effect on the following vowel. This makes the conditioning more dependent on the posttonic vowel of a stem. The regular vowel-colorings can be said to be completely conditioned by the posttonic vowel, regardless of the stressed vowel, when the former is [a ɨ o u], and also when it is [e], if the stem-alternant bé?lew 'Paiute' is recognized in preference to setting up [E]. A comparison of this chart with the corresponding chart of section (9) will show the greater homogeneity of the regular vowel-colorings within each section.

unstressed vowel	vowel sequence	regular vowel-coloring	irregular vowel-coloring
a	á..a	a	
	í..a	a	e
	ó..a	a	ø
e	á..e	(E)	
	é..e	e	
	í..e	e	
	ú..e	e	
i	á..i	ø (or e)	i
	é..i	i	i (the vowel)
	í..i	i (or ø)	e
ɨ	á..ɨ	ɨ	u
	é..ɨ	ɨ	
	í..ɨ	ɨ	e
	ɨ́..ɨ	ɨ	
o	ó..o	ø	
u	á..u	u	
	é..u	u	
	í..u	u	
	ú..u	u	
none	á	e (or ø)	u, i
	é	e (or ø)	
	í	e	
	ú	ø	

4.8. Prefixes with partly infixed allomorphs. The prefixes <ʔum-> ʔum-, ʔ^{e}m- ~ m- ~ ^{e}-..-m- Intransitivizing and <g^{e}l^{ɛ}-> g^{e}l^{ɛ}- ~ g^{e}-..-l- Pi 'descriptive of the voice, of a noise; to call' have discontinuous allomorphs which are partly prefixed and partly infixed after the first vowel of vowel-initial stems. It is not clear to what extent the conditioning of this allomorphy may be phonological.

4.9. <m-> Second Person. The Second Person prefix has the phonologically conditioned pair of allomorphs m- ~ ʔum- in most occurrences, but it has the allomorph mi- when preceding <kM-> Impersonal-Reflexive, <ʔit-> Attributive-Instrumental, and <ʔum-> Intransitivizing. For the allomorphy of the latter two prefixes after <m->, see 4.14.

4.10. <ʔ-> Third Person. The Third Person prefix has the allomorph y^{e}- before the intransitive instrumental prefixes which are listed.

g- Pi 'descriptive of surface, lining'

ḱ- Pi 'descriptive of face'

kŋ^{e}- Pi 'to face in a certain direction'

ʔm^{u}- Pi '(pl.) to walk'

ʔm^{u}- Pi 'descriptive of the region around the mouth, snout'

4.11. <ʔm-> Second Person Objective. The Second Person Objective prefix has the allomorph mi- when preceding the First Person prefix <l^{e}->, for the allomorphy of which see 4.13. This should not be confused with the allomorph mi- of <m-> Second Person (4.9).

4.12. Allomorphy of prefixes conditioned by preceding morphemes. Very few prefixes have their allomorphy conditioned by preceding morphemes. Those that do are <l^{e}-> First Person (4.13) and certain prefixes beginning with glottals (4.14).

4.13. <l^{e}-> First Person. The First Person prefix <l^{e}-> when preceded by <ʔm-> mi- Second Person Objective has the allomorph l^{e}- when followed by a vowel, but the allomorph Ø- when followed by a consonant.

mi Ø dámal i /midámali/ 'I hear you'

4.14. Glottal-initial prefixes. The prefixes <ʔit-> Attributive-Instrumental and <ʔum-> Intransitivizing have similar patterns of alternation conditioned by preceding prefixes. They have the allomorphs t- and m- when preceded by <l^{e}-> di- First Person, <m-> mi- Second Person, and <t-> d^{e}- Third Person Nominal; the allomorphs it- and um- when preceded by g- Third Person Subjective; and the allomorphs ʔit- and ʔum- when preceded by <ʔ-> Ø- Third Person, and, in the case of the former, when initial in the word.

4.15. Allomorphy of suffixes. A rather low number of suffixes show allomorphy. This may be conditioned by either the preceding morpheme (a stem or suffix) (4.16-4.21) or the following suffix (4.22-4.25).

4.16. Allomorphy of suffixes conditioned by preceding morphemes. There are just six suffixes that have their allomorphs conditioned by a preceding stem or suffix. These are <-iʔ> Attributive-Agentive, which shows a complicated

pattern of conditioning and has some partly infixed allomorphs (4.17); <-hu> Nominalizing and <-hu> Diminutive, which have identical forms but undergo completely different conditioning (4.18, 4.19); and three Directional suffixes which have contracted forms (4.20).

4.17. <–i?> Attributive-Agentive. The affix <–i?> Attributive-Agentive has four allomorphs which are conditioned, with some apparent exceptions that are discussed in section e, by the shape of the morpheme to which it is affixed. Two of the allomorphs are suffixes, -i? and -yi?, and two are discontinuous morphs, both infixed and suffixed, -'-..-' and -'-..-i?. For the representations of the morphophoneme [']', see

a. The allomorph -yi? occurs after monosyllabic stressed stems ending in [?], and also after the Directional suffix <–uwe?> -uwe? ~ -we? 'hence'.

šá? Vt 'to paint designs, tattoo':

mi gum šá? yi? i /migumšá?yi?i/ 'you are painted, tattooed'

sá? Vt 'to keep': ?it sá?: /bilá·da? ?itsá?/ 'bank':

d^{e} t sá? yi?: /bilá·da? datsá?yi?/ 'banker': "having a bank"

b. The allomorph -'-..-i? occurs after monosyllabic stressed stems ending in a two-consonant cluster, where the first consonant is a voiced resonant (only [m l w] have been noted) and the second consonant is either a voiced resonant or a voiced stop (only [m ŋ l b] have been noted). The -'- is infixed between the two consonants.

álŋ Nr 'arm':

ɬ ál['ŋ i?: /lákaŋ ɬál?ŋi?/ 'a man's name': "having just one arm"

m^{u} ámł Vt 'to pick with the mouth':

d^e m^u ám[ˀ]l iˀ /damómˀliˀ/ 'shaman': "picking with the mouth"

b^e d^e íl̃m Vi 'to weave underneath (?)':

d^e b^e d^e íl[ˀ]m iˀ: /debedélˀmiˀ ċiŋá·m/ 'basket sp.': "woven underneath (?)"

c. The allomorph -ˀ-..-ˀ occurs on stems meeting the following specifications. (1) They are polysyllabic, with the stress on the penult. (2) They end in a vowel or in [ˀ] preceded by a vowel. (3) Between the last two syllables they have either a single voiced resonant ([m ŋ l w y] are attested), a single voiced stop ([b d g] are attested), or a cluster of two voiced resonants (only [ml] is attested). It seems likely that, as in section b, a voiced stop might also be allowable as the second consonant. The -ˀ- is infixed after the stressed syllable, that is, before a single consonant or between the two consonants of a cluster. The examples are grouped according to the medial consonants.

(1) Stems with single voiced resonants.

ˀáma ˀ Np 'father's mother':

m^e ˀá[ˀ]maˀ, /maˀáˀmaˀ/ 'your son's child (sp. to woman)'

sáma ˀ Np 'grandfather's sister':

d^e sá[ˀ]maˀ, /dasáˀmaˀ/ 'her brother's grandchild'

d íme ˀ N 'water':

d^e d í[ˀ]meˀ, é·s /dedíˀmeˀé·s/ 'a man's name': "having no water"

mímu ˀ N 'willow prepared for making baskets':

d^{e} mí[ˀ]mu? ˀ: /hélme? demí?mu?/ 'water-tight basket sp.': "having three prepared willows"

ćáŋa N 'buttocks':

d^{e} ćá[ˀ]ŋa ˀ é·s /daćá?ŋa?é·s/ 'a man's name': "having no buttocks"

(2) Stems with single voiced stops.

bá·ba? Np 'father's father':

l^{e} bá·[ˀ]ba? ˀ /labá·pa?/ 'my son's child (man sp.)'

?é·bu Np 'mother's father's brother':

l^{e} ?é·[ˀ]bu ˀ /le?é·pu?/ 'my brother's daughter's child (man sp.)'

í·ge? Vt 'to grind':

t́ í·[ˀ]ge? ˀ: /dé·guš t́í·ke?/ 'a man's name': "grinding wild sweet potatoes"

(3) Stems with a cluster of voiced resonants.

émlu Vi 'to eat':

t́ ém[ˀ]lu ˀ: /t́ánu t́ém?lu?/ 'man-eater'

d. The allomorph -i? is found after stems of other shapes. The examples are grouped to facilitate comparison with the other sections.

(1) Monosyllabic stressed stems ending in a single consonant other than [?] (cf. section a).

t́á·š N 'shirt':

d^{e} t́á·š i?: /lákaŋ dat́á·ši?/ 'a man's name': "having just one shirt"

ćil^{u} á·l N 'hips':

d^{e} ćil^{u} á·l i? /daćiló·li?/, /dećiló·li?/ 'Dat-so-la-lee

(noted Washo basketmaker)': "characterized by hips"

(2) Monosyllabic stressed stems ending in a consonant cluster other than those specified in section b.

íšm Nr 'song':

ṫ íšm i?: /lákaŋ ṫíšmi?/ 'a man's name': "having just one song"

áhl Nr 'leg':

? áhl i?: /tɨ́·ki ?áhli?/ 'a man's name': "having turkey legs"

(3) Polysyllabic stems meeting the specifications of section c except that they end in a consonant other than [?].

há·niš N 'harness':

d^{e} há·niš i? /dahá·niši?/ 'a man's name': "having a harness"

áŋal Nr 'house':

l^{e} áŋal i? i /láŋali?i/ 'I am dwelling (there)'

?élel Np 'mother's father':

l^{e} ?élel i? /le?éleli?/ 'my daughter's child (man sp.)'

íyeg Nr 'tooth':

ṫ íyeg i?: /?ó·do? ṫíyegi?/ 'a man's name': "having a gold tooth"

wí·gis N 'trousers':

d^{e} wí·gis i?: /hésge? dewí·gisi?/ 'a man's name': "having two trousers"

dí·geš N 'net':

d^{e} dí·geš i? /dedí·geši?/ 'a man's name': "having nets"

yá·gɨ̨l N 'egg; testicle':

d^{e} yá·gɨ̨l i?: /lák̓aŋ dayá·gɨ̨li?/ 'a man's name': "having just one testicle"

(4) Polysyllabic stems meeting the specifications of section c except for the type of consonant between the last two syllables.

gú?u Np 'mother's mother':

l^{e} gú?u i? /legú?yi?/ 'my daughter's child (woman sp.)'

tó?o Np 'grandmother's brother':

d^{e} tó?o i? /dató?yi?/ 'his sister's grandchild'

máku N 'decayed tooth':

d^{e} máku i? /damákuyi?/ '(person) having a decayed tooth'

dó·k̓o N 'heel':

d^{e} dó·k̓o i? /dadó·k̓oyi?/ 'a man's name': "having heels"

bɨ́k̓ɨ Np 'grandmother's sister':

m^{e} bɨ́k̓ɨ i? /mebɨ́k̓ɨyi?/ 'your sister's grandchild (sp. to woman)'

m^{u} íši Vi 'to pull, drag':

d^{e} m^{u} íši i? /demúšiyi?/ 'a man's name': "pulling, dragging"

(5) Polysyllabic stems not meeting the specifications of section c both with respect to the final consonant and the consonant or consonant cluster between the last two syllables.

ṕisew Np 'relative of third ascending generation':

d^{e} písew i? /depísewi?/ 'his relative of third descending generation'

sáksag Np 'father's father's brother':

l^{e} sáksag i? /lasáksagi?/ 'my brother's son's child (man sp.)'

muš^{ɛ} ílšil Vt 'to deal out, count out (cards, chips, money)':

d^{e} b^{e} muš^{ɛ} ílšil i? /debemušélšili?/ 'a man's name': "card dealer"

e. An apparent exception to the above rules is formed by derivatives of the verb sigí·gi Vi 'to fry, sizzle', which conditions the allomorph -i? rather than the expected allomorph -'-..-'. An example is:

d^{e} b^{e} sigí·gi i? /debesigí·giyi?/ 'a man's name': "frying things"

This stem may be contrasted with the stems ^{i}í·gi Vt 'to see' and í·ge? Vt 'to grind', which condition the expected allomorph. An example containing the former stem is:

?it gum wi 'g ^{i}í·['][']gi ' ha /?itguwiki·kiha/ 'pair of glasses': "for making oneself have eyes".

The explanation for this exception may lie in the fact that the stem sigí·gi, if it is indeed monomorphemic, has three syllables.

Another apparent exception occurs with the stem á·bu Vd 'goose-pimples, pimples, small bumps', in a form such as:

Ø ?il b^{u} á·bu i? i /?ilbó·boyi?i/ 'he has goose-pimples, pimples'.

There is no clear evidence to show that this stem does not

end in ⟦y⟧, but it probably does not. It is possible that this allomorph is conditioned by the presence of the prefix ʔil-, which requires the presence of this suffix. All other stems occurring with this prefix take this same allomorph of the affix, although this is apparently conditioned by their shapes, according to the above rules. The analogical pressure of these forms may have led to the use of this allomorph in the form in question. The noun /bó·p̓oʔ/ 'sticky-leafed rabbitbrush' perhaps contains the reduplicated plural form of this stem with the expected allomorph of this affix: ⟦b^{u} á·[ʼ]bu ʼ⟧.

The following personal names may perhaps also constitute exceptions to the above rules. Only for the first-listed name is there clear evidence that the underlying form does not end in ⟦y⟧. The first two words may indicate that the hypothesis expressed in section c, that a voiced stop might be allowable as the second consonant of a medial cluster conditioning a partly infixed allomorph, is incorrect.

/dabazándiyiʔ/ 'a woman's name'

/dúyduyiʔ/ 'a woman's name'

/dezíyayiʔ/ 'a woman's name'

/deheyéyeyiʔ/ 'a woman's name'

/dabahunáyniyiʔ/ 'a man's name'

4.18. <-hu> Nominalizing. The Nominalizing suffix <-hu> -hu ~ -u has the allomorph -u after []š[] (in the stem nénṫuš Vi 'to be an old lady'), and the allomorph -hu elsewhere. Walter Dyk records the allomorph -hu after this stem as well as elsewhere, but it seems possible that this is either a misrecording or an artificial slow speech form. That this is not a regular morphophonemic loss of []h[] after []š[] is shown by the occurrence of forms containing the cluster []šh[] /šh/, such as []g^{e} d^{u} ápuš ha[] /gadópošha/ 'burn it up!' or []di ṕáyṫi? uš hu " l^{e} í w[] /diṕáyṫi?ušhulew/ 'let's keep playing!'

4.19. <-hu> Diminutive. The Diminutive suffix <-hu> -hu ~ -u shows dialectal variation in the distribution of its allomorphs, just as it does in its actual occurrence with certain stems (13.11). The allomorphy may be discussed by dividing the stems on which this suffix is found into three types, according to their final consonants: voiced resonants ⟦m n l w⟧, voiceless resonants ⟦M L⟧, and voiceless stops ⟦p k⟧. All informants agree in showing the allomorph -hu after stems ending in voiced resonants. They likewise agree in having -u after stems ending in voiceless resonants, insofar as such words are attested and are considered to indeed contain this suffix (see discussion in 13.11, third paragraph). The differences appear after stems ending in voiceless stops, of which there is one ending in ⟦p⟧ and four or five ending in ⟦k⟧. The more northerly informants, FM and JW, use only the allomorph -hu here. Thus for them the allomorphy of this suffix is phonologically conditioned, -hu appearing after voiced resonants and voiceless stops, and -u appearing after voiceless resonants. With the exception of the word /mecímúlcukhu/ 'large striped insect sp.' (which may be misrecorded in this respect), BH shows -u after voiceless stops. Thus, save for this word, the allomorphy in her speech would also be phonologically conditioned, -hu occurring after voiced resonants and -u occurring after voiceless resonants and voiceless stops. The usage of RJ is less well attested, but he has -hu after voiceless stops, except for the word /ʔáʔwaku/ 'cui-ui sucker', which makes him more like the northern infor-

mants. The usage of HP is attested only by the same form, /ʔáʔwaku/.

It is thought that the use of the allomorph -u after voiceless stops derives in part from the origin of some of these words as borrowings from Uto-Aztekan languages, in which they ended in stop + /u/. The evidence is very clear that the word /ʔáʔwakhu/, /ʔáʔwaku/ 'cui-ui sucker', which refers to a fish characteristic of Pyramid Lake, in Paviotso territory, has such an origin. Also relevant is a Paviotso word for 'big spirit', which was rendered /záʔaphu/ by FM and /záʔabu/ by JW.

a. Examples of -hu after voiced resonants. One word is given for each of the four occurring voiced resonants, [m n l w].

/sabá·samhu/ 'wild rhubarb'

/bákwanhu/ 'Tahoe sucker'

/ć́é·gelhu/ 'wild onion sp.'

/silá·ṫawhu/ 'small tiger lily'

b. Examples of -u after voiceless resonants. The two occurring voiceless resonants, [M L], are exemplified.

/sélMu/ 'long-legged insect sp.'

/madukwáwLu/, /medukwáwLu/ 'common sunflower'

c. Examples of -hu and -u after voiceless stops. All attested forms are shown.

/ć́ik'ć́ikhu/ (RJ, FM, JW), /ć́ik'ć́iku/ (BH) 'pelican'

/ć́idó·dokhu/ (RJ, FM, JW), /ć́idó·doku/ (BH) 'robin'

/léʔephu/ (JW), /léʔpu/ (RJ, BH) (recorded /léʔpuʔ/ for BH)

'large aquatic bird sp.'

/ʔá?wakhu/ (FM, JW), /ʔá?waku/ (RJ, BH, HP) 'cui-ui sucker'

/mecimúlcukhu/ (BH), /mecimú·cukhu/ (RJ) 'large striped insect sp.'

perhaps also:

/gá·ku/ 'small duck sp.' (BH only)

4.20. Contracted forms of Directional suffixes. The three Directional suffixes listed below have non-syllabic forms when they follow certain stems which end in vowels and certain other stems which lost their final consonants (4.36).

4.20.1. <-il> 'going and returning'. The Directional suffix <-il> 'going and returning' has the allomorph -l only after the stem shown, so far as is known; elsewhere it has the allomorph -il.

g^e íme l /gémel/ 'go fetch water!'

The form also occurs uncontracted:

g^e íme? il /géme?il/.

4.20.2. <-ug> 'hither'. The Directional suffix <-ug> 'hither' has the allomorph -wg after a few stems, the allomorph -ug elsewhere.

g^e íye wg /géyewk/ 'come here!'

4.20.3. <-uwe?> 'hence'. The Directional suffix <-uwe?> 'hence' has the allomorph -we? after a few stems, the allomorphs -uwe? and -uw elsewhere.

g^e íye we? /géyewe?/ 'go away!'

4.21. <-hi> Optative. The suffix <-hi> Optative has the allomorph -y? when immediately following the suffix -ha Causative, the allomorph -^{e} when immediately following the suffix -ši Dual Inclusive, and the allomorph -hi elsewhere.

a. Examples of -hi.

/midálikhi/ 'I'm going to punch you'

/diduyášuhi/ 'I'm going to wash my hands'

/lémlulelhi/ 'I'm going to eat for a little while'

/wí·di? miléšɬhi/ 'let me give you this'

b. The allomorph -y? can be described as arising from -hi by dissimilation of the ⟦h⟧ to the other glottal morphophoneme ⟦?⟧, change of ⟦i⟧ to ⟦y⟧, and the regular metathesis of the sequence ⟦?y⟧ (3.7.2). Thus, *hahi > *ha?i > *ha?y > hay?. Indeed, since this morpheme does not occur before a vowel, only a desire to avoid unnecessary morphophonemic changes hinders us from considering this allomorph to be *?y. However, the reinterpretation of this ending as a sequence of two suffixes, <-h> Optative followed by <-i> Imperfect, that is discussed in section d, would give us a reason for taking this sequence as *?y rather than y?.

Examples of -y?.

/migumgáćaphay?/ 'I'm going to trip you'

/midulé·ƙɬhay?/ 'I'll cook for you; I'll swing your arm around'

/há·di? lémćihay?/ 'I'm going to wake him up'

/gó·be? mimaháwahay?/ 'let me pour you some coffee'

c. The sequence of the Dual Inclusive suffix -ši and

the allomorph -^{e} is represented phonemically as /še/. There is a possibility of alternative analyses here. One alternative would be to set up an additional unitary morpheme -še Dual Exhortative. This would, however, fail to recognize at least the clear formal and semantic resemblance to the Dual Inclusive suffix, which is supported also by the presence of the Plural Inclusive suffix -hu in the semantically parallel Plural Exhortative construction (29.5). More shaky is the identification of the -^{e} in this form as an allomorph of the Optative suffix. This seems correct semantically and in view of the fact that the expected sequence *-šihi has not been found in the corpus. No explicit attempt to elicit this sequence was made, however. The alternative to this identification would be the setting up of an additional morpheme -^{e} Exhortative. Furthermore, even granting the analysis of the sequence /še/ into two morphemes, there remain possible alternative statements about this allomorphy. The preferred treatment recognizes the fact that in all other environments the Dual Inclusive morpheme has the one allomorph -ši. One would not want to say merely that we have here a portmanteau representation of the two morphemes, because of the identity of the first consonant of the Dual Inclusive suffix and of the sequence /še/; a more tenable statement would be that this is a case of including and included morphs, where the /š/ belongs only to the Dual Inclusive suffix, but the /e/ belongs to both morphemes. Or, one might conclude that the Dual

Inclusive suffix has the allomorph -š here, while the Optative suffix has the allomorph -e. The only weak point in the use that is made of the available e-coloring morphophoneme as the representation of the Optative suffix in this environment is that there is no clear evidence that it colors a preceding vowel in the same manner as a following one; trying to overcome this drawback by maintaining that the morph is infixed in the Dual Inclusive suffix ([š ^{e} i]) would introduce a greater anomaly in the language structure.

It is not possible to say that /še/ is merely an allomorph of the Dual Inclusive suffix <-ši>, since the two morpheme sequences may contrast minimally after stems that are both nouns and verbs, e.g., /láŋalši/ 'our (du. inc.) house' vs. /láŋalše/ 'let's build a house'.

Examples of <-ši -hi> [ši ^{e}] /še/.

/léme?še/ 'let's drink!'

/lá?akše/ 'let's pack it on our backs!'

/dimónde?še/ 'let's play cards!'

/digumhul?yú·kše/ 'let's wrestle!'

d. Alternative analysis. A possible alternative analysis of this morpheme as a prefinal suffix <-h> that always occurs followed by <-i> Imperfect presents itself. This analysis would reduce the number of final suffixes from four to three, <-i> Imperfect, <-a?> Aorist, and -le Redundant. In this case the Optative morpheme would have allomorphs -h and -?, and the Imperfect morpheme would have allomorphs -i and -y. The allomorph -^{e} would be a portmanteau

representation of the two morphemes, unless one decided rather arbitrarily that only the Optative morpheme was present in the dual exhortative expressions.

The evidence either for or against this alternative analysis is not very decisive. The primary negative consideration is the fact that this <-h> does not occur before the other final suffixes, <-a?> Aorist and -le Redundant. However, this is also true of certain other prefinal suffixes, such as -ud Sequential and -leg Recent Past. Also the property of not allowing a following -š Reference Switching nor (with one exception) nominalization or adverbialization would tend to imply that this is a distinctive final suffix, sharing the former property with -le Redundant and the latter with <-a?> Aorist. This again is not decisive, since -ud Sequential also shares the latter property, and -leg Recent Past shares both properties (but is itself suspect in a different way). Also tending against this interpretation is the monoconsonantal form of the morphs -h and -?, which differ from most prefinal suffixes in not containing at least one vowel between two consonants. However, a parallel can be found in the allomorph -t of <-ti?> Intermediate Future, which occurs before <-a?> Aorist. Finally, the preferred analysis avoids having to consider the allomorph -^{e} as a portmanteau morph, but in view of the difficulties discussed in the preceding section this is not a decisive advantage.

4.22. Suffixes with allomorphy conditioned by following suffixes. There are just three suffixes whose allomorphy is conditioned by following suffixes. These are the final suffix <-a?> Aorist (4.23), the prefinal suffix <-ti?> Intermediate Future (4.24), and the Demonstrative Formative suffix <-di> (4.25). Each of these has two allomorphs, and in each case one of the allomorphs occurs before only one following suffix and the other allomorph occurs elsewhere, but otherwise the details are different.

4.23. <-a?> Aorist. The Aorist suffix <-a?> has the allomorph -a when immediately followed by the Reference Switching suffix -š, and the allomorph -a? elsewhere, i.e., when word-final.

a. Examples of -a?.

/?émluya?/ 'he was eating'

/tugíliwa?a?/ 'he was looking upwards'

/?émdeguša?/ 'she digs often'

b. Examples of <-a? -š> [a š] /aš/.

/?émluyaš/ 'he was eating and ...'

/géma?aš/ 'drink!, and ...'

/?á·huyaš/ 'they were standing and ...'

4.24. <-ti?> Intermediate Future. The suffix <-ti?> Intermediate Future has the allomorph -t when immediately followed by the Aorist suffix <-a?>, and the allomorph -ti? when followed by either of the suffixes -i Imperfect or -le Redundant. (A following -i Imperfect is often represented by zero phonemically when another suffix follows, according to a regular morphophonemic rule.)

a. Examples of -ti?.

/míme?ti?gi/ 'you're going to drink'

/?ímehé·šti?i/ 'is he going to drink?'

/?umyá·p̀awti?le/ 'you might cut them open'

b. Examples of <-ti? -a?> [t a?] /ta?/.

/míme?ta? létlegi/ 'I told you to drink'

/gitlélɨpgawduwe?ta? hámuya?/ 'he thought he would push him over the edge'

c. Alternative analyses. Two unattractive alternatives to this analysis present themselves. One would be to regard the ending /ta?/ as one morpheme, so that there would be two separate suffixes, -ti? and -ta?. This would fail to recognize the -t- (or -t..?) shared by the two endings, their semantic similarity, and, most significant, the fact that -ta? has syntactic properties similar to those of <-a?> Aorist when it follows the other suffixes with Future meaning (-áša? Near Future, -gab Distant Future), namely that it is always followed by a form of the verbs íd 'to say' or hámu 'to think'. Patterning is also in favor of the preferred analysis: by recognizing the -a? in the ending

-ta? as the Aorist suffix, we are enabled to state that <-ti?> may be followed by the same three final suffixes (-a?, -i, -le) as are the Near Future and Distant Future suffixes.

The other alternative would be to segment the ending -ti? into -t Intermediate Future followed by -i?. This would mean that there would be only the one morph -t as the representation of the Intermediate Future morpheme. We would then have the problem of accounting for the suffix -i?. This might be equated with the Attributive-Agentive suffix <-i?> -i? (or the homophonous suffix of this shape) which may follow certain prefinal suffixes (-lul Distant Past, -enun Usitative). Opposed to this solution are the facts that this -i? is not found after the abovementioned suffixes with Future meaning, and that where it occurs it does not preclude, but rather favors, the occurrence of following <-a?> Aorist. The -i? under consideration would be completely conditioned by the occurrence of a preceding -t and a following -i or -le.

4.25. <-di> Demonstrative Formative. The Demonstrative Formative suffix <-di> has the allomorph -ʔ when followed by -ši Personal Dual, and the allomorph -di elsewhere.

a. Example of -ʔ.

wí ʔ ši /wíʔši/ 'these (du.)'

b. Examples of -di.

wí di ʔ /wí·diʔ/ 'this'

wí di w /wí·diw/ 'these (pl.)'

há di ʔ /há·diʔ/ 'that, he, she'

wá di ŋ /wá·diŋ/ 'now'

4.26. Allomorphy of stems. There are a moderate number of stems showing allomorphy. Sections 4.27-4.30 describe the conditioning of stem allomorphs by prefixes; sections 4.31-4.33, conditioning by infixes; and sections 4.34-4.39, conditioning by suffixes. There is no great preponderance of any one of these types of conditioning, in terms of the number of stems affected.

4.27. Stems with allomorphy conditioned by prefixes. There are a few stems having allomorphs conditioned by prefixes occurring on them. Section 4.28 describes the conditioning of stem allomorphs by <R-> Plural. Although some of the allomorphs of this affix are infixes, they are all included here for convenience, and also because the difference between prefixed and infixed allomorphs in this case has no bearing on the patterns of alternation of stem shapes. Sections 4.28 and 4.29 each describe the allomorphy of one stem; these stems are quite dissimilar in patterns of alternation and of conditioning.

4.28. Stems with allomorphy conditioned by <R-> Plural. There are a few stems with allomorphs conditioned by prefixed or infixed allomorphs of <R-> Plural. The relationships between the pairs of allomorphs are of four types: loss of medial ⟦y⟧ with consequent vowel contraction or lengthening (4.28.1), loss of initial consonant (4.28.2), change of vowel quality (4.28.3), and shortening of a vowel (4.28.4). The same conventions are followed in this section in the citing of plural forms as in section 4.7.

4.28.1. Vowel-initial stems with medial ⟦y⟧. Stems of the shapes V́(·)yVC and V́yC have an allomorph of the shape V́·C when taking the Plural prefix. The correlations between the vowel qualities of the allomorph pairs is as follows. Stems of the shape áyaC have allomorphs of the shape á·C. Stems of the shapes áyuC and áyC have allomorphs that are indeterminately either á·C or ó·C, and similarly, stems of the shape í(·)yeC have allomorphs that are indeterminately either í·C or é·C. This indeterminacy of vowel quality derives from the fact that the prefix allomorphs would be expected to have vowel-colorings, respectively ⟦^{u}⟧ and ⟦^{e}⟧ for the two indeterminate types (cf. 4.7d[2] and [3]). For example, the plural form of íyeb Vt 'to copulate', /yé·b/, could be morphophonemically either ⟦y^{e} í·b⟧ or ⟦y^{e} é·b⟧, not to mention ⟦y é·b⟧. These allomorphs are arbitrarily considered in this grammar to contain the vowels ⟦á·⟧ and ⟦í·⟧.

One exception to this pattern was encountered in a younger speaker. For the plural form of áyuk Nr 'parent-

in-law', LE gave
y^{u} áyuk /yóyok/,
whereas RJ and JW gave the expected
y^{u} á·k /yó·k/.

The trisyllabic stem í·yalu? Nr 'relative' does not show allomorphy.

Consonant-initial stems with medial [y] do not show parallel allomorphy. Examples of these are:
máyab N 'foot': m[ay]áyab /mayáyab/
síyuk N 'sage hen': s[iy^{u}]íyuk /siyúyuk/
máyŋa N 'fawn': m[ay]áyŋa /mayáyŋa/.

The following sections show all stems of this type, categorized according to the shape of the non-plural allomorph.

a. Stems of the shape áyaC.

áyam Vd 'to hit with an instrument': y á·m /yá·m/
áyaw Vd 'black': y á·w /yá·w/
áyab Vd 'through a narrow opening': y á·b /yá·b/

b. Stems of the shape áyuC.

áyuk Nr 'parent-in-law': y^{u} á·k /yó·k/ (RJ, JW),
y^{u} áyuk /yóyok/ (LE)
áyud Vd 'big (of flames) (?)': y^{u} áyud /yóyod/

c. Stem of the shape áyC.

áys Vd 'to miss': y^{u} á·s /yó·s/

d. Stems of the shape í(·)yeC.

íyeb Vt 'to copulate': y^{e} í·b /yé·b/
í·yeɬ 'big': y^{e} í·l /yé·l/

4.28.2. <hé·zi> 'little, small'. The adjectival stem <hé·zi> 'little, small' has the allomorph é·zi when taking the Plural prefix, and the allomorph hé·zi elsewhere. The allomorph of the Plural prefix occurring with this stem is also irregular (4.7d[8]).

zi é·zi /ziyé·zi/.

4.28.3. <bá?lew> 'Paiute'. The noun <bá?lew> 'Paiute' has the allomorph bé?lew in the plural and the allomorph bá?lew elsewhere. It is possible to avoid this allomorphy by setting up a special vowel-coloring morphophoneme. The problem was discussed and exemplified in 4.7b.

4.28.4. <ŋá·m> 'son'. The possessed noun <ŋá·m> 'son' has, for some informants, an allomorph with a short vowel in the plural. Thus for these informants the plural form is

ŋ[am^{i}]ám /ŋamím/.

Other informants retain the long vowel in the plural, so that the form for them is

ŋ[am^{i}]á·m /ŋamí·m/.

If the possessed noun ŋámu? 'daughter' is considered to be derived from this stem, it would give another instance of an allomorph with a short vowel, for all informants; see 13.13.

4.29. <í·ḱɨl> 'here and there'. The dependent verb stem <í·ḱɨl> 'here and there, back and forth, in various directions, from time to time, for awhile' has the allomorph í·ḱɨl in most environments, but it has an allomorph which resists coloring by the morphophoneme []$^{\varepsilon}$[], when following $^{\varepsilon}$- Auxiliary Verb Formative, with intervening []"[]. The allomorph in this case should probably be said to be ^{i}í·ḱɨl, so as to keep the two allomorphs as similar as possible, but it could equally well be ^{i}íḱɨl or ^{i}iḱɨl. For a discussion of the use of []^{i}[] to prevent vowel-coloring of [i], see 3.8.5c. Which of these allomorphs occurs after the other Auxiliary Verb Formative, *g*-, cannot be ascertained, since the result would be the same in any case. This amounts to saying that one cannot determine whether the conditioning factor for the vowel-coloring-resisting allomorph is the prefix $^{\varepsilon}$- or the tactic juncture []"[].

There is one form occurring in a text given by JW which seems to show an allomorph ^{i}íḱɨl occurring after -$^{\varepsilon}$ Instrumental Prefix Formative (see section c). This differs from the usage of RJ, who shows the allomorph í·ḱɨl in such cases; there is no evidence on the usage of the other informants. The allomorph used here by JW, insofar as this recording is correct, differs from that of RJ both in resisting the ε-coloring and in having a short vowel. This form points to setting up the previously discussed allomorph as ^{i}íḱɨl, rather than ^{i}í·ḱɨl, at least for this speaker, so as to keep the number of allomorphs down to two, rather than three.

a. Examples of í·ḱɨl.

g^{e} wg í·ḱɨl i /gewgí·ḱɨli/ 'he's stirring it'

g^{e} w í·ḱɨl i /gewí·ḱɨli/ 'he's searching for it'

ø dul$^{\vee}$ í·ḱɨl i /dulé·ḱɨli/ 'she's cooking'

ø ʔuš^{e} í·ḱɨl i /ʔušé·ḱɨli/ 'he's hunting for rabbits'

di b^{e} m^{u} í·ḱɨl i /dibemú·ḱuli/ 'I'm chewing'

ø w métuʔ $^{\varepsilon}$ í·ḱɨl i /wemétuʔé·ḱɨli/ 'cold air is circulating' (RJ)

ø ʔud^{e} ámšum $^{\varepsilon}$ í·ḱɨl i /ʔudámšumé·ḱɨli/ 'it's dusky (from clouds)' (RJ)

ø kM^{u} áhad g " í·ḱɨl i /Móhatgiḱɨli/ 'he ran back and forth across'

ʔ émlu g " í·ḱɨl i /ʔémlugiḱɨli/ 'he ate for awhile'

b. Examples of ^{i}í·ḱɨl (or ^{i}íḱɨl) after $^{\varepsilon}$- Auxiliary Verb Formative.

ø kM^{u} í·gel $^{\varepsilon}$ " ^{i}í·ḱɨl i /Mú·geliḱɨli/ 'he ran around it for awhile'

ø y^{e}ŋ áhad $^{\varepsilon}$ " ^{i}í·ḱɨl i /yaŋáhadiḱɨli/ 'they ran back and forth across'

ø dul$^{\vee}$ ákd $^{\varepsilon}$ " ^{i}í·ḱɨl i /dulá·kdiḱɨli/ 'he's making slow movements with his hand'

g^{e} ḱil^{e} íšl $^{\varepsilon}$ " ^{i}í·ḱɨl /geḱiléšliḱɨl/ 'face them!'

di m d^{e} w^{e} íwš g " áyab $^{\varepsilon}$ " ^{i}í·ḱɨl i /dimdewéwɨšgayabiḱɨli/ 'I'm digging around here and there'

ø tug l^{e} ílm $^{\varepsilon}$ " y á·b $^{\varepsilon}$ " ^{i}í·ḱɨl giš aʔ /tuklélɨmyabiḱɨlgiša?/ 'they were looking underneath all over'

c. Example of ^{i}íḱɨl after -^{ɛ} Instrumental Prefix Formative.

Ø g[uḱ]úḱu ^{ɛ} ^{i}íḱɨl a? /gukúḱuyíḱɨla?/ 'they were standing here and there' (JW)

4.30. <átg> 'to kill, be killed, be hurt, harmed'. The verb stem <átg> 'to kill, be killed, be hurt, harmed', which is both a neutral verb stem (Vn) and a dependent verb stem (Vd), has the allomorph átg when preceded by either of the neutral verb prefixes m- Intransitive or y- Transitive, and the allomorph átig when preceded by an instrumental prefix, either intransitive (Pi) or transitive (Pt). This difference in form thus correlates with a major difference in distribution, but is nonetheless conditioned.

a. Examples of átg.

/dimátgi/ 'I'm killing'

/pélew diyátgi/ 'I'm killing a jackrabbit'

/gayátɨk/ 'kill it!'

b. Examples of átig.

/Mátigi/ 'he was killed by falling, in a crash'

/dótigi/ 'he got burned'

/gawgátik/ 'club it to death!, kick it to death!'

4.31. Stems with allomorphy conditioned by infixes. A few verb stems have allomorphs conditioned by infixes occurring in them. Section 4.32 describes five stems that shorten their stressed vowels to make room for infixes. Section 4.33 describes two stems having allomorphs that avoid three-consonant clusters in the presence of infixes.

4.32. Shortening of vowels. Five verb stems which have long initial vowels in most environments have allomorphs with those vowels shortened when taking affixes which are partly infixed after these vowels. The first stem shown below has this allomorph in the presence of ʔiʔg^{e}-..-l- Pi '(pl.) to run'; the other four stems show their shortened allomorphs in the presence of <ʔum-> ^{e}-..-m- Intransitivizing (22.5). In the case of the three stems wherein the stressed vowel is followed by a voiced stop, we could say that this vowel is short on the morphophonemic level and is lengthened by a regular morphophonemic rule (3.17) when the infix (a voiced resonant) does not intervene between the vowel and the stop. This would not work, however, in the case of the two stems wherein the vowel is followed by a glottalized stop, as there is no parallel morphophonemic rule applying to such an environment. There are, in fact, two other stems which take the Intransitivizing affix <ʔum-> ^{e}-..-m- and which show a short vowel both with and without the infix, namely ípel Vt 'to dig a hole' and íteg Vt 'to gut'. One can not say that the shortening is due to the presence of the shortener morphophoneme [~], as the affixes in question already

contain the vowel-coloring morphophoneme ⟦^{e}⟧. One could of course introduce a new morphophoneme for these cases, which would combine the shortening properties of ⟦˜⟧ and the vowel-coloring properties of ⟦^{e}⟧.

4.32.1. <í·bi?> í·bi? ~ íbi? Vi,Vd 'to have come'.

a. Examples of í·bi?.

/?í·bi?i/ 'he has come'

/ší·bi?i/ 'they have come flying'

/Mú·bi?i/ 'he has come running'

b. Example of íbi?.

Ø ?i?g^{e} í[l]bi? i /?i?gélbi?i/ 'they have come running'

4.32.2. <í·deg> í·deg ~ ídeg Vt 'to dig up'.

a. Example of í·deg.

/ḱí·degi/ 'he's digging them up'

b. Example of ídeg.

? ^{e} í[m]deg i /?émdegi/ 'he's digging up'

4.32.3. <í·ge?> í·ge? ~ íge? Vt 'to grind'.

a. Example of í·ge?.

/ḱí·ge?i/ 'she's grinding it'

b. Example of íge?.

? ^{e} í[m]ge? i /?émge?i/ 'she's grinding'

4.32.4. <á·ḱɨd> á·ḱɨd ~ áḱɨd Vt 'to scoop up food'.

a. Example of á·ḱɨd.

/ḱá·ḱɨdi/ 'he's scooping up the food'

b. Example of áḱɨd.

? ^{e} á[m]ḱɨd i /?ámḱɨdi/ 'he's scooping up food'

4.32.5. <á·c̓u?> á·c̓u? ~ ác̓u? Vt 'to pull out (hair, feathers)'.

a. Example of á·c̓u?.

/k̓á·c̓·?i/ 'he's pulling them out'

b. Example of ác̓u?.

? ^{e} á[m]c̓u? i /?ámc̓u?i/ 'he's pulling up (roots, weeds)'

4.33. Allomorphs with []ɨ[]. There are two verb stems that have allomorphs containing posttonic []ɨ[] in the presence of infixes. These allomorphs avoid potential three-consonant clusters and also avoid the insertion of /ɨ/ in a different position by a morphophonemic rule (3.13).

4.33.1. <ápd> 'to peel, shell'. The transitive verb stem <ápd> 'to peel, shell' has the allomorph ápɨd when taking the Intransitivizing affix <?um-> ^{e}-..-m- (22.5), and the allomorph ápd elsewhere. It is necessary to recognize the allomorph ápɨd because, while the morphophonemic rule for the insertion of /ɨ/ (3.13) would produce the correct preconsonantal allomorph /ámpɨt/, it would produce an incorrect prevocalic allomorph */ámɨpd/ from the morphophonemic form *[]^{e} á[m]pd[]. This stem is the only monosyllabic stem ending in a consonant cluster that has been found taking this affix.

a. Examples of ápd.

k̓ ápd i /k̓ápdi/ 'he's peeling them, shelling them'

g ápd /gápɨt/ 'peel them!, shell them!'

b. Examples of ápɨd.

? ^{e} á[m]pɨd i /?ámpɨdi/ 'he's peeling, shelling'

g^{e} ^{e} á[m]pɨd /gámpɨt/ 'peel!, shell!'

4.33.2. <í?iš> Empty Stem. The dependent verb stem <í?iš> Empty Stem has the allomorph í?ɨš when taking the partly infixed instrumental prefix ?i?g^{e}-..-l- Pi '(pl.) to run', and the allomorph í?iš elsewhere.

a. Examples of í?iš.

/ší?ši/ 'they're flying'

/gešu?mí?iš/ 'throw!'

b. Example of í?ɨš.

ø ?i?g^{e} í?[l]ɨš i /?i?gé?lɨši/ 'they're running' (RJ)

4.34. Allomorphy of stems conditioned by suffixes. The stems that have allomorphs conditioned by suffixes that occur on them are four quantitative stems (4.35), several verb stems that contract with directional suffixes (4.36 and 4.37), the noun <ʔawahót> 'bullhead' when taking the diminutive suffix (4.38), and the auxiliary verb <yéwi> 'to stop', conditioned by a following Negative suffix (4.37).

4.35. Allomorphs of quantitative stems. Three quantitative stems have allomorphs conditioned by the inflectional suffixes that they take (18).

a. <láka> láka ~ lékɨ Q 'one'.

láka.ʔ 'one (thing)'

láka.ŋ 'just one'

lékɨ.liŋ 'one person' (segmentation unsure)

b. <hésge> hésge ~ hésgil Q 'two'.

hésge.ʔ 'two (things)'

hésge.ŋ 'just two'

hésgil.ši 'two persons'

c. <hélme> hélme ~ hélmi Q 'three'.

hélme.ʔ 'three (things)'

hélme.ŋ 'just three'

hélmi.w 'three persons'

4.36. Four verb stems which, in most environments, end in []?[] preceded by []i[] or []e[] have allomorphs without the []?[] when followed by either of the two directional suffixes <-ug> -ug ~ -wg 'hither' and <-uwe?> -uwe? ~ -we? ~ -uw 'thither'. One of the stems shows in addition a replacement by []e[] of the []i[] preceding the []?[] when in this environment (see b). These suffixes, in turn, have the non-syllabic allomorphs beginning in []w[] when following these stems (4.20). Thus forms containing these stems and suffixes have one less syllable than they would have without this allomorphy.

Although the allomorphy is always as described in natural speech, some isolated forms have been recorded from BH and RJ (mostly from the former) in which the glottal stop is retained before the allomorph -ug of the first-listed directional suffix. These forms mostly contain the stem <íti?> íti? ~ íti (see c). They never contain the stem which shows vowel replacement. Neither do they contain the other directional suffix, <-uwe?> -uwe? ~ -we? ~ -uw 'hence', probably because there is a different number of phonemes in its syllabic and non-syllabic allomorphs.

Contrasting verb stems which end in these phonemes, occur before directional suffixes, and show no allomorphy, are few. Following them the directional suffixes have the syllabic allomorphs beginning in []u[]. An example is furnished by the stem áhi? Vd 'motion in or into growth, bushes, thicket':

Ø kM^{u} áhi? uwe? i /Móhi?uwe?i/ 'he ran away into the thicket'.

Three of the verb stems are dependent verb stems (Vd), and the fourth is an intransitive verb stem (Vi).

a. <íli?> íli? ~ íli Vd 'motion, direction, or position vertically upwards'.

Ø p̓ íli we? i /p̓íliwe?i/ 'he's climbing up and away'

Ø tug íli we? a? /tugíliwa?a?/ 'he's looking up'

b. <ími?> ími? ~ íme ~ ím Vd 'motion or direction out, outwards'. The vowel alternation displayed by this stem has the effect of keeping it distinct from the stem ími Vd 'motion or direction to the east, from the west', which occurs only followed by these directional suffixes.

Ø $m^{e}kg^{e}$ ími? i /mekgémi?i/ 'it's being blown out'

Ø $m^{e}kg^{e}$ íme we? i /mekgémewe?i/ 'it's being blown out and away'

c. <íti?> íti? ~ íti Vd 'motion, direction, or position down, downwards'.

g^{e} šu?m íti? /gešu?míti?/ 'drop it!, throw it down!'

g^{e} šu?m íti we? /gešu?mítiwe?/ 'throw it down and away!'

d. <íye?> íye? ~ íye Vi 'to walk, go'.

? íye? i /?íye?i/ 'he's walking'

g^{e} íye wg /géyewk/ 'come here!'

g^{e} íye we? /géyewe?/ 'go away!'

4.37. Stems losing final vowel. The dependent verb stems listed show allomorphs lacking a final syllable when occurring before the Directional suffix -am 'away to' and certain auxiliary verbs derived with $^{\varepsilon}$- Auxiliary Verb Formative.

a. <ímiʔ> ímiʔ ~ íme ~ ím Vd 'out, outwards'

b. <íweʔ> íweʔ ~ íw Vd 'on or onto the ground'

c. <íwe> íwe ~ íw Vd 'in a certain direction'

4.38. <ʔawahót> 'bullhead'. The unrestricted noun stem <ʔawahót> 'bullhead' has the allomorph ʔawahótaw when before <-hu> -hu Diminutive (13.11) and the allomorph ʔawahót elsewhere. The form with this suffix is thus /ʔawahótawhu/. One could of course say alternatively that this suffix has the allomorph -awhu after this stem, but the preferred segmentation gives us a stem shape parallel to that of /maṫóšawhu/ 'whitefish' or /silá·ṫawhu/ 'small tiger lily'.

4.39. <yéwi> 'to stop'. The auxiliary verb <yéwi> 'to stop' has the allomorph ʔíwe when immediately followed by -é·s Negative, and the allomorph yéwi elsewhere. This stem plus the Negative suffix has the meaning 'to continue, keep on'.

a. Examples of yéwi.

/háʔašyéwiyi/ 'it's stopped raining'

/tuʔméʔepyéwiyi/ 'they stopped playing music'

b. Examples of ʔíwe.

/gewí·ḳ̇ił̇ʔíweyé·si/ 'he continues looking for him'

/yeŋíʔišʔíweyé·sgiša?/ 'they continue running along'

5. Introduction to morphotactics. The remainder of this grammar describes the morphotactics, that is, the combination of morphemes into successively more inclusive constructions to form complete utterances. The description is organized in terms of constructions, which are groupings of two or three morphemes, called the constituents, in a certain order to give a form of a certain distribution class, which is called the constitute of the construction. Certain constructions require the inclusion of one of two tactic junctures between two other constituents. These tactic junctures are the word juncture <+> []+[] and the stress weakening juncture <"> []"[]. Constructions containing <+> are said to be syntactic constructions; other constructions are morphological constructions. Thus morphological constructions contain either the stress weakening juncture or no juncture. Forms entering into syntactic constructions are called words.

Certain of the constitutes that consist of an integral number of words may be used as complete utterances by the addition of one of the two intonational morphemes, <.> []. and <,> [],. Constitutes of this type are called sentence types. The major sentence type consists of a finite verb, including its adverbial modifiers; see section 11 for an outline of the types of finite verbs. Words and phrases of other classes may also take intonational morphemes to form complete utterances; these minor sentence types are not further described in this grammar, except for the note on interjections in section 6.9. The choice between the two intonational morphemes seems to

have little or no relationship to the makeup of the sentence type. In general, <.> signals the completion of a coherent section of the discourse, while <,> signals an impending continuation with a closely related section of the discourse. The intonational morphemes are not shown in the examples of this grammar, except that, inconsistently enough, non-final intonations in examples containing more than one sentence are shown.

The examples in the remaining sections of this grammar are shown almost always on the morphophonemic level, with the morphemes separated by spaces. It would not be possible to show this segmentation into morphemes in all cases if the examples were cited on the phonemic level, because of the occurrence of link phonemes (e.g., 3.8) and empty morphs (e.g., 3.3). Examples are usually not shown on the morphemic level, so that whether or not a morpheme has other allomorphs in addition to the one occurring in a given example is not indicated unless the fact seems specifically relevant to the point under discussion. In many cases, especially when an example contains an integral number of words, a phonemic transcription is also given, surrounded by slashes. In the phonemic transcriptions spaces are left between words for legibility; the spaces thus occur at the points where [+] occurs on the morphophonemic level. If a colon comes after a morphophonemic transcription and before a phonemic transcription, this is a signal that the latter shows a wider context for the example than does the former. The "construction point" . is used in transcriptions

on the morphophonemic level to indicate the morpheme boundary currently under consideration; this should not be confused with the intonational morphophoneme [.]. These can easily be distinguished by the fact that the latter will always be set off by spaces, while the former will not. The square brackets [...] are used in morphophonemic transcriptions to enclose infixes.

In the layout of examples in the following sections, an indentation of five spaces indicates the layer of formation under consideration, while an indentation of two spaces indicates a continuation of the same example.

The organization of the remaining sections is as follows. Section 6 describes the properties of the main distribution classes of stems that have been recognized. Section 7 describes the syntactic expansion of pronominal prefixes, as the constitutes of these constructions enter into the inflection of several stem classes. Sections 8-10 describe the inflection of three types of stems: nouns, referential adverbs, and the pronoun stem. Section 11 gives a general picture of verb inflection and derivation for the orientation of the reader, after which section 12 describes the inflection of verb stems to form verb themes. Sections 13 and 14 describe the derivation of nouns, from other nouns and from verb stems, while section 15 describes the occasional use of verb themes as nouns. Section 16 has to do with the derivation of adverbs from several stem classes by means of postpositions. Section 17 describes the derivation of demonstrative quantitative stems,

after which section 18 describes the inflection of quantitative stems in general. The derivation of prefixes is treated in section 19, and the derivation of independent verb stems by means of prefixes from the two non-independent classes of dependent verb stems and neutral verb stems is treated in sections 20 and 21. Section 22 describes the derivation of independent verb stems by means of prefixes from other independent verb stems, and section 23, the derivation of verb stems from nouns. Sections 24-26 have to do with the auxiliary verbs, treating respectively the primary, derived, and pseudo-derived members of this class. Section 27 describes the derivation of independent verb stems from other independent verb stems by means of the stem formative suffixes. Section 28 has to do with the prefinal suffixes that may be added to verb themes, while section 29 treats of the final suffixes which, when added to verb themes, make them into finite verbs. The Reference Switching suffix, which is added to finite verbs, is described in section 30. Section 31 has to do with the derivation of nouns and adverbs from finite verbs. Finally, section 32 treats of the postclitics which may be added to certain classes of words.

6. Classes of stems. This section lists the stem classes that have been recognized and outlines the major distribution characteristics that distinguish them.

6.1. Noun stems. There are three classes of primary noun stems, unrestricted noun stems (N), restricted noun stems (Nr), and possessed nouns (Np). No morpheme belongs to more than one of these classes. These classes contain derived members in addition to the primary members, but the patterns of derivation are very restricted in the case of restricted noun stems and possessed nouns. Besides these there is a class of derived noun stems, attributive-possessed nouns (Nap), formed from possessed nouns by means of the Attributive-Agentive suffix <-i?> (13.9). All classes of noun stems may be inflected to form syntactic nouns; only unrestricted noun stems may be used as syntactic nouns without inflectional affixes.

6.1.1. Unrestricted noun stems. Unrestricted noun stems are the only class of noun stems that may be used syntactically without inflectional prefixes, when it is not desired to express a possessor. All members of this class begin with a consonant in at least some allomorphs, and in most cases in all allomorphs. This is a large and open class expressing a variety of concepts similar in general to those expressed by nouns in English. It is the class into which almost all loanwords from other languages are put.

6.1.2. Restricted noun stems. Restricted noun stems may not occur without an inflectional prefix. When lack of a

possessor is to be expressed, these nouns take the Nominal prefix <d-> (8.8). All members of this class begin with a vowel. This is a class with some thirty-odd members, most of which express body parts. A few members of the class express plant parts, common artifacts, or affinal kinship terms.

6.1.3. Possessed nouns. Possessed nouns do not occur without a prefix expressing a possessor. They differ in their inflection from unrestricted noun stems in that for the expression of a third person possessor by a preceding word, an expanded form of <ṫ-> d^{e}- Third Person Nominal, rather than of <ʔ-> Third Person, is used All members of this class begin with a consonant. This is a class with some thirty-odd members, all of which express kinship terms, mostly consanguineal rather than affinal.

6.1.4. Attributive-possessed nouns. Attributive-possessed nouns differ in their inflection from possessed nouns in that for the expression of a first or second person possessor the prefixes used are those which, when found on verbs, express the object rather than the subject. In the third person the inflection of these nouns is like that of possessed nouns, and like possessed nouns, these nouns do not occur without a prefix expressing a possessor. All members of this class begin with a consonant. This is a class of ten members, expressing reciprocal kinship terms of descending generations.

6.2. Verb stems. Six main classes of verb stems have been recognized. These are intransitive verb stems (Vi), transitive verb stems (Vt), double-transitive verb stems (Vtt), dependent verb stems (Vd), neutral verb stems (Vn), and auxiliary verb stems (Va). These fall into three groups. The first three classes, which might be called independent verb stems, may be directly inflected with pronominal prefixes to form verb themes. The dependent and neutral verb stems may not be directly inflected, but take certain prefixes to derive intransitive and transitive verb stems from them. The auxiliary verb stems act as satellites to preceding independent verb stems. The following patterns of multiple class membership of certain stems have been observed: intransitive verb stem and unrestricted or restricted noun stem; dependent verb stem and intransitive verb stem; neutral verb stem and intransitive verb stem (somewhat dubious); dependent verb stem and neutral verb stem; auxiliary verb stem and intransitive or transitive verb stem. There is no morpheme which is known to belong to more than one of the three classes of independent verb stems that are distinguished by different degrees of transitivity, but there are a number of derivational affixes available to bring about such a change of class. Thus there are many derived stems belonging to these three independent stem classes. There are no derived dependent or neutral verb stems, and the patterns of derivation of auxiliary verbs are very restricted.

6.2.1. Intransitive verb stems. Intransitive verb stems are inflected with pronominal prefixes to form verb themes. These prefixes express the subject of the verb. For a third person subject the Third Person prefix <ʔ-> is used, whether or not expanded with a preceding word.

6.2.2. Transitive verb stems. Transitive verb stems are also inflected with pronominal prefixes to form verb themes. These prefixes express the subject and the object of the verb. For a third person subject with a third person object the Third Person Objective prefix <k̓-> is used, but when the object is to be expressed by a preceding word, a syntactically expanded form of the Third Person prefix <ʔ-> is used. When a third person object is not expressed by a preceding word, transitive verbs differ in their inflection from intransitive verbs only in the third person; the inflectional prefixes are the same in the first and second persons and in the imperative. Thus, in order to determine that a verb stem is transitive rather than intransitive, it must be elicited either with an expressed object or with a first or second person object or with a third person subject.

6.2.3. Double-transitive verb stems. Double-transitive verb stems take the same pattern of pronominal prefixes as do transitive verb stems. They differ from the latter class only in that they may take a second, indirect, object, expressed by a preceding word, in addition to the one direct object that transitive verbs are allowed to take. Thus in many of their occurrences these verb stems will be grammatical-

ly indistinguishable from transitive verb stems.

6.2.4. Dependent verb stems. Dependent verb stems are not inflected with pronominal prefixes, but instead take members of two classes of instrumental prefixes, intransitive and transitive, to form respectively intransitive and transitive verb stems. Very rarely, they may also take the Plural affix <R-> to form intransitive verb stems. Most of the members of this class begin with one of the two vowels ⟦a⟧ or ⟦i⟧; a very few begin with consonants. Most of these stems express either position or direction in space, or physical attributes such as size, color, and shape. See section 20 for a treatment of the patterns of derivation from these stems.

6.2.5. Neutral verb stems. Neutral verb stems are so called because they are neutral to the intransitive/transitive dichotomy. Like dependent verb stems, they are not inflected with pronominal prefixes. They take one of two prefixes that make them into either intransitive or transitive verb stems, but do not otherwise affect their meanings. All members of this class begin with a vowel. These stems all express actions that are performed by persons, mostly having to do with food gathering and preparation and other household chores. See section 21 for a treatment of these patterns of derivation.

6.2.6. Auxiliary verb stems. Auxiliary verb stems occur as satellites to preceding independent verb stems. They are treated as stems, rather than suffixes, primarily because of the multiple stem-class membership shown by many of them.

6.3. Pronoun stem. The pronoun stem is inflected by a series of pronominal prefixes showing three persons, as well as the subjective/objective opposition in the third person; a pair of suffixes expressing dual and plural number; and a pair of suffixes expressing the category of inclusiveness in the dual and plural numbers, within the first person. See section 10 for these forms.

6.4. Adverbs. Two morphologically defined subclasses of adverbs have been recognized, unrestricted adverbs and referential adverbs.

6.4.1. Unrestricted adverbs. The overwhelming majority of adverbs are of this class. The class contains derived as well as primary members. These adverbs may not be inflected. They occur syntactically as modifiers of finite verb forms; some of them may also modify nouns. Several syntactically defined subtypes can be distinguished.

6.4.2. Referential adverbs. This is a very small class of adverbs which is inflected for referent by means of pronominal prefixes. The inflected forms occur syntactically as modifiers of finite verb forms. The inflection of this class is described in section 9.

6.5. Quantitative stems. This is a small class of stems, expressing categories of number, that are inflected by suffixes for three gender-like classes. Syntactically they may act much like nouns and they may also modify nouns. The inflection of this class is described in section 18.

6.6. Demonstrative stems. This is a class of three stems opposed for degrees of referential nearness that add the Demonstrative Formative <-di> to form demonstrative quantitative stems, which then differ in no important morphological or syntactic characteristic from other quantitatives. Section 17 describes the formation of these stems.

6.7. Sentence Connective Theme. The Sentence Connective Theme ʔ- often occurs at the beginning of sentences, where it has anaphoric reference to the preceding sentence. It takes certain suffixes establishing syntactic linkages with this sentence. These suffixes are the prefinal suffixes -uŋil Defunctive and -ud Sequential, and rarely -lul Distant Future; and the final suffixes -i Imperfect and <-aʔ> Aorist. These final suffixes are often followed by -š Reference Switching (30) and the former also by the nominalizing and adverbializing suffixes (31).

6.8. Anaphoric Theme. The Anaphoric Theme <ʔ..ˊ> ʔ..ˊ ~ Ø..ˊ is used in instances when the speaker belatedly decides he should have added a certain suffix, usually of the stem formative or prefinal classes, to a verb. This theme has anaphoric reference to the verb and serves as a base to which the suffix may be attached.

6.9. Interjections. There occurs a class of interjections which may take intonational morphemes directly to form minor sentence types. Some of these are yéˑ 'yeah!'; kíˑ 'expression of disgust at dirtiness'; hɨdíˑ 'ouch! (said when one is burned from touching a hot object)', 'whew! (said

when one is hot)'; and hɨzɨ́· 'brrr! (said when one is cold)'.

7. Syntactic expansion of pronominal prefixes. The words that may precede a noun to express its possessor, a referential adverb to express its referent, or a verb to express its subject, direct object, or indirect object are all directly correlated with the prefix that appears on the noun, adverb, or verb. It thus clearly minimizes the number of constructions recognized to say that this preceding word is in immediate constituency with the prefix, rather than with the whole word to which the prefix is added. We thus have a series of syntactic constructions, the subject matter of this section, in which one or more words are combined with a following prefix to give what we may call a _syntactically expanded prefix_. These are syntactic constructions whose constitutes are bound forms that enter only into morphological constructions.

When a prefix is expanded by two or three words, these are thought of as being added on one by one to the left, in successive constructions. The terms _direct object_ and _indirect object_ are formal terms applied to the Wasno constructions, and are not to be confused with the respective parts of an English translation. A transitive verb may take only a direct object; a double-transitive verb may take either a direct object alone or both an indirect and a direct object. In the latter case the indirect object precedes the direct object; this is to say that the prefix is expanded first for the direct object and subsequently for the indirect object. The short term _object_ is often used for _direct object_ when

there is no possibility of an indirect object being present.

In order to avoid excessive repetition, the term third person nominal has been introduced in this section. This means a noun, demonstrative, quantitative, third person pronoun, or nominalized clause.

There are two restrictions that run throughout these constructions and have not been repeated in the separate sections. The first concerns the opposition between subjective and objective third person pronouns (10.1) and between subjective and objective nominalized clauses (31.1-2). Only the subjective members of these pairs may be used in constructions forming subjects of verbs or possessors of nouns, and only the objective members may be used in constructions forming direct or indirect objects of verbs. The second restriction is that a nominalized clause may only be the first in linear order of a series of words expanding a prefix.

There are two facts that make this approach somewhat less attractive than it otherwise would be. The first is that a word expanding a prefix may very occasionally follow the word containing the prefix, especially if the prefix already has one layer of expansion. Thus we find

/leyúsiwéšli dáŋal/ 'he's selling me a house'

beside the more normal

/dáŋal leyúsiwéšli/.

This does not seem to be a decisive obstacle, as we would have alternative constructions in any case. The second difficulty consists in the fact that an adverb may sometimes

intervene between a verbal prefix and a word constituting its syntactic expansion. Possibly this should be handled by recognizing additional prefix expansions involving adverbs.

7.1. <1^{e}-> First Person. The First Person prefix <1^{e}-> may be syntactically expanded by one or two words. A one-word expansion may consist either of any form of the First Person pronoun or of a third person nominal. The former expresses the possessor of a noun or the subject of an intransitive, transitive, or double-transitive verb. The latter expresses the object of a transitive or double-transitive verb. When this subjective prefix is preceded by the Second Person Objective prefix <?m->, the whole may still be expanded by a form of the First Person pronoun to express the subject. However, the expression of the object by the Second Person pronoun is considered to be an expansion of this objective prefix, not directly of the subjective prefix.

One two-word expansion of this prefix is by any form of the First Person pronoun and a third person nominal. These express respectively the subject and object of a transitive verb, presumably also of a double-transitive verb. Another two-word expansion is by two third person nominals. These express the indirect object and the direct object of a double-transitive verb. An indirect two-word expansion of this prefix may occur when it is preceded by the Second Person Objective prefix <?m-> which is expanded with the Second Person pronoun to express the object of a transitive or double-transitive verb, and the whole is then further expanded by any form of the First Person pronoun to express the subject.

An expansion of this prefix by three words, which may perhaps be grammatically allowable for affixation to double-transitive verbs, is not attested.

7.2. <m-> Second Person. The Second Person prefix <m-> may be syntactically expanded by one or two words. A one-word expansion may consist of either any form of the Second Person pronoun, any form of the First Person pronoun, or a third person nominal. The Second Person pronoun expresses the possessor of a noun or the subject of an intransitive, transitive, or double-transitive verb. The First Person pronoun or the third person nominal expresses the object of a transitive or double-transitive verb.

Two types of two-word expansion of this prefix are attested. One is by any form of the Second Person pronoun followed by a third person nominal or by any form of the First Person pronoun. These words express respectively the subject and object of a transitive verb, presumably also of a double-transitive verb. The other expansion is by two third person nominals. These express the indirect object and the direct object of a double-transitive verb.

An expansion of this prefix by three words, which might be expected to occur on double-transitive verbs, is not attested.

7.3. <?-> Third Person. The Third Person prefix <?-> may be expanded by one, two, or three words. When it is expanded by one third person nominal, this expresses either the possessor of an unrestricted or restricted noun

stem, the referent of a referential adverb, the subject of an intransitive verb, or the object of a transitive or double-transitive verb. This expanded prefix is not used, on the other hand, to express the possessor of a possessed or attributive-possessed noun, or the subject of a transitive or double-transitive verb. The Third Person prefix may also be expanded by a preceding form of either the First Person or Second Person pronoun, which expresses the object of a transitive or double-transitive verb or the referent of an adverb.

This prefix may also be expanded by two third person nominals. When affixed to a transitive verb, these nominals express respectively its subject and its object. When affixed to a double-transitive verb, the second nominal expresses the direct object, while the first nominal may express either the subject or the indirect object. Another possible two-word expansion of this prefix is by a third person nominal followed by any form of either the First Person or the Second Person pronoun. These forms are found on transitive and double-transitive verbs; here the first word expresses the subject and the pronoun expresses the object.

Finally, this prefix may be expanded by a series of three third-person nominals. This expanded prefix is affixed only to double-transitive verbs, where the three words express respectively the subject, the indirect object, and the direct object.

7.4. <kM-> Impersonal Reflexive. The Impersonal-Reflexive prefix <kM-> is expanded by a preceding noun to express the impersonal possessor of a noun. It does not occur on nouns without this expansion. In its function as reflexive or reciprocal object on transitive or double-transitive verbs, this prefix is always preceded by a subjective prefix, and is consequently never expanded syntactically.

7.5. g- Third Person Subjective. The Third Person Subjective prefix g-, which occurs on certain noun stems and on the Pronoun Stem, is not expanded syntactically. It refers semantically to the subject of its clause, but when this is expressed by a separate word, it occurs as an expansion of the prefix on the verb, rather than of this prefix.

7.6. <$\dot{t}$-> Third Person Nominal. The Third Person Nominal prefix <$\dot{t}$-> may be expanded by one third person nominal. This word may express the possessor of a possessed or attributive-possessed noun, but not of a restricted or unrestricted noun stem. The word may also express the direct object of a transitive or double-transitive verb which is nominalized by this prefix.

7.7. g^e- Imperative. The Imperative prefix g^e- may be expanded by one or two words. It may be expanded by any form of the Second Person pronoun to express the subject on an intransitive, transitive, or double-transitive verb. It may also be expanded by a third person nominal to express the object on a transitive or double-transitive verb.

This prefix may also be expanded by two successive words, any form of the Second Person pronoun followed by a third person nominal, to express respectively the subject and object of a transitive or double-transitive verb.

An expansion by three words, which may perhaps be grammatically possible for affixation to double-transitive verbs, is not attested.

7.8. <?l-> First Person Objective. The First Person Objective prefix <?l-> may be expanded by one or two words. When expanded by one third person nominal, this expresses either the subject of a transitive or double-transitive verb, or the indirect object of a double-transitive verb. Such a form may not be used to express the object of a transitive verb.

When this prefix is expanded by two successive third person nominals, it occurs only on double-transitive verbs. The words express respectively the subject and the indirect object of the verb.

7.9. <?m-> Second Person Objective. The Second Person Objective prefix <?m-> may be expanded syntactically by one or two words. When it is expanded by a third person nominal, this may express the subject of a transitive or double-transitive verb, as well as the indirect object of a double-transitive verb.

When this prefix is added to the First Person prefix <l^{e}->, it may be expanded by any form of the Second Person pronoun to express the object of a transitive or double-

transitive verb.

This prefix may also be expanded by two third person nominals. This form occurs on double-transitive verbs, where the nominals express respectively the subject and the indirect object of the verb.

7.10. <k'-> Third Person Objective. The Third Person Objective prefix <k'-> may be expanded by one or two words. When one third person nominal occurs as the expansion, this expresses either the subject of a transitive or double-transitive verb, or the indirect object of a double-transitive verb. This form may not be used, however, to express the object of a transitive verb.

When this prefix is expanded by two successive third person nominals, it occurs only on double-transitive verbs. The words express respectively the subject and the indirect object of the verb.

8. Inflection of nouns. Nouns are inflected by means of a set of prefixes expressing the possessor and, when the possessor is in the first person, by a pair of suffixes expressing the category of inclusiveness, subdivided into dual and plural. The categories expressed by prefixes or the lack thereof are possessed vs. unpossessed or absolutive; three persons; and, in the third person, expressed vs. unexpressed possessor, subjective vs. nonsubjective possessor, and personal vs. impersonal possession.

In general the semantic class of nouns that may take this possessive inflection is more restricted in Washo than it is in English. For example, if one has a pet cat, one may not refer to it as "my cat", since animal names cannot take this inflection. One uses the word for 'pet', gúšu?, and places the noun for the type of animal following and in apposition to it, saying something like "my pet, a cat". Similarly with plants, one does not say "my flower", but "my plant, a flower". For other nouns that are not normally possessed, such as the word for 'land', there is a derivational prefix available that makes them able to take the possessive prefixes; see 13.3.

8.1. First person possessor. The First Person prefix <l^e-> l^e- ~ di-, including its syntactic expansions by forms of the First Person pronoun, may be added to any of the three types of primary noun stems, unrestricted noun stems (N), restricted noun stems (Nr), and possessed nouns (Np), to express a first person possessor of the noun. These constructions form unrestricted nouns, which may not add any further prefixes.

Nouns bearing this prefix may be further inflected by the affixation of an Inclusive suffix (8.9). Expansion of this prefix by a First Person Dual or Plural Inclusive pronoun tends to encourage this further inflection, while expansion by a First Person Dual or Plural pronoun not bearing an Inclusive suffix tends to discourage it, and expansion by the First Person Singular pronoun prevents it.

The derived noun stem class of attributive-possessed nouns (Nap), however, adds the First Person Objective prefix <ʔl-> l^e- to express a first person possessor. This construction likewise forms unrestricted nouns.

8.1.1. Unrestricted noun stems (N).

a. Examples with primary stems and prefixes.

di.háŋa 'my mouth'

di.šúyeb /dišúyep/ 'my nose'

di.máyab /dimáyap/ 'my foot'

di.ḱéteb /diḱétep/ 'my bottle'

di.ʔmá·š 'my pine nut territory'

di.wí·gis 'my trousers'

di.tóšab /ditóšap/ 'my sack'

di.mó·ḱo 'my knee'

di.gúšu? 'my pet'

b. Constitutes of this construction containing members of N that are also intransitive verb stems (Vi) retain their structural ambiguity, since the resultant forms could equally well be constitutes of the construction whereby this prefix is added tc such verb stems (12.1a). Thus these forms can be used as verb themes and can take uniquely verbal inflectional suffixes.

di.wá·laš 'my bread; I to make bread'

di.ŋá?miŋ 'my child; I to give birth'

di.míḱu 'my faeces; I to defecate'

c. Examples with expanded prefixes.

l^{e} í + di.ṕá·ṕiš /lé· diṕá·ṕiš/ 'my lungs'

l^{e} í + di.mó·ḱo /lé· dimó·ḱo/ 'my knee'

l^{e} í + di.mókgo /lé· dimókgo/ 'my shoe'

l^{e} í ši + di.gúšu? /léši digúšu?/ 'our (du. exc.) pet'

l^{e} í ši + di.w ^{i}í·gi /léši diwí·gi/ 'our (du. exc.) eyes'

l^{e} í w + di.gúšu? /léw digúšu?/ 'our (pl. exc.) pet'

l^{e} í w + di.díṕeg /léw didíṕek/ 'our (pl. exc.) white chalk'

d. Examples with derived stems.

di.w ^{i}í·gi /diwí·gi/ 'my eye'

di.tul íćig /ditulíćik/ 'my finger'

di.t g í·bi? 'my forehead'

di.g[uš]úšu? /digušúšu?/ 'my pets'

di.tuli p ípi? 'my fingernails'

8.1.2. Restricted noun stems (Nr).

a. Examples with primary stems and prefixes.

l^{e}.íheb /léhep/ 'my head'

l^{e}.íyeg /léyek/ 'my tooth'

l^{e}.émle /lémle/ 'my heart'

l^{e}.á·du /lá·du/ 'my hand'

l^{e}.í·bi? /lé·bi?/ 'my bone'

l^{e}.ášg /lášɨk/ 'my back'

l^{e}.áln /lálɨn/ 'my arm'

l^{e}.áhl /láhɨl/ 'my leg'

l^{e}.áyuš /láyuš/ 'my hair'

l^{e}.á·ć̓a? /lá·ć̓a?/ 'my calf'

l^{e}.í·bu /lé·bu/ 'my nape, back of neck'

l^{e}.íyeš /léyeš/ 'my daughter-in-law'

l^{e}.áyuk /láyuk/ 'my parent-in-law'

b. As with the preceding construction, constitutes of this construction containing members of Nr that are also intransitive verb stems (Vi) retain their structural ambiguity.

l^{e}.áŋal /láŋal/ 'my house; I to build a house'

l^{e}.ášaŋ /lášaŋ/ 'my blood; I to bleed'

l^{e}.á·ša? /lá·ša?/ 'my urine; I to urinate'

l^{e}.émlu /lémlu/ 'my food; I to eat'

c. Examples with expanded prefixes.

l^{e} í + l^{e}.íheb /lé· léhep/ 'my head'

l^{e} í + l^{e}.íyeg /lé· léyek/ 'my tooth'

l^{e} í + l^{e}.á·du /lé· lá·du/ 'my hand'

l^{e} í ši + l^{e}.íheb /léši léhep/ 'our (du. exc.) head(s)'

l^{e} í ši + l^{e}.áyuš /léši láyuš/ 'our (du. exc.) hair'

l^{e} í w + l^{e}.íheb /léw léhep/ 'our (pl. exc.) head(s)'

l^{e} í w + l^{e}.áyuš /léw láyuš/ 'our (pl. exc.) hair'

l^{e} í w hu + l^{e}.áyuš /léwhu láyuš/ 'our (pl. inc.) hair'

l^{e} í w hu ḱeŋ + l^{e}.íheb /léwhuḱeŋ léhep/ 'just our (pl. inc.) heads'

8.1.3. Possessed nouns (Np). No examples with syntactic expansions of this prefix have been noted.

a. Examples with primary stems.

di.gó?y /digóy?/ 'my father'

di.ŋá·m 'my son'

di.?í·sa 'my older sister'

di.má·gu 'my sister's child'

di.bá·ba? 'my father's father'

di.?élel 'my mother's father'

di.gú?u 'my mother's mother'

di.bɨ́ḱɨ 'my grandmother's sister'

b. Examples with derived stems.

di.?[is^{a}]í·sa /di?isá·sa/ 'my older sisters'

di.m[ag^{u}]á·gu /dimagó·go/ 'my sister's children'

di.b[ɨḱ]ɨ́ḱɨ /dibɨ́ḱɨ́ḱɨ/ 'my grandmother's sisters'

di.m^{e} ?éwši? /dime?éwši?/ 'my husband's brother'

di.m^{e} šáša? /dimašáša?/ 'my brother's wife (man sp.)'

8.1.4. Attributive-possessed nouns (Nap). No examples with syntactically expanded prefixes have been noted.

a. Examples with stems without further derivation.

l^{e}.bá·[ˀ]ba? ˀ /labá·ḍa?/ 'my son's child (man sp.)'

l^{e}.ʔélel i? /leʔéleli?/ 'my daughter's child (man sp.)'

l^{e}.gúʔu i? /legúʔyi?/ 'my daughter's child (woman sp.)'

l^{e}.bɨ́kɨ́ i? /lebɨ́kɨ́yi?/ 'my sister's child (woman sp.)'

b. Examples with stems with further derivation.

l^{e}.b[aˀb]á·[ˀ]baˀ ˀ /labapá·paˀ/ 'my son's children (man sp.)'

l^{e}.ʔ[el]élel i? /leʔeléleli?/ 'my daughter's children (man sp.)'

l^{e}.g[uʔ]úʔu i? /leguʔúʔyi?/ 'my daughter's children (woman sp.)'

l^{e}.b[ɨ́k]ɨ́kɨ́ i? /lebɨ́kɨ́kɨ́yi?/ 'my sister's children (woman sp.)'

8.2. Second person possessor. The Second Person prefix <m-> m- ~ ʔum-, including its syntactic expansions, may be added to any of the three types of primary noun stems, unrestricted noun stems (N), restricted noun stems (Nr), and possessed nouns (Np), to express a second person possessor of the noun. These constructions form unrestricted nouns, which may not add any further prefixes.

The derived noun stem class of attributive-possessed nouns (Nap), however, adds the Second Person Objective prefix <ʔm-> m^{e}- to express a second person possessor. This construction likewise forms unrestricted nouns.

8.2.1. Unrestricted noun stems (N).

a. Examples with primary stems and prefixes.

ʔum.háŋa 'your mouth'

ʔum.šúyeb /ʔumšúyep/ 'your nose'

ʔum.mó·ḱo /ʔumó·ḱo/ 'your knee'

ʔum.ḱéteb /ʔumḱétep/ 'your bottle'

ʔum.ʔmá·š 'your pine nut territory'

ʔum.wí·gis /ʔuwí·gis/ 'your trousers'

ʔum.tóšab /ʔumtóšap/ 'your sack'

ʔum.šú /ʔumšú·/ 'your chest'

ʔum.ṕísew 'your ear'

ʔum.gúšuʔ 'your pet'

b. Constitutes of this construction containing members of N that are also intransitive verb stems (Vi) retain their structural ambiguity, since the resultant forms could equally well be constitutes of the construction wherein

this prefix is added to such verb stems (12.2a). Thus these forms can be used as verb themes and can take uniquely verbal inflectional suffixes.

?um.wá·laš /?uwá·laš/ 'your bread; you to make bread'

?um.ŋá?miŋ 'your child; you to give birth'

?um.míḱu /?umíḱu/ 'your faeces; you to defecate'

c. Examples with primary stems and expanded prefixes.

m í + ?um.ṕá·ṕiš /mí· ?umṕá·ṕiš/ 'your lungs'

m í + ?um.ć́igú·guš /mí· ?umć́igú·guš/ 'your stomach, belly'

m í ši + ?um.gúšu? 'your (du.) pet'

m í w + ?um,gúšu? 'your (pl.) pet'

d. Examples with derived stems.

?um.tul ípi? 'your fingernail, toenail'

?um.ć́ ímel 'your whiskers'

?um.w ^{i}í·gi /?uwí·gi/ 'your eye'

?um.tug á·ṕil 'your eyelashes'

?um.b^{e} ?l^{u} áhad /?umba?lóhat/ 'your bow, gun'

?um.ṕ[is^{e}]ísew /?umṕisésew/ 'your ears'

m.it dí?yu 'your stove'

8.2.2. Restricted noun stems (Nr).

a. Examples with primary stems and prefixes.

m.íheb /míhep/ 'your head'

m.íyeg /míyek/ 'your tooth'

m.émle 'your heart'

m.á·du 'your hand'

m.í·bi? 'your bone'

m.áĕg /máĕik/ 'your back'

m.áln̓ /málə̓n̓/ 'your arm'

m.áhl /máhə̓l/ 'your leg'

m.áyuš 'your hair'

m.íšew 'your gall bladder'

m.í·bu 'your nape, back of neck'

m.áyɛ? 'your intestines'

m.íyeš 'your daughter-in-law'

b. As with the preceding construction, constitutes of this construction containing members of Nr that are also intransitive verb stems (Vi) retain their structural ambiguity.

m.áŋal 'your house; you to build a house'

m.ášaŋ 'your blood; you to bleed'

m.á·ša? 'your urine; you to urinate'

m.émlu 'your food; you to eat'

c. Examples with primary stems and expanded prefixes.

m í + m.íheb /mí· míhep/ 'your head'

m í ši + m.íheb /míši míhep/ 'your (du.) head(s)'

m í w + m.íheb /míw míhep/ 'your (pl.) head(s)'

m í + m.áyuš /mí· máyuš/ 'your hair'

m í ši + m.áyuš 'your (du.) hair'

m í w + m.áyuš 'your (pl.) hair'

m í k̓eŋ + m.áln̓ /míḱeŋ málə̓n̓/ 'your own arm'

8.2.3. Possessed nouns (Np). No examples with syntactically expanded prefixes have been noted.

a. Examples with primary stems.

?um.gó?y /?umgóy?/ 'your father'

?um.ŋá·m 'your son'

ʔum.ʔí·sa 'your older sister'

ʔum.má·gu /ʔumá·gu/ 'your sister's child'

ʔum.bá·baʔ 'your father's father'

ʔum.ʔélel 'your mother's father'

ʔum.gúʔu 'your mother's mother'

ʔum.bɨ́k̓ɨ́ 'your grandmother's sister'

b. Examples with derived stems.

ʔum.ʔ[is^{a}]í·sa /ʔumʔisá·sa/ 'your older sisters'

ʔum.m[ag^{u}]á·gu /ʔumagó·go/ 'your sister's children'

ʔum.b[ɨ́k̓]ɨ́k̓ɨ́ /ʔumbɨ́k̓ɨ́k̓ɨ́/ 'your grandmother's sisters'

ʔum.m^{e} ʔéwši ʔ /ʔume ʔéwši ʔ/ 'your husband's brother'

ʔum.m^{e} šáša ʔ /ʔumašáša ʔ/ 'your brother's wife (sp. to man)'

8.2.4. Attributive-possessed nouns (Nap). No examples with syntactically expanded prefixes have been noted.

a. Examples with stems without further derivation.

m^{e}.bá·[ʾ]baʔ ʾ /mabá·p̓aʔ/ 'your son's child (sp. to man)'

m^{e}.ʔélel i ʔ /meʔéleli ʔ/ 'your daughter's child (sp. to man)'

m^{e}.gúʔu i ʔ /megúʔyi ʔ/ 'your daughter's child (sp. to woman)'

m^{e}.bɨ́k̓ɨ́ i ʔ /mebɨ́k̓ɨ́yi ʔ/ 'your sister's child (sp. to woman)'

b. Examples with stems with further derivation.

m^{e}.b[a·b]á·[ʾ]baʔ ʾ /mabap̓á·p̓aʔ/ 'your son's children (sp. to man)'

m^{e}.ʔ[el]élel i ʔ /meʔeléleli ʔ/ 'your daughter's children (sp. to man)'

m^{e}.g[u?]ú?u i? /megu?ú?yi?/ 'your daughter's children (sp. to woman)'

m^{e}.b[i̱ḱ]i̱ḱi̱ i? /mebi̱ḱi̱ḱi̱yi?/ 'your sister's children (sp. to woman)'

8.3. Third person nominal. The Third Person Nominal prefix <ṫ-> ṫ- ~ ḋ^{e}- may be added to any of the four types of noun stems, unrestricted noun stems (N), restricted noun stems (Nr), possessed nouns (Np), and attributive-possessed nouns (Nap), to express a third person possessor of the noun which is different from the subject of the sentence and which is not expressed by an immediately preceding noun, pronoun, demonstrative, or quantitative. The prefix in these constructions will be translatable indifferently as 'his', 'her', 'its', or 'their', insofar as the meaning of the stem allows. Only one of these meanings is given with each example. These constructions form unrestricted nouns, which may not add any further prefixes.

8.3.1. Unrestricted noun stems (N).

a. Examples with primary stems.

ḋ^{e}.háŋa /daháŋa/ 'his mouth'

ḋ^{e}.šúyeb /dešúyep/ 'his nose'

ḋ^{e}.mó·ḳo /damó·ḳo/ 'his knee'

ḋ^{e}.ḳéteb /deḳétep/ 'his bottle'

ḋ^{e}.ʔmá·š /daʔmá·š/ 'his pine nut territory'

ḋ^{e}.wí·gis /dewí·gis/ 'his trousers'

ḋ^{e}.tóšab /datóšap/ 'his sack'

b. Constitutes of this construction containing members of N that are also intransitive verb stems (Vi) are no longer ambiguous, since this prefix cannot be added to verb stems.

d^{e}.wá·laš /dawá·laš/ 'his bread'

d^{e}.ŋá?miŋ /daŋá?miŋ/ 'her child'

d^{e}.míḱu /demíḱu/ 'his faeces'

c. Examples with derived stems.

d^{e}.tul íćig /detulíćik/ 'his finger'

d^{e}.b^{e} d íli? /debedíli?/ 'his fire-drill, match'

d^{e}.t g í·bi? /detgí·bi?/ 'his forehead'

d^{e}.bu? áŋal i? /debu?áŋali?/ 'his son-in-law'

d^{e}.g[uš]úšu? /degušúšu?/ 'his pets'

d^{e}.tuli p ípi? /detulipípi?/ 'his fingernails, toenails'

8.3.2. Restricted noun stems (Nr).

a. Examples with primary stems.

ṫ.íheb /ṫíhep/ 'his head'

ṫ.íyeg /ṫíyek/ 'his tooth'

ṫ.émle 'his heart'

ṫ.á·du 'his hand'

ṫ.í·bi? 'his bone'

ṫ.ášg /ṫášɨk/ 'his back'

ṫ.áln /ṫálɨŋ/ 'his arm'

ṫ.áhl /ṫáhɨl/ 'his leg'

ṫ.á·daš 'its meat, flesh'

ṫ.ápɨl 'its tail'

ṫ.étg /ṫétɨk/ 'its seed'

b. As with the preceding construction, constitutes of this construction containing members of Nr that are also intransitive verb stems (Vi) lose this ambiguity.

ṫ.áŋal 'his house'

ṫ.ášaŋ 'his blood'

ṫ.á·ša? 'his urine'

ṫ.émlu 'his food'

ṫ.á·da? 'his bed'

8.3.3. Possessed nouns (Np). Since the nouns of this class are all kinship terms, this prefix in this construction will usually be translatable only as 'his', 'her', or 'their'; not 'its'.

a. Examples with primary stems.

d^{e}.gó?y /dagóy?/ 'his father'

d^{e}.ŋá·m /daŋá·m/ 'his son'

d^{e}.?í·sa /de?í·sa/ 'his older sister'

d^{e}.má·gu /damá·gu/ 'his sister's child'

d^{e}.bá·ba? /dabá·ba?/ 'his father's father'

d^{e}.?élel /de?élel/ 'his mother's father'

d^{e}.gú?u /degú?u/ 'his mother's mother'

d^{e}.bɬ̓kɬ /debɬ̓kɬ/ 'his grandmother's sister'

b. Examples with derived stems.

d^{e}.?[is^{a}]í·sa /de?isá·sa/ 'his older sisters'

d^{e}.m[ag^{u}]á·gu /damagó·go/ 'his sister's children'

d^{e}.b[ɬ̓k]ɬ́kɬ /debɬ̓kɬ́kɬ/ 'his grandmother's sisters'

d^{e}.m^{e} ?éwši? /deme?éwši?/ 'her husband's brother'

d^{e}.m^{e} šáša? /damašáša?/ 'his brother's wife'

8.3.4. Attributive-possessed nouns (Nap). Since the nouns of this class are all kinship terms possessed by single persons, this prefix in this construction will usually be translatable only as 'his' or 'her', not 'its' or 'their'.

a. Examples with stems without further derivation.

d^{e}.bá·[ˀ]baˀ ˀ /dabá·p̓aˀ/ 'his son's child'

d^{e}.ˀélel iˀ /deˀéleliˀ/ 'his daughter's child'

d^{e}.gúˀu iˀ /degúˀyiˀ/ 'her daughter's child'

d^{e}.bɬ́k̓ɬ iˀ /debɬ́k̓ɬyiˀ/ 'her sister's child'

b. Examples with stems with further derivation.

d^{e}.b[aˀb]á·[ˀ]baˀ ˀ /dabap̓á·p̓aˀ/ 'his son's children'

d^{e}.ˀ[el]élel iˀ /deˀeléleliˀ/ 'his daughter's children'

d^{e}.g[uˀ]úˀu iˀ /deguˀúˀyiˀ/ 'her daughter's children'

d^{e}.b[ɬk̓]ɬ́k̓ɬ iˀ /debɬk̓ɬ́k̓ɬyiˀ/ 'her sister's children'

8.4. Third person subjective possessor. The Third Person Subjective Possessor prefix g- may be added to restricted noun stems (Nr), as well as to unrestricted noun stems (N) which are derived by means of the Attributive-Instrumental prefix <?it-> it- from unrestricted noun stems (N), possessed nouns (Np), or attributive-possessed nouns (Nap), to express possession by the third person subject of the sentence, which may or may not be expressed by a noun, pronoun, demonstrative, or quantitative as an expansion of the prefix on the verb. The prefix in these constructions will hence be translatable indifferently as 'his (own)', 'her (own)', 'its (own)', or 'their (own)', insofar as the meaning of the stem allows. Only one of these meanings is given with each example below. This prefix may not be added directly to unrestricted noun stems, possessed nouns, or attributive-possessed nouns without the Attributive-Instrumental prefix. The Attributive-Instrumental prefix has the allomorph it- after this possessive prefix; since the members of Nr all begin with a vowel, this means that g- occurs only before vowels. These constructions form objective nouns, which may not add any further prefixes. Since the prefix indicates possession by the subject, the noun to which it is affixed may not itself be the subject. Such nouns occur much of the time with postpositions making them into adverbs.

8.4.1. Restricted noun stems (Nr).

a. Examples.

g.áhl /gáhɬ̣l/ 'his (own) leg'

g.ápš /gápɬ̣š/ 'his (own) body'

g.á·c̓a? 'his (own) calf'

g.áya? 'his (own) intestines'

g.áyuš 'his (own) head hair'

g.íyeg /gíyek/ 'his (own) tooth'

b. Homophony. Constitutes of this construction containing members of Nr that are also intransitive verb stems (Vi) are nc longer ambiguous, since this prefix cannot be added to verb stems. However, due to the patterns of vowel coloring, there is homophony on the phonemic level with g^{e}- Imperative when this prefix is added to stems beginning with [[á]]. Thus,

g áŋal /gáŋal/ 'his (own) house'

is homophonous on the phonemic level with

g^{e} áŋal /gáŋal/ 'build a house!',

and this phonemic form is therefore ambiguous.

8.4.2. Unrestricted noun stems derived with <?it-> it-.

a. Examples with stems derived from unrestricted noun stems (N).

g.it šú /gitšú·/ 'his (own) chest'

g.it gúšu? 'his (own) pet'

g.it mésu? 'its (own) antler, horn'

g.it kMá·dud /gitMá·dut/ 'his (own) tongue'

g.it kMá·š /gitMá·š/ 'his (own) face'

g.it ŋá?miŋ 'her (own) child'

b. Examples with stems derived from possessed nouns (Np).

g.it gó?y /gitgóy?/ 'his (own) father'

g.it ŋá·m 'his (own) son'

g.it ?í·sa 'his (own) older sister'

g.it má·gu 'his (own) sister's child'

g.it bá·ba? 'his (own) father's father'

g.it ?élel 'his (own) mother's father'

g.it gú?u 'his (own) mother's mother'

g.it bɨ́k̓ɨ 'his (own) grandmother's sister'

c. Examples with stems derived from attributive-possessed nouns (Nap).

g.it bá·[ʾ]ba? ʾ /gitbá·p̓a?/ 'his (own) son's child'

g.it ?élel i? 'his (own) daughter's child'

g.it gú?u i? /gitgú?yi?/ 'her (own) daughter's child'

g.it bɨ́k̓ɨ i? /gitbɨ́k̓ɨyi?/ 'her (own) sister's child'

8.5. Third person expressed possessor. To indicate a third person possessor which is expressed by an immediately preceding noun, third person pronoun, demonstrative, or quantitative, two different prefixes are used, depending on the class of the possessed noun. On unrestricted noun stems (N) and restricted noun stems (Nr) the Third Person prefix <?-> ?- ~ Ø- expanded by this third person nominal is used. On possessed nouns (Np) and attributive-possessed nouns the Third Person Nominal prefix <ṭ-> ṭ- ~ d^{e}- similarly expanded is used instead. These constructions form unrestricted nouns, which may not add any further prefixes.

8.5.1. Unrestricted noun stems (N).

a. Examples with primary stems.

ṭá·gɨm + Ø.ṗála? /ṭá·gɨm ṗála?/ 'pine nut seeds'

géwe + Ø.máyab /géwe máyap/ 'a coyote's paw'

ṗísew + Ø.šála? /ṗísew šála?/ 'ear wax'

w ^{i}í·gi + Ø.páċil /wí·gi páċil/ 'eye pus'

ċí·bel + Ø.mó·ḳo /ċí·bel mó·ḳo/ 'ankle': "louse's knee"

tó?o + Ø.mó·ḳo /tó?o mó·ḳo/ 'Adam's apple': "throat's knee"

séwɨd + Ø.yá·gɨl /séwɨt yá·gɨl/ 'gooseberry': "porcupine's testicle"

ṗó?lo + Ø.ṗísew /ṗó?lo ṗísew/ 'desert ramona': "rat's ear"

b. Constitutes of this construction containing members of N that are also intransitive verb stems (Vi) retain their structural ambiguity, since the resultant forms could equally well be constitutes of the construction wherein this prefix is added to such verb stems (12.2d). Thus these

forms can be used as verb themes and can take uniquely verbal inflectional suffixes.

c. Examples with derived stems.

g it ŋá?miŋ + Ø.tul ípi? /gitŋá?miŋ tulípi?/ 'her child's claw'

há di ? + Ø.w ^{i}í·gi /há·di? wí·gi/ 'his eye'

há di ? + Ø.bu? áŋal i? /há·di? bu?áŋali?/ 'his son-in-law'

8.5.2. Restricted noun stems (Nr).

a. Examples with primary stems.

súku? + ?.ápɨl /súku? ?ápɨl/ 'the dog's tail'

t̓ánu + ?.émle /t̓ánu ?émle/ 'a person's heart'

ŋáwŋaŋ + ?.á·du /ŋáwŋaŋ ?á·du/ 'the baby's hand'

m ášg + ?.í·bi? /mášɨk ?í·bi?/ 'your backbone': "your back's bone"

šu?wé·k + ?.í·š /šu?wé·k ?í·š/ 'oyster shells'

má?ki? + ?.íyeg /má?ki? ?íyek/ 'cactus': "rattlesnake's teeth"

?ánziš + ?.ímɨš /?ánziš ?ímɨš/ 'orange juice'

t̓ánu + ?.ápš /t̓ánu ?ápɨš/ 'human body'

b. As with the preceding construction, constitutes of this construction containing members of Nr that are also intransitive verb stems (Vi) retain their structural ambiguity.

gó·c̓i + ?.áŋal 'yellowjacket hive; yellowjackets building a hive'

t̓ánu + ?.ášaŋ 'people's blood, somebody's blood, human blood; somebody bleeding'

8.5.3. Possessed nouns (Np).

a. Examples with primary stems.

ṫánu + d^e.béyu /ṫánu debéyu/ 'somebody's younger brother'

wí di ʔ + d^e.ŋá·m /wí·diʔ daŋá·m/ 'this fellow's son'

di má·gu + d^e.góʔy /dimá·gu dagóyʔ/ 'my sister's husband (if she has a child)': "my sister's child's father"

há di ʔ + d^e.má·gu /há·diʔ damá·gu/ 'his sister's child'

b. Examples with derived stems.

di bu mé·l iʔ + d^e.ʔ[a$ṫ^u$]á·ṫu /dibumé·liʔ daʔaṫó·ṫo/ 'my husband's older brothers'

há diʔ + d^e.m^e ʔéwši ʔ /há·diʔ demeʔéwšiʔ/ 'her husband's brother'

8.5.4. Attributive-possessed nouns (Nap).

há di ʔ + d^e.ʔélel iʔ /há·diʔ deʔéleliʔ/ 'his daughter's child'

há di ʔ + d^e.bá·[ʾ]baʔ ʾ /há·diʔ dabá·ṗaʔ/ 'his son's child'

8.6. Impersonal possessor. The Impersonal-Reflexive prefix <kM-> kM-, M- ~ gum- expanded with a preceding noun, quantitative, or intransitive verb stem may be added to unrestricted noun stems (N) and to restricted noun stems (Nr) to indicate an impersonal possessor. These constructions indicate that the noun is characterized by or characteristic of the word included in the prefix. This is thus a different and weaker semantic relationship than is indicated by the other possessive prefixes on nouns, in that it does not include actual possession or a partitive relationship. The noun included in the prefix may refer to persons only in a categorical sense, not to individuals, in expressions like 'children's clothes'. These constructions form unrestricted nouns, which may not add any further prefixes.

8.6.1. Unrestricted noun stems (N).

wí·gis + gum.tóšab /wí·gis gumtóšap/ 'pants pocket'
gu sísi? + gum.tóšab /gusísi? gumtóšap/ 'potato sack'
t̓é·be? + gum.mókgo /t̓é·be? gumókgo/ 'snow shoes'
d émlu + gum.k̓éteb /démlu gumk̓étep/ 'food jar'
c̓igá·bad + gum.t̓á·š /c̓igá·bat gumt̓á·š/ 'summer shirt'
gális + gum.?it wá? /gális gum?itwá?/ 'winter clothes'
?it d ud^{e} íps + gum.té?a /?itdudépis gumté?a/ 'lampshade'

8.6.2. Restricted noun stems (Nr).

d^{e} w métu? + kM.áŋal /dewmétu? Máŋal/ 'ice house'
bilá·da? + kM.áŋal /bilá·da? Máŋal/ 'purse, pocketbook'
t̓á?nɨb + kM.áŋal /t̓á?nɨp Máŋal/ 'boat-house'
mú·c̓ug + kM.áŋal /mú·c̓uk Máŋal/ 'medicine case'

ʔit d émlu + kM.áŋal /ʔitdémlu Máŋal/ 'restaurant; dining room'

ʔit gum d^{u} á^{ʔ}aš + kM.áŋal /ʔitgumdóʔoš Máŋal/ 'sweathouse'

bɨ́·gi + kM.ípiʔ /bɨ́·gi Mípiʔ/ 'buggy blanket'

$ť^{e}$ ʔw^{e} íʔweʔ + kM.íšm /ť̓eʔwéʔweʔ Míšim/ 'puberty dance song'

8.7. <ʔ-> Third Person. The Third Person prefix <ʔ-> ʔ- is occasionally found in syntactically unexpanded form on restricted noun stems (Nr) to give a citation form (where one might expect instead <d-> Nominal). Such a form also occurs occasionally in texts in cases where the word that is the possessor of the noun has been previously mentioned but does not immediately precede this prefix. In this case the prefix might be said to have anaphoric reference to this preceding word.

8.8. <d-> Nominal. The Nominal prefix <d-> d- is added to restricted noun stems (Nr) when they are to be used without the expression of any possessor. The constitutes of this construction are unrestricted nouns, which may not add any pronominal prefixes. Only a minority of the members of Nr occur with this prefix. Those that do not are, firstly, words for body parts that do not normally occur separated from the body, such as ášg 'back', í·bu 'nape', ápa̱l 'tail', and ápš 'body'; secondly, words for some body or plant parts that may be physically separated from the whole organism but whose appearance normally identifies the species from which they come, such as í·š 'skin, shell, fur', á·daš 'meat, flesh', and étg 'seed'; and thirdly, kinship terms, such as íyeš 'daughter-in-law' and ámi̱g 'child's spouse's parent'. These nouns occur with the Third Person Unexpressed Possessor prefix <t̓-> t̓- when no other possessor is specified; that is, one says 'his back', 'its meat', 'its seed', etc. This prefix does not occur on other classes of nouns. Unrestricted noun stems are used without any prefix when no possessor is expressed, while possessed nouns (Np) and attributive-possessed nouns (Nap) do not occur without the expression of a possessor.

This prefix has the allomorph d- in this construction, since all members of Nr begin with a vowel.

a. Examples.

d.íyeg /díyek/ 'tooth'

d.émle 'heart'

d.í·bi? 'bone'

d.í·dew 'sinew'

d.ípi? 'blanket'

d.ámu? 'dress, skirt'

b. Constitutes of this construction containing members of Nr that are also intransitive verb stems (Vi) are no longer ambiguous, since these forms are no longer verbs. However, it is impossible to tell whether a given example is an instance of this construction or of the construction whereby this prefix is added to members of Vi.

d.áŋal 'house'

d.ášaŋ 'blood'

d.á·ša? 'urine'

d.émlu 'food'

d.á·da? 'bed'

d.íšm /díšɨm/ 'song'

c. There are a number of nouns beginning with [d] before a stressed vowel. Some of these may contain this prefix, historically if not descriptively. They are, however, considered to be unrestricted noun stems in the absence of evidence for segmentation. The following list is not complete.

dá·bal 'sagebrush'

dáhal 'pigweed'

dášɨk 'cicada'

dáwal 'buckberry'

dáya? 'cloth, rag'

dá?ŋiš 'mink'

dá?aw 'lake'

dé·guš 'wild sweet potato'

délem 'shrew'

dé?eg /dé?ek/ 'stone, rock'

díc̓em 'woodpecker'

dí·geš 'net'

dílek 'duck'

dímum 'owl'

díp̓eg /díp̓ek/ 'white paint'

díšu 'digging stick'

díť eš 'belding ground squirrel'

dí?yu 'fire'

dó·c̓a? 'Indian balsam'

dó·k̓o 'heel'

dú·bi? 'rat sp.'

dú·c̓u 'elbow'

dúhul 'tree sp.'

dú·ni? 'golden brodiaea'

8.9. Inflection of nouns for inclusiveness. Nouns inflected with the First Person prefix <1^{e}-> 1^{e}- ~ di-, or with certain syntactic expansions of this prefix, may be further inflected for the category of inclusiveness by the addition of one of the two Inclusive suffixes. This signifies that the hearer (second person) is included in the group of possessors of the noun along with the speaker (first person). Inflection with the Dual Inclusive suffix -ši thus indicates that the group of possessors consists of only the speaker and the hearer, while inflection with the Plural Inclusive suffix -hu indicates that there are more than these two persons in the group of possessors, which contains other individuals besides the speaker and hearer, and/or plural hearers. Absence of an Inclusive suffix on a noun having one of these First Person prefixes implies that the hearer is excluded from the group of possessors which consists of or includes the speaker. The constitutes of these constructions are unrestricted nouns. Nouns having the First Person prefix expanded with the First Person Singular pronoun may not take an Inclusive suffix.

8.9.1. Nouns having the unexpanded prefix are those most commonly found with an Inclusive suffix. They may take either the Dual or the Plural suffix, which will be the only indication of the number of possessors.

a. Examples with unrestricted noun stems.(N).

di gúšu?.ši 'our (du. inc.) pet'

di ṕísew.ši 'our (du. inc.) ears'

di w ^{i}í·gi.ši /diwí·giši/ 'our (du. inc.) eyes'

di w ^{i}í·gi.hu /diwí·gihu/ 'our (pl. inc.) eyes'

di pí·pɨl.hu 'our (pl. inc.) people, we (pl. inc.) people'

b. Examples with restricted noun stems (Nr).

l^{e} álŋ.ši /lálɨŋši/ 'our (du. inc.) arms'

l^{e} áyuš.ši /láyuši/ 'our (du. inc.) head hair'

l^{e} íheb.ši /léhepši/ 'our (du. inc.) heads'

l^{e} íheb.hu /léhephu/ 'our (pl. inc.) heads'

c. Constitutes of this construction containing as their head members of N or of Nr that are also intransitive verb stems (Vi) retain their structural ambiguity, since the Inclusive suffixes may also be added to verb themes formed with this prefix (27.11).

l^{e} áŋal.ši /láŋalši/ 'our (du. inc.) house; we (du. inc.) to build a house'

d. Examples with possessed nouns (Np).

di ʔélel.ši 'our (du. inc.) mother's father'

di ʔmé·š.hu 'our (pl. inc.) boy friend' (a group of women would refer thus to some man passing by)

8.9.2. Nouns having the First Person prefix expanded with the First Person Dual or Plural pronoun without an Inclusive suffix may take an Inclusive suffix, which will agree in number with the pronoun. In this case the indication of inclusiveness is added as a sort of afterthought, while the number of possessors is redundantly expressed by the suffix on the pronoun and by the Inclusive suffix. Nouns of this type appear much more frequently without an

Inclusive suffix than with one.

a. Dual Inclusive suffix.

(1) Examples with unrestricted noun stems (N).

l^e í ši + di písew.ši /léši dipísewši/ 'our (du. inc.) ears'

l^e í ši + di w ^{i}í·gi.ši /léši diwí·giši/ 'our (du. inc.) eyes'

(2) Examples with restricted noun stems (Nr).

l^e í ši + l^e áyuš.ši /léši láyuši/ 'our (du. inc.) head hair'

l^e í ši + l^e íheb.ši /léši léhepši/ 'our (du. inc.) heads'

b. Plural Inclusive suffix. Example with a restricted noun stem (Nr).

l^e í w + l^e íheb.hu /léw léhephu/ 'our (pl. inc.) heads'

8.9.3. Nouns having the First Person prefix expanded with the First Person Dual or Plural Inclusive pronoun usually take an Inclusive suffix, which will agree in number with the pronoun. Nouns of this type may also occur without an Inclusive suffix, the inclusiveness being indicated only by the suffix on the pronoun.

a. Dual Inclusive suffix. Example with an unrestricted noun stem (N).

l^e í ši ši + di w ^{i}í·gi.ši /léšiši diwí·giši/ 'our (du. inc.) eyes'

b. Plural Inclusive suffix. Examples with restricted noun stems (Nr).

l^e í w hu + l^e áyuš.hu /léwhu láyušhu/ 'our (pl. inc.) head hair'

l^e í w hu + l^e íheb.hu /léwhu léhephu/ 'our (pl. inc.) heads'

9. Inflection of referential adverbs. The small class of referential adverbs is inflected for referent by means of pronominal prefixes. These constructions translate into English as prepositional phrases, in which the adverb translates as the preposition and the prefix translates as the object of the preposition. The pattern of inflection, on the whole, is like the inflection of nouns, especially restricted noun stems, for possessor, but in one point, as indicated in 9.5, it is like the inflection of verbs for object. Hence the noncommittal term referent is used, rather than possessor or object, for the semantic category expressed by these prefixes. The constitutes of these constructions are adverbs, not nouns, syntactically. That is, they may not enter into syntactic expansions of pronominal prefixes, but instead modify verbs directly.

These referential adverbs are more restricted than nouns in their inflection in that they do not occur without a referent; the vowel-initial stems may not take <d-> Nominal. Only the Third Person prefix <?-> may be expanded syntactically in their inflection. The defective class of consonant-initial stems is inflected only for a third person referent, expressed or unexpressed. These adverbs also do not take Inclusive suffixes.

The categories distinguished in the inflection of these referential adverbs are three persons and, in the third person, expressed vs. unexpressed and subjective vs. non-subjective.

9.1. First person referent. A first person referent of referential adverbs is expressed by the First Person prefix <l^{e}-> l^{e}-. The prefix may not be expanded syntactically.

l^{e}.íwi? /léwi?/ 'on me, over me'

l^{e}.á·ša /lá·ša/ 'in me'

9.2. Second person referent. A second person referent of referential adverbs is expressed by the Second Person prefix <m-> m-. The prefix may not be expanded syntactically.

m.íwi? 'on you, over you'

m.á·ša 'in you'

m.í·le 'hiding you'

9.3. Third person unexpressed referent. A third person referent of referential adverbs which is different from the subject of the clause and which is not expressed by an immediately preceding word is expressed by the Third Person Nominal prefix <ṫ-> ṫ- ~ d^{e}-.

ṫ.íwi? 'on him, over him'

ṫ.á·ša 'in him'

ṫ.í·le 'hiding him'

d^{e}.Lísi? /deLísi?/ 'between them'

9.4. Third person subjective referent. A third person referent of referential adverbs identical with the subject of the clause is expressed by the Third Person Subjective prefix g-.

g.á·ša 'inside himself'

9.5. Expressed referent. To express with an independent noun or pronoun the referent of a referential adverb, the Third Person prefix <?–> ?- ~ Ø- expanded with this noun or pronoun is used. This construction is used even with a First or Second Person pronoun, which makes the inflection of referential adverbs different in this respect from the inflection of nouns and similar to the inflection of verbs for objects. However, with respect to the inflection for first or second person referent by prefix alone, the inflection of these adverbs is similar to that of nouns and of verbs for subjects.

d áŋal + ?.íwi? /dáŋal ?íwi?/ 'on the house, over the house'

dé?eg + ?.íwi? /dé?ek ?íwi?/ 'on a rock, over a rock'

ťánu + ?.íwi? /ťánu ?íwi?/ 'on a person, over a person'

d íme? + ?.íwi? /díme? ?íwi?/ 'on the water'

l^{e} í w hu + ?.íwi? /léwhu ?íwi?/ 'concerning ourselves (pl. inc.)'

d áŋal + ?.á·ša /dáŋal ?á·ša/ 'in the house, into the house'

g áŋal + ?.á·ša /gáŋal ?á·ša/ 'in his (own) house, into his (own) house'

d^{e} wd í?iš + ?.á·ša /dewdí?iš ?á·ša/ 'among the trees'

mug í·guš + ?.á·ša /mugí·guš ?á·ša/ 'inside the fence'

ťá·gim + ?.á·ša /ťá·gim ?á·ša/ 'among the pine nut trees'

dá·bal + ?.á·ša /dá·bal ?á·ša/ 'among the sagebrush'

d áŋal + ?.í·le /dáŋal ?í·le/ 'in back of the house'

d áŋal + Ø.Lísi? /dáŋal Lísi?/ 'between the houses'

d^{e} wd í?iš + Ø.Lísi? /dewdí?iš Lísi?/ 'between the trees'

10. Pronoun inflection. Pronouns are formed by inflection of the pronoun stem í. Four different persons are formed by means of four inflectional prefixes. Any of these pronouns may be inflected for dual or plural number by the addition of a Personal Number suffix. The First Person pronoun in the dual or plural number may be further inflected for inclusiveness by the addition of an Inclusive suffix. When not followed by a suffix, the pronoun stem is phonemically long by a regular morphophonemic rule (3.17.2).

10.1. Inflection for Person. The constitutes of the four constructions have quite different distributions. Among the significant differences are the facts that only the First Person pronoun, after adding a Personal Number suffix, may add an Inclusive suffix, and that the two Third Person pronouns may be suffixed, with unstressing juncture, to predications of certain types to nominalize them (31).

a. First Person pronoun. The First Person pronoun is formed with the First Person prefix <1^{e}-> 1^{e}-. Syntactic expansions of the prefix are excluded.

1^{e}.í /lé·/ 'I, me'

b. Second Person pronoun. The Second Person pronoun is formed with the Second Person prefix <m-> m-. Syntactic expansions of the prefix are excluded.

m.í /mí·/ 'you (sg.)'

c. Third Person Subjective pronoun. The Third Person Subjective pronoun is formed with the Third Person Sub-

jective prefix g-.

g.í /gí·/ 'he, she, it, this, that, this one, that one'

d. Third Person Objective pronoun. The Third Person Objective pronoun is formed with the Imperative prefix g^{e}-. Syntactic expansions of the prefix are excluded.

g^{e}.í /gé·/ 'him, her, it, this, that, this one, that one'

The recognition of the Imperative prefix in this word may be semantically farfetched. Alternative analyses would be the recognition of a homophonous Third Person Objective prefix g^{e}- or the recognition of the Third Person Subjective prefix g- plus an Objective affix ^{e}- or -^{e}, preceding or following the pronoun stem í. The contrast between the Third Person Subjective and Objective pronouns is equivalent to that obtaining between subjective and objective nouns (7, 31.1-2), and these constitute the only instances in the language of stems restricted to use as subject or object.

The two Third Person pronouns, aside from the Subjective/Objective opposition, have a meaning much like that of the demonstratives, but without the latter's contrasts of person or distance. They are thus used for less specific reference, or in cases when the antecedent is clear.

10.2. Inflection for number. All four pronouns may be inflected for dual number by the Personal Dual suffix -ši and for plural number by the Personal Plural suffix -w. Absence of a Personal Dual or Plural suffix implies that the pronoun is singular. The two nonsingular forms of the First Person pronoun have different distributions, because

of the agreement of the Inclusive suffixes that they may also add, and because the Plural, but not the Dual, pronoun may be suffixed, with unstressing juncture, to certain verb forms to form the Plural Exhortative construction (29.5). The Dual and Plural forms of the other three pronouns do not differ significantly in distribution from each other, nor from the corresponding singulars, except with respect to these constructions.

a. First Person Dual pronoun.

l^{e} í.ši /léši/ 'we (du.), us (du.)'

b. First Person Plural pronoun.

l^{e} í.w /léw/ 'we (pl.), us (pl.)'

c. Second Person Dual and Plural pronouns.

m í.ši 'you (du.)'

m í.w 'you (pl.)'

d. Third Person Subjective Dual and Plural pronouns.

g í.ši 'they (du.), these (du.), those (du.)'

g í.w 'they (pl.), these (pl.), those (pl.)'

e. Third Person Objective Dual and Plural pronouns.

g^{e} í.ši /géši/ 'them (du.), these (du.), those (du.)'

g^{e} í.w /géw/ 'them (pl.), these (pl.), those (pl.)'

10.3. Inflection for inclusiveness. The First Person Dual and Plural pronouns may be inflected for the category of inclusiveness. This signifies that the hearer (second person) is included in the same group as the speaker (first person). The First Person Dual Inclusive pronoun thus indicates that the group consists of only the speaker and

hearer, while the First Person Plural Inclusive pronoun indicates that the group contains yet other individuals besides the speaker and hearer. Absence of an Inclusive suffix implies that the hearer is excluded from the group which includes the speaker and one or more additional individuals.

Inflection for inclusiveness is accomplished by adding one of the two Inclusive suffixes. The suffix is chosen to agree in number with the pronoun, so that the First Person Dual pronoun adds the Dual Inclusive suffix -ši and the First Person Plural pronoun adds the Plural Inclusive suffix -hu. The constitutes of these two constructions are different distribution classes, because of the agreement in number with the pronoun of an Inclusive suffix on a noun or verb when the pronoun forms a syntactic expansion of the First Person prefix on that noun or verb (8.9.3, 27.11.3).

a. First Person Dual Inclusive pronoun.

1^{e} í ši.ši /léšiši/ 'we (du. inc.), us (du. inc.)'

b. First Person Plural Inclusive pronoun.

1^{e} í w.hu /léwhu/ 'we (pl. inc.), us (pl. inc.)'

10.4. Pronoun paradigm. The pronoun forms that have been described in the preceding sections may be displayed paradigmatically as follows. The transcription is phonemic.

	Sg.	Du.	Pl.	Du. Inc.	Pl. Inc.
First Person	lé·	léši	léw	léšiši	léwhu
Second Person	mí·	míši	míw		
Third Person Subjective	gí·	gíši	gíw		
Third Person Objective	gé·	géši	géw		

11. Overview of verb derivation and inflection. A brief sketch of the various layers of formation in verb forms may aid the reader in assimilating much of what follows. There are two basic types of finite verb forms, which are the major predication types. The commoner type is tripartite, consisting of a stem to which is added first a pronominal prefix to give a verb theme, and then a final suffix to give the finite verb form. The less common type is binary, consisting of a stem to which one of two prefixes, g^e- Imperative or <?1-> First Person Objective, is added to give a theme of the type called an Imperative theme, which is also a finite verb form. The latter constructions are described in sections 7.7 and 7.8.

Turning now to the neclear forms and working outwards, we have seen that dependent verb stems and neutral verb stems cannot be directly inflected with pronominal prefixes, but must take certain derivative prefixes to turn them into either intransitive verb stems or intransitive stems. Independent verb stems of the three types may undergo derivation to form otherindependent verb stems by the addition of either prefixes or suffixes. The suffixes serving this function are called stem formative suffixes. This derivation may or may not change the distribution class of the stem among these three independent classes. The derivational prefixes bring about such a switch of class much more often than the stem formative suffixes. Derivation from independent verb stems may also take place by means of auxiliary verbs suffixed to

them.

After the pronominal prefixes have been added to stems to form themes as indicated above, one of a class of prefinal suffixes may optionally be added before the addition of a final suffix.

The final suffix makes the verb a major sentence type, which may take one of the intonational morphemes to form a complete utterance, but from finite verbs of certain types there may again be derived by means of suffixes nominalized or adverbialized predications which can enter as satellites into larger verb forms.

12. Inflection of verb stems forming themes. This section describes the addition of pronominal prefixes to verb stems. The constitutes of these constructions are of two types. With most of the prefixes they are verb themes, which may then add prefinal and final suffixes to form finite verbs. However, two of the prefixes, g^{e}- Imperative and <?1-> First Person Objective, form finite verbs directly. Constitutes formed by adding the latter prefix have dual class membership; they are both finite verbs and verb themes. Categories distinguished by this set of prefixes are three persons of subject and object plus imperative, and, with a third person object, whether or not this object is expressed by a preceding word.

12.1. First person subject. A first person subject of intransitive, transitive, and double-transitive verbs is indicated by <l^{e}-> l^{e}- ~ di- ~ i- First Person. The prefix may be syntactically expanded to show a third person object of transitive and double-transitive verbs, and it may also be preceded by <ʔm-> mi- ~ m- Second Person Objective to show a second person object of such verbs. This latter prefix may also be expanded by forms of the Second Person pronoun. An additional syntactic expansion may show the indirect object of double-transitive verbs. Further expansion by forms of the First Person pronoun may express the subject on verbs of all classes. Not all expansions presumed to be possible on double-transitive verbs are attested.

a. On intransitive verbs.

l^{e}.émlu i /lémluyi/ 'I'm eating'

di.yáliʔ i 'I'm standing'

l^{e}.ášaŋ i /lášaŋi/ 'I'm bleeding'

di.móndeʔ ši ^{e} /dimóndeʔše/ 'let's play cards!'

l^{e}.á·šaʔ dúweʔ i /lá·šaʔdúweʔi/ 'I want to urinate'

l^{e}.íyeg iʔ é·s i " g í /léyegiʔé·sigi/ 'I have no teeth'

b. On transitive verbs.

l^{e}.íʔiw i /léʔwi/ 'I'm eating it'

di.dámal i 'I hear it'

l^{e}.^{i}í·gi i /lí·giyi/ 'I see it'

l^{e}.ášaš i /lášaši/ 'I don't know it'

di.s^{e}b^{ɛ} íleg i /disebélegi/ 'I'm blowing it'

c. On double-transitive verbs.

l^{e}.íšl i /léšli/ 'I'm giving it to him'

di.béyu i /dibéyuyi/ 'I'm paying it to him'

d. Expanded for subject, on intransitive verbs.

/léw lá·huyi/ 'we (pl.) are standing'

/léw diyeŋí?ši/ 'we (pl.) are running'

/léw dišélšimhi/ 'we (pl.) are going to sleep'

/léšiši léme?šiyáša?i/ 'we (du. inc.) are going to drink'

e. Expanded for subject, on transitive verbs.

/lé· dibíḱithi/ 'let me boil it!'

/lé· lá·da?úwa?a?/ 'I'm taking care of him'

/léši lí·giyi/ 'we (du.) see it'

f. Expanded for subject, on double-transitive verbs.

/léši léšli/ 'we (du.) are giving it to him'

g. Expanded for third person object, on transitive verbs.

/há·di? lémc̓ihay?/ 'I'm going to wake him up'

/c̓iŋá·m diyášuyi/ 'I'm washing dishes'

/mušé·gew dišášudúwe?i/ 'I'm afraid of the bear'

/t̓ánu dedépu diyóhiyi/ 'I pulled out a sliver'

h. Expanded for third person object, on double-transitive verbs.

/bedíli? léšli/ 'I'm giving him a match'

i. Preceded by <?m-> mi- ~ m- Second Person Objective, on transitive verbs.

m i.ga?lá·m i 'I like you'

m i.gum g ác̓ab ha y? /migumgác̓aphay?/ 'I'm going to trip you'

m i.dámal bá·ga i /midámalbá·gayi/ 'I'm listening to you'

mi l^{e}.^{i}í·gi gab i " g í /milí·gigabigi/ 'I'll see you'

j. Preceded by <?m-> mi- ~ m- Second Person Objective, on double-transitive verbs.

m i.bú?u i /mibú?yi/ 'I'm feeding you'

k. Preceded by syntactically expanded <?m-> mi- ~ m- Second Person Objective, on transitive verbs.

/mí· miyá·gimhi/ 'we'll smoke you'

/míši milí·giyi/ 'I see you (du.)'

l. Expanded for subject and third person object, on transitive verbs.

/léw há·di? lí·giyi/ 'we (pl.) see him'

m. Preceded by <?m-> mi- ~ m- Second Person Objective, and expanded for subject, on transitive verbs.

/léši milí·giyi/ 'we (du.) see you'

/léw milé?wušgaba?/ 'we (pl.) will eat you'

/lé·sa? midéšiwhi/ 'I too will cure you by pounding'

n. Preceded by syntactically expanded <?m-> mi- ~ m- Second Person Objective, and expanded for subject, on transitive verbs.

/léši míši milí·giyi/ 'we (du.) see you (du.)'

o. Expanded for indirect object and direct object, on double-transitive verbs.

/há·di? bedíli? léšli/ 'I'm giving him a match'

p. Preceded by <?m-> mi- ~ m- Second Person Objective, and expanded for indirect object, on double-transitive verbs.

/wí·di? miléšɨlhi/ 'let me give you this!'

/gó·be? mimaháwahay?/ 'let me pour you coffee!'

12.2. Second person subject. A second person subject of intransitive, transitive, and double-transitive verbs is indicated by <m-> m- ~ ʔum- (ʔɨm-) ~ mi- Second Person. The prefix may be syntactically expanded to show the object of transitive or double-transitive verbs. Further expansion by forms of the Second Person pronoun may express the subject on verbs of all classes. Not all expansions presumed to be possible on double-transitive verbs are attested.

a. On intransitive verbs.

m.íye? iye? i 'you have come, I see'

m.íme? gab i " g í /míme?gabigi/ 'you're going to drink'

m.á·ša? dúwe? hé·š i /má·sa?dúwehé·ši/ 'do you want to urinate?'

ʔɨm.k̓uy^{ɛ} íʔiš lel hé·š uš i /ʔɨmk̓uyéʔešlelhé·šuši/ 'do you swim any?, have you been swimming any?'

mi.gum g á·cab hé·š i /migumgá·caphé·ši/ 'did you kick yourself?, did you trip yourself?'

b. On transitive verbs.

ʔum.dámal i 'you hear it'

m.^{i}í·gi hé·š i /mí·gihé·ši/ 'do you see it?'

ʔum.sáʔ hé·š i /ʔumsahé·ši/ 'do you have it?'

c. On double-transitive verbs.

m.íšl i 'you're giving it to him'

d. Expanded for subject, on intransitive verbs.

/míši mímehé·ši/ 'are you (du.) drinking?'

e. Expanded for subject, on transitive verbs.

/míw mí·giyi/ 'you (pl.) see it'

f. Expanded for subject, on double-transitive verbs.

/míši míšli/ 'you (du.) are giving it to him'

g. Expanded for object, on transitive verbs.

/há·di? ?umdá·mi/ 'you're hitting him'

/báŋkuš ?umsahé·ši/ 'do you have a cigarette?'

/léši ?umga?lamhé·ši/ 'do you like us (du.)?'

h. Expanded for object, on double-transitive verbs.

/bedíli? míšli/ 'you're giving him a match'

/mitugáyap ?umdamá·liyi/ 'you're changing your glasses'

i. Expanded for subject and object, on transitive verbs.

/míši wí?ši mí·giyi/ 'you (du.) see them (du.)'

12.3. Third person subject. The third person subject of an intransitive verb is indicated by <?-> ?- ~ Ø- Third Person. When this prefix is expanded by a preceding word, it is used to indicate third person subject plus direct object of a transitive or double-transitive verb. This prefix may not be used unexpanded on verbs of these latter two classes. Further expansions in both cases may express the subject of the verb. The latter type may also be expanded to express the indirect object of a double-transitive verb.

a. On intransitive verbs.

?.émlu i /?émluyi/ 'he's eating'

?.élšɨm i 'he's sleeping'

?.á·hu i /?á·huyi/ 'they're standing'

Ø.p̓ɨ́?lɨ ŋáŋa i /p̓ɨ́?lɨŋáŋayi/ 'they're pretending to fish with hook and line'

Ø.y^{e}ŋ í?iš uwe? i /yeŋí?šuwe?i/ 'they're running hence'

b. Expanded for subject, on intransitive verbs.

/t̓á?nɨp mekgé?ši/ 'the boat is sailing'

/k̓ómol pewéwɨlgiši/ 'the ball is rolling along'

c. Expanded for object, on transitive verbs.

/t̓á·gɨm ?í?wi/ 'he's eating pine nuts'

/dewdí?iš ?í·dew ?í·degi/ 'he's digging out the tree roots'

/pélew Lé?ši/ 'he's chasing a rabbit'

d. Expanded for object, on double-transitive verbs.

/gitmókgo damá·lɨyi/ 'he's changing his shoes'

/ŋáwŋaŋ bú?yi/ 'he's feeding the child'

e. Expanded for subject and object, on transitive verbs.

/há·di? léw ?í·giyi/ 'he sees us'

/súku? pélew Lé?ša?/ 'the dog is chasing a rabbit'

f. Expanded for subject and object, on double-transitive verbs.

/dabó?o lew bú?legi/ 'the white man fed us'

/há·di? bedíli? ?íšli/ 'he's giving matches'

g. Expanded for subject, indirect object, and direct object, on double-transitive verbs.

/há·di? wí·di? bedíli? ?íšli/ 'that one is giving matches to this one'

12.4. Imperative. The Imperative prefix g^e- is added to intransitive, transitive, and double-transitive verb stems to form finite verbs that have the meaning of commands. Occasionally, for the purpose of showing a syntactic linkage with the following verb, forms bearing the Imperative prefix may act like defective verb themes, in that they may take one of two final suffixes: <-a?> Aorist, with or without following -š Reference Switching; or -i Imperfect, always followed by one or more suffixes, either -š Reference Switching or the nominalizing suffixes of 31 or both. Examples of Imperative themes taking final suffixes are given in section d.

a. On intransitive verbs.

g^e.íme? /géme?/ 'drink!'

g^e.élšɨm /gélšɨm/ 'sleep!'

g^e.m étb /gemétɨp/ 'pound it!'

g^e.?l^u íti? /ge?lúti?/ 'sit down (pl.)!'

g^e.dul˘ í·ḱɨl /gedulé·ḱɨl/ 'cook!'

g^e.w s^u ?^{e} í?iš /gewsu?é?eš/ 'look around!'

g^e.íye wg /géyewk/ 'come here!'

b. On transitive verbs.

g^e.pálal /gapálal/ 'smell it!'

g^e.í?is /gé?es/ 'take it!'

g^e.d^e íwš /gedéwɨš/ 'dig around!'

g^e.y átg /gayátɨk/ 'kill it!'

g^e.dámal é·s /gadámalé·s/ 'don't listen!'

g^e.íme? ha /gémaha/ 'make him drink!'

c. On double-transitive verbs.

g^{e}.béyu /gebéyu/ 'pay him!'

g^{e}.bú?u /gebú?u/ 'feed him!'

g^{e}.íšl /géšɨl/ 'give it to him!'

d. Imperatives with following final suffixes.

g^{e}.íme? a š: /géma?aš diwgayáyhi/ 'drink and I'll talk!'

g^{e}.g^{e}l^{ɛ} á·k̓ɨm a š: /gagalá·k̓ɨmaš miwLa?á?ašhay?/ 'quiet him down, I'll tell you!'

g^{e}.p̓ íḱew a?: /gep̓íḱewa? gémlu/ 'get up, eat!'

g^{e}.í?is ^{ɛ} í?iš uwe? i " g^{e} í lu: /séwɨt ge?sé?šuwe?igelu ga?lóḱašha/ 'take a porcupine and scare him with it!'

12.5. First person object. When the First Person Objective prefix <?l-> ?l- ~ l^{e}- is added to transitive or double-transitive verb stems, the resultant forms have double class membership. On the one hand, they are verb themes expressing an action on a first person object that may take any of the final suffixes to form finite verbs. But on the other hand, they are also imperative themes, which may stand alone as finite verbs, expressing a command for an action to be directed on a first person object. When a form bearing this prefix is followed by one of the linkage-expressing suffixes that imperatives may take (cf. 12.4), there is potential ambiguity as to whether a statement or a command is intended.

a. On transitive verbs, without final suffixes.

l^{e}.dámal /ladámal/ 'listen to me, hear me!'

l^{e}.béyd /lebéyɨt/ 'comb my hair!'

l^{e}.y ášu /layášu/ 'wash me!'

l^{e}.g^{u} í?iš /legú?uš/ 'take me along!'

b. On transitive verbs, with final suffixes.

?l.^{i}í·gi i /?lí·giyi/ 'he sees me'

l^{e}.ga?lá·m i /laga?lá·mi/ 'he likes me'

l^{e}.d^{e} ípu i /ledépuyi/ 'it stuck me'

c. On double-transitive verbs, without final suffixes.

l^{e}.bú?u /lebú?u/ 'feed it to me!'

?l.íšl /?líšɨl/ 'give it to me!'

d. On double-transitive verbs, with final suffixes.

l^{e}.bú?u i /lebú?yi/ 'he's feeding it to me'

?l.íšl i /?líšli/ 'he's giving it to me'

12.6. Second person object. A second person direct object on a transitive or double-transitive verb is indicated by <?m-> ?m- ~ m^{e}- ~ mi- ~ m- Second Person Objective. When no other pronominal prefix is present, this prefix implies a third person subject. This prefix may be syntactically expanded for subject, and for the indirect object of double-transitive verbs. With a third person subject, this prefix may not be expanded by a word expressing the object; a syntactic expansion of <?-> Third Person is used instead.

This prefix may also precede <l^{e}-> First Person to indicate a second person object with a first person subject, and in this construction the prefix may be expanded for object by forms of the Second Person pronoun. Examples of this are given in connection with the description of the use of <l^{e}-> on verbs (12.1), rather than in this section.

a. On transitive verbs.

?m.ípu? i 'he found you'

?m.ášdȧm i 'he's hiding you'

?m.^{i}í·gi i /?mí·giyi/ 'he sees you'

m^{e}.pálal i /mapálali/ 'he's smelling you'

m^{e}.gí·ti? i /megí·ti?i/ 'it's biting you'

m^{e}.d á·m i /madá·mi/ 'he hit you'

m^{e}.?l^{e} s^{e} ínsen i /me?lesénseni/ 'he's nibbling at you'

m^{e}.šášu ḋúwe? i /mašášudúwe?i/ 'he's afraid of you'

b. On double-transitive verbs.

m^{e}.béyu i /mebéyuyi/ 'he's paying it to you'

c. Expanded for subject, on transitive verbs.

/pú·ṫe? megí·ṫi?i/ 'a mosquito is biting you'

/da?mó?mo? maga?lá·mi/ 'the woman likes you'

/wí·diw ?mí·giyi/ 'they (pl.) see you'

/di?ulišawáwlam ma?ló?payaš/ 'my female relatives will hold your hand'

/ṫánu ?mém?lu?gaŋa?luligi/ 'people began eating you [pine nuts] long ago'

d. Expanded for subject, on double-transitive verbs.

/há·di? ?míšli/ 'he's giving it to you'

e. Expanded for indirect object, on double-transitive verbs.

/bilá·da? mamá·luṫi/ 'he takes money away from you'

/démlu ?míye?gipɨshayi/ 'he's getting food ready for you to take'

f. Expanded for subject and indirect object, on double-transitive verbs.

/há·di? bedíli? ?míšli/ 'he's giving matches to you'

12.7. Third Person Unexpressed Object. A third person direct object with a third person subject on a transitive or double-transitive verb, when this object is not expressed by a preceding word, is indicated by <k̓-> k̓- ~ g^{e}- Third Person Objective.

a. On transitive verbs.

k̓.íʔiw i /k̓íʔwi/ 'he's eating it'

g^{e}.dámal i /gadámali/ 'he hears it'

k̓.álaʔ ha i /k̓álahayi/ 'she's nursing it'

g^{e}.s^{u} ʔ^{e} íʔiš i /gesuʔéʔši/ 'he's looking at it'

b. On double-transitive verbs.

k̓.íšl i 'he's giving it to him'

g^{e}.búʔu i /gebúʔyi/ 'he's feeding him'

g^{e}.damá·lɨ i /gadamá·lɨyi/ 'he's trading it'

c. Expanded for subject, on transitive verbs.

/há·diʔ gadámali/ 'he hears it'

/wí·diw k̓í·giyi/ 'they see it'

d. Expanded for subject, on double-transitive verbs.

/há·diʔ gebúʔyi/ 'he's feeding him'

e. Expanded for indirect object, on double-transitive verbs.

/démlu gebúʔyi/ 'he's giving him food'

/t̓á·gɨm gebéyuyi/ 'he's paying him pine nuts'

f. Expanded for subject and indirect object, on double-transitive verbs.

/há·diʔ bedíliʔ k̓íšli/ 'he's giving him a match'

13. Derivation of nouns from nouns. Nouns are derived from other nouns by means both of prefixes (13.1-13.7) and of suffixes (13.8-13.15). Many of these affixes are quite restricted in their range of application or even of dubious existence. The only really productive affixes are <R-> Plural (13.2) and <?it-> Attributive-Agentive (13.3).

13.1. Prefixes deriving nouns from nouns. The prefixes that derive nouns from nouns are the two productive ones mentioned in the preceding paragraph, m^{e}- Affinal Relative (13.4), and a handful of prefixes that only occur on one or two stems each, whether unrestricted noun stems (13.5), restricted noun stems (13.6), or a nominalized verb form (13.7).

13.2. <R-> Plural. The Plural affix <R-> is added to nouns of all four classes. When added to unrestricted noun stems, possessed nouns, or attributive-possessed nouns, it forms nouns of the same classes, but when added to restricted noun stems, it forms unrestricted noun stems. For the allomorphy of this affix, see 4.7.

13.2.1. <R-> Plural on unrestricted noun stems (N). The Plural affix <R-> may be added to certain unrestricted noun stems to yield stems of the same class. In general the use of this affix is restricted to stems expressing categories of persons, living creatures, body parts, and articles of clothing. The meaning added by the affix is that of emphatic plurality. The use of this affix is optional, not obligatory as it is in English, and it tends not to be used when the plurality is expressed by a quantitative modifying the noun.

m[eh^{u}]é·hu /mehú·hu/ N 'boys'

w[aš^{i}]á·šiw /waší·šiw/ N 'Washoes'

b[a?l]é?lew /ba?lé?lew/ N 'Paiutes'

g[uš]úšu? /gušúšu?/ N 'pets'

s[uk]úku? /sukúku?/ N 'dogs'

p̓[is^{e}]ísew /p̓isésew/ N 'ears'

m[ok̓]ó·k̓o /mok̓ó·k̓o/ N 'knees'

m[og]ókgo /mogókgo/ N 'shoes'

wi g.^{i}í·gi /wigí·gi/ N 'eyes'

tuli p.ípi? /tulipípi?/ N 'fingernails'

13.2.2. <R-> Plural on restricted noun stems (Nr). The Plural affix <R-> is added only rarely to unrestricted noun stems, and has been found on only a few members of the class. Constitutes of this construction are unrestricted noun stems (N). As with the preceding class, this affix seems to add a meaning of emphatic plurality.

íheb Nr 'head':

h^{e}.íheb N 'heads'

áyuk Nr 'parent-in-law':

y^{u}.á·k N 'parents-in-law'

13.2.3. <R-> Plural on possessed nouns (Np). The plural affix <R-> occurs on most possessed nouns, forming nouns of the same class. The meaning of the affix on these stems seems to be simple plurality. This affix does not occur on those stems that express relatives that come only one to an individual, namely, the terms for the two parents and the four grandparents. The phonemically transcribed forms are not complete words, as they lack the overt prefix that these nouns will always take.

?[at^{u}]á·tu /?ató·to/ Np 'older brothers'

w[ic^{u}]ícug /wicúcuk/ Np 'younger sisters'

?[eš^{i}]éwši? /?ešíwši?/ Np 'father's brothers'

s[as]áksag /sasáksak/ Np 'father's father's brothers'

m[ag^{u}]á·gu /magó·go/ Np 'sister's (or sisters') children'

š[em^{u}]émug /šemúmuk/ Np 'brother's (or brothers') children (of a woman)'

13.2.4. Plural of attributive-possessed nouns. The Plural affix (in an infixed allomorph) occurs on all attributive-possessed nouns, forming nouns of the same class. The meaning of the affix on these stems seems to be simple plurality. The four terms for grandchildren, shown in section a, take the Plural affix even though the four terms for grandparents from which they are derived do not occur with it (for semantic reasons, since an individual only has one of each).

The complete list of examples is shown, because of the morphophonemic complexity of the forms. The phonemically transcribed forms are not complete words, as they lack the overt prefix that these nouns will always take.

a. On terms for grandchildren.

bá·[ˀ]baˀ ˀ Nap 'son's child (of a man)':

b[aˀb]á·[ˀ]baˀ ˀ /bapá·paˀ/ Nap 'son's (or sons') children (of a man)'

ˀélel iˀ Nap 'daughter's child (of a man)':

ˀ[el]élel iˀ /ˀeléleliˀ/ Nap 'daughter's (or daughters') children (of a man)'

ˀá[ˀ]maˀ ˀ Nap 'son's child (of a woman)':

ˀ[aˀm]á[ˀ]maˀ ˀ /ˀaˀmáˀmaˀ/ Nap 'son's (or sons') children (of a woman)'

gúˀu iˀ Nap 'daughter's child (of a woman)':

g[uˀ]úˀu iˀ /guˀúˀyiˀ/ Nap 'daughter's (or daughters') children (of a woman)'

b. On terms for grandnephews and grandnieces.

sáksag iˀ Nap 'brother's son's child (of a man)':

s[as]áksag i? /sasáksagi?/ Nap 'brother's (or brothers') son's (or sons') children (of a man)'

?é·[ˀ]bu ˀ Nap 'brother's daughter's child (of a man)':

?[eˀb^{u}]é·[ˀ]bu ˀ /?epú·pu?/ Nap 'brother's (or brothers') daughter's (or daughters') children (of a man)'

tó?o i? Nap 'sister's grandchild (of a man)':

t[o?]ó?o i? /to?ó?yi?/ Nap 'sister's (or sisters') grandchildren (of a man)'

sá[ˀ]ma? ˀ Nap 'brother's grandchild (of a woman)':

s[aˀm]á[ˀ]ma? ˀ /sa?má?ma?/ Nap 'brother's (or brothers') grandchildren (of a woman)'

bíkɨ i? Nap 'sister's grandchild (of a woman)':

b[ɨk]íkɨ i? /bikíkɨyi?/ Nap 'sister's (or sisters') grandchildren (of a woman)'

c. On the term for great-granchild, great-grandnephew, or great-grandniece.

písew i? Nap 'relative of third descending generation':

p[is^{e}]ísew i? /pisésewi?/ Nap 'relatives of third descending generation'

13.3. <?it-> Attributive-Instrumental. The Attributive-Instrumental prefix <?it-> is added to unrestricted noun stems, possessed nouns, and attributive-possessed nouns to derive other noun stems from them.

13.3.1. On unrestricted noun stems. The Attributive-Instrumental prefix is added to unrestricted nouns to provide a stem of the right class for the prefixation of the Third Person Subjective prefix g- (8.4).

gúšu? N 'pet':

g it.gúšu? N 'his (own) pet'

It is also added to nouns that are not ordinarily possessable, when it is desired to show that they are characteristic of the noun that is included in the syntactic expansion of the possessive prefix.

t́á·gɨm N 'pine nuts':

dabó?o + ?it.t́á·gɨm N 'white man's nuts'

ćišó·li? N 'wild lettuce':

dabó?o + ?it.ćišó·li? N 'store lettuce': "white man's lettuce"

Quite occasionally this suffix derives a noun signifying an artifact or tool that is related to the underlying noun.

dí?yu N 'fire':

?it.dí?yu N 'stove'.

Finally, this prefix is applied to stems derived with <d-> Nominal from vowel-initial intransitive verb stems, and here the derived form has the same semantic relationship to the underlying verb that it does in the directly deverbal con-

struction (14.4).

e í[m]deg Vi 'to dig':

?it.d e í[m]deg /?itdémdek/ 'stick or bar to dig with'

13.3.2. On possessed nouns. The prefix <?it-> it- is added to possessed nouns to provide a base for inflection with g- Third Person Subjective.

g it.bá·ba? N 'his (own) father's father'.

13.3.3. On attributive-possessed nouns. The prefix <?it-> is added to attributive-possessed nouns for the same formal reason that it is to possessed nouns.

g it.gú?u i? /gitgú?yi?/ 'her (own) mother's mother'

13.4. m^e- Affinal Relative. A prefix m^e- is found occurring on two possessed nouns (Np), both terms for a parent's sibling of the same sex, and deriving from them nouns of the same distribution class referring to affinal relatives of the opposite sex from ego. The sex of the individual designated remains the same in the underlying and the derived forms, but the sex of the intervening relative is male in both cases.

The phonemically transcribed forms are not complete words, as they lack the overt prefix that these nouns will always take.

ʔéwši? Np 'father's father':

m^e.ʔéwši? /meʔéwši?/ Np 'husband's brother'

šáša? Np 'mother's sister':

m^e.šáša? /mašáša?/ Np 'brother's wife (of a man)'

13.5. Prefixes deriving nouns from unrestricted noun stems. There are three prefixes that appear to derive unrestricted noun stems from other unrestricted noun stems. Each of these occurs on only one or two stems, and the evidence for the isolation of all of them is not very strong.

13.5.1. gol-, gu-. A noun-deriving prefix gol-, gu- may be isolated if the unrestricted noun /golsísi?/, /gusísi?/ 'wild potato' is considered to be derived from the unrestricted noun sísi? 'gland, saliva gland, tonsil'. RJ uses the form with gu-, other informants (BH, HP, JW) use the form with gol-.

gol.sísi?, gu.sísi? N 'wild potato'

13.5.2. sim-. An otherwise unattested noun-deriving prefix sim- may be recognized if the unrestricted noun /simtá·gim/ 'sugar pine' is compared with the unrestricted noun tá·gim 'piñon pine nut'. The semantics of this comparison is not very clear.

sim.tá·gim N 'sugar pine'

13.5.3. ?uli-. A noun-deriving prefix ?uli- is perhaps present in the two plant names /?ulihóla?/ 'mountain gooseberry' (RJ) and /?ulipánca/ 'cress sp.'. The only evidence for the isolation of this prefix, aside from the comparison of these two nouns, comes from a man's name pánca, which is said to be a short form of the latter word. This prefix is probably not to be equated with ?uli- Kin (14.7).

?uli.hóla? N 'mountain gooseberry' (RJ)

?uli.pánca N 'cress sp.'

13.6. Prefixes deriving nouns from restricted noun stems. There are four prefixes that appear to derive unrestricted noun stems from restricted noun stems. Each of them occurs on only one or two stems. One of them, b-, perhaps occurs also on dependent verb stems.

13.6.1. m-. An otherwise unattested noun-deriving prefix m- may be recognized if the unrestricted noun /mí·biʔ/ 'awl' is compared with the restricted noun í·biʔ 'bone'.

m.í·biʔ N 'awl'

13.6.2. c̓im-. An otherwise unattested noun-deriving prefix c̓im- may be recognized by comparing the unrestricted noun /c̓imí·biʔ/ 'hips' with the restricted noun í·biʔ 'bone'.

c̓im.í·biʔ N 'hips'

13.6.3. <tul-> 'of the hand'. A noun-deriving prefix <tul-> tul- ~ tuli- 'of the hand' occurs in two nouns that are clearly derived from restricted noun stems. One of these underlying stems is also a member of Vd, but since the membership in Nr is shared by both the stems, it is assumed that this is the relevant class.

íp̓iʔ Nr 'blanket':

tul.íp̓iʔ N 'fingernail': "blanket of the hand"

íc̓ig Nr,Vd 'stem, stalk; to stretch':

tul.íc̓ig /tulíc̓ik/ N 'finger': "stalk of the hand"

For the allomorphy of this prefix, see 4.5.4. For its possible derivation, see 19.4.

13.6.4. b-. A noun-deriving prefix b-, or possibly b^e-, appears to derive the unrestricted noun /báln/ 'fin; shoulder blade' from the restricted noun stem áln 'arm, wing'.
áln Nr 'arm, wing':

b.áln (or [b^e.áln]) N 'fin; shoulder blade'

The same prefix may be present in the noun /bícik/ 'stone pestle', since the underlying stem is a member of Nr, as well as of Vd; see 14.10.1. If the form of the prefix is b^e-, it is perhaps to be equated with b^e- Indefinite Object; see 14.6.

13.7. tu-. A derivational prefix with unique distribution is found in the unrestricted noun stem /tutí·yel/ 'thumb', which appears to be derived by means of a prefix tu- from the adjectival stem í·yel 'big' nominalized with ṫ- Third Person Nominal.

tu.ṫ í·yel N 'thumb'

13.8. Suffixes deriving nouns from nouns. There are seven suffixes that derive nouns from other nouns, but most of these are relatively unproductive or even of uncertain analysis. These suffixes are <-i?> Attributive-Agentive, deriving attributive-possessed nouns from possessed nouns (13.9); the two Diminutive suffixes, -á·c̓i (13.10) and <-hu> (13.11), deriving unrestricted noun stems from other unrestricted noun stems; the primarily verbal Defunctive suffix -uŋil (13.12), added to unrestricted, restricted, and possessed noun stems to derive members of the same classes; the rather dubious Feminine suffix -u? (13.13); and two suffixes which are probably to be equated with dependent verb stems, -á?y 'discarded' (13.14) and -éwe? Resultative (13.15). The constructions involving the latter two suffixes might be alternatively interpreted as constructions wherein instrumental prefixes are derived from the nouns by -$^{\varepsilon}$ Instrumental Prefix Formative (19.2), and then added to the dependent verb stems á?y 'away, out of the way, discarding' and íwe? 'on the ground', the resulting intransitive verb stems being used as nouns. However, because of the excessive frequency of occurrence of these forms as nouns, it seems better to recognize these suffixes. The semantic equation of -á?y with the dependent verb stem is quite straightforward, that of -éwe? is more metaphorical. Both these suffixes are also added to verb stems (14.14,.15); -á?y is more common on nouns, and -éwe?, on verbs.

13.9. Attributive-possessed nouns. A class of ten attributive-possessed nouns is formed from those possessed nouns that indicate relatives of the second or third ascending generations by the addition of the Attributive-Agentive suffix <-i?> -i? ~ -'-..-'. These derivatives are the reciprocal kinship terms for the corresponding relatives of the descending generations. The inflection of these nouns differs from that of possessed nouns in that for a first or second person possessor the objective pronominal prefixes are used. Thus, for example, /le?éleli?/ 'my daughter's child (man sp.)' more literally means 'the one who has me as mother's father'. For the expression of a third person possessor, the inflection of these nouns is identical to that of possessed nouns, i.e., the prefix d^e- is used even when the possessor is expressed.

The sex of the individual in question is never indicated by a noun of this class, in contrast to most of the underlying nouns. It may be shown by the words /mé·hu/ 'boy' or /šáwlamhu/ 'girl' used in apposition to the kinship term.

For the allomorphy of the suffix, see 4.17.

The complete list of examples follows. Most of the forms are transcribed phonemically, as well as morphophonemically, but it should be realized that these are not complete words, as these nouns, like possessed nouns, never occur without an overt prefix.

a. Terms for grandchildren derived from terms for grandparents.

bá·ba? Np 'father's father':

bá·[ˀ]ba?.ˀ /bá·p̓a?/ 'son's child (of a man)'

?élel Np 'mother's father':

?élel.i? 'daughter's child (of a man)'

?áma? Np 'father's mother':

?á[ˀ]ma?.ˀ /?á?ma?/ 'son's child (of a woman)'

gú?u Np 'mother's mother':

gú?u.i? /gú?yi?/ 'daughter's child (of a woman)'

b. Terms for grandnephews and grandnieces derived from terms for granduncles and grandaunts.

sáksag Np 'father's father's brother':

sáksag.i? 'brother's son's child (of a man)'

?é·bu Np 'mother's father's brother':

?é·[ˀ]bu.ˀ /?é·p̓u?/ 'brother's daughter's child (of a man)'

tó?o Np 'grandmother's brother':

tó?o.i? /tó?yi?/ 'sister's grandchild (of a man)'

sáma? Np 'grandfather's sister':

sá[ˀ]ma?.ˀ /sá?ma?/ 'brother's grandchild (of a woman)'

bík̓ɨ Np 'grandmother's sister':

bík̓ɨ.i? /bík̓ɨyi?/ 'sister's grandchild (of a woman)'

c. Term for great-grandchild, great-grandnephew, or great-grandniece derived from term for great-grandparent, great-granduncle, or great-grandaunt.

p̓ísew Np 'relative of third ascending generation':

p̓ísew.i? 'relative of third descending generation'

13.10. -á·ć̇i Diminutive. The non-productive Diminutive derivative suffix -á·ć̇i has been found added to three unrestricted nouns to form nouns of the same distribution class. These nouns are not found with possessive prefixes.

dé?eg /dé?ek/ 'stone, rock':

dé?eg.á·ć̇i /de?gá·ć̇i/ 'gravel' (RJ, HP, FM), 'small stones, but bigger than gravel' (BH)

máln /máln̈/ 'acorn':

máln.á·ć̇i /malná·ć̇i/ 'small acorn sp.' (BH), 'mountain black oak acorn' (RJ)

šú·gil 'wool[illegible] Wyethia, Wyethia mollis Gray':

šú·gil.á·ć̇i 'balsam-root, Balsamorhiza sagittata Nutt.'

This suffix may also be present, at least historically, in ?awá·ć̇i (BH, HP, FM, JW), ?uwá·ć̇i (RJ) 'minnow sp.'.

13.11. <-hu> Diminutive. The Diminutive suffix <-hu> -hu ~ -u is isolable only by the comparison of idiolectal variants of a few stems that occur both with and without the suffix. The two clearest cases are names of birds. The word for 'hummingbird' is /mémlew/ for most informants, but LE used the form /mémlewhu/. For a certain bird found in the western foothills of the Sierra Nevada the term /mákmak/ was given by RJ and BH, but /mákmakhu/ by JW. For a third bird, a species of blackbird, JW gave the term /dukgagáw/, while BH apparently uses this suffix in the term /duʔgagá·gawhu/. The variation in the stem makes this a less compelling example; also, there may be a misrecording present in the -k- vs. -ʔ- and in the length of the stressed vowel. The only other evidence for the isolation of this suffix derives from the variant forms of the word for 'bullhead' (fish sp.). RJ and BH gave /ʔawahót/, while RJ and JW gave /ʔawahótawhu/. Here again we have allomorphy, either of the stem or of the suffix (4.38).

This suffix occurs on names for birds, fish, mollusks, reptiles, insects, and plants, of which the complete list is given below. The meaning of diminutiveness is not clearly established, because of the lack of a difference in meaning between corresponding forms with and without the suffix. Most of the creatures and plants whose names bear this suffix are smallish in size, but not all of them are especially small in relationship to other living beings of the same general type. Thus, among the birds, the list includes the names for

some large species, such as 'pelican' and 'bittern'. The plants denoted by terms with this suffix are all small, mostly having edible or medicinal roots or seeds; there are no names for trees or bushes. It is also noteworthy that none of these words refers to mammals or other four-footed creatures.

There are three words that end in voiced resonant + voiceless resonant + /u/ (/lMu/ and /wLu/) that perhaps may be said to contain this suffix, or that may have contained it historically. There may have been a sound change of the cluster voiced resonant + voiced resonant + /h/ to voiced resonant + voiceless resonant. Thus, for example, */sélmhu/ > /sélMu/. This is not the regular synchronic morphophonemic change, however, which would be the insertion of /ɨ/ between the first two consonants of the cluster, giving, for our illustrative form, */sélɨmhu/ (3.13). These forms may well be remnants of an earlier morphophonemic alternation, dating back to a time prior to the introduction of phonemic /ɨ/. No attempt has been made to introduce an additional morphophoneme to make this a regular change, because of the lack of decisive evidence that the suffix in question is in fact present in these words. One of the words is the name of an insect, and two are plant names. The words are:

sélMu N 'long-legged insect sp.'

m^{e}dukwáwLu N 'common sunflower'

mugáwLu N 'plant sp.'.

This suffix is not to be confused with <-hu> Nominalizing (14.13), nor with the [hu] in mé·hu Vi,N 'to be a boy; boy',

although there may of course be some historical relationship between these elements.

It is thought that this suffix may have multiple origins, being in part indigenous and in part due to loan words from Uto-Aztekan languages, that originally ended in -Cu, and that this may partly account for its allomorphy; see 4.19.

All words bearing this suffix are unrestricted noun stems.

a. Names for birds.

mémlew.hu N 'hummingbird' (LE only)

mákmak.hu N 'bird sp. found on western foothills of Sierra Nevada' (JW only)

du?gagá·gaw.hu N 'blackbird sp.' (BH only)

ċidó·dok.hu (RJ, FM, JW), ċidó·dok.u (BH) N 'robin'

síwsiw.hu N 'bird sp.'

dóyšiw.hu (RJ, BH), dó·šiw.hu (FM, JW) N 'bird sp.'

ziwziw.hu N 'woodpecker sp.' (FM)

ċ́ikċ́ik.hu (RJ, FM, JW), ċ́ikċ́ik.u (BH) N 'pelican'

?lúḱem.hu N 'bittern'

lé?ep.hu (JW), lé?p.u (RJ, BH; recorded /lé?pu?/ for BH) N 'large aquatic bird sp.'

perhaps also:

gá·ku N 'small duck sp.' (BH only)

b. Names for fish.

bákwan.hu N 'Tahoe sucker'

?á?wak.hu (FM, JW), ?á?wak.u (RJ, BH, HP) N 'cui-ui sucker'

maṫóšaw.hu N 'whitefish'

?awahótaw.hu (RJ, JW) N 'bullhead'

c. Name for a mollusk.

pí·cim.hu N 'periwinkle'

d. Name for a reptile.

múšgul.hu N 'water snake'

e. Names for insects.

pa?gó·tom.hu (RJ, BH), pa?gó·tim.hu (FM), po?gó·tom.hu (JW) N 'grasshopper'

mecimúlcuk.hu (BH), mecimú·cuk.hu (RJ) N 'large striped insect sp.'

perhaps also:

sélMu N 'long-legged insect sp.'

f. Names for plants.

silá·taw.hu N 'small tiger lily'

sabá·sam.hu N 'wild rhubarb'

cé·gel.hu N 'wild onion sp.'

cilé·bil.hu N 'small wild onion sp.'

tuyá·gim.hu N 'western peony'

zíwziw.hu N 'plant sp. similar to lupine' (FM)

wayám.hu N 'plant sp. with edible seeds'

perhaps also:

m^{e}dukwáwLu N 'common sunflower'

mugáwLu N 'plant sp.'

13.12. -uŋil Defunctive. The Defunctive suffix -uŋil is added to nouns denoting persons or creatures to derive nouns denoting the corresponding dead individuals; there is also one example in which this suffix is added to the word for 'flesh' to express its disappearance due to death and decay. Some forms containing this suffix have the force of profanity or imprecation, as they convey the feeling of wishing that the individual addressed were dead.

This suffix occurs on unrestricted noun stems, restricted noun stems, and possessed nouns, and does not change the class of the stem to which it is added. There is an occurrence of -i? Attributive-Agentive following this suffix on a noun. There are two occurrences of verbal nominalizing suffixes, /išgi/ and /išge/, added to nouns bearing -uŋil; these have the appearance of being slips of the tongue, under the pressure of the more common occurrence of -uŋil on verbs, rather than a productive pattern of verb derivation.

a. On unrestricted nouns.

t́ánu.uŋil /t́ánuyuŋil/ 'dead person, dead people'

Profanity: /t̀́ánuyuŋili?/ 'dead people!'

Imprecations: /t́ánuyuŋilduŋ t́é? Mé?le/ 'you oughta be dead!' (RJ), /t̀́ánuyuŋil mé?igi/ 'you are a dead person' (BH), /t̀́ánuyuŋilduŋ dagumhámu?í·k̀i? mé?igi/ 'you look like a dead person!'

s[uk]úku?.uŋil /sukúku?uŋil/ 'dead dogs'

Imprecation: /sukúku?uŋil Mé?igi/ 'you damn dogs!' (BH)

di y^{e} íyalu?.uŋil /diyéyalu?uŋil/ 'my dead relatives'

M[il^{u}]ílu.uŋil /Milúluyuŋil/ '(his) dead friends' (RJ)
(this stem is normally a possessed noun)

géwe.uŋil /géweyuŋil/ 'dead coyote, damn coyote'

Imprecation: /géweyuŋilduŋ t̓é? ?é?igi/ '(being) darned Coyote!' (RJ)

b. On a restricted noun.

t̓ á·daš.uŋil 'former flesh (of a skeleton)' (HP)

c. On possessed nouns.

di ?élel.uŋil 'my late mother's father'

di ?áma?.uŋil 'my late father's mother'

di sáksag.uŋil 'my late father's father's brother'

di ?m[al^{u}]álu.uŋil /di?malóloyuŋil/ 'my late parents'

13.13. -u? Feminine. A rather dubious Feminine suffix -u? may perhaps be isolated by comparing the possessed noun ŋámu? 'daughter' with the possessed noun ŋá·m 'son'. The stem in question would have an allomorph with a short vowel when taking this suffix, but this already occurs, for some speakers, when it takes the Plural affix. These speakers have the plural form /ŋamím/ as contrasted with the /ŋamí·m/ of others. Perhaps opposed to this suggestion is the plural form for 'daughter', ŋ[am^{u}]ámu? /ŋamómo?/, wherein the u-coloring of the Plural infix seems to suggest that the -u is part of the stem.

ŋá·m Np 'son':

ŋám.u? Np 'daughter'

13.14. -á?y 'discarded'. A suffix -á?y occurs on unrestricted noun stems, deriving stems of the same class that have the added meaning of being discarded, worn out, or superseded. This suffix is doubtless to be equated with the dependent verb stem á?y 'away, out of the way, discarding'. For this suffix on verb stems, see 14.15.

mókgo N 'shoe':

mókgo.á?y /mókgoyáy?/ N 'old shoe'

d émlu N 'food':

d émlu.á?y /démluyáy?/ N 'garbage'

bu mé·l i? N 'husband':

bu mé·l i?.á?y /bumé·li?áy?/ N 'ex-husband'

13.15. -éwe? Resultative. The Resultative suffix -éwe? occurs quite infrequently on unrestricted noun stems to form derived stems of the same class. Some of these underlying nouns are derived from verbs with <d-> Nominal, apparently for purely formal reasons in the case of vowel-initial stems. In this case the derived form has the same semantic relationship to the underlying verb as it does without this intervening layer of derivation. When this suffix is added to an underived noun, the derived form describes the physical result of an action, such as 'gathering', applied to the noun. For this suffix added to verbs, see 14.14.

d ^{e} í[m]ge? N '(act of) grinding; metate':

d ^{e} í[m]ge?.éwe? /démge?éwe?/ N 'something ground up'

ʔtá·gɨm N 'pine nut':

ʔtá·gɨm.éwe? N 'gathered pine nuts'

14. Derivation of nouns from verb stems. Nouns are derived from verb stems both by means of prefixes (14.1-14.11) and suffixes (14.12-14.15).

14.1. Prefixes deriving nouns from verbs. The productive prefixes that derive nouns from verbs are <d-> Nominal, <t-> Third Person Nominal, and <ʔit-> Attributive-Instrumental. The remaining prefixes (14.5-14.11) are highly restricted in their application.

14.2. <d-> Nominal. The Nominal prefix <d-> d- ~ d^e- is added quite freely to intransitive verb stems of varied formation to form unrestricted noun stems which may not take pronominal prefixes. This construction, like that of the following section, thus straddles the borderline between derivation and inflection -- it is derivational in that the nouns are derived from verb stems, but it is inflectional in that the nouns are closed to further inflection.

The semantic relationships between the verbs and the derived nouns vary considerably according to the underlying meanings. The noun may express the action of the verb, often in a reified sense ('a laugh', 'thunder', 'a cold'). It also often has an agentive relationship to the verb, expressing either a person or an object that characteristically performs the action.

When this prefix is added to verb stems beginning with a vowel, the Attributive-Instrumental prefix <ʔit-> (14.4) may be added before it, but this other prefix may not be added when the underlying stem begins with a consonant.

a. On primary intransitive verb stems.

ásaw Vi 'to laugh':

d.ásaw N 'a laugh, laughter'

ímeḱ Vi 'to cough; have a cold':

d.ímeḱ /dímek/ N 'a cough; a cold'

haḱá·ḱiʔ Vi 'to tell a lie':

d^e.haḱá·ḱiʔ /dahaḱá·ḱiʔ/ N 'person that tells lies, liar'

b. On derived intransitive verb stems.

w híwi Vi 'to thunder':

d^{e}.w híwi /dewhíwi/ N 'thunder'

d^{e} í?iš Vi 'to snow, snow to fall':

d^{e}.d^{e} í?iš /dedé?eš/ N 'snow (falling), snow-storm'

h^{u} ámad ug Vi 'wind to blow from the north':

d^{e}.h^{u} ámad ug /dahómaduk/ N 'a wind blowing from the north'

w m^{u} ásd Vi '(place) to be wet, damp':

d^{e}.w m^{u} ásd /dawmósot/ N 'wet place, damp place'

wd í?iš Vi '(tree) to stand':

d^{e}.wd í?iš /dewdí?iš/ N 'tree'

kM^{u} í?iš Vi '(sg.) to run':

d^{e}.kM^{u} í?iš /dekMú?uš/ N 'train, vehicle': "runner"

šu?m í·sib Vi 'to throw straight':

d^{e}.šu?m í·šib /dešu?mí·šip/ N 'person who throws straight'

14.3. <ṫ-> Third Person Nominal. The Third Person Nominal prefix <ṫ-> ṫ- ~ d^e-, expanded syntactically with a third person nominal, is added to transitive verb stems to nominalize them while expressing their object.

ṫánu + d^e.yúli ha /ṫánu deyúliha/ 'killer': lit., "person-killer"

ṫánu + ṫ.íšiw ha /ṫánu ṫíšiwha/ 'doctor, curer, healer': lit., "person-healer"

ṫánu + ṫ.ém[ʾ]lu ʾ /ṫánu ṫémʔluʔ/ 'man-eater'

déʔeg + d^e.wg^u áyab ha /déʔek dawgóyapha/ 'a man's name': "making holes through rocks"

dáŋal + d^e d^u p^u ápuš ha /dáŋal dadopópošha/ 'arsonist': "burner of many houses"

14.4. <ʔit-> Attributive-Instrumental. The Attributive-Instrumental prefix <ʔit-> derives nouns from berb stems that express the instrument by which the action expressed by the verb is accomplished.

wé·ge Vi 'to sweep':

ʔit.wé·gi N 'broom': "for sweeping"

m ášu Vi 'to wash':

ʔit.m ášu N 'soap': "for washing"

ċiw í·ḳił Vi 'to swing back and forth':

ʔit.ċiw.í·ḳił N 'swing': "for swinging back and forth"

w á·ḳid Vi 'to point':

ʔit.w á·ḳid N 'index finger': "for pointing"

14.5. <bu?-> Dual. A few of the stems formed from intransitive or transitive verb stems by the Dual prefix <bu?-> bu?- ~ bu- occur as nouns, rather than or in addition to, as verbs. The meaning imparted by this prefix seems to be that of two people dwelling together because of matrimony or interacting in a hostile fashion. Some of the stems are not attested other than in these derived nouns.

a. On intransitive verb stems.

nénťuš Vi 'to be an old woman':

bu.nénťuš N 'wife'

mé·l i? Vi(?) (literal meaning unknown):

bu.mé·l i? N 'husband'

áŋal i? Vi 'to dwell':

bu?.áŋal i? N 'son-in-law': "dwelling together"

é? yi? Vi 'to have as being':

bu?.é? yi? N 'rival in affairs of the heart; husband's brother's wife; wife's sister's husband; ex-wife's husband; ex-husband's wife': "having together"

b. On transitive verb stems.

km^{e} íwš i? Vt (meaning uncertain; perhaps 'having to hunt for with a spear'):

bu.km^{e} íwš i? N 'enemy'

14.6. b^e- Indefinite Object. Many of the stems formed from intransitive or transitive verbs by the prefix b^e- Indefinite Object are used as nouns, but by no means all such stems are attested in this usage. Of those found as nouns, only a few are attested in use as verbs also, but doubtless most of them could be so used. Several of the nouns have specialized meanings, and some of the underlying stems are not attested other than in these derived nouns.

a. On intransitive verb stems.

$ʔl^u$ á·gu Vi 'to be tied in a knot, be knotted':

$b^e.ʔl^u$ á·gu Vi 'to tie knots in a string to be used to compute the number of days remaining before a gathering'; as noun, 'knotted string used to compute the number of days remaining before a gathering, which was sent out as a sort of invitation or announcement'

$ʔl^u$ áhad Vi 'to be tied across' (attested only in this derivative):

$b^e.ʔl^u$ áhad N 'bow; gun': "tied across"

$ʔl^u$ áyab Vi 'to be tied through' (attested only in this derivative):

$b^e.ʔl^u$ áyab N 'Indian football': "tied through"

h^u íʔiš Vi '(wind) to blow':

$b^e.h^u$ íʔiš N 'archery': "being blown like the wind (?)"

g ámad Vi 'to go through a tubular opening (?)' (attested only in this derivative):

b^e.g ámad N 'fish trap': "made to go through a tubular opening (?)"

d íli? Vi 'to stand upwards (?)' (attested only in this derivative):

b^{e}.d íli? N 'fire-drill; match': "being stood upwards (?)"

b. On transitive verb stems.

s^{e} íhuḱ Vt 'to dry by heat':

b^{e}.s^{e} íhuḱ Vi 'to put (something) out to dry, hang (something) out to dry'; as noun, 'things hung or laid out to dry'

béŋil Vt 'to measure, draw, imitate, copy, try out':

b^{e}.béŋil Vi 'to take a picture'; as noun, 'picture, plan, measure'

b íps Vt 'to pick up':

b^{e}.b íps N 'Paiute (a card game played by women)': "picking up"

g^{u} áćal Vt 'to lead through a crack (?)' (attested only in this derivative):

b^{e}.g^{u} áćal N 'fish net made of willows': "leading through cracks (?)"

14.7. ʔuli- Kin. A prefix ʔuli- is found added to a few stems, presumably all intransitive verb stems, to form nouns expressing human relatives or friends. There is no evidence as to whether these derived nouns are possessed nouns or unrestricted noun stems; it seems probable that they are the former. Not all the underlying stems are otherwise attested.

šáwlam Vi 'to be a girl':

ʔuli.šáwlam N or Np 'female relative (not in direct line of descent), female friend'

m^{e} t́é·liw iʔ Vi 'to have as a man (?)':

ʔuli.m^{e} t́é·liw iʔ N or Np 'male relative (not in direct line of descent), male friend'

ʔn^{u} y^{e} íyš iʔ Vi(?) (meaning unknown and segmentation tentative):

ʔuli.ʔn^{u} y^{e} íyš iʔ N or Np 'old relatives':

/diʔuliʔnuyéyši?/ 'my old relatives'

14.8. <w->. An otherwise unattested noun-deriving prefix <w-> w- ~ wi- may be isolated by comparing the noun /wí·gi/ 'eye' (plural /wigí·gi/) with the transitive and dependent verb ^{i}í·gi 'to see, sense' (plural /gí·gi/).

w.^{i}í·gi /wí·gi/ 'eye'

wi.g ^{i}í·gi /wigí·gi/ 'eyes'

14.9. tu-. A noun-deriving prefix with a unique distribution seems to occur in the noun /tupíp̓iwi?/ 'skunk', which appears to be derived with a prefix tu- from a stem consisting of the plural form of íp̓iw Vi 'to pass wind' with suffixed -i? Attributive-Agentive.

tu.p̓ íp̓iw i? /tupíp̓iwi?/ N 'skunk'

14.10. Prefixes on dependent verb stems. Five prefixes have been noted that seem to derive nouns from dependent verb stems.

14.10.1. b-. A prefix b- appears to occur in b.íhe? N 'pine nut gathering pole', if this is connected with the dependent verb stem íhe? 'to reach with a pole'. The same prefix may be present in b.íc̓ig /bíc̓ik/ N 'mano', if this is compared with the stem íc̓ig Vd,Nr 'to stretch; stem, stalk'.

14.10.2. c̓-. A prefix c̓- appears to occur in c̓.ápu? N 'ashes' if this is connected with ápu? Vd 'gray'. The same prefix may occur in c̓.ák̓ub i? N 'mud' and c̓.ímel N 'whiskers', if these are connected respectively with ák̓ub Vd 'in or into mud' and ímel Vd 'descriptive of whiskers, face hair'.

14.10.3. mug-. A prefix mug- appears to derive the noun /mugáhat/ 'bridge' from the dependent verb stem áhad 'across'. The same prefix may be present in the noun /mugí·guš/ 'fence', as both are long horizontal structures.

14.10.4. saw-. A noun-deriving prefix saw- (or $s^{e}w$-) appears to occur in the noun /sawásaŋ/ 'red ochre', which is probably derived from the dependent verb stem ásaŋ 'red'. This noun also occurs with a suffix -i? without any apparent difference in meaning.

14.10.5. mešg-. A prefix mešg- (or $m^{e}šg$-) appears to derive the noun /mešgícet/ from the stem íc̓ed Vd 'to prick, sting'.

14.11. Prefixes on plural dependent verb stems. There are two prefixes that appear to derive nouns from the plural form of dependent verb stems.

14.11.1. buk-. A noun-deriving prefix buk- may perhaps be recognized in the noun /bukwéwe/ 'log' if one connects it with the plural form of the dependent verb stem íwe? 'on the ground'.

14.11.2. tod^{e}-. A prefix tod^{e}- appears to derive the noun /todepílpili?/ from the plural form of the stem ílpil Vd 'blue', which also takes a suffix -i?.

14.12. Suffixes deriving nouns from verbs. There are just three suffixes that derive nouns from verbs. These are <-hu> Nominalizing (14.13), -éwe? Resultative (14.14), and -á?y 'discarded' (14.15). All of these are added to intransitive verb stems only. The latter two are possibly to be equated with dependent verb stems; see the discussion in 13.8.

14.13. <-hu> Nominalizing. The Nominalizing suffix <-hu> -hu ~ -u occurs on three intransitive verb stems (Vi), which express categorizations of persons according to age and sex, to form unrestricted noun stems (N), which are the terms for the persons of the corresponding categories. This suffix also occurs on the corresponding plural verb stems. This suffix seems to be sememically equivalent to <d-> d- ~ d^e- Nominal, since only one of these morphemes occurs with any given stem. Compare, for instance, [d^e ʔmóʔmoʔ] /daʔmóʔmoʔ/ 'woman' with [t̓é·liw hu] /t̓é·liwhu/ 'man'. It might be pointed out that the stem mé·hu Vi,N 'to be a boy; boy' does not contain this suffix.

For the allomorphy of this suffix, see 4.18.

a. On primary stems.

t̓é·liw Vi 'to be a man':

t̓é·liw.hu N 'man'

nént̓uš Vi 'to be an old lady':

nént̓uš.u N 'old lady'

šáwlam, šówlam Vi 'to be a girl':

šáwlam.hu, šówlam.hu N 'girl'

b. On plural stems.

t̓[el^i]é·liw Vi 'to be men':

t̓[el^i]é·liw.hu /t̓elí·liwhu/ N 'men'

n[et̓^{u}]ént̓uš Vi 'to be old ladies':

n[et̓^{u}]ént̓uš.u /net̓úntušu/ N 'old ladies'

š[aw]áwlam, š[ow]ówlam Vi 'to be girls':

š[aw]áwlam.hu /šawáwlamhu/, š[ow]ówlam.hu /šowówlamhu/ N 'girls'

14.14. -éwe? Resultative. The Resultative suffix -éwe? is added to intransitive verb stems to derive unrestricted noun stems expressing the physical entity resulting from the action described by the verb. Apparently this suffix cannot be added to transitive verb stems, as many of the underlying intransitive stems are derived from transitive verb stems, by <?um-> Intransitivizing or b^e- Indefinite Object, as well as from neutral verb stems by m- Intransitive. This suffix is perhaps to be equated, at least historically, with the dependent verb stem íwe? 'on the ground'.

sésm Vi 'to vomit':

sésm.éwe? /sesméwe?/ N 'vomit'

?á·ga Vi 'to peel and dress willows down evenly':

?á·ga.éwe? /?á·gayéwe?/ N 'willows peeled and made uniform'

m áwb Vi 'to bundle':

m áwb.éwe? /mawbéwe?/ N 'bundle'

m étb Vi 'to pound into flour':

m étb.éwe? /metbéwe?/ N 'pine nuts or acorns pounded into flour'

b˘ ílpil Vi 'to slice':

b˘ ílpil.éwe? /bélpiléwe?/ N 'slice'

b^e b˘ ámad Vi 'to dress peeled willows down evenly to prepare them for weaving':

b^e b˘ ámad.éwe? /babá·madéwe?/ N 'willows prepared for weaving' (also called /dá·bak/)

b^e d^u ášuŋ Vi 'to put split willows in the sun for reddening':

b^{e} d^{u} ášuŋ.éwe? /badóšoŋéwe?/ N 'split willows reddened in the sun'

?$^{e}_{m}$ d^{e} ácaw Vi 'to pound up meat':

?$^{e}_{m}$ d^{e} ácaw.éwe? /?amdácawéwe?/ N 'pounded up meat'

14.15. -á?y 'discarded'. The suffix -á?y occurs very rarely on intransitive verb stems, or possibly themes formed from such stems, to derive unrestricted noun stems expressing a location where physical traces of a former action are found. For this suffix on nouns, see 13.14.

w^{e} í[m]pel Vi 'to dig around':

w^{e} í[m]pel.á?y /wempeláy?/ N 'old diggings'

ṫ^{e} áhi giš Vi '(snake-like object) to crawl along':

ṫ^{e} áhi giš.á?y, occurring in: /?átabi? ṫáhigišáy?/ N 'name of the canyon above Genoa, Nevada, where the father of all fish is said to have crawled over into Lake Tahoe'

15. Verb themes as nouns. A common pattern of formation of names of places and persons is the use of a verb theme formed with <?–> ?– ~ Ø– Third Person expanded with a noun expressing the subject. A few personal names also occur in which the prefix is expanded for object (section c). There are likewise several personal names in which the prefix is not expanded for either subject or object (section d); for the majority of these, in which the prefix has the zero allomorph, it is merely a hypothesis based on the analogy of the other names that these are instances of themes, rather than stems, used as nouns.

One place name has been noted in variant forms (not necessarily applying to the same place), one in this pattern and one with the verb nominalized by d^{e}– Nominal; this means literally "rocks in a row" or "ridge".

dé?eg + Ø.g^{u} í?iš /dé?ek gú?uš/ 'rock formation south of Nixon, Nevada; rock formation near Dewdrop' (FM)

dé?eg + d^{e}.g^{u} í?iš /dé?ek degú?uš/ 'rocky ridge south of Grass Valley, California' (RJ)

a. Place names, with theme including subject.

dé?eg + Ø.wd ápuš /dé?ek wadápuš/ 'Cave Rock (on southern shore of Lake Tahoe)': "rock standing grayly"

síyuk + ?.íme? /síyuk ?íme?/ 'a spring near Fish Spring Flat': "sage hen drinking"

dá·bal + Ø.ḱil˘ á?am /dá·bal ḱilá?am/ 'region around the Carson River about one mile west of the bridge for highway 395': "sagebrush pointing into valley"

má·daš + Ø.wd í?iš /má·daš wedí?iš/ 'Lone Pine Canyon': "pine tree standing" (this is a place among the pine nut hills where there is a single pine tree growing)

ṫáša? + Ø.?l^{u} íwe? /ṫáša? ?lúwe?/ 'a grove of cottonwood trees above Wadsworth, Nevada': "cottonwood trees standing"

símiši? + Ø.g^{u} áhad /símiši? góhat/ 'growth of lodge-pole pines running in a streak across Hope Valley': "lodge-pole pines stretching across"

gó·ṫa? + Ø.ṗawá·wa /gó·ṫa? ṗawá·wa/ 'Young's Crossing': "group of frogs making noise"

m álit̀ + Ø.k̀il$^{\vee}$ íti? /málit k̀ilé·ti?/ 'ridge around Hoboe Springs': "trap pointing down"

b. Personal names, with theme including subject.

c̀ ímel + Ø.gópik̀ /c̀ímel gópik/ 'a man's name': "whiskers whistling"

d í·bis + Ø.wy^{u} í?iš /dí·bis weyú?uš/ 'a woman's name': "vulva smelling"

c. Personal names with theme including object.

?úc̀uli? + Ø.y ^{u} áŋa? /?úc̀uli? yóŋa?/ 'a man's name': "tying on a chipmunk"

yá·gàl + Ø.ṗ á·ṫi /yá·gàl ṗá·ṫi/ 'a man's name': "testicle climber"

d. Personal names, with theme not including subject or object.

Ø.k̀ul^{e} íwe? /k̀uléwe?/ 'a man's name': "lying on the ground"

Ø.tug íl̀pil /tugíl̀pil/ 'a man's name': "having blue eyes"

Ø.ċig ímhum /ċigímhum/ 'a man's name': "having sharp buttocks"

Ø.m^{e}lˇ í·gel am /melé·gelam/ 'a man's name': "jumping around a corner"

Ø.wliw k^{u} íškuš /weliwkúškuš/ 'a man's name': "short person spinning around"

y^{e}.g í·ċɨl ^{ɛ} " á?y /yegí·ċɨlay?/ 'a man's name': "having a big scar"

16. Derivation of adverbs with postpositions. Adverbs are derived from nouns, pronouns, quantitatives, and (to a restricted extent) other adverbs by means of a set of suffixed postpositions that have meanings of spatial position and other relationships that are quite analogous to those of the English prepositions. Underlying nouns, pronouns, and quantitatives are completely inflected before taking these suffixes. Underlying nouns and adverbs may be nominalized or adverbialized finite verbs.

16.1. Postpositions added to nouns.

díšu N 'digging stick'; -lu Instrumental ('with, by means of'):

díšu.lu A 'with a digging stick'

l^{e} áŋal N 'my house'; -a Locative ('in, on, at'):

l^{e} áŋal a /láŋala/ A 'on my house, at my house'

l^{e} áŋal ši N 'our (du. inc.) house'; -a Locative:

l^{e} áŋal ši a /láŋalšiya/ A 'on our (du. inc.) house'

mé·hu Vi,N 'to be a boy; boy'; -haka Comitative ('with, accompanying'):

mé·hu.haka A 'with the boy'

dabó?o N 'white man'; -duŋ 'like':

dabó?o.duŋ A 'like a white man'

m ášg N 'your back'; -lé·we 'towards':

m ášg.lé·we /máššiklé·we/ A 'backwards': "towards your back"

dí?yu N 'fire'; -lélew 'near':

dí?yu.lélew A 'near the fire'

16.2. Postpositions added to pronouns.

l^{e} í First Person Pronoun; -a Locative:

l^{e} í.a /léya/ A 'on me'

g^{e} í Third Person Objective Pronoun; -duŋ 'like':

g^{e} í.duŋ /gé·duŋ/ A 'like that'

l^{e} í First Person Pronoun; -lélew 'near':

l^{e} í.lélew /lelélew/ A 'near me'

16.3. Postpositions added to quantitatives.

wí di ʔ 'this'; -lu Instrumental:

wí di ʔ.lu /wí·diʔlu/ A 'with this'

t́é·ḱe w 'many (persons)'; -haḱa Comitative:

t́é·ḱe w.haḱa A 'with many'

míʔle ʔ 'everything'; -a Locative:

míʔle ʔ.a /míʔlaʔa/ A 'everywhere'

16.4. Postpositions added to adverbs.

dá A 'there'; -ši? 'from':

dá.ši? A 'from there'

té·bɨ̀l a A 'on the table'; -di? 'from, down from':

té·bɨ̀l a.di? A 'off from the table'

17. Derivation of demonstrative quantitative stems. Demonstrative quantitative stems are derived from three demonstrative stems by the suffixation of the Demonstrative Formative <-di> -di ~ -ʔ. For the allomorphy of this suffix see 4.25. The derived forms are inflected like quantitatives (18).

wí di ~ wí ʔ 'this'

dí di 'that (near you)'

há di 'that, he, she, it'

18. Inflection of quantitative stems. Quantitative stems are inflected by means of a set of four suffixes, but no one stem takes more than three of these. The suffixes are discussed individually in the following sections.

a. <-ʔ> Quantitative Suffix. This suffix is added to all stems of the class including the demonstrative quantitative stems. When added to demonstrative quantitative stems, this suffix indicates the singular as opposed to the dual or plural, but when added to the other members of the class, this suffix indicates non-personal as opposed to forms with the endings of sections c and d, and non-restricted, as opposed to forms with the ending of section b.

b. -ŋ 'just'. This suffix is added to all non-demonstrative members of the class, and emphasizes that the quantity in question is definitely no higher than the amount indicated by the stem.

c. -ši Personal Dual. This suffix is added to the near demonstrative stem to form the dual, to the stem míʔle

'all, everything' to form the word for 'both', and to <hésge> 'two' to form the personal form.

d. -w Personal Plural. This suffix is added to the near demonstrative stem to form the plural, and to all other non-demonstratives except the numerals 'one' and 'two' to form their personal forms.

19. Derivation of prefixes. The only productive patterns of derivation of prefixes are those of derivation of intransitive and transitive instrumental prefixes from noun and verb stems by the suffixation of two Instrumental Prefix Formatives, which are discussed in sections 19.1-3. Section 19.4 discusses several other problematical possible patterns of prefix derivation.

19.1. Derivation of instrumental prefixes from stems. Instrumental prefixes are derived from verb and noun stems by the suffixation of one of two Instrumental Prefix Formative suffixes, $-^{\varepsilon}$ and $-^{u}$. These are added to both unrestricted and restricted noun stems, and to both intransitive and transitive verb stems. Only primary, rather than derived, noun stems have been noted with these suffixes, but verb stems of varied formation, including those containing instrumental prefixes themselves and those formed with auxiliary verbs, are found taking these suffixes. When these suffixes are added to verb stems, the degree of transitivity of the prefixes formed agrees with that of the stems; that is, intransitive instrumental prefixes (Pi) are formed from intransitive verb stems (Vi), while transitive instrumental prefixes (Pt) are formed from transitive verb stems (Vt). The prefixes formed from noun stems by the suffix $-^{u}$ are intransitive, as are those formed from restricted noun stems by the suffix $-^{\varepsilon}$, but those formed from unrestricted noun stems by the latter suffix are unpredictably either intransitive, transitive, or both, although the occurrences as intransitive predominate. The constitutes of these constructions are regarded as instrumental prefixes, rather than as, say, compounding forms of stems, because their external distribution seems to be equivalent to that of instrumental prefixes; they are prefixed to dependent verb stems (Vd) and to certain double-transitive verb stems (Vtt).

The difference in meaning between these two Instrumental

Prefix Formatives is not easy to pin down. The most general difference is that the prefixes in $-^{\varepsilon}$ (the more common type) seem to be the semantically dominant portion of the stems that they form, whereas the prefixes in $-^{u}$ are semantically subordinated to the stems to which they are affixed. Put another way, the meaning of the former type of prefixes is more like that of the subject of a verb, while that of the latter type of prefixes is more like its object. Most of the prefixes in $-^{u}$ seem to imply motion, which does not seem to be the case with those in $-^{\varepsilon}$.

It is not clear that the constructions whereby these prefixes are formed and added to stems are freely productive. Many of the stems containing these derived prefixes give the impression of being set forms. Nevertheless, these forms are not rare.

The suffix $-^{\varepsilon}$ is only discernable phonemically when a stem beginning with [í] follows; in accordance with the rules for the representation of the morphophoneme [$^{\varepsilon}$], there is no phonemic evidence for the occurrence of this suffix when a stem beginning with [á] or a consonant follows. The number of different constructions is reduced by recognizing its presence in these environments also. The suffix $-^{u}$, on the other hand, is apparent phonemically in all environments in which it occurs; before a consonant it is represented, regularly, by /u/.

An occasional symptom of the presence of one of these derived instrumental prefixes in a form, even when the stress

is lost from the prefix, is found in the violation of the rules for vowel harmony that occurs in such forms but never with primary instrumental prefixes; for example, the sequence /a...é/ in:

d^{e} tá?a $^{\varepsilon}$ íwe? /data?yéwe?/ 'shadow on the ground'.

The examples below, showing the formation of these prefixes, are arranged in the same order as are the corresponding examples in the sections showing these prefixes added to stems, to facilitate comparison.

19.2. -$^{\varepsilon}$ Instrumental Prefix Formative.

a. Deriving intransitive instrumental prefixes (Pi) from intransitive verb stems (Vi).

yúli Vi 'to be dead':

yúli.$^{\varepsilon}$- Pi 'to die'

wé·ge Vi 'to sweep':

wé·ge.$^{\varepsilon}$- Pi 'to sweep'

íhuḱ Vi 'to be dry':

íhuḱ.$^{\varepsilon}$- Pi 'to be dry'

íṕiw Vi 'to pass wind':

íṕiw.$^{\varepsilon}$- Pi 'stink, smell of skunk to occur, travel'

métu? Vi 'to be frozen':

métu?.$^{\varepsilon}$- Pi 'to be frozen'

í·biḱ Vi 'to be ripe, cooked':

í·biḱ.$^{\varepsilon}$- Pi 'to be ripe, cooked to a certain condition'

páćil Vi 'pus to form, run out':

páćil.$^{\varepsilon}$- Pi 'pus to form'

ḱéše Vi 'to be alive':

kéše.$^{\varepsilon}$- Pi 'to breathe'

íšiw Vi 'to heal, recover, be cured':

íšiw.$^{\varepsilon}$- Pi 'to heal (in a certain fashion)'

p á·ti Vi 'to climb up':

p á·ti.$^{\varepsilon}$- Pi 'to climb up'

m ášu Vi 'to wash':

m ášu.$^{\varepsilon}$- Pi 'to wash'

dul$^{\vee}$?w í?wid Vi 'to wave one's hand':

dul$^{\vee}$?w í?wid.$^{\varepsilon}$- Pi 'to wave one's hand'

b. Deriving transitive instrumental prefixes (Pt) from transitive verb stems (Vt).

dámal Vt 'to hear':

dámal.$^{\varepsilon}$- Pt 'to hear, listen to'

á·da? Vt 'to make, fix, do':

á·da?.$^{\varepsilon}$- Pt 'to fix'

y ášu Vt 'to wash':

y ášu.$^{\varepsilon}$- Pt 'to wash'

y ^{u} ísiw Vt 'to sell':

y ^{u} ísiw.$^{\varepsilon}$- Pt 'to sell'

c. Deriving intransitive instrumental prefixes (Pi) from unrestricted noun stems (N).

šú N 'chest':

šú.$^{\varepsilon}$- Pi 'to do with the chest'

tá?a N 'shadow, shade':

tá?a.$^{\varepsilon}$- Pi 'shadow, shade to occur'

d. Deriving transitive instrumental prefixes (Pt) from unrestricted noun stems (N).

dó·ḱo N 'heel':

dó·ḱo.$^{\varepsilon}$- Pt 'to do with the heel'

e. Deriving instrumental prefixes that are both intransitive (Pi) and transitive (Pt) from unrestricted noun stems.

mó·ḱo N 'knee':

mó·ḱo.$^{\varepsilon}$- Pi, Pt 'to do with the knee'

dú·ċu N 'elbow':

dú·ċu.$^{\varepsilon}$- Pi, Pt 'to do with the elbow'

f. Deriving intransitive instrumental prefixes (Pi) from restricted noun stems (Nr).

ámu? Nr 'dress, skirt':

ámu?.$^{\varepsilon}$- Pi 'to wear a dress, skirt'

ášg Nr 'back':

ášg.$^{\varepsilon}$- Pi 'to do with the back'

19.3. -^{u} Instrumental Prefix Formative.

a. Deriving intransitive instrumental prefixes (Pi) from intransitive verb stems (Vi).

áyad Vi 'to spend the night':

áyad.^{u}- Pi 'to prepare to spend the night'

ṕ́?ƛ̓ Vi 'to fish with hook and line':

ṕ́?ƛ̓.^{u}- Pi 'to bring the results of fishing with hook and line'

ḱul^{e} áŋa? Vi '(sg.) to sit on (something)':

ḱul^{e} áŋa?.^{u}- Pi '(sg.) to sit on (something)'

ḱul^{e} á·š Vi '(sg.) to sit in (something)':

ḱul^{e} á·š.^{u}- Pi '(sg.) to sit in (something)'

b^{e} šá? Vi 'to write':

b^{e} šá?.^{u}- Pi 'to write (a letter)'

b. Deriving transitive instrumental prefixes (Pt) from transitive verb stems (Vt).

ípi? Vt 'to wear a blanket'

ípi?.^{u}- Pt 'to wear a blanket (along)'

b^{e}y$^{\check{}}$ í·dɨm $^{\varepsilon}$ " áŋa? Vt 'to strap on (pack)':

b^{e}y$^{\check{}}$ í·dɨm $^{\varepsilon}$ " áŋa?.^{u}- Pt 'to carry (something) strapped on one's pack; to strap down and carry (pack)'

c. Deriving intransitive instrumental prefixes (Pi) from unrestricted noun stems (N).

má?ag N 'wood':

má?ag.^{u}- Pi 'to bring wood'

p̓á?l N 'cheek':

p̓á?l.^{u}- Pi 'cheeks to have a certain appearance'

d. Deriving intransitive instrumental prefixes (Pi) from restricted noun stems (Nr).

íme? Nr 'water':

íme?.^{u}- Pi 'to bring water'

19.4. Other derivation of prefixes. Other patterns of derivation of prefixes are problematical. Section 19.4.1 discusses four derivational prefixes that appear to be related to one another. Sections 19.4.2 and 19.4.3 discuss instrumental prefixes that may be bimorphemic, beginning with certain stem-deriving prefixes. Section 19.4.4 treats of a possible suffix deriving prefixes for neutral verb stems.

19.4.1. Prefixes for 'hand'. There are four prefixes that have meanings pertaining to 'hands' or 'fingers' which clearly seem to be derivationally related, but just how they might be derived from one another is not clear. Two of them begin with [d], and two with [t]; two of them contain an [l] that is lacking in the other two. The prefixes are:

du- 'hands', verb stem-deriving prefix (22.8)

tu- noun-deriving prefix (13.7)

<tul-> tul- ~ tuli- noun-deriving prefix (13.6.3, 4.5.4c)

dul˘- Pi 'with the hand, descriptive of the hand'

19.4.2. Intransitive instrumental prefixes with initial [w]. There exists a series of intransitive instrumental prefixes beginning with [w] whose meanings are such that this consonant might be identified with w- Static (22.4), but for which the remaining portion cannot be securely identified with any other instrumental prefix. Such are the following:

wb- Pi 'descriptive of the ears'

wd- Pi 'tree to stand'

wd^{e}- Pi 'descriptive of the foot'

wg^{e}- Pi 'noise to occur'

wg^{e}- Pi 'descriptive of liquids'

wg^{u}- Pi 'hole to exist'

wh^{u}- Pi 'descriptive of head hair'

wM^{e}- Pi 'wave to occur'

wN^{e}- Pi 'hillside to occur'

wy^{u}- Pi 'smell to occur or travel'

19.4.3. Intransitive instrumental prefixes with initial []b^{e}[]. A problem similar to that of the preceding section arises from the existence of a series of intransitive instrumental prefixes beginning with []b^{e}[], which we are tempted to identify with b^{e}- Indefinite Object (22.7), but for which the remaining portion cannot be securely identified with any other instrumental prefix. Such are the following:

b^{e}d- Pi '(dist. pl.) to fall'

b^{e}d- Pi 'to move long object lengthwise'

b^{e}d^{u}- Pi 'to weave a basket'

b^{e}w- Pi 'to stride, take a step'

b^{e}y^{e}- Pi 'to shoot'

b^{e}y^{u}- Pi 'to flow'

b^{e}ʔl- Pi '(pl.) to be located, sit, lie'

19.4.4. Prefixes on neutral verb stems. There occurs a morpheme -^{u}-, with the meaning 'to pull', preceding certain neutral verb stems and following either of the two prefixes that occur on these stems, m- Intransitive and y- Transitive (21). It has not been possible to determine whether this affix is in immediate constituency with the stems or with the prefixes, but probably, by analogy with

the Instrumental Prefix Formatives (19.1-3), the latter is the case.

m ^{u} í·dɨm Vi 'to pull': /mú·dumi/ 'he's pulling'

y ^{u} í·dɨm Vt 'to pull': /geyú·dumi/ 'he's pulling it'

20. Derivation of verb stems from dependent verb stems. Very characteristic and common is the derivation of independent verb stems from dependent verb stems by means of instrumental prefixes. There are two classes of instrumental prefixes, intransitive and transitive. Intransitive instrumental prefixes added to dependent verb stems derive intransitive verb stems, while transitive instrumental prefixes derive transitive verb stems.

20.1. Intransitive instrumental prefixes (Pi). The intransitive instrumental prefixes entering into this construction include both primary members of the class and members derived from stems by the two Instrumental Prefix Formatives, $-^{\varepsilon}$ and $-^{u}$.

20.1.1. Primary intransitive instrumental prefixes. The meaning of most primary instrumental prefixes is that of motion, position, or appearance, whether of living beings, body parts, inanimate objects, or natural forces.

$m^{e}l^{\check{}}$- Pi 'to jump':

$m^{e}l^{\check{}}$.áhad Vi 'to jump across'

$m^{e}l^{\check{}}$.ána? Vi 'to jump up onto something'

$m^{e}l^{\check{}}$.áwd Vi 'to jump over something'

$m^{e}l^{\check{}}$.íps Vi 'to jump up'

$\acute{k}uy^{\varepsilon}$- Pi '(sg.) to swim, swim along, be located in the water':

$\acute{k}uy^{\varepsilon}$.á·ti we? Vi 'to swim away upstream'

$\acute{k}uy^{\varepsilon}$.í·bi? Vi 'to have come swimming'

$\acute{k}uy^{\varepsilon}$.ílm Vi 'to swim to underneath something'

$\acute{k}uy^{\varepsilon}$.í?iš Vi 'to swim, swim along'

kM^{u}- Pi '(sg.) to run (of person, animal, vehicle)':

kM^{u}.á·gal am Vi '(sg.) to run towards the north'

kM^{u}.áhi? Vi '(sg.) to run into a thicket'

kM^{u}.í·sib Vi '(sg.) to run just right, well, straight, steadily'

y^{e}ŋ- Pi '(pl.) to run':

y^{e}ŋ.á·š ug Vi '(pl.) to run in hither'

y^{e}ŋ.í·bi? Vi '(pl.) to have come running'

y^{e}ŋ.ṫá·ṫim Vi '(pl.) to run apart'

<p-> p- ~ p^{e}- Pi 'to fall, be thrown, roll':

p.áhi? Vi 'to fall into bushes, growth'

p.á?am Vi 'to fall into water'

p.ímiʔ Vi 'to fall out'

p.íti? Vi 'to fall downwards'

<y^{e}-> y^{e}- ~ yu- Pi '(sg.) to fly, (vehicle) to go, (person) to slide, (fish) to jump':

y^{e}.áŋa? Vi '(bird) to alight on something'

y^{e}.íps Vi '(bird, airplane) to take off, (fish) to jump up'

y^{e}.íwe? Vi '(bird) to alight on ground'

?l^{e}- Pi '(four-legged animals, chickens) to go in a group':

?l^{e}.á·š ug Vi '(four-legged animals, chickens) to come in hither in a group'

?l^{e}.áyab Vi '(four-legged animals, chickens) to go by in a group'

?l^{e}.í·bi? Vi '(four-legged animals, chickens) to have come in a group'

tug- Pi 'to do with the eyes or eyelids; to look in a certain direction; to have eyes of a certain color or appearance':

tug.áwk̓aw Vi 'to close one's eyes tightly'

tug.ámad Vi 'to look through a circular opening'

tug.áwd Vi 'to look over the summit'

tug.á?am Vi 'to look into water'

tug.ápuš Vi 'to have gray eyes'

tug.í·bil Vi 'to be cross-eyed or wall-eyed'

tug.íleg Vi 'to have red eyes, bloodshot eyes'

tu?m- Pi 'to move one's foot or feet, have one's foot or feet in a certain position':

tu?m.á·š Vi 'to put one's foot into something'

tu?m.ák̓ib Vi 'to stick one's foot into mud, faeces, rotten apples, etc.'

tu?m.íwe? Vi 'to have one's foot on the ground or floor'

c̓ig- Pi 'to do with the buttocks, have one's buttocks in a certain position, extend one's buttocks in a certain direction':

c̓ig.íps Vi 'to raise one's buttocks from something'

c̓ig.ámad am Vi 'to extend one's buttocks towards the south'

c̓ig.áŋa? Vi 'to lean with one's buttocks on or against something'

šu?m- Pi 'to throw':

šu?m.í·šib Vi 'to throw straight'

šu?m.áwd Vi 'to throw over the summit'

šu?m.íwe? Vi 'to throw to the ground'

h^{u}- Pi 'wind to blow':

h^{u}.á·gal ug Vi 'wind to blow from the south'

h^{u}.á·š ug Vi 'wind to blow in hither'

h^{u}.í·bi? Vi 'wind to have come, gotten here'

$b^{e}y^{u}$- Pi 'liquid to flow, soldiers to march':

$b^{e}y^{u}$.ímiʔ Vi 'to flow out'

$b^{e}y^{u}$.íti? Vi 'to flow down'

20.1.2. Intransitive instrumental prefixes (Pi) derived with -$^{\varepsilon}$ Instrumental Prefix Formative.

yúli $^{\varepsilon}$- Pi 'to die':

yúli $^{\varepsilon}$.íwe? Vi 'to drop dead'

wé·ge $^{\varepsilon}$- Pi 'to sweep':

wé·ge $^{\varepsilon}$.á?y Vi 'to sweep out, sweep away', occurring in:

/?itwé·geyáy?/ 'broom': "for sweeping out, away"

íhuḱ $^{\varepsilon}$- Pi 'to be dry':

íhuḱ $^{\varepsilon}$.ítwid Vi 'to be dry, stale, and stiff (e.g., bread)'

íṕiw $^{\varepsilon}$- Pi 'stink, smell of skunk to occur, travel':

íṕiw $^{\varepsilon}$.á·š ug Vi 'stink, smell of skunk to come in here'

métu? $^{\varepsilon}$- Pi 'to be frozen':

métu? $^{\varepsilon}$.ílṕil Vi 'to be frozen blue (e.g., nose, ears)'

métu? $^{\varepsilon}$.ítwid Vi 'to be frozen stiff'

í·biḱ $^{\varepsilon}$- Pi 'to be ripe, cooked to a certain condition':

í·biḱ $^{\varepsilon}$.áynay Vi 'to be soft from over-cooking, from being over-ripe'

páćil $^{\varepsilon}$- Pi 'pus to form':

páćil $^{\varepsilon}$.í?we? Vi 'to be infected, pus to gather'

ḱéše $^{\varepsilon}$- Pi 'to breathe':

ḱéše $^{\varepsilon}$.ími? Vi 'to breathe out'

ḱéše $^{\varepsilon}$.í?iš Vi 'to breathe'

íšiw $^{\varepsilon}$- Pi 'to heal (in a certain fashion)':

íšiw $^{\varepsilon}$.í·ćaġ Vi '(skin, bone) to heal together'

ṕ á·ti $^{\varepsilon}$- Pi 'to climb up':

ṕ á·ti $^{\varepsilon}$.íti? Vi 'to climb up and get things and bring

them down' (RJ). Also in: /ʔitp̓á·t̓iyéti? má·may?/ 'gathering basket sp.' (RJ)

m ášu ᵋ- Pi 'to wash':

m ášu ᵋ.ímiʔ Vi 'to wash out', occurring in: /ʔitmášuyémiʔ/ 'mop': "for washing out"

dulˇ ʔw íʔwid ᵋ- Pi 'to wave one's hand':

dulˇ ʔw íʔwid ᵋ.íʔiš ug Vi 'to wave one's hand in this direction': /duleʔwíʔwidéʔšugi/ 'he's waving his hand in this direction'

šú ᵋ- Pi 'to do with the chest':

šú ᵋ.á·m Vi 'to hit one's chest on something'

šú ᵋ.íweʔ Vi 'to lie on one's chest'

táʔa ᵋ- Pi 'shadow, shade to occur':

táʔa ᵋ.áʔam Vi 'to reflect in water'

mó·k̓o ᵋ- Pi 'to do with the knee':

mó·k̓o ᵋ.íweʔ Vi 'to kneel'

mó·k̓o ᵋ.á·m Vi 'to bump one's knee'

dú·c̓u ᵋ- Pi 'to do with the elbow':

dú·c̓u ᵋ.íweʔ Vi 'to lean on one's elbow (while lying)'

dú·c̓u ᵋ.á·m Vi 'to hit one's elbow on something, bump one's elbow, hit something with one's elbow'

ámuʔ ᵋ- Pi 'to wear a dress, skirt':

ámuʔ ᵋ.áŋaʔ bíŋil Vi 'to try on a dress, skirt'

ášg ᵋ- Pi 'to do with the back':

ášg ᵋ.á·m Vi 'to hit one's back on something'

20.1.3. Intransitive instrumental prefixes (Pi) derived with -^{u} Instrumental Prefix Formative.

áyad ^{u}- Pi 'to prepare to spend the night':

áyad ^{u}.íwe? Vi 'to go to bed'

áyad ^{u}.í?iš uwe? Vi 'to go away to sleep'

p̓ɬ́?lɬ ^{u}- Pi 'to bring the results of fishing with hook and line':

p̓ɬ́?lɬ ^{u}.í·bi? Vi 'to have come bringing the results of fishing with hook and line, to have come home from fishing with hook and line'

k̓ul^{e} áŋa? ^{u}- Pi '(sg.) to sit on (something)':

k̓ul^{e} áŋa? ^{u}.í?iš Vi '(sg.) to ride on (something)'

k̓ul^{e} áŋa? ^{u}.á·š ug Vi '(sg.) to ride in here on (something)'

k̓ul^{e} á·š ^{u}- Pi '(sg.) to sit in (something)':

k̓ul^{e} á·š ^{u}.í?iš Vi '(sg.) to ride in (something)'

b^{e} šá? ^{u}- Pi 'to write (a letter)':

b^{e} šá? ^{u}.í?iš Vi 'to write (a letter)'. Also with -uwe? 'hence': b^{e} šá? ^{u}.í?iš uwe? Vi 'to write (a letter) to send away'

má?ag ^{u}- Pi 'to bring wood':

má?ag ^{u}.í·bi? Vi 'to have come bringing wood', occurring with -ha Causative: má?ag ^{u}.í·bi? ha Vt 'to have come bringing wood for (someone)'

má?ag ^{u}.á·š ug Vi 'to bring wood in here'

p̓a?l ^{u}- Pi 'cheeks to have a certain appearance':

p̓a?l ^{u}.š^{u} ášuŋ Vi 'cheeks to be red', occurring in:

/ʔitgumpáʔlušóšoŋha/ 'rouge': "for making one's cheeks red" (RJ)

íme^{u}ʔ- Pi 'to bring water':

íme^{u}ʔ.á·š ug Vi 'to bring water in here'

20.2. Transitive instrumental prefixes (Pt). The transitive instrumental prefixes occurring with dependent verb stems include both primary members of the class and members derived from stems by the two Instrumental Prefix Formatives, $-^{\varepsilon}$ and $-^{u}$.

20.2.1. Primary transitive instrumental prefixes. The meaning of most primary transitive instrumental prefixes is that of instrumentality of action or causation of motion in another entity.

m- Pt 'to throw, toss, drop, fell a tree':

m.íti? Vt 'to throw something down, drop something'

m.á·š Vt 'to throw, toss something into something'

m.á?y Vt 'to throw something away'

$s^{e}b^{\varepsilon}$- Pt '(person, bellows, pump) to blow, (tire) to let air out':

$s^{e}b^{\varepsilon}$.í·bug Vt 'to blow something up'

$s^{e}b^{\varepsilon}$.á?aš Vt 'to blow out a fire'

$s^{e}b^{\varepsilon}$.áwkaw Vt 'to blow up tight'

$?l^{e}$- Pt 'by biting':

$?l^{e}$.í·biw Vt 'to bite off a piece'

$?l^{e}$.á·baš Vt 'to kill (pl.) by biting'

m^{e}- Pt 'to track':

m^{e}.á·gal am Vt 'to track towards the north'

m^{e}.í·bi? Vt 'to have come tracking'

20.2.2. Transitive instrumental prefixes (Pt) derived with -$^{\varepsilon}$ Instrumental Prefix Formative.

dámal $^{\varepsilon}$- Pt 'to hear, listen to':

dámal $^{\varepsilon}$.í?we? Vt 'to listen to, obey'

á·da? $^{\varepsilon}$- Pt 'to make, do to, fix':

á·da? $^{\varepsilon}$.í·šib Vt 'to fix'

y ášu $^{\varepsilon}$- Pt 'to wash':

y ášu $^{\varepsilon}$.ímiʔ Vt 'to wash out', occurring in:

/dáŋal datyášuyé?miʔ/ 'janitor': "house wash-out-er"

dó·ḱo $^{\varepsilon}$- Pt 'to do with the heel':

dó·ḱo $^{\varepsilon}$.íćed giš Vt 'to spur (horse) along'

mó·ḱo $^{\varepsilon}$- Pt 'to do with the knee':

mó·ḱo $^{\varepsilon}$.á·m Vt 'to hit (someone) with the knee'

dú·ću $^{\varepsilon}$- Pt 'to do with the elbow':

dú·ću $^{\varepsilon}$.á·m Vt 'to elbow (someone)'

20.2.3. Transitive instrumental prefixes (Pt) derived with -^{u} Instrumental Prefix Formative.

ípiʔ ^{u}- Pt 'to wear a blanket':

ípiʔ ^{u}.íʔiš Vi 'to wear a blanket along'

b^{e}y$^{\check{}}$ í·dɨm $^{\varepsilon}$ " áŋaʔ ^{u}- Pt 'to carry (something) strapped on one's pack; to strap down and carry (pack)':

b^{e}y$^{\check{}}$ í·dɨm $^{\varepsilon}$ " áŋaʔ ^{u}.íʔiš Vt 'to carry (something) strapped on one's pack; to strap down and carry (pack)'

20.3. <R-> Plural. Very occasionally a limited number of verb stems have been found to take <R-> Plural to form intransitive verb stems. In this case this prefix acts much like an intransitive instrumental prefix. The prefix seems to impart the same meaning that it does to independent verb stems, for which see 22.1. This construction is to be distinguished from <R-> Plural added to intransitive verb stems derived from dependent verb stems by intransitive instrumental prefixes.

See 4.7 for the allomorphy of this prefix.

íwe? Vd 'on the ground':

w^{e}.íwe? Vi 'to lie on the ground (pl.)'

21. Derivation of verb stems from neutral verb stems. The neutral verb stems occur with one of two prefixes, m- Intransitive (21.1) and y- Transitive (21.2), forming respectively intransitive and transitive verb stems. The prefixes do not seem to add anything to the meaning of the stems beyond what is implied by the distinction between intransitive and transitive. The intransitive form is used to emphasize the activity that a person is engaged in, while the transitive form is used to emphasize the process that is being applied to the foodstuff, animal, or household article that is the object of the verb.

The same stems are shown in the two subsections, and in the same order, to facilitate comparison.

See 19.4 for possible derivation of these prefixes.

21.1. m- Intransitive.

ášu Vn 'to wash':

m.ášu Vi 'to wash': /mášuyi/ 'she's washing'

á·gɨm Vn 'to smoke out':

m.á·gɨm Vi 'to smoke out'

áml Vn 'to pick from a tree':

m.áml Vi 'to pick from a tree'

áwb Vn 'to wrap up, bundle up':

m.áwb Vi 'to wrap up, bundle up'

éwš Vn 'to split fish open at the back':

m.éwš Vi 'to split fish open at the back'

étb Vn 'to pound into flour':

m.étb Vi 'to pound into flour'

21.2. y- Transitive.

ášu Vn 'to wash':

y.ášu Vt 'to wash': /gayášuyi/ 'she's washing it'

á·gɨm Vn 'to smoke out':

y.á·gɨm Vt 'to smoke out'

áml Vn 'to pick from a tree':

y.áml Vt 'to pick from a tree'

áwb Vn 'to wrap up, bundle up':

y.áwb Vt 'to wrap up, bundle up'

éwš Vn 'to split fish open at the back':

y.éwš Vt 'to split fish open at the back'

étb Vn 'to pound into flour':

y.étb Vt 'to pound into flour'

22. Derivation of verb stems from independent verb stems. This section describes the derivation by means of prefixes of independent verb stems from other independent verb stems. These prefixes fall into several categories both as regards their effect on the degree of transitivity of the stem and their general sphere of meaning. Those prefixes that do not affect the degree of transitivity of the underlying stem are <R-> Plural, wgu- Collective Plural, and transitive instrumental prefixes when added to double-transitive verb stems. The prefixes that reduce the degree of transitivity from transitive to intransitive or from double-transitive to transitive are w- Static, <ʔum-> Intransitivizing, <kM-> Impersonal-Reflexive, b^e- Indefinite Object, du- 'hands', and intransitive instrumental prefixes when added to double-transitive verb stems. Only one of these prefixes has a transitivizing effect on intransitive verb stems; this is <buʔ-> Dual.

Looking at the general semantic categories into which these prefixes fall, we may say loosely that the goal or object of the action is expressed by <kM-> Impersonal-Reflexive, b^e- Indefinite Object, du- 'hands', and transitive and intransitive instrumental prefixes on double-transitive verb stems; number of the action or of the actors is expressed by <R-> Plural, wgu- Collective Plural, and <buʔ-> Dual; <ʔum-> Intransitivizing emphasizes the action rather than the goal; and w- Static adds an idea of indefiniteness to either the actor or the goal.

22.1. <R-> Plural. The Plural affix <R-> occurs added to intransitive, transitive, and auxiliary verb stems, forming derived stems of the same classes. In the case of intransitive and transitive verb stems derived from dependent verb stems with instrumental prefixes, the Plural affix is thought to be added subsequently to the instrumental prefix, even though it comes between the latter and the stem. This is because this affix added directly to dependent verb stems yields intransitive verb stems, which may not take instrumental prefixes (20.3). This affix has not been found added to double-transitive verb stems; the plural form of íšl Vtt 'to give' is attested only in derived transitive verb stems.

The meaning imparted to a stem by this affix seems to be that of plurality of the action, without distinction between time and space. Thus it may indicate the repeated action of one actor or the simultaneous action of plural actors -- not, however, working cooperatively. If the action is one that implies a goal (whether the verb is transitive or intransitive), the plural form may also indicate action directed at a plurality of objects, regardless of whether there are one or more actors and of whether or not the action is repeated. For example, formed from the intransitive verb ⟦tuʔm áŋaʔ⟧ 'to have one's foot on (something)', we find the plural form

Ø tuʔm ŋ áŋaʔ i /tumʔŋáŋaʔi/,

which may mean either 'he has both feet on it', 'he keeps putting his foot (or both feet) on it', 'they have their

feet (either one or two each) on it', or 'they keep putting their feet (either one or two each) on it'.

In the examples of this section, to avoid undue repetition, the convention will be adopted to writing the symbol (pl.) at the end of a gloss for a verb stem to indicate a plural form.

For the allomorphy of this affix, see 4.7.

22.1.1. <R-> Plural on intransitive verb stems.

íme? Vi 'to drink':

m^{e}.íme? Vi 'to drink (pl.)': /méme?i/ 'they're drinking'

émlu Vi 'to eat':

m^{u}.émlu Vi 'to eat (pl.)': /múmluyi/ 'they're eating'

élšim Vi 'to sleep':

š.élšim Vi 'to sleep (pl.)'

íšm Vi 'to sing':

š^{e}.íšm Vi 'to sing (pl.)'

ásaw Vi 'to laugh':

s.ásaw Vi 'to laugh (pl.)'

sésm Vi 'to vomit':

s[es]ésm Vi 'to vomit (pl.)'

bókoŋ Vi 'to snore':

b[ok]ókoŋ Vi 'to snore (pl.)'

tug íli we? Vi 'to look upwards':

tug l^{e}.íli we? Vi 'to look upwards (pl.)'

šu?m á·š ug Vi 'to throw in hither':

šu?m d.á·š ug Vi 'to throw in hither (pl.)'

ḱuy$^{\varepsilon}$ íʔiš Vi 'to swim':

ḱuy$^{\varepsilon}$ ʔ^{e}.íʔiš Vi 'to swim (pl.)'

22.1.2. <R-> Plural on transitive verb stems.

ípuʔ Vt 'to find':

p^{u}.ípuʔ Vt 'to find (pl.)': /gepúpuʔi/ 'he found several things in several places'

ášdɨm Vt 'to hide':

š.ášdɨm Vt 'to hide (pl.)': /gašášdɨmi/ 'he's hiding things in different places'

dámal Vt 'to hear':

d[am]ámal Vt 'to hear (pl.)'

báliʔ Vt 'to shoot':

b[al]áliʔ Vt 'to shoot (pl.)'

ʔ^{e}b$^{\varepsilon}$ íc̓uš Vt 'to scratch with fingernails':

ʔ^{e}b$^{\varepsilon}$ c̓^{u}.íc̓uš Vt 'to scratch with fingernails (pl.)'

c̓ug$^{\varepsilon}$ á·š ug Vt 'to carry small objects in hither':

c̓ug$^{\varepsilon}$ d.á·š ug Vt 'to carry small objects in hither (pl.)'

22.1.3. <R-> Plural on auxiliary verb stems.

dúweʔ Va 'to want to, be about to':

d[uw^{e}]úweʔ Va 'to keep trying to'

bíŋil Va 'to try to, try ..-ing':

b[iŋ]íŋil Va 'to try repeatedly'

22.2. wgu- Collective Plural. The prefix wgu- Collective Plural is added to intransitive verb stems, the resultant forms being intransitive verb stems of a more restricted type. Stems containing this prefix have not been found taking any further prefixes other than pronominal ones.

In accordance with the dialectal variation in the rules for vowel harmony, on the phonemic level this prefix has two allomorphs, /wgu/ and /wegu/, in the southern dialect, but three allomorphs, /wgu/, /wegu/, and /wagu/, in the other dialects (cf. 3.10).

Verbs formed with this prefix are used to indicate actions performed by a group of persons or animals. As may be seen from the examples given below, which constitute the complete list of stems with which this prefix has been found to occur, most of the stems taking this prefix have in common the meaning of 'making a noise'; thus these stems containing this prefix signify a relatively loud or continuous noise made by a group of individuals. The stems forming an exception to this observation are those shown in section c; several of these stems belong to the semantic sphere of the description of bodily appearance.

The size of the group in question is not necessarily important; it may be as small as two individuals or as large as the tribe or race of Indians. As examples of small groups attested by text occurrences, the prefix has been noted on verbs referring to the growling of two bear cubs that are

being smoked in a sweat-house, to the appearance of two bears that are being called uncomplimentary names by Coyote, and to the sliding down from the sky of two sisters. In each of these cases the group is isolated from other individuals of like kind. This leads one to conclude that it is the solidarity of the group, rather than its size, that is emphasized by the use of this prefix.

Insofar as one can judge from the relatively small number of stems involved, it appears to be the case that intransitive verb stems beginning with a vowel do not take the Collective Plural prefix directly, but first add the reduplicative Plural prefix. In such cases the latter prefix does not seem to add anything to the meaning of the whole, but merely to be added for purely formal reasons. Conversely, intransitive verb stems beginning with a consonant have not been found to take the Plural prefix in addition to the Collective Plural prefix; contrast the examples in section b with those in a and c. A corollary to this is the fact that the Collective Plural prefix occurs only before consonants, not before vowels.

The first two examples in section c contain the instrumental prefix <y^{e}-> '(sg.) to fly', which has a corresponding plural prefix, š- '(pl.) to fly (in a group), (fish) to swim (in a group)'. The semantic distinction between the use of the singular prefix with the Collective Plural prefix and a potential use of the corresponding plural prefix is unknown.

a. Examples with primary stems.

bókoŋ Vi 'to snore':

wgu.bókoŋ Vi '(coll. pl.) to snore'

ćícid Vi '(chick) to peep, (mouse) to squeak' (RJ):

wgu.ćícid Vi '(coll. pl.) (persons) to giggle, (mice) to squeak' (RJ): /pušála? wegućícidi/ 'mice are squeaking'

ćíw Vi '(person or animal) to squeal, scream':

wgu.ćíw Vi '(coll. pl.) to squeal, scream'

ćút Vi '(marmot) to make its cry, say "tsoot"' (attested only in the derivative):

wgu.ćút Vi '(coll. pl.) (marmots) to make their cry, say "tsoot"', occurring in: wgu.ćút giš uwe? Vi '(coll. pl.) (marmots) to go away making their noise, saying "tsoot"' (RJ)

gáŋil Vi 'to shout, yell' (perhaps bimorphemic):

wgu.gáŋil Vi '(coll. pl.) to shout, yell': /tánu wagugáŋila?/ 'the people were yelling'

kó·ŋ Vi '(bear cub) to growl' (attested only in the derivative):

wgu.kó·ŋ Vi '(coll. pl.) (bear cubs) to growl', occurring in: wgu.kó·ŋ gapil Vi '(coll. pl.) (bear cubs) to growl at random' (RJ)

mátiw Vi '(child) to whine (from hunger)' (attested only in the derivative):

wgu.mátiw Vi '(coll. pl.) (children) to whine (from hunger)' (HP)

tút Vi '([unidentified] pet of bituwána [a monster]) to make a "toot", go "toot"' (attested only in the derivative):

wgu.tút Vi '(coll. pl.) (pets of bituwéna) to make a "toot", go "toot"' (RJ)

wétwed Vi '(duck) to quack' (RJ):

wgu.wétwed Vi '(coll. pl.) (ducks) to quack' (RJ)

b. Examples with stems containing the Plural prefix.

š^{e} íšm Vi '(pl.) to sing':

wgu.š^{e} íšm Vi '(coll. pl.) to sing'

ʔ^{e} íʔib Vi '(pl.) to cry':

wgu.ʔ^{e} íʔib '(coll. pl.) to cry'

c. Examples with derived stems containing instrumental prefixes.

y^{e} íwsiw Vi '(sg.) to slide':

wgu.y^{e} íwsiw Vi '(coll. pl.) to slide'

This prefix has also been noted on a stem containing an instrumental prefix derived from the above stem:

y^{e} íwsiw ^{ɛ} íti? ug Vi '(sg.) to slide down in this direction':

wgu.y^{e} íwsiw ^{ɛ} íti? ug Vi '(coll. pl.) to slide down in this direction'

ŋ^{a} ál?mul Vi '(person) to have pot-belly' (HP):

wgu.ŋ^{a} ál?mul Vi '(coll. pl.) to have pot-bellies' (HP), occurring in: /waguŋál?mulé·sa?/ 'they didn't have pot-bellies' (speaking of Indians before the coming of the white man)

d^{u} álsuš Vi '(bear) to be floppy at rear end' (attested only in the derivative):

wgu.d^{u} álsuš Vi '(coll. pl.) (bears) to be floppy at rear ends' (RJ)

d^{u} á·ƛ̓b Vi '(bear) to be floppy at genitals (?)' (attested only in the derivative):

wgu.d^{u} á·ƛ̓b Vi '(coll. pl.) (bears) to be floppy at genitals (?)' (RJ). Also occurring in:

wgu.d^{u} á·ƛ̓b $^{\varepsilon}$ " y á·b $^{\varepsilon}$ " ^{i}í·k̓ƛ̓l Vi:

/wegudó·zopyabik̓ƛ̓la?/ 'they (bears) are floppy at the genitals as they go by here and there'.

d. Homophony. The Collective Plural prefix is homophonous with the sequence of the Static prefix w- and either of the instrumental prefixes g^{u}- Pi 'descriptive of rope-like object' and g^{u}- Pt 'to lead' when before a consonant. Thus if one did not know whether a given consonant-initial verb stem was intransitive (Vi) or dependent (Vd), one would not know which of these possible prefixes or prefix sequences was present, except insofar as the meaning of the form gave an indication. Some uncertainty of this nature was felt in the case of the last two stems shown in the prededing section. However, both the stems seem to be attested as dependent verb stems, although the prefix, d^{u}-, is not securely identified.

22.3. <bu?-> Dual. The Dual prefix <bu?-> bu?- ~ bu- is added to intransitive verb stems to form transitive verb stems and, very rarely, to transitive verb stems to form double-transitive verb stems. With very few exceptions, the constitutes of these constructions occur with preceding <kM-> gum-, gim- Impersonal-Reflexive, which changes the class of the form back to that of the underlying stem, respectively intransitive and transitive. The meaning imparted by these suffixes is that of a pair of persons doing an action together, usually an action that requires a certain amount of cooperation or interaction, such as gambling, talking, or fighting. The one derived verb that seems to occur freely without <kM-> gum-, gim- is [bu.g^{e}y^{e} á?y] Vt 'to talk to'. In the case of some verbs expressing strong interaction, such as [gum bu.géwe] Vi 'to gamble', the idea of "togetherness" seems to take precedence over the idea of duality, so that forms of the verb may refer to actions of a group of more than two persons.

For nouns formed with this prefix, see 14.5.

For the allomorphy of this prefix, see 4.3.

a. On intransitive verb stems.

géwe Vi 'to gamble':

bu.géwe Vt, occurring in: gum bu.géwe Vi '(du.) to gamble together': /gumbugéweyi/ 'they are gambling'

émlu Vi 'to eat':

bu?.émlu Vt, occurring in: gum bu?.émlu Vi '(du.) to eat together'

péyċu Vi 'to sunbathe':

bu.péyċu Vi, occurring in: gum bu.péyċu Vi '(du.) to sunbathe together'

$g^{e}y^{e}$ á?y Vi 'to talk' (occurring only in derivatives):

bu.$g^{e}y^{e}$ á?y Vt 'to talk to': /míku bugayá?ya?/ 'he's talking to faeces'

^{e} í[m]deg Vi 'to dig up':

bu?.^{e} í[m]deg Vt, occurring in: gum bu?.^{e} í[m]deg Vi '(du.) to dig up (things) together': /gumbu?émdegi/ 'they were both digging up'

?išg^{e} íps giš uwe? Vi 'to pack up and go off':

bu.?išg^{e} íps giš uwe? Vt, occurring in:

gum bu.?išg^{e} íps giš uwe? Vi '(du.) to pack up and go off together': /gumbu?išgépəsgišuwa?a?/ 'they (du.) packed up and went off together'

áŋal i? šému $^{\varepsilon}$ " íti? Vi 'to make a permanent home':

bu?.áŋal i? šému $^{\varepsilon}$ " íti? Vt, occurring in:

gum bu?.áŋal i? šému $^{\varepsilon}$ " íti? Vi '(du.) to make a permanent home together': /gumbu?áŋali?šémuyeti?a?/ 'they (du.) made a permanent home together'

b. On transitive verb stems.

báli? uš giš Vt 'to keep going along shooting':

bu.báli? uš giš Vtt, occurring in: gum bu.báli? uš giš Vt '(du.) to keep going along together shooting'

22.4. w- Static. The commonly occurring Static prefix w- is added to both intransitive and transitive verb stems, the resultant forms being intransitive verb stems in either case. When added to intransitive verb stems, this prefix usually conveys the meaning of a diffuse or indefinite actor. Thus these derived stems describe general conditions of the weather, temperature, or environment that are not localized in tangible entities. These stems convey, for example, the concepts of 'thunder', 'cloudiness', and 'motion of heavenly bodies', but not of 'raining' or 'snowing', as these latter can be felt and seen in physical embodiment. In the case of underlying transitive stems, this diffuseness or generality applies to the object, rather than the subject. Thus these verbs indicate actions directed at random, actions that will impinge on whatever objects happen to come within their range. Similar meanings have been found to occur with a few underlying intransitive verb stems that are themselves derived from transitive verb stems.

There are a few verb stems that do not occur except with this prefix. These have been considered to be defective intransitive verbs, although one might want to consider them a separate class of static verbs.

Note that /a/ and /e/ are often found inserted after this prefix, by 3.14.

See 23.1 for this prefix added to noun stems.

a. On intransitive verb stems.

híwi Vi 'to thunder' (occurring only with this prefix):

w.híwi Vi 'to thunder'

máhm Vi 'to be cloudy' (occurring only with this prefix):

w.máhm Vi 'to be cloudy'

íhuḱ Vi,Vd 'to be dry, dry':

w.íhuḱ Vi '(weather, environment) to be dry'

métu? Vi '(water in container) to be frozen, (object) to be cold, frozen, (person) to be frozen, freezing':

w.métu? Vi '(water outside) to be frozen, (weather) to be freezing cold'

m^{u} ásd Vi 'to be wet, damp':

w.m^{u} ásd Vi '(place) to be wet, damp'

ṕ ímiʔ Vi '(person) to crawl out, walk out, (four-legged animal) to walk out':

w.ṕ ímiʔ Vi 'sun to rise'

ṕ áwd Vi '(person) to crawl over the summit, (four-legged animal) to walk over the summit':

w.ṕ áwd Vi 'to be evening, to become evening'

^{e} í[m]ṕel Vi 'to dig a hole':

w.^{e} í[m]ṕel Vi 'to dig around'

ʔil ć áćim iʔ Vi 'to be green':

w.ʔil ć áćim iʔ Vi '(growth, countryside) to be green'

b. On transitive verb stems.

dámal Vt 'to hear':

w.dámal Vi 'to hear things, to be able to hear, to be able to understand a language'

s^{u} íˑdɨm Vt 'to look at':

w.s^{u} íˑdɨm Vi 'to look'

ʔ^{e}b^{ɛ} ć[ig^{e}]í·ge Vt 'to scratch lightly repeatedly':

w.ʔ^{e}b^{ɛ} ć[ig^{e}]í·ge Vi 'to keep scratching lightly (as a dog on the door)'

22.5. <ʔum-> Intransitivizing. The Intransitivizing prefix <ʔum-> ʔum-, ʔ^{e}m- ~ m- ~ ^{e}-..-m- is added to transitive verb stems to derive intransitive verb stems from them. These stems are formed when it is desired to emphasize the activity that a person is engaged in rather than the process that is being applied to a given object. The evidence is inconclusive as to whether this prefix should be equated with m- Intransitive (21.1).

The dialectal variant of the longer preconsonantal allomorph is attested only in material from FM. This may well be the more archaic form.

In interpreting Washo texts one must be careful not to confuse the preconsonantal allomorph of this prefix in the third person, ∅ ʔum, with the Second Person prefix ʔum.

See 4.8 and 4.14 for the allomorphy of this prefix, 4.32.2-5 and 4.33.1 for the allomorphy of some stems conditioned by the prevocalic allomorph of this prefix, and 4.9 for the allomorph of the Second Person suffix before the preconsonantal allomorph of this prefix.

ípuʔ Vt 'to find':

^{e}.í[m]puʔ Vi 'to find'

íṕel Vt 'to dig a hole':

^{e}.í[m]ṕel Vi 'to dig a hole'

ápd Vt 'to peel, shell':

^{e}.á[m]pɨd Vi 'to peel, shell'

í·deg Vt 'to dig up':

^{e}.í[m]deg Vi 'to dig up'

í·ge? Vt 'to grind':

^{e}.í[m]ge? Vi 'to grind'

á·ḱɨd Vt 'to scoop up food':

^{e}.á[m]ḱɨd Vi 'to scoop up food'

á·ć̓u? Vt 'to pull out (hair, feathers)':

^{e}.á[m]ć̓u? Vi 'to pull up (roots, weeds)'

d^{e} íwš Vt 'to dig around for roots':

?um.d^{e} íwš, ?^{e}m.d^{e} íwš Vi 'to dig around for roots'

s^{e}b^{ɛ} íleg Vt 'to blow':

?^{e}m.s^{e}b^{ɛ} íleg Vi 'to blow'

22.6. <kM-> Impersonal-Reflexive. A reflexive or reciprocal object of a verb is indicated by <kM-> Impersonal-Reflexive, which is prefixed to transitive and double-transitive verb stems. This prefix forms intransitive verb stems when added to transitive verb stems. The small amount of evidence available as to the class of verb stem formed when this prefix is added to double-transitive verb stems is conflicting. This prefix is attested on only two members of this class. One of them occurs in the third person without an expressed object and without <k'-> g^e- Third Person Unexpressed Object, and thus looks like an intransitive verb, but they both occur with nominal objects, and thus act like transitive verbs. Aside from this possible exclusion of objective prefixes, the distribution of these stems is not known to be different from that of other members of their classes. This prefix may be preceded at least by w- Static and by nominalizing prefixes, as well as by inflectional prefixes. The Second Person prefix <m-> has the allomorph mi- when preceding this morpheme. A few verb stems and instrumental prefixes do not occur other than with this prefix.

a. On primary transitive verb stems.

^{i}í·gi Vt 'to see':

kM.^{i}í·gi, guM.^{i}í·gi Vi 'to see oneself, see each other'

ášdɨm Vt 'to hide':

kM.ášdɨm Vi 'to hide (oneself)'

ga?lá·m Vt 'to like':

gum.ga?lá·m Vi 'to like oneself'

b. On derived transitive verb stems.

y ášu Vt 'to wash':

gum.y ášu Vi 'to wash oneself, take a bath'

g ác̓ab Vt 'to kick, trip':

gum.g ác̓ab Vi 'to trip (oneself), kick oneself'

yˇ á·p̓ɨg Vt 'to cut':

gum.yˇ á·p̓ɨg Vi 'to cut oneself'

ʔ^{e}b^{ɛ} c̓í·ge Vt 'to scratch':

gum.ʔ^{e}b^{ɛ} c̓í·ge Vi 'to scratch oneself'

ʔ^{e}b^{ɛ} c̓[ig^{e}]í·ge Vt 'to scratch repeatedly':

gum.ʔ^{e}b^{ɛ} c̓[ig^{e}]í·ge Vi 'to scratch one another'

h^{e} á?y Vt 'to pour away':

gum.h^{e} á?y Vi 'to empty oneself (by urinating, defecating)'

b íwe? Vt 'to place (something) on the ground':

gum.b íwe? Vi 'to take a step', lit., "to place oneself on the ground"

yˇ ínsen ^{ɛ} " á?y Vt 'to cut off a small piece':

gum.yˇ ínsen ^{ɛ} " á?y Vi 'to cut off a small piece of oneself'

š ášdɨm Vt 'to hide (in several places)':

gum.š ášdɨm Vi 'to hide (selves)'

yúli ha Vt 'to kill':

gum.yúli ha Vi 'to kill oneself'

c̓uw áhad ha Vt 'to swing across':

gum.ćuw áhad ha Vi 'to swing oneself across'

bu s ásaw Vt '(du.) to laugh' (occurring only in this derivative):

gum.bu s ásaw Vi '(du.) to laugh together'

bu ŋ áwd uwe? Vt '(du.) to go over the summit' (occurring only in this derivative):

gum.bu ŋ áwd uwe? Vi '(du.) to go over the summit together'

c. On double-transitive verb stems.

damá·lɨ Vtt 'to trade, exchange, change':

gum.damá·lɨ Vi, Vt 'to exchange, trade reciprocally':

/gitwá? gumdamá·lɨyi/ 'they're trading clothes'

íšl Vtt 'to give (something) to (someone)':

guM.íšl Vt 'to give (something) to each other':

/húćiwe? guMíšli/ 'they're giving something to each other'

22.7. b^e- Indefinite Object. The derivational prefix b^e- Indefinite Object is added to transitive and intransitive verb stems, forming intransitive verb stems in either case. The meaning added to the stems by this prefix seems to be that of action applied to an indefinite object. Many of the actions expressed by the stems taking this prefix have to do with processing or manufacturing operations that would be applied to a large number of individual items, either serially or at the same time; thus the prefix seems to imply that although the action has an object, the identity of the specific object at any one time is indifferent or indeterminate. When added to intransitive verb stems, this prefix seems to carry the additional meaning of a process carried out by a person upon inanimate objects to bring them to the state described by the underlying stem.

The hypothesis of a passive force conferred by this prefix has presented itself, but can not be formally substantiated. As far as can be determined, the subject of the derived stems is the person carrying out the action, rather than the object(s) receiving the action. This means that in the case of transitive verbs the subjects of the underlying and the derived stems would be the same, but in the case of intransitive verbs the subjects would be different, that of the underlying stem being the inanimate object, but that of the derived stem being the person. However, the evidence on this point is not good, as most of these stems

occur in the third person without an expressed subject. At least one stem derived from an intransitive verb was translated as a passive by the informant. Some of the nouns derived with <?it-> Attributive-Instrumental from stems formed with b^e- express the object of the action, and thus imply passivity, such as /?itbemú·kul/ 'chewing gum' and /?itbesu?é?eš/ 'reading matter', but others of these nouns express the instrument or agent used in the operation, such as /?itbadópo?/ 'bleach, Clorox' and /?itbabá·mat/ 'tool for dressing willows'.

Several of the stems formed with this prefix are used as nouns, but only a minority of such stems are attested in this usage. Several different nominalizing affixes are found added to various of these stems.

This prefix has been found only before verb stems beginning with consonants, and thus has the phonemic shapes /ba/ and /be/.

a. On intransitive verb stems.

d^u ášuŋ Vi 'to be reddened from heat':

$b^e.d^u$ ášuŋ Vi 'to put split willows in the sun for reddening'. Derived noun: /badóšoŋéwe?/ 'split willows reddened in the sun'.

d^u ápu? Vi 'to be whitened by heat, (cloth) to be faded, bleached, (eyes) to be burned white and blinded (by a certain monster)':

$b^e.d^u$ ápu? Vi 'to bleach' (attested only in this derivative): /?itbadópo?/ 'bleach, Clorox' (BH)

ʔm^{u} ášuŋ Vi 'to be red around the mouth, snout, at the tip':

b^{e}.ʔm^{u} ášuŋ Vi 'to dip arrow points into a poison made from wild parsnip boiled with red ants' (BH)

ʔl^{e} áyab Vi '(flour) to be sifted, go through (sifter, sifting basket)' (attested in this meaning only in this derivative):

b^{e}.ʔl^{e} áyab Vi '(flour) to be sifted, go through (sifter, sifting basket)'

b. On transitive verb stems.

d^{e} á?lag Vt 'to iron':

b^{e}.d^{e} á?lag Vi 'to iron'

m^{u} í·ḱɨl Vt 'to chew':

b^{e}.m^{u} í·ḱɨl Vi 'to chew'. Derived noun: /ʔitbemú·ḱul/ 'chewing gum': "for chewing" or "for being chewed"

ʔl^{u} á?pa Vt 'to hold':

b^{e}.ʔl^{u} á?pa Vi 'to hold hands (as in a dance)'

muš^{ɛ} í?iš Vt 'to count, read':

b^{e}.muš^{ɛ} í?iš Vi 'to count, read'

s^{u} ʔ^{e} í?iš Vt 'to examine, inspect, look over, take a look at':

b^{e}.s^{u} ʔ^{e} í?iš Vi 'to peruse, scan, read (reading matter)' (attested only in this derivative): /ʔitbesu?é?eš/ 'reading matter (book, magazine, newspaper)'

s^{e} íhuḱ Vt 'to dry by heat':

b^{e}.s^{e} íhuḱ Vi 'to put (something) out to dry, hang (something) out to dry'. Also used as noun: /beséhuk/ 'things hung or laid out to dry'

b^{ˇ} ámad Vt 'to cut lengthwise, cut with a tubular opening'

(attested only in these derivatives):

b^{e}.b$^{\vee}$ ámad Vi 'to dress peeled willows down evenly to prepare them for weaving'. Derived nouns: /babá·madéwe?/ 'willows prepared for weaving' (also called /dá·bak/); /?itbabá·mat/ 'a piece of metal with holes of various sizes punched in it, through which willows are pulled to dress them' (RJ)

22.8. du- 'hands'. An anomalous prefix du-, expressing action upon the hands, occurs on the derived transitive verb stem [y ášu] 'to wash', forming an intransitive verb stem meaning 'to wash one's hands'. The underlying verb stem is derived from the neutral verb stem ášu 'to wash' by the transitive prefix y- (21.2). It would also be possible to say that this prefix has the shape duy- and that it is added directly to ášu.

du.y ášu Vi 'to wash one's hands'

22.9. Intransitive instrumental prefixes on double-transitive verb stems. Two double-transitive verb stems have been found to occur with a moderate number of instrumental prefixes, both intransitive and transitive, both primary and derived. These stems are íšl Vtt 'to give (something) to (someone)' and bú?u Vtt 'to feed (something) to (someone)'. We cannot merely say that these stems are also members of Vd, as the degree of transitivity of the derived stems is different from that found with underlying stems of this other class.

Intransitive instrumental prefixes added to double-

transitive verb stems yield transitive verb stems. In this construction have been found primary members of Pi, as well as prefixes derived from stems by the two Instrumental Prefix Formatives, $-^{\varepsilon}$ and $-^{u}$.

22.9.1. Primary intransitive instrumental prefixes (Pi).

dulˇ- Pi 'with the hand':

dulˇ.íšl Vt 'to give one's hand to someone'

$b^{e}y^{e}$- Pi 'to shoot':

$b^{e}y^{e}$.íšl Vt 'to shoot at something'

22.9.2. Intransitive instrumental prefixes (Pi) derived with $-^{\varepsilon}$ Instrumental Prefix Formative.

dulˇ ʔw íʔwid $^{\varepsilon}$- Pi 'to wave one's hand':

dulˇ ʔw íʔwid $^{\varepsilon}$.íšl Vt 'to wave one's hand at (someone)': /medule?wíʔwidéšli/ 'he's waving his hand at you'

móˑniʔ $^{\varepsilon}$- Pi 'money':

móˑniʔ $^{\varepsilon}$.búʔu Vt 'to give (someone) money'

22.9.3. Intransitive instrumental prefixes (Pi) derived with $-^{u}$ Instrumental Prefix Formative.

b^{e} šáʔ ^{u}- Pi 'to write (a letter)':

b^{e} šáʔ ^{u}.íšl Vt 'to write a letter to (someone)'

22.10. Transitive instrumental prefixes on double-transitive verb stems. When transitive instrumental prefixes are added to double-transitive verb stems, the resulting stems are also double-transitive verb stems. In this construction have been found primary members of Pt, as well as prefixes derived from stems by $-^{\varepsilon}$ Instrumental

Prefix Formative.

22.10.1. Primary transitive instrumental prefixes (Pt).

b- Pt 'in a container':

b.íšl Vtt 'to give (something) to (someone) in a container': /bámci lebíšɨ̀l/ 'hand me the sugar!'

d^{e}- Pt 'with the hand':

d^{e}.íšl Vtt 'to hand (something) to (someone)': /bedíli? ledéšɨ̀l/ 'hand me a match!'

22.10.2. Transitive instrumental prefixes (Pt) derived with -$^{\varepsilon}$ Instrumental Prefix Formative.

y ^{u} ísiw $^{\varepsilon}$- Pt 'to sell':

y ^{u} ísiw $^{\varepsilon}$.íšl Vtt 'to sell (something) to (someone)'

í?i $^{\varepsilon}$- Pt 'for holding, keeping':

í?i $^{\varepsilon}$.bú?u Vtt 'to give (something) to (someone) to keep': /?li?bú?yi/ 'he's giving me something to keep'

23. Derivation of verb stems from nouns. The patterns of derivation of verb stems from nouns are quite limited, and only one of them, suffixation of <-i?> Attributive-Agentive, is freely productive. Section 23.1 describes the one prefix, w- Static, and sections 23.2-23.6 describe the four suffixes, that serve this function. With the exception of <-i?> Attributive-Agentive, all these affixes are characteristically verbal stem-forming affixes that are only sporadically added to nouns.

23.1. w- Static. The Static prefix w- has been found on several unrestricted noun stems, forming intransitive verb stems. Since the class of nouns capable of taking this prefix appears to be quite limited and semantically coherent, one might alternatively say that these nouns are also members of the class of defective intransitive verbs that occur only with this prefix, rather than treating this as an instance of denominative derivation. The nouns occurring with this prefix fall into two semantic spheres: they either express tangible or visible natural phenomena or they are names of seasons. The derived verbs in the former case express the occurrence of the natural phenomena. In the latter case they express the current occurrence of the season in question; they also seemingly express the notion of passing a season in a given place, although this is attested only for 'winter' and 'summer'.

For this prefix on verbs, see 22.4.

a. On nouns expressing natural phenomena.

dí?yu N 'fire':

w.dí?yu Vi 'fire to burn, occur'

ṫé·be? N 'fallen snow, snow on ground':

w.ṫé·be? Vi 'snow to be on the ground, to be accumulating on the ground'

b. On nouns naming seasons.

ċigá·bad N 'summer':

w.ċigá·bad Vi 'to be summer; to spend the summer (in a certain place)'

gális N 'winter; year':

w.gális Vi 'to be winter; to spend the winter (in a certain place)'

?ámšag N 'spring':

w.?ámšag Vi 'to be spring'

?ó?oš N 'autumn':

w.?ó?oš Vi 'to be autumn'

23.2. Suffixes deriving verb stems from nouns. There are four suffixes that derive verb stems from nouns. <–i?> Attributive-Agentive (23.3) has a unique distribution and derives stems of a unique type. The other three suffixes are characteristically verbal suffixes found on nouns in only a few instances. -giš Motion (23.4) is a pseudo-derived auxiliary verb, while <–il> 'going and returning' (23.5) and -ha Causative (23.6) are stem formative suffixes. The first two of these form intransitive verb stems, while -ha forms transitive verb stems.

23.3. <-i?> Attributive-Agentive. The Attributive-Agentive suffix derives verbs expressing the possessor of the underlying noun.

dó·ḱo N 'heel':

dó·ḱo i? 'to be characterized by heels', occurring in:

d^{e}.dó·ḱo i? /dadó·ḱoyi?/ 'a man's name':

"characterized by heels"

23.4. -giš. The suffix -giš very rarely derives verb stems from underlying nouns.

há·biš N 'hops';

há·biš.giš uwe? Vi 'to go hops-picking'

23.5. <-il> 'going and returning'. The stem-formative suffix <-il> -il ~ -l 'going and returning' (cf. 27.2.4) has been found added to two nouns, one restricted and one unrestricted, to form intransitive verbs. These verbs are attested mostly in the Imperative, but there is one example with a Third Person subject and a following -i Imperfect.

The meaning of these forms is 'to go and get (the noun), fetch (the noun)'.

For the contracted forms, see 4.20.1.

a. On an unrestricted noun.

má?ag N 'wood; stick':

má?ag.il Vi 'to go and get wood, fetch wood':

/gamá?gil/ 'go get wood!', /má?gili/ 'he's going to get wood'

b. On a restricted noun. Although the stem íme? ~ íme is an intransitive verb, as well as a noun, this form is considered to contain the noun for semantic reasons. When used as a verb the stem means 'to drink'; as a noun it means 'water'. Since this form apparently does not mean *'to go and drink and return', it is assumed not to contain the verb.

<íme?> íme? ~ íme Nr 'water':

<íme?.il> íme?.il ~ íme.l Vi 'to go and get water, fetch water'

23.6. -ha Causative. The stem-formative suffix -ha Causative has been noted on three nouns, two unrestricted and one restricted, forming transitive verbs. The semantic relationship of the verb to the noun differs from case to case. The stem formed from one unrestricted noun conveys the idea of making a person (metaphorically) into the noun, the other such stem has the meaning of making the noun for a person. The stem formed from the restricted noun, which is not accepted as idiomatic by all speakers, has a meaning intermediate between these two, that of adding the noun to the recipient as a permanent part.

a. On unrestricted nouns.

gó·zi? N 'pig':

gó·zi?.ha Vt 'to make a pig of', i.e., 'cause to eat greedily', occurring with <kM-> gum- Impersonal-Reflexive: Ø gum gó·zi?.ha i /gumgó·zihayi/ 'he's making a pig of himself' (RJ)

tút (RJ), tú·t (BH) N 'frozen thickened pine nut flour shaped in the form of animals':

tút.ha (RJ), tú·t.ha (BH) Vt 'to make this for someone'

b. On a restricted noun.

íheb Nr 'head':

íheb.ha Vt 'to put a head on something (e.g., a snowman)' (FM)

BH felt that this form was incorrect for the intended meaning, and offered instead a form wherein a verb is derived from the noun by the Attributive-Agentive suffix -i? before

the Causative suffix is added:

íheb iʔ.ha Vt 'to put a head on something' (BH)

24. Auxiliary verbs (Va). The auxiliary verbs occur as satellites to preceding main verbs.

ŋáŋa? Va 'to pretend':

émlu.ŋáŋa Vi 'to pretend to eat'

máma? Va 'to finish':

émlu.máma? Vi 'to finish eating'

šému Va 'really':

émc̓i.šému Vi 'to be really awake'

25. Derived auxiliary verbs. There are two Auxiliary Verb Formatives, $^{\varepsilon}$- and g-, that are prefixed, with the tactic juncture <"> , to dependent verb stems to derive auxiliary verbs from them.

25.1. $^{\varepsilon}$- Auxiliary Verb Formative.

á?y Vd 'away, out of the way':

$^{\varepsilon}$ " á?y Va 'away, out of the way'

25.2. g- Auxiliary Verb Formative.

á̓tum Vd 'down into':

g " á̓tum Va 'down into'

26. Pseudo-derived auxiliary verbs. The pseudo-derived auxiliary verbs all begin with g- and behave much like auxiliary verbs derived with the Auxiliary Verb Formative g-, but they cannot be connected with any anderlying stem.

-giš Va Motion

-gaŋa? Va 'to begin'

-gap̓ɨl Va 'here and there'

-gadag Va 'starting out'

27. The stem formative suffixes. The stem formative suffixes are added to verb stems to derive other verb stems with added meanings. With the exception of -ha Causative, these suffixes have no effect on the degree of transitivity of the verb. The Causative suffix increases the degree of transitivity, making intransitive verbs transitive, and transitive verbs double-transitive. With the exception of the Causative suffix in some cases, it is impossible to determine the relative order of addition of these stem-formative suffixes and the prefixes that derive independent verb stems from other independent verb stems (22). There is a large amount of alternative ordering of these suffixes possible, as indicated in the individual sections.

27.1. -šeg 'almost but not'. The stem-formative suffix -šeg indicates that an action has almost, but not quite, occurred or been carried to completion. It has been found mostly on verbs of killing or being killed, or breaking, also on the verb meaning 'to dream'. It will be seen that verbs with such meanings allow the speaker to be certain that the possibility of the occurrence of the action no longer exists, either because the danger of death or injury has passed, or because a sleeper has awakened.

This suffix has been found directly after the verb stem in most instances; two examples have been noted in which it follows auxiliary verbs, one primary and one derived. The alternative possibility presents itself of calling this morpheme an auxiliary verb, rather than a stem-formative suffix, in spite of its being unstressed, since it has been found followed by the auxiliary verb šému 'really' and by two different sequences of two derived auxiliary verbs, as well as by -ha Causative.

a. After intransitive verb stems.

kM^{e} á̱tig Vi '(sg.) to be killed by falling, in a collision':

kM^{e} á̱tig.šeg Vi '(sg.) to be hurt, almost be killed by falling, in a collision'. Also occurring in:

kM^{e} á̱tig.šeg g " í·gel $^{\varepsilon}$ " á?y Vi '(sg.) to be hurt, almost be killed by falling over backwards':

/Má̱tikšekgigelay?luliya?/ 'he got hurt, almost got killed by falling over backwards long ago'

kM^{e} á·baš Vi '(pl.) to be killed by falling, in a collision':

kM^{e} á·baš.šeg Vi '(pl.) to almost be killed, barely avoid being killed by falling, in a collision'

músek̓ Vi 'to drown':

músek̓.šeg Vi 'to almost drown'

gum su?ú?uš Vi 'to dream':

gum su?ú?uš.šeg Vi 'to almost dream'

b. After transitive verb stems.

?l^{e} á̓tig Vt 'to bite (sg.) to death, kill (sg.) by biting':

?l^{e} á̓tig.šeg Vt 'to almost bite (sg.) to death, almost kill (sg.) by biting', occurring with the auxiliary verb šému 'really', emphasizing the narrowness of the victim's escape: /di?lá̓tikšekšémuyišgi/ 'I really almost bit him to death'

báhi̓t Vt 'to catch up with':

báhi̓t.šeg Vt 'to almost catch up with', occurring in:

báhi̓t.šeg $^{\varepsilon}$ " íwe? g " í·bi? Vt 'to almost catch up with coming': /báhitšegewe?gibi?gi/ 'she almost caught up with them' (RJ)

wg á̓tig Vt 'to whip (sg.) to death, kill (sg.) by whipping':

wg á̓tig.šeg Vt 'to almost whip (sg.) to death, almost kill (sg.) by whipping, whip (sg.) half to death, i.e., to give someone a good whipping': /gawgá̓tikšegiye?i/ 'he whipped him half to death'

c. After a primary auxiliary verb.

b áha? máma? Vt 'to shoot all away' (attested only in the derivative):

b áha? máma?.šeg Vt 'to almost shoot all away':
/mešgíc̀et gé·ya báha?máma?šegi/ 'he almost shot all the arrows away at it' (RJ)

d. After a derived auxiliary verb.

t̀ᵉ ílg ᵋ " á?y Vi '(snake-like object) to break off':
t̀ᵉ ílg ᵋ " á?y.šeg Vi '(snake-like object) to almost break off', occurring in: gum t̀ᵉ ílg ᵋ " á?y.šeg ha Vi 'to almost break off one's penis' (used of Coyote)

27.2. The Directional suffixes. There are five Directional suffixes that are commonly added to verb stems to indicate the direction of motion with respect to the speaker. These are -ug 'hither', -uwe? 'hence', -am 'away to', <-il> 'going and returning', and the rather dubious -uli? 'returning from'. Apparently one of these suffixes, especially the first two, is required to be added to a verb whenever its meaning makes the suffix applicable. With few exceptions, these suffixes are mutually exclusive.

27.2.1. <-ug> -ug ~ -wg 'hither'.

ḱuy$^{\varepsilon}$ í?iš Vi 'to swim':

ḱuy$^{\varepsilon}$ í?iš.ug Vi 'to swim hither'

kM^{u} á·t́i Vi '(sg.) to run uphill':

kM^{u} á·t́i.wg Vi '(sg.) to run hither uphill'

íye? Vi 'to walk, go':

íye.wg Vi 'to come hither'

27.2.2. <-uwe?> -uwe? ~ -we? ~ -uw 'hence'.

m^{e}l$^{\check{}}$ áhad Vi 'to jump across':

m^{e}l$^{\check{}}$ áhad.uwe? Vi 'to jump across hence'

p íti? Vi '(sg.) to fall':

p íti.we? Vi '(sg.) to fall hence'

šu?m áwd Vi 'to throw over the summit':

šu?m áwd.uwe? Vi 'to throw hence over the summit'

27.2.3. -am 'away to' indicates motion away from the speaker and with respect to some goal.

kM^{u} á?am Vi '(sg.) to run into water, to the water':

kM^{u} á?am.am Vi '(sg.) to run down into (a field,

a body of water)'

tug íwe Vi 'to look in a certain direction':

tug íw.am Vi 'to look away towards'

27.2.4. <-il> 'going and returning'. The stem-formative suffix <-il> -il ~ -l 'going and returning' is added to intransitive and transitive verb stems. Forms containing this suffix added to verb stems are attested only in the Imperative, although an example occurs with this suffix on a noun stem and followed by -i Imperfect. With the sole exception of a preceding -i? deriving a verb from a noun, no other stem-formative suffix has been found to co-occur with this one; hence the exact position-class of the suffix cannot be determined. It is included with the Directionals only on the assumption that its semantic content would make it mutually exclusive with the members of this class; however one also notes the semantic similarity to the Motion suffix -giš.

The forms containing this suffix mean 'to go and do something and return'. When the action expressed by the stem is one that would yield concrete results ('hunting, fishing, buying'), the suffix implies returning with the results of the action; when the verb expresses accompaniment ('carrying, leading'), the implication is that the person will return accompanied by something or someone he has gotten. Only in the case of the verb meaning 'to be in town' does it seem to be possible that one might return emptyhanded.

For this suffix added to nouns, see 23.5.

For the allomorphy of this suffix, see 4.20.1.

a. After intransitive verb stems.

p̓ɬ́ʔlɬ Vi 'to fish with hook and line':

p̓ɬ́ʔlɬ.il Vi 'to go fishing with hook and line and bring back the catch'

t̓á·Yaŋ Vi 'to hunt':

t̓á·Yaŋ.il Vi 'to go hunting and bring back the kill'

b. After transitive verb stems.

b^e g^u íweʔ Vt 'to buy':

b^e g^u íweʔ.il Vt 'to go buy something and bring it back'

íʔis Vt 'to hold, take, bring':

íʔis.il Vt 'to fetch (something), go and get (something)': /đémlu géʔsil/ 'go get food!'

g^u íʔiš Vt 'to lead, take (someone)':

g^u íʔiš.il Vt 'to go and get (someone)':

/ŋaŋáwŋaŋ gegúʔšil/ 'go get the children!'

c. After an intransitive verb stem derived from a noun.

táwn iʔ Vi 'to be in town':

táwn iʔ.il Vi 'to go to town and return'

27.2.5. -uli? 'returning from'. There is one occurrence in the texts from CF of a suffix -uli? on the intransitive verb stem t̓á·Yaŋ 'to hunt'. This suffix appears to mean 'to return from ...-ing'. It is conceivable that this suffix may be a dialectal variant of <-il> 'going and returning', which does not occur in the rather limited corpus obtained from this informant. Backing this up is the further possibility that the form of the suffix may be -ul, and that it is followed in this occurrence by -i? Attributive-Agentive.

t̓á·Yaŋ Vi 'to hunt':

t̓á·Yaŋ.uli? Vi 'to return from hunting':

/wí·di? t̓é·liwhu, t̓á·Yaŋuli?gi/ 'this man returned from hunting'

27.3. -hu Intentive-Assertive. The stem-formative suffix -hu Intentive-Assertive is used to report the expression of a desire or intention. This morpheme is usually translated as 'to say one wants to ...', 'to say one is going to ...', or 'to say one is ...-ing' (with future force). When -é·s Negative follows this suffix, the sequence reports the expression of a negative desire or intention; that is, the negation does not apply to the semantic component associated with the expression of a desire or intention, but only to that associated with what is expressed. In this case the translation is 'to say one doesn't want to ...', 'to refuse to ...', or 'to say one has decided not to ...'.

This suffix occurs after intransitive verb stems, after a primary auxiliary verb, and after Directional suffixes.

a. After intransitive verb stems.

émlu Vi 'to eat':

émlu.hu Vi 'to say one wants to eat': /ʔémluhuyi/ 'he says he wants to eat'. Also occurring with -é·s Negative: /ʔémluhuyé·si/ 'he says he doesn't want to eat'

élšim Vi 'to sleep':

élšim.hu Vi 'to say one wants to sleep'. Also occurring with -é·s Negative.

íme? Vi 'to drink':

íme?.hu Vi 'to say one wants to drink', occurring with -é·s Negative: /lémehuyé·slegi/ 'I refused to drink'

í·bi? Vi 'to have come':

í·bi?.hu Vi 'to say that one is coming':

/guté·šŋahé·š ?í·bihuyá?yı?i/ 'when did he say he was coming?'

b. After a primary auxiliary verb.

w d^{u} á·da? é·be Vi 'to work all day':

w d^{u} á·da? é·be.hu Vi 'to say that one is going to work all day': /wadó·da?é·behuyi/ 'he said he's going to work all day'

c. After Directional suffixes.

íye wg Vi 'to come hither':

íye wg.hu Vi 'to say that one wants to come hither', occurring in the negative: /?íyewkhuyé·sigeduk ?á?a?/ 'she said she decided not to come, and so she didn't'

$?m^{u}$ áhad uwe? Vi '(pl.) to go away across':

$?m^{u}$ áhad uwe?.hu Vi '(pl.) to say they want to go away across': /ya?móhaduwehuyišda/ 'they said they wanted to go away across, and there ...'

27.4. -lel Transitory. The stem-formative suffix -lel Transitory indicates that an action or condition is continued for only a brief period of time. In most cases the stem denotes an action, such as eating, sleeping, swimming, or shining, which is discontinued after a short time, but in several instances the reference is to the condition resulting from an action, which is nullified relatively quickly by a counter-action. Examples of the latter are the stem meaning 'to untie (someone) for a little while', where the shortness of time applies not to the act of untying, but to the time the victim is allowed to remain before being tied up again; and the stem meaning 'to go away for awhile', where the brevity seems to apply not primarily to the act of going away but to the whole time elapsing before coming back again. Other examples seem to fall between these two extremes in meaning, e.g., the stems meaning 'to lie down for awhile' and 'to look away for a moment'. The semantic component corresponding to this suffix is usually translated into English as 'for awhile', 'for a little while', 'for a moment', 'briefly', or 'temporarily'. When the English verb is transitive, the translation may focus on the small quantity of material processed, rather than on the shortness of time, as '(to drink) a little'.

When the Transitory suffix occurs together with the Negative suffix, it emphasizes that the action in question has not occurred even for a short period, and is translated as '(not) at all'.

It will be seen that this suffix is the logical antonym of -uš Durative, but these two suffixes may both occur on the same stem, giving the meaning of an action occurring in short spurts extending over a considerable period of time.

This suffix occurs after intransitive and transitive verb stems and after a derived auxiliary verb. There are several examples wherein it follows the Directional suffixes <-uwe?> 'hence' and -am 'away to', but in some of these the Directional suffix -ug 'hither' also follows the Transitory suffix, apparently emphasizing that the speaker will return shortly. The Negative suffix -é·s normally follows this suffix, either directly or with intervening -i? Attributive-Agentive or -ḱeŋ Restrictive, but there is one example (section g) wherein it precedes. Occurrences of this suffix on the Anaphoric Theme <?..'> ø..' are rare.

The stem-formative suffixes that characteristically follow the Transitory suffix are -i? Attributive-Agentive, -uš Durative, -ḱeŋ Restrictive, -é·s Negative (with the exception noted above), -hé·š Interrogative, and -ha Causative. The Transitory suffix has not been found to occur followed by any prefinal suffix expressing either a future or a past tense, nor with an Evidential suffix; it is difficult to evaluate the extent to which these gaps are fortuitous.

a. After primary intransitive verb stems. The complete list of stems is given.

émlu Vi 'to eat':

émlu.lel Vi 'to eat for a little while, eat a little'

élšɨm Vi 'to sleep':

élšɨm.lel Vi 'to sleep for a little while'

íme? Vi 'to drink':

íme?.lel Vi 'to drink a little': /?íme?lelé·sigi/ 'he never did drink' (RJ), /míme?lelhé·šigi/ 'do you drink a little?' (FM)

á?aš Vi '(fire) to be extinguished)':

á?aš.lel Vi '(sun, moon) to be extinguished temporarily, i.e., to be eclipsed': /dí·be ?á?ašleli/ 'the sun was eclipsed' (RJ)

é? Vi 'to be (somewhere)':

é?.lel Vi 'to stop for awhile': /lé?lelše/ 'let's stop for awhile!'

íd Vi 'to say':

íd.lel Vi 'to say briefly, to exclaim': /?ené?, ?ítlela/ '"ouch!" he said', /musásabigiduŋ ?ítleluši/ 'he sounded like he was whispering from time to time'

b. After derived intransitive verb stems.

ḱuy^{ɛ} í?iš Vi 'to swim':

ḱuy^{ɛ} í?iš.lel Vi 'to swim a little':

/?ɨmḱuyé?ešlelhé·šusi/ 'do you swim any?, have you been swimming any?'

kʷ^{e} á?šam Vi 'to lie down':

kʷ^{e} á?šam.lel Vi 'to lie down for awhile'

ʔud^{e} ášiw Vi '(light) to shine':

ʔud^{e} ášiw.lel Vi '(light) to shine briefly, flash'

ʔud^{e} íc̓iš Vi '(light) to be dark':

ʔud^{e} íc̓iš.lel Vi '(sun) to be dark temporarily, i.e., to be eclipsed' (HP) (cf. á^{ʔ}aš.lel in section a)

tug áwk̓aw Vi 'to close one's eyes tightly':

tug áwk̓aw.lel Vi 'to blink'

tug á^{ʔ}y Vi 'to look away':

tug á^{ʔ}y.lel Vi 'to look away for a moment'

p̓ í^{ʔ}lug Vi 'to turn around, over':

p̓ í^{ʔ}lug.lel Vi 'to turn around, over briefly', occurring in: p̓ í^{ʔ}lug.lel ha Vt 'to turn (leg) around, over briefly'

wg^{e} c̓áwc̓aw Vi '(pine nuts) to crackle from being chewed with the shells on':

wg^{e} c̓áwc̓aw.lel Vi '(pine nuts) to crackle briefly from being chewed with the shells on', occurring in: wg^{e} c̓áwc̓aw.lel uš ha Vt 'to cause (pine nuts) to crackle by chewing them with the shells on from time to time'

b^{e} m^{u} í·c̓id Vi 'to taste something by sucking':

b^{e} m^{u} í·c̓id.lel Vi 'to take a little taste by sucking', occurring in: b^{e} m^{u} í·c̓id.lel ha Vt 'to give someone a little taste by sucking': /ʔišge ʔumbemú·c̓itlelhaleɣ ʔéʔi/ 'give him a little taste by sucking!'

wáʔ ^{ɛ} íʔsiʔ Vi 'to do something quickly' (attested only in the derivative):

wá?$^{\varepsilon}$ í?si?.lel Vi 'to do something quickly and briefly'

w té·š Vi '(short period of time) to pass':

w té·š.lel Vi '(very short period of time) to pass':

/ye?mú?ša? weté·šleludiš/ 'they walked for awhile and then ...'

c. After primary transitive verb stems. The complete list of stems is given.

í?is Vt 'to hold, take, bring':

í?is.lel Vt 'to grab': /dé?ek ?í?isleli/ 'he grabbed a rock'

sá? Vt 'to put (something) away, put (something) down, keep (something)':

sá?.lel Vt 'to put (something) away for awhile'

^{i}í·gi Vt 'to see':

^{i}í·gi.lel Vt 'to see at all', occurring in the negative: /wá·?ŋa gú·diŋaŋa lí·gilelé·sḱeŋi/ 'I haven't seen anybody at all here', /ṫánu dekM̀í·gileli?é·s/ 'a person that nobody has ever seen'

d. After derived transitive verb stems.

y^{u}ášl Vt 'to untie (someone)':

y^{u}ášl.lel Vt 'to untie (someone) for a little while'

l$^{\breve{}}$ í?si? Vt 'to jab (someone) quickly (with a needle)':

l$^{\breve{}}$ í?si?.lel Vt 'to jab (someone) quickly and briefly (with a needle)'

s^{e}b$^{\varepsilon}$ íŋdiŋ Vt (occurring only with the Plural prefix or with -lel): s^{e}b$^{\varepsilon}$ d$^{\pm}$ íŋdiŋ Vt '(vibration of an airplane, tractor) to affect a person, make the earth vibrate':

s^{e}b$^{\varepsilon}$ íŋdi̇ŋ.lel Vt '(thunder, dynamite blast) to shake someone up'

s^{u} í·bi? Vt 'to bring (something)':

s^{u} í·bi?.lel Vt 'to bring at all', occurring in the negative: /?á̇tabi?ŋa sú·bi?lelé·sgaŋa?uši/ 'he doesn't bring home fish any more'

e. After a derived auxiliary verb.

é? $^{\varepsilon}$ " íw $^{\varepsilon}$ " íti? Vi 'to stop going':

é? $^{\varepsilon}$ " íw $^{\varepsilon}$ " íti?.lel Vi 'to stop for awhile': /lé?weti?lelhi/ 'I'm going to stop for awhile'

f. After the Directional suffixes <-uwe?> 'hence' and -am 'away to'.

p̓ íme we? Vi 'to come out, crawl out':

p̓ íme we?.lel Vi 'to come out for awhile, crawl out for awhile'

b^{e} y^{u} ápšab giš uwe? Vi '(crowd of individuals) to go away waving their bushy hair' (attested only in the derivative):

b^{e} y^{u} ápšab giš uwe?.lel Vi '(crowd of individuals) to go away briefly waving their bushy hair': /k̓ómho t̓í?ya?a, bayópšapgišuwe?lela?. ga?ló?payami/ 'the Cow Parsnip Children went away briefly waving their bushy hair after him; they caught him'

íye we? Vi 'to go away, walk away':

íye we?.lel Vi 'to go away for awhile', occurring with -ug 'hither': /máku léyewe?lelukhi/ 'let me go over there for awhile!' (CF)

ŋ áwd uwe? Vi 'to go away over the crest':

ŋ áwd uwe?.lel Vi 'to go away over the crest for awhile', occurring with -ug 'hither': /diŋáwduwe?lelugáša?i/ 'I'm going to go away over the crest for awhile' (HP)

ŋ á?am am Vi 'to go down there':

ŋ á?am am.lel Vi 'to go down there for awhile', occurring with -ug 'hither': /diŋá?mamlelugáša?i/ 'I'm going to go down there for awhile' (HP)

g. After -é·s Negative.

í·bi? é·s Vi 'to have not come':

í·bi? é·s.lel Vi 'to have not come at all': /dabó?oŋa ?í·bi?é·slelaš/ 'the white man had not (yet) come at all' (HP)

h. After the Anaphoric Theme <?..´> Ø..´. Only the second example occurs in a text.

Ø.l[é]l /lél/ 'a little while' (RJ)

Ø.l[é]l ḱeŋ é·s /lélḱeŋé·s/ 'quite some time, not a short time' (HP)

27.5. -uš Durative. The stem-formative suffix -uš Durative indicates the continuation or prolongation of an action or event. It is translated into English as 'to keep ...-ing', 'to continue ...-ing', 'to be ...-ing', or, in a past tense, by 'used to ...', as well as by the "simple present" form of the verb. At times the English translation tends to confuse this morpheme with -enun Usitative, as well as with the reduplicative Plural morpheme, but the contrast in meaning is generally quite clear, and this suffix co-occurs with both other forms.

This is a very common suffix, and it has a wide distribution, occurring after most types of stems and even after some thematic suffixes. The suffix is placed quite freely among other suffixes depending on the portion of the stem to which the Durative meaning is intended to apply. Thus, with the pseudo-derived auxiliary verb -gaŋa? 'to begin', we find both the sequences

uš gaŋa? /ušgaŋa?/ 'to begin to keep ...-ing'

and

gaŋa? uš /gaŋa?uš/ 'to keep beginning to ..., keep ...-ing'.

This suffix thus occurs after intransitive, transitive, and double-transitive verb stems, after -i? Attributive-Agentive, after primary, derived, and pseudo-derived auxiliary verbs, after Directional suffixes, and after -lel Transitory. It also occurs a few times after -ḱeŋ Restrictive and -ha Causative, but the usual ordering is for these suffixes to follow -uš. This suffix usually follows -é·s Negative when

both occur on a verb, although there are a few instances of the opposite ordering, and it always follows -hé·š Interrogative when this is present. The placement of -uš after these monosyllabic stressed suffixes often seems to be due to a tendency toward rhythmic stress placement overriding an expected ordering coinciding with the immediate constituency. This suffix also occurs after both Inclusive suffixes, although here again the opposite ordering is encountered. In a few forms from HP and BH this suffix occurs after -uɳil Defunctive, but here also the opposite ordering is the general rule. There occur a few verb forms in which this suffix occurs twice; in most of these -uɳil Defunctive intervenes between the occurrences of -uš. The Durative suffix also occurs a very few times on both the Sentence Connective Theme ?- and the Anaphoric Theme ?..´.

a. After intransitive verb stems.

á·ša? Vi 'to urinate':

á·ša?.uš Vi 'to keep urinating'

émlu Vi 'to eat':

émlu.uš Vi 'to keep eating'

kM^{u} í?iš Vi '(sg.) to run':

kM^{u} í?iš.uš Vi '(sg.) to keep running'

^{e} í[m]deg Vi 'to dig':

^{e} í[m]deg.uš Vi 'to keep digging'

b. After transitive verb stems.

í?iw Vt 'to eat':

í?iw.uš Vt 'to keep eating'

dámal Vt 'to hear':

dámal.uš Vt 'to keep hearing'

$s^{e}b^{\varepsilon}$ l^{e} íleg Vt 'to blow repeatedly on (something)':

$s^{e}b^{\varepsilon}$ l^{e} íleg.uš Vt 'to keep blowing repeatedly on (something)'

c. After double-transitive verb stems.

bú?u Vtt 'to feed':

bú?u.uš Vtt 'to keep feeding'

b íšl Vtt 'to give (someone something) in a container':

b íšl.uš Vtt 'to keep giving (someone something) in a container'

d. After -i? Attributive-Agentive.

áŋal i? Vi 'to dwell':

áŋal i?.uš Vi 'to keep dwelling'

e. After primary auxiliary verbs.

á·da? bíŋil Vt 'to try (something) out':

á·da? bíŋil.uš Vt 'to keep trying (something) out'

f. After derived auxiliary verbs.

kM^{e} á?šam $^{\varepsilon}$ " íti? Vi 'to lie down':

kM^{e} á?šam $^{\varepsilon}$ " íti?.uš Vi 'to keep lying down':

/Má?šameti?uša?/ 'he kept lying down'

$m^{e}l^{\vee}$ íwe? $^{\varepsilon}$ í?iš g " áyab Vi 'to jump on while going by':

$m^{e}l^{\vee}$ íwe? $^{\varepsilon}$ í?iš g " áyab.uš Vi 'to keep jumping on while going by': /git?á·ṫu ?íwi? melé·we?é?ešgayabuši/ 'he kept jumping on his older brother as he went by'

g. After pseudo-derived auxiliary verbs.

í?iw gaŋa? Vt 'to begin to eat':

íʔiw gaŋaʔ.uš Vt 'to keep beginning to eat, keep eating'

w s^{u} í·dim giš Vi 'to go along looking':

w s^{u} í·dim giš.uš Vi 'to keep going along looking'

h. After Directional suffixes.

y^{e}ŋ íʔiš am Vi '(pl.) to run away to':

y^{e}ŋ íʔiš am.uš Vi '(pl.) to keep running around'

tug íti wg Vi 'to look down hither':

tug íti wg.uš Vi 'to keep looking down hither'

ṕ áṫum uweʔ Vi 'to go down in':

ṕ áṫum uweʔ.uš Vi 'to keep going down in'

i. After -lel Transitory.

g^{u} ákd lel Vi 'to wiggle one's hips a little slowly' (attested only in the derivative):

g^{u} ákd lel.uš Vi 'to keep wiggling one's hips around slowly': /gókotleluši/ 'she keeps wiggling her hips around slowly'

wg^{e} ć́awć́aw lel Vi 'to crackle briefly' (occurring only in the derivative):

wg^{e} ć́awć́aw lel.uš Vi 'to crackle briefly from time to time', occurring with -ha Causative:

/gawgaćáwćawlelušhayaʔ/ 'he made them crackle (by chewing them with the shells on) from time to time'

íd lel Vi 'to say briefly, to exclaim':

íd lel.uš Vi 'to keep saying briefly', occurring with -ḱeŋ Restrictive: /ʔumusásabigiduŋ mítleluš́keŋi/ 'you sound like you just keep whispering from time to time'

j. After -é·s Negative.

ʔ ^{e} í[m]deg méwl é·s.uš ay? i " g í: /léšiŋa ʔémdekmewlé·sušay?gi/ 'he keeps asking us not to dig'

k. After -hé·š Interrogative.

ʔi̱m k̓uy^{ɛ} í?iš lel hé·š.uš i /ʔi̱mk̓uyé?ešlelhé·šuši/ 'do you swim any?, have you been swimming any?'

l. After Inclusive suffixes.

di m^{e} g í·gel é·s ši.uš le: /hút̓aŋaluŋa dimegí·gelé·siyušle/ 'but we (du. inc.) don't mix it with anything'

di gum dé·gi̱m hu.uš le " g^{e} í /digumdé·gi̱mhuyušlege/ '(how) we (pl. inc.) used to gather'

27.6. -ḱeŋ Restrictive. The stem formative suffix -ḱeŋ Restrictive indicates a restriction on the action of the verb, and is usually translated 'just, only, merely'.

ṕ íˑbi? Vi 'to have come crawling':

ṕ íˑbi?.ḱeŋ Vi 'to have just come crawling'

íšm ?íwe éˑs Vi 'to keep singing':

íšm ?íwe éˑs.ḱeŋ Vi 'to just keep singing'

yúli Vi 'to die':

yúli.ḱeŋ Vi 'to just up and die'

27.7. -ha Causative. The stem-formative suffix -ha Causative increases by one degree the transitivity of the stems to which it is added: intransitive verb stems are made transitive, and transitive stems are made double-transitive. There is no occurrence of this suffix on double-transitive verbs, although no explicit attempt was made to elicit this. The suffix has both causative and benefactive meanings, that is, it has the meaning of causing another entity to do something, as well as that of doing something for the sake of another individual. The causative meaning prevails when the underlying stem is intransitive, while the benefactive meaning is commoner when this stem is transitive.

The Causative suffix occurs directly after intransitive and transitive verb stems, after -i? Attributive-Agentive, after primary, derived, and pseudo-derived auxiliary verbs, Directional suffixes, -lel Transitory, -uš Durative, -ḱeŋ Restrictive, -é·s Negative, and -hé·š Interrogative. The placement of -ha after the last two suffixes is surprising, and may be a case of rhythmic patterns overriding an ordering according to sememic immediate constituents, as the meaning of negation or interrogation applies to the causative element, rather than the other way around. This suffix normally comes directly before -áša? Near Future, unless this is followed by either -é·s Negative or -hé·š Interrogative, in which case it comes after the latter suffixes (see 27.8 for fuller discussion). However, there is one example in which -ha directly follows -áša?, which seems to indicate that the

causation applies to the notion of futurity (see section k). In the few examples available, the two Inclusive suffixes are ordered differently with respect to -ha Causative, in that -hu Plural Inclusive follows -ha, while -ši Dual Inclusive precedes it (section o).

a. After intransitive verb stems.

yúli Vi 'to die':

yúli.ha Vt 'to kill'

émc̓i Vi 'to awaken':

émc̓i.ha Vt 'to wake (someone) up'

íšiw Vi 'to heal, get well':

íšiw.ha Vt 'to cure, make well'

í·c̓u Vi 'to melt, dissolve':

í·c̓u.ha Vt 'to melt (something), dissolve (something)'

k̓éše Vi 'to be alive':

k̓éše.ha Vt 'to save someone's life'

íme? Vi 'to drink':

íme?.ha Vt 'to make (someone) drink'

p̓áyt̓i? Vi 'to play':

p̓áyt̓i?.ha Vt 'to let (someone) play'

í·bik̓ Vi 'to be cooked, ripe':

í·bik̓.ha Vt 'to cook, cause to ripen'

d^{u} ápuš Vi 'to burn up':

d^{u} ápuš.ha Vt 'to burn (something) up'

y^{e} í?iš Vi '(sg.) to fly, (car) to go':

y^{e} í?iš.ha Vt 'to fly (an airplane), drive (a car)'

p íti? Vi 'to fall':

p íti?.ha Vt 'to drop (something)'

b. After transitive verb stems.

^{i}í·gi Vt 'to see':

^{i}í·gi.ha Vtt 'to show (something) to (someone)'

báli? Vt 'to shoot (something)':

báli?.ha Vtt 'to shoot (something) for (someone)'

y$^{\check{}}$ á·ḱim Vt 'to cut, sever':

y$^{\check{}}$ á·ḱim.ha Vtt 'to cut (something) for (someone)':

/layá·ḱimha ṫá·daš/ 'cut the meat for me!'

y ášu Vt 'to wash':

y ášu.ha Vtt 'to wash (something) for (someone)'

l$^{\check{}}$ á?y Vt 'to wipe (something) off':

l$^{\check{}}$ á?y.ha Vtt 'to wipe (something) off for (someone)'

c. After -i? Attributive-Agentive.

íheb i? Vi 'to have a head' (attested only in the derivative):

íheb i?.ha Vt 'to put a head on (e.g., a snowman, a man in a picture)' (BH)

íhuḱ i? Vi 'to be dried' (attested only in this derivative):

íhuḱ i?.ha Vt 'to dry, cause to dry' (attested only in nominalized derivatives): /ṫá·daš ṫíhuḱiha/ 'dried meat'

d. After primary auxiliary verbs.

yúli dúwe? Vi 'to be about to die, want to die':

yúli dúwe?.ha Vt 'to want to kill': /leyúlidúwahayi/ 'he wants to kill me'

e. After derived auxiliary verbs.

b$^{\check{}}$ ánzin$^{\varepsilon}$ " á?y Vt 'to cut off a thick slice':

b˘ áŋziŋ $^{\varepsilon}$ " á?y.ha Vt 'to cut off a thick slice for (someone)'

$m^{e}kg^{e}$ ílb $^{\varepsilon}$ " lélb Vi 'to be blown together by wind':

$m^{e}kg^{e}$ ílb $^{\varepsilon}$ " lélb.ha Vt '(wind) to blow together'

p^{e} w^{e} íwl g " áyab Vi '(ball) to roll by':

p^{e} w^{e} íwl g " áyab.ha Vt 'to roll (ball) by'

f. After pseudo-derived auxiliary verbs.

$m^{e}kg^{e}$ ílb giš Vi 'to be blown along by wind':

$m^{e}kg^{e}$ ílb giš.ha Vt '(wind) to blow along'

g. After Directional suffixes.

wg^{u} áyab ug Vi 'a hole through hither to exist':

wg^{u} áyab ug.ha Vt 'to make a hole through hither'

ćuw áhad uwe? Vi 'to swing across hence':

ćuw áhad uwe?.ha Vt 'to swing (something or someone) across hence'

wM^{e} íćim uwe? Vi '(fishing line) to be cast away':

wM^{e} íćim uwe?.ha Vt 'to cast (fishing line) away':

/?itpí?lɨ gewMécimuwaha/ 'cast the fishing line away!'

h. After -lel Transitory.

pí?lug lel Vi 'to turn around, over briefly', occurring in:

pí?lug lel.ha Vt 'to turn (leg) around, over briefly':

/gáhɨl pí?luklelhayi/ 'she turned her leg over briefly'

i. After -uš Durative.

pí?lug $^{\varepsilon}$ " á?y uš Vi 'to keep turning over':

pí?lug $^{\varepsilon}$ " á?y uš.ha Vt 'tc keep turning (something) over'

s^{e} sésm uš Vi 'to keep vomiting repeatedly':

s^{e} sésm uš.ha Vt 'to keep making (oneself) vomit repeatedly': /gumsesésmušhayi/ 'he kept making himself vomit repeatedly'

j. After -ḱeŋ Restrictive.

yúli ḱeŋ Vi 'to just die':

yúli ḱeŋ.ha Vt 'to just kill (someone)'

k. After -áša? Near Future.

g^{e} wád áša?.ha i /gawadášahayi/ 'he's sleeping soundly', lit., "he's making it become morning" (RJ)

l. After -é·s Negative.

l^{e} kL^{e} ášdɨm é·s.ha i ŋa /lakLášdɨmé·shayiŋa/ 'but don't conceal it from me'

?l áŋaw i? é·s.ha iye? i /?láŋawi?é·shayiye?i/ 'they've done a bad deed to me'

?l íšm é·s.ha a š /?lišmé·shayaš/ 'don't sing for me!'

m. After -hé·š Interrogative.

g^{e} y áha ^{ɛ} " íti? hé·š.ha i š: /deć igú·guša gayáhayetihé·šhayiš/ 'perhaps it started to hurt him in his stomach'

n. After -hé·š Interrogative preceded by -áša? Near Future.

m i wá? áša? hé·š.ha i: /húŋa miwa?ášahé·šhayi/ 'what can I do for you?'

o. After -ši Dual Inclusive.

di d^{u} á·baš ši.ha y? /didó·bašihay?/ 'let's (du.) burn them to death!'

27.8. -áša? Near Future. The stem formative suffix -áša? Near Future is used to place the time of an event in the near future with respect to the time of speaking. The range of time covered extends from the immediate future to a time perhaps an hour or so later; for a reference to a more distant future time the Intermediate Future suffix <-ti?> is used.

This suffix occurs farther back from the end of a verb complex than do the other suffixes expressing categories of tense, in that it normally precedes -é·s Negative and -hé·š Interrogative, and under certain conditions also precedes -ha Causative and the Inclusive suffixes. It has an unusual distribution, so that it is difficult to decide whether it is a stem formative suffix or a thematic suffix, that is, whether it is added to a verb stem before or after the pronominal or nominalizing prefixes are added. The best touchstones for such a determination, ordering with respect to -ha Causative and the Inclusive suffixes, are of no use here, since, as explained below, the Near Future suffix sometimes follows and sometimes precedes these other suffixes. In favor of the rather arbitrary decision to call this a stem formative suffix are the facts that -hé·š Interrogative always follows it, and -é·s Negative usually does so, and that forms bearing this suffix and nominalized with <d-> Nominal occur. A contrary consideration, however, is its non-occurrence on themes formed with the Imperative prefix g^e-.

The Near Future suffix occurs after intransitive, transitive, and double-transitive verb stems, and after primary, derived, and pseudo-derived auxiliary verbs. It is also found after the directional suffixes -ug 'hither', -uwe? 'hence', and -am 'away to'.

The distribution of this suffix with respect to -ha Causative and the two Inclusive suffixes, -ši Dual Inclusive and -hu Plural Inclusive, shows an interesting fluctuation in which a tendency toward rhythmic patterns of stress placement seems to override considerations of immediate constituency. These suffixes immediately precede -áša? when the latter is not followed by either -é·s Negative or -hé·š Interrogative. However, when one or both of these monosyllabic stressed suffixes follows -áša?, then these unstressed suffixes follow it instead of coming before -áša?. Putting it in terms of constructions and distribution classes, we may say that -áša? forms stems which do not allow any of these three monosyllabic unstressed suffixes (-ha, -ši, -hu) to follow immediately, and that furthermore one of these suffixes preceding -áša? narrows the external distribution of the stem still more, and does not allow -é·s or -hé·š to follow. But one of these latter two suffixes following -áša? forms a stem which has a broadened distribution, in that -ha, -ši, or -hu may follow. For example, using the intransitive verb stem íme? 'to drink' and the Plural Inclusive suffix -hu, we find:

l^{e} íme? hu áša? i /lémehuyáša?i/ 'we (pl. inc.) are going

to drink',

but, with the Negative suffix -é·s:

l^{e} íme? áša? é·s hu i /léma?áša?é·shuyi/ 'we (pl. inc.) aren't going to drink'.

The effect of this shifting around is to insure an even distribution of stressed and unstressed syllables and to draw most sequences of unstressed suffixes to the end of the word. Thus, our example /lémehuyáša?i/ avoids the sequence of three unstressed syllables that would occur in */léma?ášahuyi/, if -hu always followed -áša?. Our other example above, /léma?áša?é·shuyi/, shows an alternation of stressed and unstressed syllables up to the two unstressed syllables at the end, whereas with the other arrangements of suffixes that we might expect, */lémehuyáša?é·si/ or (less probably) */léma?ášahuyé·si/, a sequence of two unstressed syllables appears between two stressed syllables. Furthermore, the fact that -áša? normally precedes, rather than follows, -é·s Negative and -hé·š Interrogative brings it about that an unstressed syllable intervenes between the stressed syllables of these morphemes when they occur in succession. Thus, we find:

l^{e} íme? áša? é·s i /léma?áša?é·si/ 'I'm not going to drink'

rather than *[l^{e} íme? é·s áša? i].

There has been noted one example in which -áša? follows -é·s Negative, rather than preceding it, as is the norm (section i). This ordering possibly indicates that the

statement expresses a negative possibility which will be true at any time in the future.

The Near Future suffix has also been noted in one occurrence on the Anaphoric Theme ?..´ (section k).

The non-occurrence of -lel Transitory, -uš Durative, or -ḱeŋ Restrictive preceding -áša? Near Future is probably due to semantic incompatibility rather than any strictly grammatical restrictions.

Verb themes containing -áša? take one of the three final suffixes -i Imperfect, <-a?> Aorist, and -le Redundant, of which the first-mentioned is by far the most common. The forms in -i may be further nominalized or adverbialized (by [" dá]), but there is not the strong tendency toward nominalization that is apparent with -i preceded by one of the prefinal suffixes expressing a more distant futurity (<-ti?> Intermediate Future, -gab Distant Future). Forms with -áša? in either -i Imperfect or <-a?> Aorist may also take -š Reference Switching. No nominalization or adverbialization of the forms in -le Redundant has occurred.

The sequence of -áša? and <-a?> Aorist sometimes serves to express a near futurity with respect to the time of a narration, rather than with respect to the time of speaking, and sometimes has an apparent implication that the expectation or intention about the future is not to be fulfilled. There are also several instances in which a form of hámu 'to think' follows such a form in <-a?>, to explicitly express an intention or expectation about the

future, which may or may not be fulfilled. In other occurrences of forms in <-a?> no difference in meaning from the forms in -i Imperfect is apparent.

The forms in -le Redundant express a repeated or otherwise redundant statement about the near future.

There is one occurrence each after -áša? of the prefinal suffixes <-ti?> Intermediate Future and -uŋil Defunctive, the latter expressing an intention about the future that is thwarted.

The adverbs that have been found associated with verbs in the Near Future tense are /wá·diŋ/ 'now', /gólaš/ 'soon, in a little while', /yá·la?/ 'after awhile', and /yá·sa?/ 'again'.

a. After intransitive verb stems.

l^{e} íme?.áša? i /léma?áša?i/ 'I'm going to drink'

l^{e} émlu.áša? i /lémluyáša?i/ 'I'm going to eat'

Ø sésm.áša? i /sesmáša?i/ 'he's going to vomit'

Ø p̓í?li.áša? i /p̓í?liyáša?i/ 'he's going to fish with hook and line'

? íp̓am.áša? i /?íp̓amáša?i/ 'he will arrive there, he's just getting there'

?im mónde?.áša? hé·š i /?imónda?ášahé·ši/ 'are you going to play cards?' (FM)

? élšim.áša? i " dá: /?élšimášay?da ?í·bi?i/ 'he's coming over here to sleep'

l^{e} íšm.áša? le /lešmáša?le/ 'I'll sing'

Ø h^{a} í?iš.áša? i /ha?šáša?i/ 'it's going to rain'

Ø h^{a} í?iš.áša? i duŋ: /ha?šášay?duŋ Mí·ḱi?i/ 'it looks like it's going to rain'

di M^{e} á?šam.áša? i /diMá?šamáša?i/ 'I'm going to lie down'

ṕ áwd.áša? 'going to be evening', occurring nominalized: d^{e} ṕ áwd.áša? a /daṕawdáša?a/ 'in the late afternoon, towards evening'

di muš^{ɛ} í·gew.áša? le /dimušé·gewáša?le/ 'I'm going to tell the story'

Ø w híwi.áša? i /wehíwiyáša?i/ 'it's going to thunder'

b. After transitive verb stems.

ḱ í?iw.áša? i š " g í /ḱi?wáša?išgi/ 'he's going to eat them'

Ø b íps.áša? i: /mó·ni?, bipsáša?i/ 'he's about to pick up the money'

Ø b áŋa?.áša? i: /gíḥeba git?uhó·š báŋa?áša?i/ 'he's going to put his hat on his head'

g^{e} dumb^{e} íćed.áša? i: /yá·sa? gedumbéćedáša?i/ 'he's going to poke him again'

g^{e} d^{e} álíḱ.áša? a?: /dé?eklu gadálíkáša?a?/ 'he was going to hit him with a rock'

Ø gum s^{e}b^{ɛ} á?y.áša? i: /ťánu gumsaba?yáša?i/ 'people are going to have a big-time'

di kL^{e} ? á?aš.áša? le /dikLa?a?šáša?le/ 'I'm going to tell it'

di gum y ášu.áša? i: /dimáyaba digumyášuyáša?i/ 'I'm going to wash my feet'

g^{e} b^{e}y^{e} í·gel^{u} á·š.áša? i /gebeyé·gelošáša?i/ 'they're

going to arrest him'

di w $g^{e}y^{e}$ á?y $^{\varepsilon}$ íšl.áša? i /diwgayá?yešláša?i/ 'I'm going to call him up'

Ø gum bu? é?.áša? i: /wíndɨya gumbu?a?áša?i/ 'they (du.) will be at the window'

c. After double-transitive verb stems.

mi l^{e} íšl.áša? i: /bedíli? milešláša?i/ 'I'm going to give you a match'

? íšl.áša? i: /git?uhó·š t́é·liwhu ?išláša?i/ 'he'll give his hat to the man'

ḱ á·da?.áša? i: /dáŋal ḱá·da?áša?i/ 'he's going to do something to the house'

d. After primary auxiliary verbs.

di melé?yɨg šému.áša? i /dimelé?yɨkšémuyáša?i/ 'I'm going to get really drunk'

di gum yó?il yé·wi.áša? i: /dá·da?a diMá?šama? digumyó?ilyé·wiyáša?i/ 'I'm going to lie down on the bed and take a rest'

e. After a derived auxiliary verb.

Ø b áwd $^{\varepsilon}$ " á?y.áša? i: /gíhebadi? git?uhó·š báwda?yáša?i/ 'he's going to take his hat off his head'

di m í·gel $^{\varepsilon}$ " á?y.áša? é·s i " g^{e} í: /?igeŋa dimí·gela?yáša?é·sige/ 'I'm not going to throw it back'

f. After pseudo-derived auxiliary verbs.

di tug á?am gaṕɨl.áša? i: /díma?a ditugá?amgaṕɨláša?i/ 'I'm going to look around in the water' (said to be a Northern Washo expression for 'I'm going to look for

fish') (HP)

Ø m^{e} wš^{e} áŋa? gaŋa?.áša? i " dá /mewšáŋa?gaŋa?ášay?da/ 'he's going to hang it up to dry'

g. After Directional suffixes.

Ø ?išg^{e} í?iš ug.áša? i /?išgé?šugáša?i/ 'he's going to move this way'

di ŋ á?am am lel ug.áša? i /diŋá?mamlelugáša?i/ 'I'm going to go down there for awhile'

? íye wg.áša? uŋil i š " g í /?íyewgáša?uŋilišgi/ 'he was going to come here but ...'

?~~i~~m t̓^{e} í?iš uwe?.áša? hé·š i /?~~i~~mt̓é?šuwa?ášahé·ši/ 'are you going away on a boat?' (FM)

l^{e} íye we?.áša? i: /wá·diŋ léyewa?áša?i/ 'I'm going away now'

l^{e} íye we? giš uwe?.áša? i: /t̓éwe? léyewe?gišuwa?áša?i/ 'I'm going to go far away'

Ø ?l^{e} ímí? giš uwe?.áša? a?: /mušé·gew, ?lémi?gišuwa?áša?a?/ 'a bear was about to go off gathering food'

l^{e} i$^{}$í·gi d[uw^{e}]úwe? giš uwe?.áša? i: /?át̓abi? lí·giduwéwe?gišuwa?áša?i/ 'I'm going to look for fish'

Ø w p̓ át̓um uwe?.áša? i /wap̓át̓umuwa?áša?i/ 'it's just about sundown'

h. After -ha Causative.

l^{e} íšm ha.áša? le /lé~~i~~šmhayáša?le/ 'I'm going to sing for him'

di kL^{e} ? á?aš ha.áša? le /dikLa?á?ašhayáša?le/ 'I'm going to tell it to him'

Ø gum yúli ha.áša? i: /da?mo?mó?mo? lá?lu gumyúlihayáša?i/
'the women are going to kill one another over me'

i. After -é·s Negative.

Ø $b^{e}y^{e}$ áyab é·s.áša? i š " g^{e} í: /géyaŋa bayáyabesáša?išge/
'it won't shoot through that'

j. After Inclusive suffixes.

l^{e} í ši ši + l^{e} íme? ši.áša? i /léšiši léme?šiyáša?i/
'we (du. inc.) are going to drink'

l^{e} í w hu + l^{e} íme? hu.áša? i /léwhu lémehuyáša?i/ 'we (pl. inc.) are going to drink'

k. After the Anaphoric Theme ?..´.

?.[á]ša? i: /bákbagi. ?áša?i/ 'he's smoking -- he's going to'

27.9. -é·s Negative. The Negative suffix -é·s is added to a verb stem to negate its meaning. This suffix may occur twice in succession, in which case the form has the meaning of a strong affirmation or the contradiction of a negative assertion.

l^{e} ášaš.é·s i /lášašé·si/ 'I know' (negative of ášaš Vt 'to not know')

Ø ḱéše é·s giš i /ḱéšeyé·sgiši/ 'he's dying'

y^{e} ḱ ílg é·s i /yeḱilgé·si/ 'it's not sharp'

mi Ø dámal é·s i /midámalé·si/ 'I didn't hear you'

27.10. -hé·š Interrogative. The Interrogative suffix -hé·š is added to a verb stem to form a question.

di ʔl^{u} íti? hé·š ti? i /diʔlútihé·šti?i/ 'shall I sit down?'

ʔum g ác̀ab hé·š i /ʔumgác̀aphé·ši/ 'are you kicking him?'

m íme? hé·š i " g í /mímehé·sigi/ 'do you drink?'

m^{e} ʔl^{e} íc̀ed hé·š i /meʔlec̀ethé·ši/ 'did he nibble you?'

27.11. The Inclusive suffixes. Verb themes formed with the First Person prefix <l^{e}-> l^{e}- ~ di-, or with certain syntactic expansions of this prefix, may take one of the two Inclusive suffixes, -ši Dual Inclusive and -hu Plural Inclusive. The use of these suffixes signifies that the hearer (second person) is included in the group of subjects of the verb along with the speaker (first person). Inflection with the Dual Inclusive suffix -ši thus indicates that the group of subjects consists of only the speaker and the hearer, while inflection with the Plural Inclusive suffix -hu indicates that there are more than these two persons in the group of subjects, which contains other individuals besides the speaker and hearer, and/or plural hearers. Absence of an Inclusive suffix on a verb having one of these First Person prefixes implies that the hearer is excluded from the group of subjects, which consists of or includes the speaker. Verbs having the First Person prefix expanded with the First Person Singular pronoun may not take an Inclusive suffix.

These two Inclusive suffixes apparently have much the same distribution, and most differences between them with respect to the types of stems on which they are found are presumably due to accidents of attestation. Both suffixes are found after intransitive and transitive verb stems, after -i? Attributive-Agentive, after primary auxiliary verbs, after -uš Durative, -é·s Negative, and -hé·š Interrogative. Only the Dual Inclusive suffix -ši, which

occurs more frequently than the other suffix in the texts, is found after derived and pseudo-derived auxiliary verbs, after Directional suffixes, and after -lel Transitory. In their ordering with respect to -ha Causative a difference between the suffixes appears, in that -hu follows -ha while -ši precedes it; however, the examples are too few to establish this difference as obligatory. These suffixes come directly before -áša? Near Future, unless this is followed by either -é·s Negative or -hé·š Interrogative, in which case they come after the latter suffixes (see 27.8 for fuller discussion); examples of the latter type are consequently given in separate sections (k and m under -ši, h and j under -hu).

Of the two Inclusive suffixes, only -ši Dual Inclusive may be followed by <-hi> $-^{e}$ Optative, whereas only themes in -hu Plural Inclusive may take the unstressed First Person Plural pronoun in the Plural Exhortative construction (29.5). Aside from this difference, themes formed with both suffixes take a variety of prefinal and final suffixes, without apparent restriction. These suffixes may both be followed, as well as preceded, by -uš Durative.

The Plural Inclusive suffix -hu also occurs on the Anaphoric Theme <?..'> Ø..' and on this theme followed by a primary auxiliary verb.

27.11.1. -ši Dual Inclusive.

a. After intransitive verb stems.

1^{e} íme?.ši i /léme?šiyi/ 'we (du. inc.) are drinking'

l^{e} íme?.ši áša? i /léme?šiyáša?i/ 'we (du. inc.) are going to drink'

l^{e} íme?.ši leg i /léme?šilegi/ 'we (du. inc.) drank'

l^{e} íme?.ši ^{e} /léme?še/ 'let's (du.) drink!'

l^{e} émlu.ši ud i /lémlušiyudi/ 'let's (du.) eat, and then ...'

l^{e} élšim.ši i /lélšimšiyi/ 'we (du. inc.) are sleeping'

di ḱéše.ši i /diḱéšešiyi/ 'we (du. inc.) live'

di š élšim.ši i /dišélšimšiyi/ 'we (du. inc.) are sleeping'

di d^{u} á·baš.ši ha y? /didó·bašihay?/ 'let's (du.) burn them to death!'

b. After transitive verb stems.

l^{e} ^{i}í·gi.ši i /lí·gišiyi/ 'we (du. inc.) see it'

l^{e} í?iw.ši ud i /lé?ewšiyudi/ 'let's (du.) eat it, and then ...'

l^{e} á?ag.ši ^{e} /lá?akše/ 'let's (du.) pack it on our backs!'

di gum d^{e} íšiw.ši ud i /digumdéšiwšiyudi/ 'let's (du.) cure each other by pounding, and then ...'

di b^{e}y$^{\smile}$ í·ć̣ig $^{\varepsilon}$ sá?.ši ^{e} /dibeyé·ć̣iksá?še/ 'let's (du.) open the door!'

c. After -i? Attributive-Agentive.

l^{e} áŋal i?.ši a? /láŋali?šiya?/ 'we (du. inc.) are living in a house'

d. After primary auxiliary verbs.

l^{e} í?iw yé?.ši ^{e} /lé?ewyé?še/ 'let's (du.) hurry up and eat it!'

di d^{u} á·baš ha d[uw^{e}]úwe?.ši ti? i " g í /didó·bašhaduwéwe?šiti?gi/ 'we (du. inc.) will try to

burn them to death'

e. After a derived auxiliary verb.

di y^{u} íwe $^{\varepsilon}$ " ṫá·ṫim.ši ^{e}: /dewMéyaŋ diyúweṫaṫimše/ 'let's (du.) divide it up in halves!'

f. After pseudo-derived auxiliary verbs.

di m^{e} í?im gaṗal.ši i " dá /dimé?emgaṗalšiyida/ 'we (du. inc.) will gather willows around and ...'

di ?m^{u} í?iš yé? giš.ši ^{e} /di?mú?ušyé?giše/ 'let's (du.) walk right along!'

g. After Directional suffixes.

di ?m^{u} í?iš ug.ši leg i /di?mú?šukšilegi/ 'we (du. inc.) walked hither'

di ?l^{e} ími? ^{u} í?iš uwe?.ši ^{e} /di?lémi?ú?šuwe?še/ 'let's (du.) go off with what we gathered!'

h. After -lel Transitory.

l^{e} é? $^{\varepsilon}$ " íw $^{\varepsilon}$ " íti? lel.ši ^{e} /lé?weti?lelše/ 'let's (du.) stop for awhile!'

i. After -uš Durative.

l^{e} émlu uš.ši ^{e} /lémluyuše/ 'let's (du.) keep eating!'

di gum d^{e} íšiw uš.ši ^{e} /digumdéšiwuše/ 'let's (du.) keep curing each other by pounding!'

di gum b^{e} gum $š^{e}$ íšl uš.ši ud i /digumbegumšéšlušiyudi/ 'let's (du.) exchange punches, and then ...'

j. After -é·s Negative.

l^{e} íme? é·s.ši gab i " g í /léme?é·sigabigi/ 'we (du. inc.) aren't going to drink'

l^{e} á·da? kelé?em i? é·s.ši i: /?uŋa lá·da?kelé?mi?é·siyi/

'we (du. inc.) can't do anything with it'

k. After -é·s Negative preceded by -áša? Near Future.

l^{e} íme? áša? é·s.ši i /léma?áša?é·siyi/ 'we (du. inc.) aren't going to drink'

l. After -hé·š Interrogative.

l^{e} íme? hé·š.ši ti? i /lémehé·šiti?i/ 'are we (du. inc.) going to drink?'

l^{e} íme? é·s hé·š.ši ti? i /léme?eshé·šiti?i/ 'aren't we (du. inc.) going to drink?'

m. After -hé·š Interrogative preceded by -áša? Near Future.

l^{e} íme? áša? hé·š.ši i /léma?ášahé·šiyi/ 'are we (du. inc.) going to drink?'

l^{e} íme? áša? é·s hé·š.ši i /léma?áša?eshé·šiyi/ 'aren't we (du. inc.) going to drink?'

27.11.2. -hu Plural Inclusive.

a. After intransitive verb stems.

l^{e} íme?.hu i /lémehuyi/ 'we (pl. inc.) are drinking'

l^{e} íme?.hu áša? i /lémehuyáša?i/ 'we (pl. inc.) are going to drink'

l^{e} íme?.hu leg i /lémehulegi/ 'we (pl. inc.) drank'

l^{e} íme?.hu " l^{e} í w /lémehulew/ 'let's (pl.) drink!'

l^{e} élšim.hu i /lélšimhuyi/ 'we (pl. inc.) are sleeping'

di páyti?.hu " l^{e} í w /dipáytihulew/ 'let's (pl.) play!'

di b^{e} muš^{e} ílšil.hu " l^{e} í w /dibemušélšilhulew/ 'let's (pl.) play cards!' (HP)

di š élšim.hu i /dišélšimhuyi/ 'we (pl. inc.) are sleeping'

di w s^{u} í·dɨm.hu a? /diwsú·dumhuya?/ 'we (pl. inc.) visualize the future' (RJ)

b. After transitive verb stems.

l^{e} ií·gi.hu i /lí·gihuyi/ 'we (pl. inc.) see it'

l^{e} í?iw.hu " l^{e} í w /lé?ewhulew/ 'let's (pl.) eat it!'

di d^{e} ác̓ɨb.hu i " g^{e} í lu: /masáti didác̓ɨphuyigelu/ 'let's (pl.) chop up arrowheads, and with them ...'

di gum y á·gɨm.hu a? /digumyá·gɨmhuya?/ 'we (pl. inc.) are going to smoke one another'

di gum dé·gɨm.hu uš le " g^{e} í /digumdé·gɨmhuyušlege/ '(how) we (pl. inc.) used to gather'

c. After <-i?> Attributive-Agentive.

di gum kMí[ʾ]lu ʾ.hu " l^{e} í w /digukMí?luhulew/ 'let's (pl.) make friends!'

d. After primary auxiliary verbs.

di gum y á·gɨm ŋáŋa.hu a? /digumyá·gɨmŋáŋahuya?/ 'let's (pl.) play we're smoking one another!'

e. After -uš Durative.

di p̓áyt̓i? uš.hu " l^{e} í w /dip̓áyt̓i?ušhulew/ 'let's (pl.) keep playing!'

f. After -ha Causative.

di yúli ha.hu i š " g í /diyúlihahuyišgi/ '(that) we (pl. inc.) kill it' (RJ)

di yúli é·s ha.hu a š /diyúliyé·shahuyaš/ 'we (pl. inc.) aren't killing it'

g. After -é·s Negative.

l^{e} íme? é·s.hu i /léme?é·shuyi/ 'we (pl. inc.) aren't

drinking'

1^{e} á·da? kelé?em i? é·s.hu i: /?uŋa lá·da?kelé?mi?é·shuyi/ 'we (pl. inc.) can't do anything with it'

h. After -é·s Negative preceded by -áša? Near Future.

1^{e} íme? áša? é·s.hu i /léma?áša?é·shuyi/ 'we (pl. inc.) aren't going to drink'

i. After -hé·š Interrogative.

1^{e} íme? hé·š.hu gab i /lémehé·šhugabi/ 'are we (pl. inc.) going to drink?'

1^{e} íme? é·s hé·š.hu gab i /léme?eshé·šhugabi/ 'aren't we (pl. inc.) going to drink?'

j. After -hé·š Interrogative preceded by -áša? Near Future.

1^{e} íme? áša? hé·š.hu i /léma?ášahé·šhuyi/ 'are we (pl. inc.) going to drink?'

1^{e} íme? áša? é·s hé·š.hu i /léma?áša?eshé·šhuyi/ 'aren't we (pl. inc.) going to drink?'

27.11.3. Expansions of the First Person prefix. The great majority of text occurrences of verbs bearing Inclusive suffixes show First Person prefixes that are not expanded syntactically. However, a handful of examples occur in which this prefix is expanded by the First Person Dual or Plural pronoun, as well as by the corresponding Inclusive pronoun, the suffix on the verb theme agreeing in number with the pronoun. Such expansions of the prefix are more common in directly elicited forms.

28. The prefinal suffixes. The prefinal suffixes are added to verb themes, to which pronominal prefixes have already been added. With a few exceptions, these suffixes are mutually exclusive, so that one of them would usually be followed immediately by a final suffix (29). The main exceptions consist in the facts that -unil Defunctive is often followed by -ud Sequential; -elem Distant Tense is followed by one of three other tense-indicating suffixes, -ay? Intermediate Past, -lul Distant Past, or -gab Distant Future; -gul Remembered Past is followed by -ay? Intermediate Past; and -lul Distant Past is often followed by -iye? Visual or <-i?> -i? Attributive-Agentive. There are a few other rarely occurring exceptions.

The semantic categories expressed by these suffixes include tense (-leg Recent Past, -ay? Intermediate Past, -áyti? Pluperfect, -gul Remembered Past, -lul Distant Past, -elem Distant Tense, <-ti?> Intermediate Future, and -gab Distant Future), source of evidence (-iye? Visual, -delem Auditive, and -á?yi? Mirative), aspectual linkage with following clause (-unil Defunctive and -ud Sequential), habitual or traditional aspect (-enun Usitative and -emel? Traditional), and mode (-hil Subjunctive).

28.1. -uŋil Defunctive. The thematic suffix -uŋil Defunctive indicates an interruption or cessation of the action or condition expressed by the theme to which it is affixed. At times it conveys the simple meaning of emphasizing that the described situation is no longer true, e.g., 'it was raining (but it has stopped)', 'it was on his head (but it has been removed)', 'his eyes were closed (but now they are open)'. At other times (especially in the texts from HP), this suffix emphasizes that the action described was one characteristic of people now dead and gone, and hence one no longer practised. This suffix also commonly expresses a semantic linkage with the following verb, in cases where the action or condition expressed by the latter is not the normally expected sequel of the one expressed by the verb to which -uŋil is affixed -- cases where the first action is interrupted, thwarted, nullified, rejected, or counteracted by the second action.

This suffix occurs after a wide variety of stems and suffixes: intransitive, transitive, and double-transitive verb stems; primary, derived, and pseudo-derived auxiliary verbs; -i? Attributive-Agentive, Directional suffixes, -lel Transitory, -uš Durative, -ḱeŋ Restrictive, -ha Causative, -áša? Near Future, and -é·s Negative. It is found fairly often on the Sentence Connective Theme ?. The only apparent gap in distribution that may be significant is the non-occurrence of -uŋil after -hé·š Interrogative; the suffix also does not occur after Inclusive suffixes, but this is more

apt to be accidental.

This suffix is followed by a wide variety of final and prefinal suffixes, also by -uš Durative. No prefinal suffix with future tense meaning (<-ti?> Intermediate Future, -gab Distant Future) has been found after -uŋil, nor have the final suffixes -le Redundant or -hi Optative occurred on a theme containing -uŋil.

a. After intransitive verb stems.

Ø tug í·ć̇im.uŋil i 'his eyes were closed'

Ø h^{a} í?iš.uŋil leg i /há?šuŋilegi/ 'it was raining'

? í?i.uŋil i: /t́íheba ?í?yuŋili/ 'it was on his head'

Ø k̇ul^{e} íwe?.uŋil ud i: /k̇uléwe?uŋiludi, hámuguyú·geti?a?/ 'he lay on the ground, and then he came to his senses'

? émlu.uŋil i " g^{e} í: /?émluyuŋilige sesmá?yi/ 'he ate it and then he vomited it up'

b. After transitive verb stems.

g^{e} s^{u} í·dim.uŋil i " dá: /t́ánu mí?lew wí·gi dópo?eti?a? gesú·dumuŋilida/ 'all the people's eyes were turned white, where they had looked at him'

Ø gum bu? é?.uŋil i: /wíndiya gumbu?é?uŋili/ 'they were together at the window'

c. After double-transitive verb stems.

g^{e} bú?u.uŋil i š " g í ŋa: /gebú?yuŋilišgiŋa ga?lamé·sa?/ 'they fed it to him, but he didn't like it'

d. After primary auxiliary verbs.

g^{e} báli? dúwe?.uŋil i " g í: /mešgíċetlu gabáli?dúwe?uŋiligi ga?yó·sgap̣ili/ 'he tried to shoot them with arrows, but

he missed them all over'

Ø p̓á?lɨ bíŋil.uŋil i " g í: /p̓á?lɨbíŋiluŋiligi, móḱagé·siš/ 'he tried to fish with hook and line, but they didn't bite'

e. After pseudo-derived auxiliary verbs.

Ø M^{u} íli we? giš.uŋil i š " g^{e} í duŋ ŋa: /dé?ga Múliwe?gišuŋilišgeduŋa ?e?é·si/ 'he ran up and along on rocks, but it didn't do any good'

Ø M^{u} í·gewl gap̓ɨl.uŋil ud i: /Mú·gewɨlgap̓ɨluŋiludi gemé?mi/ 'she ran circling the place, and then she found a track'

Ø m^{e}l$^{\smile}$ áŋa? $^{\varepsilon}$ í?iš g " áyab gap̓ɨl.uŋil i š " g í ŋa: /míwi? malá·ŋa?é?ešgayapgap̓ɨluŋilišgiŋa mé?idaŋa mémc̓iyé·saš/ 'he kept jumping on you while going by, but where you were, you didn't wake up'

f. After Directional suffixes.

Ø tug á·š uwe?.uŋil a š: /tugá·šuwe?uŋilaš t̓ánu ga?ló?payama?/ 'while he was looking in, the people grabbed him'

di táwɨn i? giš uwe?.uŋil i š ŋa: /ditáwɨni?gišuwe?uŋilišŋa wayásaŋiš dip̓í·gelay?legi/ 'I went to town, but it was too hot, and I turned back'

di m^{e} í?iš am.uŋil i " g í: /dimé?šamuŋiligi gú?ŋalé·weŋa diméweyé·saš/ 'I tried to track him, but I couldn't track him in any direction'

g. After -ha Causative.

ḱ émc̓i d[uw^{e}]úwe? ha.uŋil i š " g í: /ḱémc̓iduwéwahayuŋilišgi ?émc̓iyé·sḱeŋi/ 'he kept trying to wake him up, but he just didn't wake up'

h. After -áša? Near Future.

? íye wg áša?.uŋil i š " g í: /?íyewgáša?uŋilišgi hak diyamé·sa? Lé?le/ 'he was going to come here, but I told him not to'

i. After -é·s Negative.

Ø p̀ á·š ug é·s.uŋil i š " g í: /p̀á·šugé·suŋilišgi, gap̀á·šuk ?í·dušḱeŋiš/ 'she didn't come in, but he just kept saying "come in!"'

j. After the Sentence Connective Theme ?.

?.uŋil i š " g í: /?umbí·siyúmi?a? ?uŋilišgi wamulć́ó·bapgaŋa?ušḱeŋiš/ 'he took out what was cooked in ashes, but dirt just started to foam up'; /t̀íhep, sú·duma? dewí·giya. ?uŋilišgi ?e?íŋawé·sa?/ 'he looked at its head [and] in its eye, but it didn't move'; /gap̀á·šuk ?í·duša?. ?uŋilišgi p̀á·šugé·sḱeŋa?/ '"come in!" he kept saying, but she didn't come in'

28.2. -ud Sequential. The prefinal suffix -ud Sequential indicates that the action described by the verb to which it is affixed precedes another action in time, rather than overlapping with it. The other, following, action is usually that described by the verb of the immediately following clause, as in the bulk of the examples below, but occasionally it is that described by the preceding verb, as in this example:

/dá·waha ʔípami gáŋala dáŋal dópošmámahayudi/ 'he returned to his house after he burned down the house'.

Occasionally, also, the train of discourse is broken, and there is no description of a following action.

This suffix is usually most conveniently translated by an introductory formula such as 'and', '(and) then', 'but then', '(and) afterwards', 'and later', 'and so', or 'after awhile' on the clause expressing the following action, occasionally with the adverb 'first' applied to the verb of the prior action. It may also be translated, grammatically more accurately, but with a greater divergence from the Washo ordering of morphemes, by rendering the verb bearing the suffix into an adverbial clause introduced by 'after'. Thus the first example of section b may be translated either 'he drank, and then (and afterwards) they walked away to the west' or 'after he drank, they walked away to the west'.

This suffix occurs after intransitive, transitive, and double-transitive verb stems; after primary, derived, and pseudo-derived auxiliary verbs; after -iʔ Attributive-Agentive;

and after a variety of stem-formative and thematic suffixes, namely, -ug 'hither', -uwe? 'hence', -am 'away to', -lel Transitory, -uš Durative, -ḱeŋ Restrictive, -ha Causative, -é·s Negative, -ši Dual Inclusive, -hu Plural Inclusive, -uŋil Defunctive, and -ti? Perfective. It also occurs fairly often on the Sentence Connective Theme ?. It is not found after -áša? Near Future, or -hé·š Interrogative, or any other tense or evidential suffix.

Since the expression of the tense of the verb is neutralized by the occurrence of the Sequential suffix, the time reference of the prior action is determined by that of the general passage in which it occurs, and particularly by the tense of the following verb. Thus the verb may refer to past time, as in this example:

/?émluyudi, yá·sa?gišuwa?aš/ 'they ate, and then they went off again'

or to future time:

/digáma?udi lé·bi?ti?gi Lé?le/ 'I'll eat her up and then I'll come back'.

Themes formed with the Sequential suffix are of a unique type, in that they may be followed only by -i Imperfect, which may be followed in turn only by -š Reference Switching or (rarely) by the postclitic -ŋa 'but', but not by nominalizing or adverbializing suffixes. The Imperfect suffix -i when following -ud thus has an external distribution much like that of <-a?> Aorist. The Sequential suffix occurs on themes formed with g^{e}- Imperative, as well

as with other pronominal prefixes, and the distributional properties of these Imperative themes are radically altered by the addition of this suffix, as they are not otherwise followed by -i Imperfect. Examples of this suffix on Imperative themes are given in section a.

It is noteworthy that the Sequential suffix functions in many ways like the nominalizing and adverbializing suffixes with which it is mutually exclusive, except that it precedes -i Imperfect rather than following it, as these other suffixes do (although they may also follow -le Redundant); all these suffixes have in common the syntactic implication of a following verb form.

a. After themes formed with g^e- Imperative.

g^e íme?.ud i: /géme?udi, ?udiš gíše/ 'drink it, and then let's go!'

g^e íme? $^{\varepsilon}$ bú?u.ud i: /géme?bú?yudi ge?mú?šuk/ 'give him water and then come here (pl.)!'

g^e si g ^{i}í·gi.ud i: /heskulewík, gé·duš, gesigí·giyudi/ 'keep saying "h." after you sizzle!'

b. After intransitive verb stems.

? íme?.ud i š: /?íme?udiš, ye?mú?šuwe?ga?muwe?gišuwe?i/ 'he drank, and then they walked away to the west'

? í·bi?.ud i š: /?í·bi?udiš, há·?laŋa bekcúcumé·suŋilaš gélu ?um?gá·šukti?gi Mé?i/ 'after he comes, before he smacks his lips you will throw him in here'

? áyad.ud i: /dá· ?áyadudi watlí· gumLa?á?ša?/ 'after he spent the night there, in the morning he told him his story'

Ø d^{u} á·baš.ud i š: /dó·bašudiš gawgá·baša?/ 'after they were burnt up, they clubbed them to death'

Ø kM^{e} á?šam.ud i: /dulec̓é·gela? Má?šamudi yakŋá·šuwa?a? Má?šamŋáŋaya? gesú·dumaš/ 'he had his arms crossed, he was lying, and then he was face down, he was pretending to lie, he was watching him'

Ø h^{e}? $l^{ɨ}$ íl̈ɨl.ud i: /he?líl̈ɨludi wamósa?/ 'it drizzled and so it's wet'

Ø b^{e} l c̓ á·c̓ɨb.ud i: /memdé·wi daháŋaya dep̓ísewa dac̓áŋayagap̓ɨl balc̓á·c̓ɨbudi gélu ŋówa ?uYá·mudi/ 'he plugged the deer in his mouth, in his ears, even in his anus, and then he pounded the earth with it, and then ...'

c. After transitive verb stems.

? í?iw.ud i: /gumdulagá·galgap̓ɨli gitŋa?mí?miŋ ?í?wudi gumsésɨm?e?šuwe?gap̓ɨlhaya?/ 'she stuck her paws in her mouth, after she ate her cubs, she made herself vomit'

? á?ag.ud i: /gik?lá·m ?á?gudi, t̓ánu, ?í·giyige, yaklip̓a?á?ya?/ 'he carried his mortar on his back and then he fooled any person that he saw'

Ø dámal.ud i: /náyduk ?ítdelemišge dámaludi ?uŋa ?idé·setik̓eŋiš/ 'he heard them making a lot of noise, and then there was no more talking'

?um M ášdɨm.ud i: /?á·ša?áwduwe?ušleda, ?uMášdɨmudi, ?udi, ?á·ša?išda, ?umyá·gali/ 'you hide where she urinates over the edge and then, then, when she's urinating, you swim inside'

Ø b íps.ud i: /bíc̓ik bípsudi t̓ánu, gadá·maš/ 'he picked

up the pounding stone and then the person -- he hit him'

Ø w í·ḱɨl.ud i: /ye?múwamida húṫe? wí·ḱɨludi ye?mú?šugenunigi ḱé?i/ 'they would go out and look around for things and then they would come back'

g^{e} y ášu.ud i: /gayášuyudi, ṫíwi? gumbáwdi/ 'he washed him and then he stepped over him'

g^{e} báli? ^{ɛ} lélb.ud i š: /gabáli?lélbudiš, gelu wagayé?ya?/ 'they put together what they shot, and then they blessed it'

d. After double-transitive verb stems.

mi l^{e} á·da?.ud i š: /milá·da?udiš gé?ŋa lelepúpu/ 'I'll do it to you and then see if you stick me!'

e. After -i? Attributive-Agentive.

Ø muš^{ɛ} í·gew lélm i?.ud i š /mušé·gewlélmi?udiš/ 'they told stories at night and then ...'

f. After primary auxiliary verbs.

? émlu máma?.ud i: /?émlumáma?udi watlí· ?ušé?šuwa?a? yá·sa?/ 'they finish eating, and then in the morning they start driving rabbits again'

Ø ?um bí·si máma?.ud i: /?umbí·simáma?udi gí· pe?wéċeli ?élšɨmuweḱeŋa?/ 'they finished covering it up to cook, and then this Weasel just went to sleep'

Ø h^{u} íši ^{ɛ} ṫá·ṫɨm.ud i: /ṫánu gitŋá?miŋ húšiṫá·ṫɨmáma?udi, ye?mú?šuwe?gišuwa?a?/ 'the person finished pushing his children apart, and then they went off'

Ø s^{u} í·bi? túmu.ud i: /ṫé·ḱe?é·s sú·bi?túmuyudi ?áy?la ṫé·ḱe? sú·bi?íŋawlegi/ 'he didn't bring in much the first time, but then he brought in a lot the next time'

di gum yó?ol yé·wi.ud i ŋa: /digumyó?olyé·wiyudiŋa léye?é·sigi/ 'I'll rest, and then why don't I go on?'

g. After derived auxiliary verbs.

Ø w $g^{e}y^{e}$ á?y g " í·k̓ɨl.ud i: /wagayáy?gik̓ɨludi ?íyewe?i/ 'he talked for a little while, and then he went away'

g^{e} liw á·dig g " í·k̓ɨl.ud i: /geliwá·dikgik̓ɨludi, Mú?šuwe?i/ 'he broke it up with his feet, and then he ran away'

Ø $?l^{e}$ íši g " ími? g " í·bi?.ud i: /ŋówa ?léšigimi?gibi?udi/ 'he shoved dirt out and then ...'

? íšm g " áyab $^{\varepsilon}$ " ^{i}í·k̓ɨl.ud i: /?íšɨmgayabik̓ɨludi, dalá?ga ?íyewe?igi/ 'he was singing here and there, and then he went away to the mountains'

g^{e} d^{e} á·k̓ɨm $^{\varepsilon}$ " t̓á·t̓ɨm.ud i: /gadá·k̓ɨmt̓at̓ɨmudi, k̓í?wušluli?a?/ 'he would pound him apart, and then he would eat him'

h. After pseudo-derived auxiliary verbs.

g^{e} wg áys gap̓ɨl.ud i: /gawgáyɨsgap̓ɨludi, dáyɨsgap̓ɨla?/ 'he missed him in clubbing, and then he missed him in throwing'

Ø y^{e} íwe? gap̓ɨl.ud i: /degumséwa?á?ya yéwe?gap̓ɨludi baŋá·ya p̓ímewe?ida Mášdɨmaš/ 'where a fire had been she left tracks, and then she went outside and hid'

i. After Directional suffixes.

l^{e} béyd hil ug.ud i š /lebéyɨthilugudiš/ 'comb my hair first and then ...'

Ø p̓ á t̓um uwe?.ud i: /p̓át̓umuwe?udi ŋówa ?léšigimi?gibi?uša?/ 'he went in and then he kept shoving out earth'

Ø š élšɨm uwe?.ud i š: /šélšɨmuwe?udiš lélɨm ŋáwŋaŋ ?lá·baši/ 'after they went to sleep, at night he bit

the children to death'

g^{e} g^{u} íw am.ud i: /gegúwamudi, ṫánu ʔápɨs ʔíʔwaʔ/ 'after he took him out there, he ate human bodies'

j. After -lel Transitory.

ʔ élšɨm lel.ud i: /Máʔšamida ʔélšɨmleludi yá·saʔgišuwaʔa?/ 'he lay down and slept for a little while and then he went off again'

Ø w té·š lel.ud i š: /yeʔmúʔšaʔ weté·šleludiš ṫé·liwhu ḱí·digi/ 'they walked for awhile and then the man spoke'

k. After -uš Durative.

Ø gum bu ʔl^{e} íʔiš uš.ud i: /gumbuʔléʔšušudi ʔleʔšúmiʔa?/ 'they were fishing with nets, and then they took the nets out'

l. After -ḱeŋ Restrictive.

Ø wá·d ḱeŋ.ud i '(until) after he continued until morning': /gitʔá·ṫu dámalbá·gayaʔ wá·tḱeŋudi/ 'he had listened to his older brother all night'

m. After -ha Causative.

Ø gum kM íyeʔ ŋáŋa ha.ud i: /ṫéweʔ guMíyeʔŋáŋahayudi dáleldiʔé·s, yá·saʔ melé·wamaʔ/ 'he pretended to go far away, and then from the opposite side he again jumped up to it'

ʔum d^{u} á·baš ha.ud i: /ʔumdó·bašhayudi, wá· ʔumsáʔaš/ 'you'll burn them tc death, and then you'll put them here'

Ø w y^{u} ášiw ^{ɛ} ʷ ítiʔ ha.ud i: /ćɨ́·kɨ míʔlew wayóšiwetihayudi. ṕímeweʔi/ 'he killed all the spiders, and then he went out'

n. After -é·s Negative.

Ø p̀ íḱew é·s.ud i: /p̀íḱewé·sudi, gik?á·t̀u ?íyewe?iš/ 'he didn't get up, so his older brother went away'

o. After Inclusive suffixes.

di gum d^{e} íšiw ši.ud i: /digumdéšiwšiyudi, lémluše/ 'let's pound each other well, and then we'll eat'

l^{e} í?iw ši.ud i: /lé?ewšiyudi láyadúwe?še/ 'we'll eat, and then let's go to bed!'

di gum b^{e} gum š^{e} íšl uš ši.ud i: /digumbegumšéšlušiyudi digumhul?yú·guše/ 'let's exchange punches and then let's wrestle!'

l^{e} í?i hu.ud i š: /daháŋaya di?u?lá·galhuya?, ḱi?wáša?aš geya, léhuyudiš. másat̀i ?í?wigelu,/ 'we'll throw them in his mouth, when he's ready to eat we'll put them on it [his food], and then, by eating the arrowheads ...'

p. After -uŋil Defunctive.

Ø wgu ć̀íw uŋil.ud i: /wegućíwuŋiludi, húŋa ?idé·seti?a?/ 'they screamed and then they became quiet'

Ø ?ud^{e} í?iš ug ŋáŋa uŋil.ud i: /?udé?šukŋáŋayuŋiludi, ?udéc̀išeti?aš/ 'it barely shined, and then it got dark'

? uŋil.ud i: /hámugeduŋ ?émluya?. ?uŋiludi gitŋá?miŋ tulípi? mú?ma?/ 'she was eating fast, but then she felt her cub's claw in her mouth'

q. After -t̀i?

? émlu ^{ɛ} á?y t̀i?.ud i: /?émluyáyt̀i?udi wá·t t̀ánu, watlí·sešíšiya?/ 'they had eaten and then the next day the people, in the morning, danced the slow dance'

r. After the Sentence Connective Theme ?.

ʔ.ud i: /Lá·daʔi léʔwiyeʔi, ʔí·daʔ. ʔudi, memdé·wi ŋaʔmíʔmiŋ, méʔšuwaʔa?/ '"I did it, I ate them", she said; and then she tracked the Deer children'

ʔ.ud i š: /gíši dó·baša?. ʔudiš memdé·wi ŋaʔmíʔmiŋ Wáʔigi mušé·gew ŋaʔmíʔmiŋ, dácawa?/ 'they (du.) burned to death. And then the Deer children did it; they pounded up the Bear children'; /gaʔlóʔpayami. ʔudiš, gayóhigatumuweʔi yá·saʔ gáŋala/ 'they caught him. And then they dragged him in again, into their den'

28.3. -enun Usitative. The prefinal suffix -enun Usitative is used to indicate that an action or condition is habitual, customary, traditional, or characteristic. Its range of meaning includes the indication that an action is in keeping with the traditions of the tribe as a whole, or with the habits of the individuals concerned, or that a certain property is a characteristic of a certain substance. This suffix usually translates into English by an adverb such as 'usually', 'generally', or 'always', or, when a past tense is implied, by 'used to'. Since the use of this suffix is incompatible with that of any tense suffix, the time reference intended must be inferred from the context. This may be present (or gnomic) or past, but seemingly never future. The semantic contrast between this morpheme and -uš Durative is very clear, the latter referring to actions that are prolonged or repeated, rather than habitual or characteristic.

The Usitative suffix occurs after intransitive, transitive, and double-transitive verb stems; after certain primary, derived, and pseudo-derived auxiliary verbs; after -i? Attributive-Agentive; after the Directional suffix -ug 'hither'; after -uš Durative, -ha Causative, -é·s Negative, and in one occurrence after -unil Defunctive. It is also found several times on the Anaphoric Theme ?..´, and once on the Sentence Connective Theme ?. Several of the instances of non-occurrence of immediately preceding elements are presumably due more to semantic than to grammatical restric-

tions; such are the lack of preceding -lel Transitory, -ḱeŋ Restrictive, -ášaʔ Near Future, and -héˑš Interrogative. The lack of a preceding Inclusive suffix is more likely to be accidental, while the lack of any other preceding tense or evidential suffix probably reflects a genuine grammatical incompatibility.

When -éˑs Negative precedes, the meaning of negation does not apply to the semantic component associated with the Usitative morpheme, but on the contrary, as the ordering of the constructions leads one to expect, the force of the sequence is that the negative statement is generally true (see section k for examples).

This suffix is usually followed by -i Imperfect, with no restriction on further nominalization or adverbialization of the predication. Very characteristic are phrases in which such forms, usually nominalized, take an adverbializing suffix -duk or -duŋ 'as, like, and so', and are followed by a form of a verb with generalized meaning, usually wáʔ 'to do', éʔ 'to be', or íd 'to say', to indicate that the action in question is in keeping with custom or tradition. Many of the examples given below show this, such as the first example of section a, which is there translated rather freely as 'he's eating as usual', but might be translated more literally as 'he usually eats and so he's doing'. The Usitative suffix is also followed by -iʔ Attributive-Agentive, which is followed in turn usually by -aʔ Aorist but also by -i Imperfect (with nominalization and -duk) and by -áʔyiʔ

Mirative followed by -i Imperfect (with nominalization).

a. After intransitive verb stems.

? émlu.enun i " g^e í duk: /?émluyenunigeduk wá?a?/ 'he's eating as usual'

Ø ḱéše.enun i " g^e í duŋ: /?áṫabi? ?í?wigelu ḱéšeyenunigeduŋ wá?a?/ 'they ate fish and thereby they lived as usual'

Ø báŋkuš.enun i " g^e í duk: /ṫánu báŋkušenunigeduk wá?a?/ 'someone smoked (i.e., doctored) as usual'

Ø m ášu.enun i " g^e í duk: /mášuyenunigeduk wá?a?/ 'she's washing as usual'

Ø $muš^{\varepsilon}$ í·gew.enun i š " g í: /wí·di? ṫánu mušé·gewenunišgi/ 'people used to tell this story'

Ø w gális.enun i " g^e duk: /ṫánu, wagálisenunigeduk ?á?a?/ 'people were spending the winter as usual'

b. After transitive verb stems.

Ø y^u íćim.enun i " dá: /?áṫabi? yúćimenunida/ 'they used to catch fish by damming there'

c. After double-transitive verb stems.

Ø bú?u.enun i " g í: /ṫánu, gitMílu, bú?yenunigi/ 'people generally feed their friends'

d. After <-i?> Attributive-Agentive.

Ø w h^e ^{i}í·<>gi ·.enun i " g^e í duŋ: /wá·šiw wehí·ḱi?enunigeduŋ ?é?a?/ 'Washoes were doing as was the custom'

Ø gum g átdud g " á·gal i?.enun i " g í: /ṫáyasyáẇpi? gumgátdutgagali?enunigi ḱé?i/ 'intestinal fat always cakes up in your mouth'

e. After a primary auxiliary verb.

Ø $g^{e}l^{\varepsilon}$ w^{e} w^{e} íwš ŋáŋa.enun i? a?: /ťánu gelwewéwɨšŋáŋayenuni?a? ?í·dišgi ke ḱé?le/ 'they call to people deceptively, it is said'

f. After derived auxiliary verbs.

? é? é·s $^{\varepsilon}$ " íti?.enun i? a?: /mí?lew ?e?é·seti?enuni?a? ?í·dušgulay?gi/ 'everybody always died, they used to say'

? é? $^{\varepsilon}$ " y á·b $^{\varepsilon}$ " ^{i}í·ḱɨl.enun i? a?: /?é?yabiḱɨlenuni?a? ?ít ke ḱé?le/ 'they are always all around, the saying is'

g. After pseudo-derived auxiliary verbs.

Ø w s^{u} $?^{e}$ í?iš gaṕɨl.enun i š " g^{e} í duŋ: /wesu?é?ešgaṕɨlenunišgeduŋ ?é?a?/ 'she was looking around as usual'

h. After Directional suffixes.

Ø y^{e} $?m^{u}$ í?iš ug.enun i " g í: /ye?mú?šugenunigi ḱé?i/ 'they always come back'

i. After -uš Durative.

Ø bákbag uš.enun.i " g í: /ťánu, Mílu ?í·bi?iš ťánu bákbagušenunigi ḱé?le/ 'when someone's friend comes, people generally smoke'

Ø gum h áhaw uš.enun i " g^{e} í duŋ: /gumháhawušenunigeduŋ ?é?igeduŋ ?á?a?/ 'they kept fighting as usual'

j. After -ha Causative.

? íṕam é·s ha.enun i " g í: /ťánu, ?íṕamé·shayenunigi ḱé?le/ 'he doesn't let people reach there'

Ø ṕ í?lug $^{\varepsilon}$ " á?y uš ha.enun i " g^{e} í duk: /ŋáwa ?apkákša? ṕí?luga?yušhayenunigeduk wá?a?/ 'they were ripping into

the earth, they kept turning it over as usual'

k. After -é·s Negative.

ʔum y áha é·s.enun i duŋ: /ʔumyáhayé·senuniduŋ ʔuwáʔi/ 'you're acting as though what you're doing doesn't hurt'

Ø w $g^e y^e$ áʔy é·s.enun i " g í: /míku̓ wagayaʔyé·senunigi/ 'faeces usually don't talk'

l. After -uŋil Defunctive.

K ʔ éʔ uŋil.enun iʔ aʔ: /ku̓éʔuŋilenuniʔaʔ/ 'it formerly used to be'

m. After the Anaphoric Theme ʔ..´.

ʔ.[é]nun iʔ aʔ: /tu̓ánu ʔénuniʔaʔ ʔí·dušgulayʔgeduŋ léw diwáʔaʔ/ 'we do it like they used to say people always did' (JW)

ʔ.[é]nun i " g^e í duŋ: /tu̓ánu ʔénunigeduŋ wáʔaʔ/ 'people always did it' (HP)

n. After the Sentence Connective Theme ʔ.

ʔ.enun i " g^e í duk: /ʔenunigeduk ʔéʔida, ʔéʔaš/ 'they were where they usually were' (HP)

28.4. -emel? Traditional. The rather infrequently occurring suffix -emel? Traditional seems to indicate that the action expressed by the verb to which it is suffixed is one that is or was done in accordance with traditional usage, or, in the case of animals, in accordance with the natural habits of the species. Its meaning is often difficult to distinguish from that of -enun Usitative. This suffix is thought to occur always with following -i Imperfect, with subjective or objective nominalization (31.1-2). However, the -i is never apparent phonemically, being lost because of the preceding [?]. If this hypothesis about the presence of -i Imperfect is incorrect, this would make -emel? a final, rather than a prefinal, suffix. The frequency of usage of this suffix seems to vary considerably with informants.

ø muš$^{\varepsilon}$ í·gew i? emel? i " g í: /t̓ánu mušé·gewi?emel?gi/ 'people used to tell the story'

g^{e} dí[ʼ]ye ʼ emel? i " g í: /k̓á·k̓a? gedí?ye?emel?gi/ 'they used to call it "heron"'

m í·deg emel? i " g í: /húṯaŋahé·š mí·degemel?gi/ 'you [bears] always dig something'

? íme? uš uŋil emel? i " g^{e} í: /t̓ánu degelélek ?íme?ušuŋilemel?ge/ 'people used to drink the red liquid [canned heat]'

28.5. -iye? Visual. The prefinal suffix -iye? Visual indicates that the speaker's knowledge concerning the situation described by the verb comes from direct observation, usually in the absence of other sources of information. Verbs bearing this suffix may be literally translated into English by making the suffix into a primary verb. Thus when the underlying verb means 'you have come', the form with this suffix might be translated 'I see (that) you have come' or 'you have come, I see'.

m íye?.iye? i /míye?iye?i/ 'you have come, I see' (a common greeting)

mi m d^{e} íwš.iye? i /mimdéwšiye?i/ 'I see you're digging around'

Ø m^{u} ásd.iye? i: /dima?géwe? mósdiye?i/ 'I see my wood got soaked'

Ø kM^{e} íw am.iye? i /Méwamiye?i/ 'I see that it reaches'

g^{e} wg á̓tig šeg.iye? i /gawgá̓tikšegiye?i/ 'he whipped him half to death'

? á·k̓ɨd máma?.iye? i: /deyú·geli? ?á·k̓ɨtmáma?iye?i/ 'I see he's finished scooping up the pine nut soup'

28.6. -delem Auditive. The evidential suffix -delem Auditive has been found directly after several intransitive verb stems, both primary and derived, and after two derived transitive verb stems, on one of which it follows the stem-formative suffixes -uwe? 'hence' and -uš Durative. There are also examples of this suffix on the Anaphoric Theme <?..'>. Although conclusive evidence is lacking, it seems probable that this is a thematic suffix, rather than a stem-formative suffix.

The Auditive suffix is usually followed by -i Imperfect, which may in turn be followed by the Reference Switching suffix -š and/or Nominalizing suffixes. This suffix also occurs before -le Redundant and before <-a?> -a Aorist followed by -š Reference Switching.

The Auditive suffix indicates that the evidence for the statement is derived from the hearing of the speaker, usually in the absence of other sources of evidence. The stem to which it is affixed may either have the production of sound as its primary meaning ('singing, saying something, making noise, crying, sounding like') or not ('sawing, chopping, crawling, finding, being thus'). Verbs bearing this suffix are usually translated into English by making the suffix into the primary verb; thus in the example below where the form without this morpheme would mean 'he's chopping', the translation would usually be 'it sounds like he's chopping' or 'I hear him chopping'.

This suffix is probably related historically to dámal Vt 'to hear'.

a. After intransitive verb stems.

m íšm.delem i /míšɨmdelemi/ 'I heard you singing'

hak + K ʔ é?.delem i /ha ḱé?delemi/ 'it sounds that way to me, it sounds like it's that way'

ʔ íd.delem i š " g^{e} í: /náyduk ʔítdelemišge dámaludi/ 'he heard them making a lot of noise (with their voices)'

ʔ ^{e} í[m]pu?.delem i: /ʔumgúšu? ʔémpu?delemi/ 'it sounds like your dog found something'

Ø ṕ í?iš.delem le /ṕí?išdelemle/ 'it still sounds like he's crawling'

Ø bˇ á?il.delem i /bá?ildelemi/ 'it sounds like they're sawing, I hear them sawing'

Ø g á·ć̣ɨŋ.delem i /gá·ć̣ɨŋdelemi/ 'it sounds like he's chopping, I hear him chopping'

hak + Ø g^{u} í?iš.delem i /hak gú?ušdelemi/ 'it sounds like it to me', more literally, 'it sounds to me like it's sounding like it'

b. After a transitive verb stem.

Ø gum $g^{e}l^{ɛ}$ í?iš.delem le /gumgelé?ešdelemle/ 'I still hear him crying'

c. After -uš Durative.

l^{e} í ši + ʔum yá·m ^{ɛ} áhad uwe? uš.delem i š /leši ʔumyamáhaduwe?ušdelemiš/ 'we heard that you kept saying (bad things) about us across'

d. After the Anaphoric Theme <ʔ..ˊ> Ø..ˊ.

Ø.d[é]lem i: /dewhíwi gúʔši délemi/ 'it sounds like it's thundering' (HP)

Ø.d[é]lem a š: /ʔíˑdaʔ ke délemaš Léʔle/ 'he said (it) and I heard it' (CF)

28.7. -á?yi? Mirative. The prefinal suffix -á?yi? Mirative indicates that the speaker knows of the action described by the verb, not from having observed it occur, but only inferentially from observation of its effects. It thus commonly conveys an emotion of surprise.

? íhuk̓.á?yi? i: /díme? ?íhuk̓á?yi?i/ 'the spring has dried up'

Ø métu?.á?yi? i /métu?á?yi?i/ 'it got frozen'

Ø d^{u} áŋa?.á?yi? i /dóŋa?á?yi?i/ 'it got burnt'

Ø d^{u} ápu?.á?yi? i /dópo?á?yi?i/ 'it got faded, bleached white'

l^{e} ímek̓ am.á?yi? i /lémek̓amá?yi?i/ 'I've caught a cold'

Ø kM^{e} íw am.á?yi? i /Méwamá?yi?i/ 'it reached to there'

? íye we?.á?yi? i: /dəbó?o ?íyewa?á?yi?i/ 'the white man has gone away'

g^{e} g^{u} íli we?.á?yi? a?: /šélšimaš gegúliwa?á?yi?a?/ 'while they were sleeping, they had taken them up'

di métiw $^{\varepsilon}$ " íti?.á?yi? i /dimétiweti?á?yi?i/ 'I'm starting to get gray hairs'

? í·yel máma?.á?yi? i /?í·yelmáma?á?yi?i/ 'he's grown big (in my absence)'

28.8. -leg Recent Past. The prefinal suffix -leg Recent Past is used to place the time of an event at an earlier point on the same day, or during the preceding night.

This suffix occurs after intransitive, transitive, and double-transitive verb stems, after -i? Attributive-Agentive, after a few primary and derived auxiliary verbs, after -uwe? 'hence', -uš Durative, -ha Causative, -é·s Negative, the Inclusive suffixes, and -uŋil Defunctive. There is also an occurrence of this suffix on the Anaphoric Theme <?..ˊ> Ø..ˊ. This suffix is followed only by -i Imperfect, and does not allow any following nominalizing or adverbializing suffix, nor -š Reference Switching, to occur.

The main analytical problem connected with this suffix concerns the homophony between the sequence of this suffix and -i Imperfect,

leg i /legi/,

and the sequence of -le Redundant and the subjective nominalizing suffix:

le " g i /legi/.

That is to say, there is a serious question as to whether the morpheme -leg really exists at all. Contributing to the doubt is the lack of following nominalization, as this tends to imply that nominalization may already be present. However, it seems more probable that this is a genuine morpheme, for several reasons. The meaning of the forms

containing -leg seems not to include the meaning of redundancy associated with -le, and these forms do not seem to have the syntactic properties of nominalized forms. Furthermore, the apparent lack of a past tense meaning in any forms containing -le and other nominalizing or adverbializing suffixes, such as /lege/, /leda/, tends to bear this out. Finally, there is one form uttered by BH in which -leg is followed by -le Redundant:

di ʔm^{u} íʔiš ug ši.leg le /diʔmúʔšukšilekle/ 'we (du. inc.) walked hither'

When going over the tape, this informant said that a form with -i Imperfect (the last example in section k) would be "better", so that this form cannot be weighted too heavily, but it may indicate that the informant was conscious of a morph -leg.

The adverbial expressions of time that have been found associated with verbs bearing this suffix include /watlí·ʔiŋ/ 'early in the morning', /téšdiw watlí·/ 'just this morning', and /lélɨ̀m/ 'at night, last night'.

a. After intransitive verb stems.

l^{e} íme?.leg i /léme?legi/ 'I drank'

l^{e} émlu.leg i /lémlulegi/ 'I ate'

ʔ í·biʔ.leg i: /lélɨ̀m ʔí·biʔlegi/ 'he came at night'

di wɨ́hl.leg i /diwɨ́hɨ̀legi/ 'I was very cold'

di métuʔ.leg i /dimétuʔlegi/ 'I got a frostbite'

di hámu.leg i: /t̀é·k̀eʔ léši Lá·daʔaʔ dihámulegi/ 'I thought we fixed a lot'

Ø h^{a} í?iš.leg i /há?ašlegi/ 'it was raining'

Ø y^{e} ?m^{u} á?y.leg i: /lí· wíndɨyadi? ya?móy?legi/ 'they already went away from the window'

b. After transitive verb stems.

l^{e} ípu?.leg i /lépu?legi/ 'I found it'

di dámal.leg i: /gitŋa?mí?miŋ bugayá?yišge léši didámalegi/ 'we (du.) heard her talking to her cubs'

di sá?.leg i: /dáwa? disá?legi/ 'I left it right there'

Ø ?iš^{u} í·ḱɨl.leg i: /léw ?išú·ḱulegi/ 'they fought us'

di gum s^{u} ?ú?uš.leg i /digumsu?ú?ušlegi/ 'I dreamt'

g^{e} b^{e}y^{e} í·gel ^{u} á·š.leg i: /gebeyé·geló·šlegi téšdiw watlí·/ 'they arrested him this morning'

c. After double-transitive verb stems.

?l íšl.leg i: /lákaŋ ?líšɨlegi/ 'he gave me one'

Ø bú?u.leg i: /dabó?o lew bú?legi/ 'the white man fed us'

d. After -i? Attributive-Agentive.

di gum s^{u} ?ú?uš i?.leg i: /dimúseḱa? digumsu?ú?ši?legi/ 'I dreamt that I was drowning'

e. After primary auxiliary verbs.

?l ^{i}í·gi é·s šému.leg i /?lí·giyesémulegi/ 'he definitely didn't see me'

Ø s^{u} í·bi? íŋaw.leg i: /?áy?la té·ḱe? sú·bi?íŋawlegi/ 'he brought in a lot the next time'

f. After derived auxiliary verbs.

Ø b áwd ^{ɛ} " á?y.leg i: /git?uhó·š báwday?legi/ 'he took his hat off'

di ṕ í·gel ^{ɛ} " á?y.leg i /diṕí·gelay?legi/ 'I turned back'

g. After Directional suffixes.

? íye we?.leg i /?íyewe?legi/ 'he went away, he's gone already'

Ø y^{e}ŋ áhad uwe?.leg i /yaŋáhaduwe?legi/ 'they ran across'

h. After -uš Durative.

? íd uš.leg i: /mé· ?í·dušlegi/ 'it kept saying "maa"'

i. After -ha Causative.

ḱ íšiw ha.leg i /ḱíšiwhalegi/ 'he cured him'

j. After -é·s Negative.

l^{e} íme? é·s.leg i /léme?é·slegi/ 'I didn't drink'

l^{e} íme? hu é·s.leg i /lémehuyé·slegi/ 'I refused to drink'

m i dámal é·s.leg i /midámalé·slegi/ 'I didn't hear you'

?l ^{i}í·gi é·s.leg i /?lí·giyé·slegi/ 'he didn't see me'

Ø w s^{u} $?^{e}$ í?iš é·s.leg i /wesu?e?šé·slegi/ 'he didn't look at anything'

k. After Inclusive suffixes.

l^{e} í ši ši + l^{e} íme? ši.leg i /léšiši léme?šilegi/ 'we (du. inc.) drank'

l^{e} í w hu + l^{e} íme? hu.leg i /léwhu lémehulegi/ 'we (pl. inc.) drank'

l^{e} í ši ši + l^{e} íme? é·s ši.leg i /léšiši léme?é·silegi/ 'we (du. inc.) didn't drink'

di $?m^{u}$ í?iš ug ši.leg i: /dá·ši? di?mú?šukšilegi/ 'from there we (du. inc.) walked hither'

l. After -uŋil Defunctive.

m é? uŋil.leg i: /há·?da mé?uŋilegi/ 'you were there'

Ø h^{a} í?iš uŋil.leg i /há?šuŋilegi/ 'it was raining'

m. After the Anaphoric Theme <?..´> Ø..´.

Ø.l[é]g i /lé·gi/ '(it was) recently'

28.9. -ay? Intermediate Past. The prefinal suffix -ay? Intermediate Past indicates a time in the past earlier than the same day but not in the extremely distant past.

mi Ø dámal é·s ay? i " g í /midámalé·say?gí/ 'I didn't hear you'

? íye we? ay? i " g í /?íyewa?ay?gi/ 'he went away'

28.10. -áyt̓i? Pluperfect. The prefinal suffix -áyt̓i? Pluperfect places the time of an event prior to that of another event in the past.

? íd áyt̓i? ud i: /lé·bi?é·sgabigi Lé?le ?idáyt̓i?udi/ '"I won't come back" he had said, and then ..'

28.11. -gul Remembered Past. The prefinal suffix -gul Remembered Past places the time of an event in the distant past but still within the lifetime of the speaker. This suffix is always followed by -ay? Intermediate Past.

Ø h^a í?iš gul ay? i " g í /há?ašgulay?gi/ 'it was raining'

l^e íme? hu gul ay? i " g í /lémehugulay?gi/ 'we (pl. inc.) drank'

28.12. -lul Distant Past. The prefinal suffix -lul Distant Past places the time of an event in the distant past, before the lifetime of the speaker.

Ø y^e í?iš uwe? lul i? i š " g í /ye?suwe?luli?išgi/ 'he flew away long ago'

? uṇil lul i? i š " g^e í /?uṇiluli?išge/ 'long ago and over with (sentence connective)'

28.13. -elem Distant Tense. The very rare prefinal suffix -elem Distant Tense, attested only in material from RJ and HP, occurs always followed by one of three prefinal suffixes expressing past or future tenses: -ay? Intermediate Past, -lul Distant Past, or -gab Distant Future. It has the meaning of making the time of the action more distant, either in the past or in the future, than it would otherwise be.

ø h^{a} í?iš elem ay? i " g í /há?šelemay?gi/ 'it was raining long ago'

l^{e} íme? elem ay? i " g í /léme?elemay?gi/ 'I drank long ago'

k̓ ^{i}í·gi elem lul i? áyt̓i? i š " g^{e} í /k̓í·giyelemluli?áyt̓i?išge/ 'what they saw very long ago'

?um hámu elem gab i š " g í /?umhámuyelemgabišgi/ 'you'll wonder long from now'

28.14. <-ti?> Intermediate Future. The prefinal suffix <-ti?> -ti? ~ -t Intermediate Future is used to express an event that is expected to take place in the future, not immediately but after the lapse of a short interval of time. This usually places the event in a later portion of the same day, although if one is speaking late at night, the event may be due to occur the following morning. This tense thus has reference to a time more distant than that expressed by the Near Future tense, but nearer than that of the Distant Future tense.

The Intermediate Future suffix has been found after intransitive and transitive verb stems. It also occurs after the stem lélm 'night, at night', which has not otherwise been found used as an intransitive verb, except with the Static prefix w-. This suffix also occurs after the Attributive-Agentive suffix -i?, after certain derived and pseudo-derived auxiliary verbs, after the Directional suffixes -ug 'hither' and -uwe? 'hence', and after the suffixes -uš Durative, -ḱeŋ Restrictive, -ha Causative, -é·s Negative, -hé·š Interrogative, and the two Inclusive suffixes. There is one example of this suffix occurring after the Near Future suffix -áša? (section k). There are also two examples, one each from FM and JW, of this suffix after the Subjunctive suffix -hel (section o). These were felt to be incorrect by RJ, who translated the texts containing them, and quite understandably so, since their distribution otherwise as prefinal suffixes would lead one

to expect that these two suffixes would be mutually exclusive. These forms are thus possibly a characteristic of the more northerly dialects. This suffix occurs on the Anaphoric Theme <?..ˊ> Ø..ˊ only in elicited examples without a context.

The Intermediate Future suffix is found followed by the final suffixes -i Imperfect and -a? Aorist, and, in one example, by -le Redundant. As is the case with -gab Distant Future, there is a strong tendency for a predication bearing this suffix followed by -i Imperfect to also take a nominalizing suffix following these, with or without intervening -š Reference Switching. Most occurrences have the subjective form without the -š and thus end in the sequence ▯ti? i " g í▯ /ti?gi/. In general there is nominalization unless there occurs instead an adverbializing suffix, or the postclitic -ŋa 'but', or unless the Interrogative suffix -hé·š occurs on either the same stem or on the immediately preceding word (usually this is an adverb, but there is one example where it is a verb that is closely linked semantically with the following verb: /?úŋa lá·dahé·ša? di?ló?pati?i/ 'how will I hold it?' [RJ]). The exceptions to this observation are two forms from JW that are not nominalized even though they lack any of these compensating features, and, conversely, two forms from RJ and one from CF that are nominalized even though the Interrogative suffix precedes on the same stem. However, the lack of nominalization in the presence of the Interrogative suffix is attested in the overwhelming majority of forms from RJ, and in forms from BH and FM. The nominalized forms are

often followed immediately by a form of the verb ʔó 'to be'.

Because of the final [ʔ] in the allomorph of this suffix, a following -i Imperfect is represented by zero phonemically when it is immediately followed in turn by another suffix of the shape -CV(C). The only suffix that follows -i after -tiʔ and does not have this shape is -š Reference Switching; this means that -i after -tiʔ is represented by /i/ only when word-final or before this -š.

A verb bearing the Second Person prefix <m-> which takes this tense suffix followed by the Imperfect suffix often has more or less the force of a verb with the Imperative prefix, that of telling someone what he is to do in the appropriate range of future time.

When the Intermediate Future suffix is followed by the final suffix -aʔ Aorist, the verb is always followed by a form of the verbs íd 'to say' or hámu 'to think'. When the former occurs, the phrase has the meaning of either telling someone else to do something or saying that one will do something oneself, while a phrase containing the latter verb conveys the meaning of expecting either soneone else or oneself to do something, apparently with no implication as to whether or not the expectation is to be fulfilled. In the majority of cases where this can be determined, the prefix on the verb with this sequence of suffixes shows a shift of person for indirect discourse; e.g., /léməʔta ʔítlegi/ 'he told me to drink', more literally, 'I am to drink, he said', where the original utterance would probably

have been either an imperative /géme?/ 'drink!' or a verb in the Intermediate Future with the Second Person prefix /míme?ti?gi/ 'you are to drink'.

When the Aorist suffix follows, the exact time reference of this tense suffix is more difficult to determine than when the Imperfect suffix follows; in particular it is not clear that it would not sometimes refer to the immediate future, as analogous expressions containing the Near Future suffix followed by the Aorist suffix are rather rare, although they do occur. If another verb follows such a phrase, to convey the notion that the action actually will occur or is occurring, this verb is in the near future tense or in the imperfect.

The Reference Switching suffix -š does not occur after the Aorist suffix when this follows the Intermediate Future suffix. There is one example wherein the sentence-particle stem bearing the Aorist suffix and the Reference Switching suffix ([illegible]? a š[illegible] /?aš/) intervenes between such a verb form and the following verb in the phrase: /miwLa?a?šé·shata ?aš Mí·di/ 'I won't tell you about what you're talking about'.

The adverbs that have been found associated with verbs in the Intermediate Future tense are those of parts of the day: /lélɨm/ 'tonight', /dapáwda/ 'this evening', /dí·beluš/ 'this noon', and /watlí·/ 'in the morning' (only if said late in the night), as well as /yá·sa?/ 'again'.

For the allomorphy of this suffix, see 4.24.

a. After intransitive verb stems.

l^{e} íme?.ti? i " g í /léme?ti?gi/ 'I'm going to drink'

? íme?.ti? g " g í /?íme?ti?gi/ 'he's going to drink'

l^{e} íme?.t a?: /léme?ta ?ítlegi/ 'he told me to drink'

m íme?.t a?: /míme?ta? létlegi/ 'I told you to drink'

l^{e} émlu.ti? i " g í /lémluti?gi/ 'I'm going to eat'

l^{e} émlu.t a?: /lémluta ?í·di/ 'he says I should eat'

m íp̓am.ti? i " g í: /míp̓amti?gi Mé?le/ 'you will arrive (there)'

l^{e} í·bi?.ti? i " g í: /lé·bi?ti?gi Lé?le/ 'I'll come'

? í·bi?.ti? i: /guté·šŋahé·š ?í·bi?ti?i/ 'when will he come?'

? é?.ti? i " g í: /lák̓a? dáŋal bú·c̓ila ?é?ti?gi k̓é?le/ 'one will be on the peak of the house'

K ? é?.ti? i: /húŋa té·š dawgó·gahé·š k̓é?ti?i/ 'what time will it happen?'

Ø k̓ul^{e} áŋa?.ti? i " g í /k̓uláŋa?ti?gi/ 'they are going to ride'

di w^{e} íwe?.ti? i " g í: /pámuŋ diwéwe?ti?gi/ 'I'm going to lie by myself'

?um kM^{u} á?y.ti? i " g í /?uMóy?ti?gi/ 'you'll run away'

Ø d^{u} é̓tig.ti? i " g í: /dó̓tikti?gi k̓é?le/ 'he'll burn to death'

b. After an adverb used as an intransitive verb stem.

lélm.ti? i ŋa /lélɨmti?ŋa/ 'but it will be in the night' (HP)

c. After transitive verb stems.

l^{e} í?iw.ti? i " g í: /lé?ewti?gi Lé?le/ 'I'll eat it'

? í?iw.t a?: /démlu hú̇tiwe ?í?iwta hámuyige/ 'whatever kind of food she thinks they're going to eat'

mi l^{e} ^{i}í·gi.ti? i " g í: /milí·giti?gi da̤páwda/ 'I'll see you this evening'

?um kM áš̤d̤im.ti? i " g í: /?uMáš̤d̤imti?gi Mé?le wá·?/ 'you will hide here'

ø y^{u} á?y.ti? i š " g í: /díme? léšiši, yóy?ti?išgi/ 'the water will swallow us'

?um y$^{\vee}$ á̤paw.ti? le /?umyá·̤pawti?le/ 'you might cut them open'

m^{e} wg á̤cim.ti? i " g í: /mawgá̤cimti?gi k̤é?le/ 'he'll whip you'

di kL^{e} ? á?aš.t a?: /dikɬa?á?ašta ?í·dige, ?išgeduŋ ledáša?le/ 'he says I should tell it, so I'll tell it'

l^{e} í?i $^{\varepsilon}$ ímí?.ti? i " g í: /lé· lé?ŋa le?yémi?ti?gi Lé?i/ 'just me, I'll take it out'

d. After -i? Attributive-Agentive.

?um kM áš̤d̤im i?.ti? i " g í: /?uMáš̤d̤imi?ti?gi ke Mé?le/ 'keep on hiding!'

e. After derived auxiliary verbs.

?um m^{e}l$^{\vee}$ áhad $^{\varepsilon}$ " á?y.ti? i " g í: /?umaláhaday?ti?gi Mé?le/ 'you'll jump away across'

di y$^{\vee}$ á·k̤i̤m $^{\varepsilon}$ " t̤á·t̤i̤m.ti? i " g í: /lé·, datá?ya diyá·k̤i̤mt̤at̤i̤mti?gi/ 'I'll cut open his throat'

f. After pseudo-derived auxiliary verbs.

ø p̤ á·š uwe? uš gaŋa?.ti? i " g í: /t̤ánu, p̤á·šuwe?ušgaŋa?ti?gi k̤é?le/ 'people will start to keep going in'

Ø p̓ á·š uwe? giš.ti? i " g í: /t̓ánu k̓éšeyuwe?gišigi p̓á·šuwe?gišti?gi k̓é?le/ 'people, as they come to life, will keep going in'

?um wh^{u} l^{u} álu? giš.t a?: /lé?ya?a ?uwehulólo?gišta? mí·diduŋ mí·di/ 'you sound like you said you'll shake your curly head along behind me'

g. After Directional suffixes.

m í?is ug.ti? i " g í /mí?sukti?gi/ 'you are to bring it'

? íye we?.ti? i " g í: /gáŋala ?íyewe?ti?gi/ 'he will go home'

?um m^{e}l$^{\smile}$ áyab uwe?.ti? i " g í: /?umalá·yabuwe?ti?gi Mé?i dáŋal bú·c̓ila/ 'you'll jump away through the peak of the house'

h. After -uš Durative.

?um kM^{e} áyaš gap̓ił uš.ti? i " g í: /?uMáyašgap̓ilušti?gi Mé?le/ 'you will keep lying here and there'

m i bú?u ^{u} ím ^{ɛ} " á?y uš.ti? i " g í: /mibu?yúma?yušti?gi Lé?le/ 'I'll keep bringing food out to you'

m íšm uš.t a?: /wí·di ?umc̓uwítihayida míšmušta? dihámuyige/ 'I thought you would hang this up and you would sing'

i. After -k̓eŋ

di w ílg ^{ɛ} " á?y k̓eŋ.ti? i /diwílgayk̓eŋti?i/ 'I might break it'

j. After -ha Causative.

Ø d^{u} á·da? ha.t a?: /t̓ánu léši démlu dó·dahata ?ítlegi/ 'he said someone is going to prepare food for the two of us'

m^{ə} L^{e} ʔ á?aš dúweʔ é·s ha.tiʔ i " g í:
/maLaʔá?ašdúweʔé·shatiʔgi ḱéʔle/ 'he won't want to tell you'

ʔum g ímiʔ g " í·gel ^{ɛ} " íwl ^{ɛ} " ítiʔ ha.tiʔ i " g í:
/wí·di ʔumgímiʔgigelewletihatiʔgi Méʔle/ 'you'll line this all around inside'

k. After -áša? Near Future.

hak + K ʔ éʔ áša?.tiʔ i ŋa: /há·laʔŋa, ḱéšeyesé·saš, ha ḱéʔáša?tiʔŋa/ 'still she didn't die, but it's going to happen'

l. After -é·s Negative.

l^{e} íme? é·s.tiʔ i " g í /léméʔé·stiʔgi/ 'I'm not going to drink'

l^{e} íme? é·s.t a?: /léméʔé·sta ʔítlegi/ 'he told me not to drink'

m íme? é·s.t a?: /míméʔé·staʔ létlegi/ 'I told you not to drink'

m. After -hé·š Interrogative.

m íme? hé·š.tiʔ i /mímehé·štiʔi/ 'are you going to drink?'

l^{e} íme? hé·š.tiʔ i /lémehé·štiʔi/ 'am I going to drink?'

m íme? é·s hé·š.tiʔ i /míméʔeshé·štiʔi/ 'aren't you going to drink?'

l^{e} íme? é·s hé·š.tiʔ i /léméʔeshé·štiʔi/ 'aren't I going to drink?'

di ʔl^{u} ítiʔ hé·š.tiʔ i /diʔlútihé·štiʔi/ 'shall I sit down?'

l^{e} íd hé·š.tiʔ i: /ʔúŋa lethé·štiʔi hámuyaʔ/ '"what shall I say?" he thought'

Ø hé·š.ti? i š: /?uŋa lá?a? wá·ši?lu dit́éma?yi, hé·šgabiš, hé·šti?iš/ 'how will I get to shore from here -- maybe tomorrow -- maybe today?'

n. After Inclusive suffixes.

l^e í ši ši + l^e íme? ši.ti? i " g í /léšiši léme?šiti?gi/ 'we (du. inc.) are going to drink'

l^e í w hu + l^e íme? hu.ti? i " g í /léwhu lémehuti?gi/ 'we (pl. inc.) are going to drink'

l^e í w hu + l^e íme? é·s hu.ti? i " g í /léwhu léme?é·shuti?gi/ 'we (pl. inc.) aren't going to drink'

l^e í w hu + l^e íme? hé·š hu.ti? i /léwhu lémehé·šhuti?i/ 'are we (pl. inc.) going to drink?'

l^e í w hu + l^e íme? é·s hé·š hu.ti? i /léwhu léme?eshé·šhuti?i/ 'aren't we (pl. inc.) going to drink?'

di d^u á·baš ha d[uw^e]úwe? ši.ti? i " g í: /léšisa? didó·bašhaduwéwe?šiti?gi Lé?šile ?í·di láḱa?/ '"we too will try to burn them to death", said one'

o. After -hel Subjunctive.

hak + mi l^e á·da? hel.t a?: /geḍuk?núḱuba? hak milá·daḥelta hámuya?/ 'she hated her; "I might do something bad to you", she thought' (JW)

p. After the Anaphoric Theme <?..´> Ø..´.

Ø.t[í]? i " g í /tí?gi/ '(it'll be) after a while'

28.15. -gab Distant Future. The prefinal suffix -gab Distant Future indicates an event further in the future than one indicated by the Intermediate Future suffix <-ti?>, that is, an event expected to take place on the following day or at any later time. This suffix is found on verb themes formed in a variety of ways. It has been noted immediately after intransitive and transitive verb stems, after the Attributive-Agentive suffix -i? forming transitive stems, after primary auxiliary verbs, after the Directional suffix <-uwe?> 'hence', after -uš Durative, -ha Causative, -é·s Negative, -hé·š Interrogative, the two Inclusive suffixes, and -elem Distant Tense. There are also two occurrences of this suffix after the Anaphoric Theme <?..'>, one of which is in a context. Some of the gaps in occurrence of preceding elements are doubtless fortuitous; such are the non-occurrence after double-transitive stems, after derived and pseudo-derived auxiliary verbs, and after the Directional suffix <-ug> 'hither'. Other gaps are more likely due to structural or semantic restrictions, in particular the non-occurrence of preceding -áša? Near Future or of an Evidential suffix. The lack of an instance of preceding -lel Transitory may also not be accidental: one is not apt to speak of events of brief duration in the distant future.

This suffix is usually followed by -i Imperfect, and there is a strong tendency for this to be followed in turn by a nominalizing suffix, with or without intervening -š Reference Switching. The majority of occurrences have the

subjective form without the -š; thus these end in the sequence []gab i " g í[] /gabigi/. As with other nominalized predications, these are commonly followed by a form of the verb é? 'to be'. In almost all instances where the predication is not nominalized some correlated factor can be identified. Most obvious is the occurrence of an alternative suffix after the -i: either an adverbializing suffix []" dá[] /da/ or -duŋ 'as though' or the postclitic -ŋa 'but'. The predication is also not nominalized when the Interrogative suffix -hé·š precedes the -gab, although there is evidence on this point only from RJ (examples in section i). For both RJ and BH, the nominalizing suffix is also absent after these suffixes on the stem é? 'to be' when the Interrogative suffix is present on an immediately preceding adverb; however an example is found from FM with nominalization on the stem í·bi? 'to have come' in an identical environment; the contrasting examples are the sixth and seventh ones in section a.

The suffix -gab is also followed by <-a?> Aorist in a few occurrences, one of these with following -š Reference Switching. These are followed, usually immediately, by a form of the verbs íd 'to say' or hámu 'to think'. This sequence of suffixes often seems to signal that the distant futurity is with respect to the time of an indirectly quoted utterance, rather than with respect to the present.

There is one occurrence (BH) of following -le Redundant in an adverbialized predication, thus giving the suffix

sequence []gab le " dá[] /gapleda/ (with regular unvoicing of the []b[]). The form in question refers to an event (the naming of a place) which is in the future with reference to the time of the story being told, but which is now past and well-known to the hearer.

Adverbs found associated with the Distant Future tense include /wá·t/ 'tomorrow', /watwá·di?/ 'day after tomorrow', and /yá·sa?/ 'again'.

a. After intransitive verb stems.

l^{e} íme?.gab i " g í /léme?gabigi/ 'I'm going to drink'

l^{e} émlu.gab i " g í /lémlugabigi/ 'I'm going to eat'

hak + m íd.gab i " g í /hak mítgabigi/ 'you're going to say it'

? íd.gab i " g í: /?aš, leḱéḱili? dibákbakše, ?ítgabigi ke ḱé?le/ 'he will say "let's smoke in turns"'

l^{e} í·bi?.gab i " g í: /lé·bi?gabigi Lé?le, ?í·di/ '"I'll come", he said'

? í·bi?.gab i " g í: /guté·šn̥ahé·š ?í·bi?gabigi/ 'when will he come?' (FM)

K ? é?.gab i: /guté·šn̥ahé·š ḱé?gabi/ 'when will it be?' (RJ, BH)

K ? é?.gab i " g í: /gí·sa? wí·di? bá?lew ḱé?gabigi ḱé?i/ 'and these will be Paiutes'

h^{a} í?iš.gab i " g í: /há?ašgabigi wá·t/ 'it'll rain tomorrow'

Ø p íti?.gab i " g í: /?išge wí·di? t́é?legi, píti?gabigi ḱé?le/ 'this will fall'

b. After transitive verb stems.

mi l^{e} ^{i}í·gi.gab i " g í: /milí·gigabigi yá·sa?/ 'I'll see you again'

?um dámal.gab i š " g^{e} í: /míw, ?umdámalgabišge hámuyida míw wá·šiw mé?igi/ 'you, he thought you would hear there, wherever you Washoes are'

Ø gáma?.gab i duŋ: /léw gáma?gabiduŋ Mí·ǩi?i sí·su/ 'it looks like the bird's going to eat us up'

?um ?u?l^{e} íǩid.gab i " g í: /wí·di? ťé?legehiluk, ?um?u?léǩitgabigi Mé?le/ 'you will throw this into the fire first'

g^{e} yíhl.gab a?: /lí· mí?la?a gí·le geyíhilgaba? ?idáyťi?išge ǩé?išge/ 'he had been told to cover himself all over in front'

c. After auxiliary verbs.

g^{e} y á·gu? áŋaw.gab a?: /?aš ťánu gayá·gu?áŋawgaba? píteli? ?í·da?/ '"so people will be able to gather them easily", Lizard said'

?ak + ?m á·da? d[uw^{e}]úwe?.gab i " g í: /?aš mí·sa? ke ?ak ?má·da?duwéwe?gabigi ǩé?le/ 'he will try to do it to you too'

d. After -i? Attributive-Agentive forming transitive verbs.

há di ? + di bu mé·[ʼ]li? ʼ.gab i " g í /há·di? dibumé·?li?gabigi/ 'I'll have him for a husband'

ǩ ém[ʼ]lu ʼ.gab a?: /ǩém?lu?gaba? ?í·da?/ '"they will have them for food", he said'

e. After the Directional suffix <-uwe?> -we? 'hence'.

l^{e} íye we?.gab i ŋa: /ṫéwe? léyewe?gabiŋa kLé?i/ 'I've got a long way to go'

f. After -uš Durative.

Ø d^{u} á·da? uš.gab i " g í: /démlu dó·da?ušgabigi ḱé?i/ 'they'll prepare food'

? é? uš.gab i " g í: /degumbí?is ?é?ušgabigi ḱé?i/ 'they (Washoes) will be proud'

mi l^{e} í?iw uš.gab a?: /léw milé?wušgaba? dihamuyi kLétle/ 'I think we will eat you (pine nuts), as I said'

g. After -ha Causative.

g^{e} láḱa ŋ ha.gab i " g í: /galáḱaŋhagabigi ḱé?igi kYá·mle/ 'he says he will make them (parts of stories) into one'

h. After -é·s Negative.

l^{e} íme? é·s.gab i " g í /léme?é·sgabigi/ 'I'm not going to drink'

l^{e} í·bi? é·s.gab i " g í + K l^{e} é? le /lé·bi?é·sgabigi Lé?le/ 'I won't come back'

di ṕ í·gel a?y ug é·s.gab i " dá uwe? + ke + K l^{e} é? le /diṕí·gela?yugé·sgabidayuwe? ke Lé?le/ 'I'm off towards where I won't come back again from'

g^{e} ?id^{u} íwe? áŋaw é·s.gab a? + ? íd a? /ge?idúwa?aŋawé·sgaba? ?í·da?/ '"they won't be able to go after them", he (Coyote) said'

i. After -hé·š Interrogative.

m íme? hé·š.gab i /mímehé·šgabi/ 'are you going to drink?'

m íme? é·s hé·š.gab i /míme?eshé·šgabi/ 'aren't you

going to drink?'

Ø hé·š.gab i š: /ʔuŋa lá?a? wá·ši?lu dit́éma?yi, hé·šgabiš, hé·šti?iš/ 'how will I get to shore from here -- maybe tomorrow -- maybe today?'

j. After Inclusive suffixes.

l^e í ši ši + l^e íme? ši.gab i " g í /léšiši léme?šigabigi/ 'we (du. inc.) are going to drink'

l^e í w hu + l^e íme? hu.gab i " g í /léwhu lémehugabigi/ 'we (pl. inc.) are going to drink'

l^e í w hu + l^e íme? é·s hu.gab i " g í /léwhu léme?é·shugabigi/ 'we (pl. inc.) aren't going to drink'

l^e í w hu + l^e íme? hé·š hu.gab i /léwhu lémehé·šhugabi/ 'are we (pl. inc.) going to drink?'

l^e í ši ši + l^e íme? é·s hé·š ši.gab i /léšiši léme?eshé·šigabi/ 'aren't we (du. inc.) going to drink?'

k. After -elem Distant Tense.

ʔum hámu elem.gab i š " g í: /ʔúŋa dekMí·ḱihé·š ḱéʔi ḱí·di ke lé· ʔumhámuŋelemgabišgi kLétle/ '"what does he look like, he who's saying it?", you'll wonder long from now, so I'm saying it'

l. After the Anaphoric Theme <?..´> Ø..´.

Ø.g[á]b i " g í /gá·bigi/ '(it'll be) later on'

Ø.g[á]b i š " g^e í: /ḱiʔwáša?išgi. gá·bišge/ 'he's going to eat them -- later'

28.16. -hil Subjunctive. The prefinal suffix -hil, -hel Subjunctive expresses a supposition or a possibility about the future, or a contrary-to-fact statement about a past event that is known to have gone awry.

ʔ íme? hil i " g í /ʔímehiligi/ 'he might drink'

l^{e} íme? é·s hil i " g í /léme?é·shiligi/ 'I might not drink'

Ø hámu hil i " g í: /ʔémluhina hámuhiligi/ 'he might want to eat'

29. The final suffixes. There are four final suffixes that are added to verb themes, either with or without intervening prefinal suffixes, to form finite verbs. These are -le Redundant, <-hi> Optative, <-a?> Aorist, and -i Imperfect. The categories expressed by these suffixes mingle aspect and tense, with some modal force in the case of <-hi> and -le.

With regard to the privileges of occurrence of following -š Reference Switching (30) or the nominalizing and adverbializing suffixes of 31.1-3, the verbs formed by each of these final suffixes have a different distribution: -i Imperfect may be followed by either type of ending; <-hi> Optative (save for one exceptional example) may be followed by neither; <-a?> Aorist may be followed by -š Reference Switching but not by the nominalizing or adverbializing suffixes, while -le Redundant has the opposite property of allowing the nominalizing or adverbializing suffixes but not -š Reference Switching.

The Plural Exhortative construction, made by suffixing the First Person Plural pronoun to themes of a certain type, also forms finite verbs, and is hence included in this section (29.5).

29.1. -le Redundant. The final suffix -le Redundant indicates that the speaker knows that the information conveyed by the verb already is, or should be, known to the hearer. This may be because the speaker is repeating something he has already said or because the statement describes something that is an obvious fact. This suffix thus provides a device whereby one can repeat oneself or say the obvious for various rhetorical purposes without insulting the hearer's intelligence. The suffix might be translated 'of course' or 'as you know', although these seem stylistically more emphatic than the Washo forms. It is commonly translated with the adverb 'still', although this does not really convey the meaning well, emphasizing as it does the continuation in time of the action or dondition, rather than the hearer's prior knowledge.

This suffix may be followed by nominalizing or adverbializing suffixes (31.1-3), but not by -š Reference Switching.

See 28.8 for a discussion of the problem of distinguishing instances of this suffix with subjective nominalization from instances of -leg Recent Past.

ʔ émlu.le /ʔémlule/ 'he's still eating'

di yá·m.le /diyá·mle/ 'I'm telling it'

Ø wg^{u} áhad.le: /dá·waʔ wagóhatle/ 'it's narrow'

Ø w áŋaw giš.le /wáŋawgišle/ 'it [the path ahead] is still good'

di $biš^{e}$ ápuʔ mámaʔ.le /dibišápuʔmámaʔle/ 'I'm almost done in from hunger'

Ø gum $g^{e}l^{\varepsilon}$ íʔiš delem.le /gumgelé?ešdelemle/ 'I still hear him crying'

Ø p̓ íʔiš delem.le /p̓íʔišdelemle/ 'it still sounds like he's crawling'

ʔ áŋal iʔ uš.le " dá: /daʔmóʔmoʔ há·ʔ ʔáŋaliʔušleda/ 'there where the woman lives'

l^{e} íšm áša?.le /lešmáša?le/ 'I'll sing it'

di $muš^{\varepsilon}$ í·gew áša?.le /dimušé·gewáša?le/ 'I'm going to tell the story'

ʔum yˇ áp̓aw tiʔ.le /ʔumyá·p̓awtiʔle/ 'you might cut them open'

29.2. <-hi> Optative. The Optative suffix <-hi> -hi ~ -y? ~ -^{e} is usually final in a verb form. Only one example has been found in which it is followed by a nominalizing suffix. Verb forms ending in the Optative suffix are followed fairly often by the postclitic -ŋa 'but'.

The Optative suffix has been found immediately after intransitive, transitive, and double-transitive verb stems; after several primary, derived, and pseudo-derived auxiliary verbs; after the stem-formative suffixes -ug 'hither', -uwe? 'hence', -lel Transitory, -uš Durative, and -ha Causative; and after the thematic suffix -ši Dual Inclusive and the prefinal suffix -á?yi? Mirative. On the other hand, this suffix has not been noted after -áša? Near Future, -é·s Negative, -hé·š Interrogative, or -hu Plural Inclusive, nor after any prefinal tense or evidential suffix other than -á?yi? Mirative. The sememic gap left by the apparent non-occurrence of the Optative suffix after -hu Plural Inclusive, as contrasted with its occurrence after -ši Dual Inclusive, seems to be filled by the Plural Exhortative construction (29.5). The Optative suffix is not found on Imperative verb themes.

The Optative suffix expresses an intention or expectation about the future, often coupled with a feeling of obligation or desire. Thus it often seems to convey an uncertainty about whether the action described will in fact take place. On the other hand, this suffix seems to be used sometimes to express an immediate futurity without any

particular feeling of either obligation or doubt, in contrast to -áša? Near Future, which would allow a longer span of future time during which an event might occur. Particularly with a first or third person subject, the translation into English is often by one of the expressions for simple futurity. Hence with a first person subject we find the translations 'I'm going to (gonna) ..', 'I'll ..', and 'I'm ..-ing' (with future force), beside the more clearly modal 'let me ..'. With a third person subject translations such as 'he's going to (gonna) ..' and 'he'll ..' are used alongside the more prescriptive 'he ought to (oughta) ..', 'he better ..', 'he may ..', and 'let him ..'. With a second person subject the feeling of obligation or urging is more apparent, so that the most appropriate translation seems to be 'you are to ..'. When the Optative suffix follows the Dual Inclusive suffix -ši, either directly or with intervening -ha Causative, the form has the meaning of asking one person to join the speaker in performing an action, and is translated 'let's (du.) ..'.

A commonly occurring expression is a phrase containing a verb in -hi followed by -ŋa 'but' and a form of the verb hámu 'to think'. This expression means 'to want to ..' or 'to feel like ..-ing'. For example:

/yá·sa? léšmige didámalhiŋa dihámuyi/ 'I want to hear again what I'm singing'.

For the allomorphy of this suffix, and a discussion of a possible alternative analysis as a prefinal suffix that

is always followed by -i Imperfect, see

a. After intransitive verb stems.

l^{e} íme?.hi /lémehi/ 'I'll drink'

l^{e} íšm.hi /léšə̀mhi/ 'I'll sing'

l^{e} áyə̀d.hi /láyathi/ 'I'll stay over-night'

di bákbag.hi /dibákbakhi/ 'let me smoke!'

di yé·m.hi 'I'm going to go swimming'

Ø p̓á?lə̀.hi /p̓á?lə̀hi/ 'he's going to fish with hook and line'

di kʷ^{e} á?šam.hi /dikʷá?šamhi/ 'I'm going to lie down'

l^{e} í w + di š élšə̀m.hi /léw dišélšə̀mhi/ 'we're going to sleep'

di b^{e} šá?.hi /dibašáhi/ 'I'm going to write'

di du y ášu.hi 'I'm going to wash my hands'

b. After transitive verb stems.

wí k̓iŋ + l^{e} íd.hi /wík̓iŋ léthi/ 'that's all I'm going to say'

di ?l^{e} í·biw.hi /di?lé·biwhi/ 'I'm going to bite it off'

m i d^{e} álik̓.hi /midálikhi/ 'I'm going to punch you'

di gum béyd.hi /digumbéyə̀thi/ 'I'm going to comb my hair'

l^{e} áyuš + di y ášu.hi /láyuš diyášuhi/ 'I'm going to wash my hair'

l^{e} í ši + m i y á·gə̀m.hi /léši miyá·gə̀mhi/ 'we'll smoke you'

g^{e} m íti? i š " dá + di l^{y} álit̓.hi /gemíti?išda dilá·lithi/ 'throw it down and I'll catch it!'

g it máyab a + Ø gum y ášu.hi /gitmáyaba gumyášuhi/ 'he better wash his feet'

c. After a double-transitive verb stem.

wí di ʔ + mi l^{e} íšl.hi /wí·diʔ miléšɨlhi/ 'let me give you this!'

d. After primary auxiliary verbs.

di p̓ɨ́ʔlɨ́ bíŋil.hi 'let me try to fish with hook and line'

di báŋkuš ŋáŋa.hi 'I'm going to smoke for fun, pretend I'm smoking'

e. After derived auxiliary verbs.

di p̓ í·gel $^{\varepsilon}$ " á?y.hi /dipí·gelayhi/ 'I'll return'

wá ʔ + l^{e} éʔ $^{\varepsilon}$ " íti?.hi /wá·ʔ léʔetihi/ 'I'm going to stay here'

f. After pseudo-derived auxiliary verbs.

wí di w + ʔ íšm gaŋa?.hi /wí·diw ʔíšɨmgaŋahi/ 'they can start singing'

m i ʔl^{u} áʔpa giš.hi /miʔlóʔpagišhi/ 'I'll hold your hand going along (in a dance)'

g. After Directional suffixes.

ø ʔišg^{e} íʔiš ug.hi /ʔišgéʔšukhi/ 'he ought to love (his residence) this way'

l^{e} íye weʔ.hi /léyewehi/ 'I'm going away'

di š̃ áhad uweʔ.hi /dišáhaduwehi/ 'I'm going to cross (the river)'

l^{e} ^{e} í[m]deg giš uweʔ.hi /lémdekgišuwehi/ 'I'm going to go dig something up'

di s^{e} á·m giš uweʔ.hi /disá·mgišuwehi/ 'I'm going to stomp along away from here'

h. After -lel Transitory.

l^{e} émlu lel.hi /lémlulelhi/ 'I'm going to eat a little while (longer)'

l^{e} élšim lel.hi /lélšimlelhi/ 'I'll sleep a little while'

l^{e} é? lel.hi /lé?lelhi/ 'I'm going to stop for awhile'

i. After -ha Causative. The Optative suffix has the allomorph -y?. The first two examples have an exhortative meaning because of the Dual Inclusive suffix -ši preceding the Causative suffix.

di d^{u} á·baš ši ha.y? /didó·bašihay?/ 'let's burn them to death!'

l^{e} í ši + di d^{u} ápu? ši ha.y? /léši didópo?šihay?/ 'let's burn them to death!'

m i gum g ác̀ab ha.y? /migumgác̀aphay?/ 'I'm going to trip you'

m i tút ha.y? 'I'll make you some "toot"'

há di ? + l^{e} émc̀i ha.y? /há·di? lémc̀ihay?/ 'I'm going to wake him up'

j. After -ši Dual Inclusive. The Optative suffix has the allomorph -^{e}. The sequence of these two morphemes is thus phonemically /še/.

di bákbag ši.^{e} /dibákbakše/ 'let's smoke!'

di sá? ši.^{e} /disá?še/ 'let's keep it!'

di ?ló·š ši.^{e} /di?ló·še/ 'let's dance!'

l^{e} é? lel ši.^{e} /lé?lelše/ 'let's stop for awhile!'

k. After -á?yi? Mirative. Only two examples have been noted.

K ʔ é? á?yi? hi: /húŋa té·ši k̓a?á?yihi/ 'how many is it?'

ʔ é? á?yi? hi: /ʔuŋa ʔe?á?yihi/ 'how did it turn out?'

In both these examples the Optative suffix seems to add an exhortative meaning, something like 'let's see!' or 'let's find out!'.

29.3. <-a?> Aorist. The Aorist suffix <-a?> -a? ~ -a adds a punctual, often completive, meaning to the verb to which it is attached. When occurring without a prefinal suffix expressing tense, it is often used as a narrative tense, the tense in which tales are told. When occurring after prefinal suffixes expressing past or future tense, it has the function of subordinating the verb form to a following verb of 'speaking' or 'thinking'.

29.4. -i Imperfect. The ubiquitous suffix -i Imperfect adds a rather neutral meaning to verb forms. When occurring without a prefinal suffix of tense, it gives the verb a present tense meaning. When occurring after a prefinal tense suffix it seems to be present just for formal reasons, and not to add anything to the meaning of the form. This suffix also serves as a base for the addition of nominalizing and adverbializing suffixes (31).

29.5. Plural Exhortative. The Plural Exhortative may be formed from a verb theme containing the First Person prefix <l^e-> l^e- ~ di-, or, occasionally, this prefix expanded with the First Person Plural Inclusive pronoun, and the Plural Inclusive suffix -hu. This form is made by suffixing, with the unstressing juncture]"[, the First Person Plural pronoun [l^e í w[. The sequence of suffixes is thus morphophonemically [hu " l^e í w[and phonemically /hulew/. This construction is used when urging two or more persons to join the speaker in performing an action, and may be translated 'let's (pl.) ...'.

This construction seems to fill the sememic gap left by the apparent non-occurrence of the sequence of the Plural Inclusive suffix -hu followed by the Optative suffix <-hi> (29.2).

a. Examples with the unexpanded prefix.

l^e íme? hu ⁝ l^e í w /lémehulew/ 'let's (pl.) drink!'

di ṕáýt́i? hu ⁝ l^e í w /diṕáýt́ihulew/ 'let's (pl.) play!'

di y á·g̱ám hu ⁝ l^e í w /diyá·g̱ámhulew/ 'let's (pl.) smoke it out!'

di b^e muš$^{\epsilon}$ ílšil hu ⁝ l^e í w /dibemušélšilhulew/ 'let's (pl.) play cards!' (HP)

b. Example with the expanded prefix.

l^e í w hu + l^e íme? hu ⁝ l^e í w /léwhu lémehulew/ 'let's (pl.) drink!'

30. -š Reference Switching. The Reference Switching suffix -š occurs after finite verbs and sentence connectives formed with <-a?> -a Aorist or -i Imperfect, and in the case of the latter, does not inhibit further nominalization or adverbialization of the verb. It signals an up-coming change of subject referent in the following clause, which may or may not be redundantly signalled by the prefix on the verb, if the change entails a change of grammatical person, or by an independent word expressing the new subject.

/géma?aš diwgayáyhi/ 'drink and I'll talk!'

/léma?aš míši gawgayáy?/ 'while I'm drinking, you (du.) talk!'

/sí·su diLá?yaš gépam/ 'I'll drive away the birds, and then you come!'

/?á·ša?išda, ?umyá·gali/ 'when she's urinating, you go inside!'

/?iš dé?ek ?í?yišda píteli? Móćoba?/ '(switch) where there was a rock, Lizard went inside'

31. Subordination of finite verbs. The following sub-sections illustrate suffixes by which finite verb forms, complete with their modifiers, may be nominalized or adverbialized so as to enter into larger following verb forms.

31.1. Subjective nominalization. The Third Person Subjective pronoun [g í] is suffixed, with the unstressing tactic juncture <">, to form nominalized predications that may be used as subjects or possessors (with the restrictions that are outlined in 7).

/pí·bikeŋigi/ 'he (is the one who) has just come crawling'

31.2. Objective nominalization. The Third Person Objective pronoun [g^{e} í] may be added in similar fashion to form nominalized predications that may be used as objects.

/té·liwhu lí·giyišge/ 'the man whom I saw'

31.3. Adverbialization with dá 'where'. The adverb dá 'where' may be suffixed, also with the unstressing juncture, to form adverbial clauses of place.

/láŋali?išda/ 'where I live'

/?ípamida/ 'he arrived (there) and ...'

31.4. The suffixes -duŋ, -duk may be added to finite verbs to form adverbial clauses with the meaning 'like, as though'.

/?élšimiduŋ/ 'as though he were sleeping'

32. Postclitics. The following six subsections describe six postclitics that may be added, with varying degrees of freedom, to complete words of a variety of classes. The addition of one of these postclitics does not change the distribution class of the word. In general these postclitics are mutually exclusive, except that -sa? 'also' may follow -ŋa 'but'.

32.1. -ŋa 'but'. This postclitic indicates an opposition of ideas similar to that expressed by English 'but'.

/ʔíyewe?iŋa/ 'he went away but ..'

/léŋa/ 'but (as for) me ..'

/láŋalŋa/ 'but my house ..'

32.2. -sa? 'also'. This postclitic has the meaning 'also, too, in addition'.

/lésa?/ 'me too'

/bókoŋiŋasa?/ 'he (either) snores or ..'

/dalá?gasa?/ 'and also on the mountain'

32.3. -ḱeŋ Restrictive. The Restrictive suffix -ḱeŋ, which occurs as a stem formative suffix on verbs (27.6), also occurs as a postclitic added to complete words. It has the meaning 'just, exactly, alone'

/léḱeŋ/ 'me alone, just me'

/gémleyaḱeŋ/ 'just in his heart'

/ʔíme?iḱeŋ/ 'only when he's drinking'

32.4. -ku Speculative. The postclitic -ku Speculative indicates that the speaker is wondering or speculating about the situation expressed by the phrase in which it occurs. This scantily attested morpheme occurs after finite verb forms ending in -i Imperfect, -a? Aorist, and -š Reference Switching, and also after an adverbial construction ending in -hé·š Interrogative.

l^{e} íme? hé·š áyt̓i? i.ku /lémehešáyt̓i?iku/ 'I wonder whether I drank'

k̓ á·da? hé·š a?.ku: /hú?ŋa k̓á·dahé·ša?ku gadó·da?i/ 'how is he making it, fixing it?'

g^{u} té·š ŋa hé·š.ku: /guté·šŋahé·šku ?í·bi?gabigi/ 'I wonder when he's coming'

32.5. -ḱe Past. A postclitic -ḱe, which occurs after finite verb forms ending in -i, is scantily attested in data from RJ and BH. The meaning of this morpheme is not entirely clear, but it seems to include that of past or completed action. Several of the forms were given as equivalent alternatives to forms containing -leg Recent Past. The forms obtained from RJ all contain -é·s Negative preceding the -i. This morpheme has been found only in directly elicited forms, not in texts.

di ṕ á?y á?yi? i.ḱe /diṕa?yá?yi?iḱe/ 'I was lost'

m íme? é·s i.ḱe /míme?é·siḱe/ 'you didn't drink'

?l ^{i}í·gi é·s i.ḱe /?lí·giyé·siḱe/ 'he didn't see me'

Ø gum wh^{u} íleg uw $^{\varepsilon}$ " íti? ha á?yi? i.ḱe
/guwehúleguwetihayá?yi?iḱe/ 'she's dyed her hair red'

di gum yú·ḱum i.ḱe: /mó·ni? digumyú·ḱumiḱe/ 'I won back some money'

32.6. -ke Topic Changing. The postclitic indicates an abrupt change of subject matter. This is not to be confused with the switch of grammatical subject that is signalled by -š Reference Switching.

/haḱé?a? ke ḱé?le/ 'she's the way you say': lit., "as you say, she is"

/gumbugéwelulišge guwakLa?á?aške diYá·mle/ 'the story of how they gambled together -- I'm telling it'

INDEX OF MORPHEMES DISCUSSED

This index includes all morphemes that are explicitly discussed in the grammar. The entries are of two kinds, main entries and cross references. Each morpheme has one main entry. If the morpheme has more than one allomorph or dialectal variant, this entry begins with a heading surrounded by < >, followed by a listing of the allomorphs, separated by ~, and the dialectal variants, separated by commas. If the morpheme has only one allomorph and dialectal variant, the entry has this for a heading, without surrounding brackets. After this heading may come a symbol for the distribution class, in the case of members of large classes, and then a meaning or label for the morpheme. The references are to sections of the grammar or pages of the Introduction. The cross references have as their heading an allomorph or dialectal variant other than that chosen as the heading for the morpheme. This is followed, after a colon, by the heading for the main entry for the morpheme.

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Ø..ˊ: <?..ˊ>

-^{e}: <-hi>

^{e}-..-m-: <?um->

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-$^{\varepsilon}$ Instrumental Prefix Formative 3.8, 3.8.5c, 19.1, 19.2, 20.1.2, 20.2.2, 22.9.2, 22.10.2

-^{u} Instrumental Prefix Formative 3.8, 19.1, 19.3, 20.1.3, 20.2.3, 22.9.3

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-á·ći Diminutive 13.10

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ću?: <á·ću?>

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<áyaw> áyaw ~ á·w Vd 'black' 4.7c(6), 4.28.1a

<áys> áys ~ á·s Vd 'to miss' 4.7c(6), 4.7d(3), 4.28.1c

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b^{e}d- Pi 'to move long object lengthwise' 19.4.3

b^{e}d^{u}- Pi 'to weave a basket' 19.4.3

b^{e}w- Pi 'to stride, take a step' 19.4.3

b^{e}y^{e}- Pi 'to shoot' 19.4.3

b^{e}y^{u}- Pi 'to flow' 19.4.3, 20.1.1

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íbi?: <í·bi?>

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<í·deg> í·deg ~ ídeg Vt 'to dig up' 4.32.2

ídeg: <í·deg>

<í·ge?> í·ge? ~ íge? Vt 'to grind' 4.32.3

íge?: <í·ge?>

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<í·kɨl> í·kɨl ~ ^{i}í·kɨl ~ ^{i}íkɨl Vd 'here and there' 3.8.5c, 4.29

^{i}í·kɨl: <í·kíl>

^{i}íkɨl: <í·kɨl>

í·l: <í·yel>

<-il> -il ~ -l 'going and returning' 4.20.1, 4.36, 23.5, 27.2.4

íli: <íli?>

<íli?> íli? ~ íli Vd 'vertically upwards' 4.36a

ím: <ími?>

íme: <íme?>, <ími?>

<íme?> íme? ~ íme Vi,Nr 'to drink; water' 4.36e, 23.5b

ími Vd 'to the east, from the west' 3.8.5c

<ími?> ími? ~ íme ~ ím Vd 'out, out from' 3.8.5c, 4.36b

í·p̣il Vt (?) 'full' 4.7d(2)

íti: <íti?>

<íti?> íti? ~ íti Vd 'down, downwards' 4.7d(2), 4.36c

í·yalu? Nr 'relative' 4.7d(2), 4.28

íye: <íye?>

<íyeb> íyeb ~ í·b Vt 'to copulate' 4.7c(6), 4.28.1d

<í·yel> í·yel ~ í·l 'big' 4.28.1d

<íye?> íye? ~ íye Vi 'to walk, go' 4.36d

-iye? Visual 28.5

<-i?> -i? ~ -yi? ~ -'-..-' ~ -'-..-i? Attributive-Agentive 3.5, 4.17, 13.9, 23.3

í?ib Vi 'to cry, weep' 4.7d(2)

<í?iš> í?iš ~ í?i̱š Vd Empty Stem 4.7d(2), 4.33.2

í?iw Vt 'to eat' 4.7c(1), 4.7d(2)

í?i̱š: <í?iš>

-ke Topic Changing 32.6

<kL^{e}-> kL^{e}- ~ kLi- Pt 'to drive (animals)' 4.5.1

<kM-> kM-, M- ~ gum-, gim- Impersonal-Reflexive 4.3c, 4.4, 7.4, 8.6, 22.6

<kM^{e}-> kM^{e}- ~ gum- Pi 'to lie' 4.3c, 4.4

kM^{u}- Pi '(sg.) to run' 20.1.1

-ku Speculative 32.4

<k'-> k'- ~ g^{e}- Third Person Objective 4.3b, 4.5.3, 7.10, 12.7

-k'e Past 32.5

-k'eŋ Restrictive 27.6, 32.3

k'uy^{ɛ}- Pi '(sg.) to swim' 20.1.1

-l: <-il>

<l^{e}-> l^{e}- ~ di- ~ i- First Person 3.8, 4.3e, 4.5.1, 4.13, 7.1, 8.1, 9.1, 10.1a, 12.1

l^{e}-: <?l>

<lák'a> lák'a ~ lék'ɨ Q 'one' 4.35

-le Redundant 29.1

-leg Recent Past 3.4, 28.8

lék'ɨ: <lák'a>

-lel Transitory 27.4

-lélew 'near' 16.1, 16.2

-lé·we 'towards' 16.1

-lu Instrumental 16.1, 16.3

-lul Distant Past 28.12

m- Pt 'to throw; fell a tree' 3.8, 20.2.1

m- Intransitive 21.1

m- noun-deriving prefix 13.6.1

<m-> m- ~ ?um-, ?ɨm- ~ mi- Second Person 4.3f, 4.4, 4.9, 7.2, 8.2, 9.2, 10.16, 12.2

m-: <ʔm->, <ʔum->

m^{e}- Affinal Relative 13.4

m^{e}- Pt 'to track' 3.8, 20.2.1

m^{e}-: <ʔm->

m^{e}lˇ- Pi 'to jump' 20.1.1

m^{u}- Pi 'water to soak' 3.8

m^{u}- Pi 'descriptive of nose, snout' 3.8

m^{u}- Pt 'to taste, do in mouth' 3.8

máyŋa N 'fawn' 4.7c(2)

mešg- noun-deriving prefix 14.10.5

mi-: <m->, <ʔm->

mug- noun-deriving prefix 14.10.3

M-: <kM->

nénṫuš Vi 'to be an old lady' 4.18

-ŋ quantitative suffix 'just' 18

ŋ^{a}- Pi 'descriptive of the belly' 3.8.4

-ŋa 'but' 32.1

<ŋá·m> ŋá·m ~ ŋám Np 'son' 4.7d(4), 4.28.4, 13.13

ŋám: <ŋá·m>

ŋáʔmiŋ Vi,N 'to give birth; child' 4.7d(4)

<p-> p- ~ p^{e}- Pi 'to fall' 3.4, 20.1.1

p^{e}-: <p->

<ṕ-> ṕ- ~ ṕi- Pi '(person) to crawl' 4.5.4a

<ṕ-> ṕ- ~ ṕi- Pt 'to suck, sip, puff' 4.5.4b

ṕi-: <ṕ->, <ṕ->

<R-> Plural 1.7.9, 3.5, 3.8, 4.7, 4.28, 13.2, 20.3, 22.1

s^{e}b^{e}- Pt 'to blow' 3.4, 20.2.1

saw- noun-deriving prefix 14.10.4

-sa? 'also' 32.2

sigí·gi Vi 'to fry, sizzle' 4.17e

sim- noun-deriving prefix 13.5.2

š- Pi '(pl.) to fly, swim' 3.8, 3.17

-š Reference Switching p. 18, 30

š̃- Pi '(sg. person) to walk' 3.8, 3.17

šáwlam, šówlam Vi 'to be a girl' 4.7c(2), 4.7d(1)

-šeg 'almost but not' 3.4, 27.1

-ši Dual Inclusive 4.21c, 8.9, 10.3, 27.8, 27.11, 27.11.1

-ši Personal Dual 10.2, 18

-ši? 'from' 16.4

šówlam: šáwlam

šu?m- Pi 'to throw' 20.1.1

t-: <?it->

-t: <-ti?>

<-ti?> -ti? ~ -t Intermediate Future 4.24, 28.14

tod^{e}- noun-deriving prefix 14.11.2

tu- noun-deriving prefix 13.7, 19.4.1

tu- noun-deriving prefix 14.9

tug- Pi 'to look' 3.4, 20.1.1

<tul-> tul- ~ tuli- 'of the hand' 4.5.4c, 13.6.3, 19.4.1

tuli-: <tul->

tu?m- Pi 'with the foot' 20.1.1

<ṭ-> ṭ- ~ d^{e}- Third Person Nominal 3.8, 4.3b, 4.5.3, 7.6, 8.3, 8.5, 9.3, 14.3

ṭ^{e}- Pi 'long object to move lengthwise' 3.8

-u: <-hu>, <-hu>

-ud Sequential 3.4, 28.2

<-ug> -ug ~ -wg 'hither' 3.4, 4.20.2, 4.36, 27.2.1

-uli? 'returning from' 27.2.5

-uɲil Defunctive 13.12, 16.1.3, 28.1

-uš Durative 27.5

-uw: <-uwe?>

<-uwe?> -uwe? ~ -we? ~ -uw 'hence' 4.20.3, 4.36, 27.2.2

-u? Feminine 13.13

w- Static 22.4, 23.1

<w-> w- ~ wi- noun-deriving prefix 4.5.4d, 14.8

-w Personal Plural 10.2, 18

wá·šiw N 'Washo' p. 3, 4.7d(4)

wb- Pi 'descriptive of the ears' 19.4.2

wd- Pi 'tree to stand' 19.4.2

wd^{e}- Pi 'descriptive of the foot' 19.4.2

-we?: <-uwe?>

-wg: <-ug>

wg^{e}- Pi 'noise to occur' 19.4.2

wg^{e}- Pi 'descriptive of liquids' 19.4.2

wg^{u}- Pi 'hole to exist' 19.4.2

wgu- Collective Plural 22.2

wh^{u}- Pi 'descriptive of head hair' 19.4.2

wi-: <w->

wm^{e}- Pi 'wave to occur' 19.4.2

wN^{e}- Pi 'hillside to occur' 19.4.2

wy^{u}- Pi 'smell to occur or travel' 19.4.2

y- Transitive 21.2

<y^{e}-> y^{e}- ~ yu- Pi '(sg.) to fly' 4.5.2, 20.1.1

y^{e}-: <?->

y^{e}ŋ- Pi '(pl.) to run' 20.1.1

<yéwi> yéwi ~ ?íwe Va 'to stop' 4.37

-yi?: <-i?>

yu-: <y^{e}->

-y?: <-hi>

?- Sentence Connective 6.7

<?-> ?- ~ ø- ~ y^{e}- Third Person 4.3a, 4.10, 7.3, 8.5, 8.7, 9.5, 12.3

-? Quantitative Suffix 18

-?: <-di>

<?..'> ?..' ~ ∅..' Anaphoric Theme 6.8

?^{e}b$^{\varepsilon}$- Pt 'by scratching, squeezing with the hand' 3.4

?^{e}m-: <?um->

<?awahót> ?awahót ~ ?awahótaw N 'bullhead' 4.38

?awahótaw: <?awahót>

?á?wakhu, ?á?waku N 'cui-ui sucker' 4.19

?á?waku: ?á?wakhu

<?it-> ?it- ~ t- Attributive-Instrumental 3.4, 8.4, 13.3, 14.4

?íwe: <yéwi>

?i?g^{e}-..-l- Pi '(pl.) to run' 4.32, 4.33.2

?im-: <m->

<?l-> ?l- ~ l^{e}- First Person Objective 4.3d, 4.5.3, 7.8, 8.1, 8.1.4, 12.5

?l^{e}- Pi '(animals) to go in a group' 20.1.1

?l^{e}- Pt 'by biting' 20.2.1

<?m-> ?m- ~ m^{e}- ~ mi- ~ m- Second Person Objective 4.3d, 4.5.3, 4.11, 7.9, 8.2, 8.2.4, 12.6

?uli- Kin 14.7

?uli- noun-deriving prefix 13.5.3

<?um-> ?um-, ?^{e}m- ~ m- ~ ^{e}-..-m- Intransitivizing 4.8, 4.32, 4.33.1, 22.5

?um-: <m->

?u?w- Pi 'to have one's back turned towards' 3.7

-'-..-i?: <-i?>

-'-..-': <-i?>

" Tactic Juncture 3.19

+ Tactic Juncture 3.21