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# Zuni Grammar 

Stanley Newman



Albuquerque, 1965

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## PREFACE

THE ZUNIS have been studied intensively over a long period of time. The recent Zuni bibliography compiled by Roberts contains some four hundred entries. ${ }^{1}$ Anthropological interest in these Southwestern Indians was initiated by the Bureau of American Ethnology in 1879, when one of the staff, Mr. James Stevenson, accompanied by his indomitable wife Tilly, visited the pueblo. ${ }^{2}$ In the same year the Bureau hired Frank Hamilton Cushing, who ahortly thereafter went to live with the Zunis. Cushing remained among them for five years, and, though it is difficult to separate anthropological legend from fact during this early period, he was reputed to have become "one of the tribe": he was adopted into the Macaw Clan, became Head Priest of the Bow, and mastered the language of these fascinating savage folk. ${ }^{3}$

From the beginning of anthropological work with the Zunis, reports and atudies have included native terms. The style of transcribing these terms has undergone changes, revealing shifts in the attitude of field workers toward the function of the language in anthropological studies. The first phase of Zuni publication, which began in the early 1880's and lasted for about thirty years, was characterized by the widespread transcription practice of placing hyphens botween ayllables: thus, Cushing wrote łassinaye the corn grows old as thla-shi-
 period when cultural studies emphasized religion, ceremonialism, and folklore, tranacribed native terms provided authenticity and, perhaps, local color for reforring to concepts which, it was realized, could not be adequately translated. Beyond obtaining word translations, however, the early students showed no Interent in the Zuni language as an object of study, though J. W. Powell, director of the Bureau, was active in stimulating linguistic researches elsewhere. I'or the mont part, each worker transcribed Zuni words in his own version of Bnglioh apelling. Fewkes, for example, gave evidence of his own dialect affiliallona by distributing " $r$ 's" generously throughout his transcriptions of Zuni wordo, which contain no "r" sounds of any kind: his rendition of Pa'tošle bogeymen was ar-toinh-ley."

## 1. Roberta, 1959.

1. Eicovonion, 1915, p. 35.
2. Dowoll, 1903, D, xxxvl.
3. Cuating, 1020, p. 215, this volume in a colloction of artelee orisinally publiohed in IANA and IABS, Brovencon, 1067, p. 541 .
4. Yowhen, 1AD1, 9. 46.

From 1910 to 1915 a new trend became discernible in the mode of transcription. The practice of hyphenating syllables was abandoned, and anthropologists attempted to symbolize the sounds of the language rather than merely to render native words in English spelling. The shift of emphasis was evident in the later work of Tilly Stevenson. The transcriptions in her ethnobotanical study of 1915 indicated stress, contained superscript symbols over the vowels, and showed an awareness of Zuni double consonants: her transcription for towa yalanne Corn Mountain, for example, was To'wa yäl'länně. ${ }^{6}$ Perhaps the most sophisticated treatment of the language in that decade occurred in Kroeber's brief article of $1916 .^{7}$ Here, utilizing his many years of experience in working with California Indian languages, Kroeber explicitly referred to such phenomena in Zuni as consonant length (see 2.3, below), vowel quantity, the unvoicing of final syllables (5.1), the "surd $L$," the glottal stop, and a series of glottalized consonants. In spite of his perceptive observations, his transcriptions were faulty and inaccurate. Long vowels were seldom indicated in his renditions, and, conversely, double consonants appeared too frequently: he transcribed citta mother correctly as tsitta, but tutu drink and wowo father's mother were overcorrected to tuttu and wowwo.

It was characteristic of this period that linguistic material, when it was collected, was gathered for ethnographic purposes; in this context there was no reason to strive for precision in transcribing native sounds or for a systematic morphological analysis in making translations. Throughout her extensive publications on Zuni culture Parsons maintained the same type of faulty transcription over a span of more than twenty-five years (1915-1941). ${ }^{8}$ The emphasis on collecting Zuni language material for its ethnographic content was also evident in Bunzel's work. The large body of myths, ritual poetry, and other texts which she collected were invaluable as literary data, but the material was transcribed so inconsistently and inaccurately that it could not provide a reliable basis for a grammatical treatment. ${ }^{9}$

Although Bunzel's grammar, published in 1934, might be expected to reflect some of the linguistic trends current in the early phonemic era, it was representative, rather, of the period in which anthropologists were avidly collecting large quantities of ethnographic data, without bothering about linguistic details in their transcription of Zuni forms. Interestingly enough, the word "phoneme" appeared in the grammar, but it was obviously an afterthought rather than an

[^0]9. Bunzel, 1932a; Bunzol, 1932b; Bunzol, 1933.
integral part of the phonological treatment, as the following passage suggests. "All short vowels in unaccented syllables are variable or obscure in quality. There is an alternation of $o$ and $u$ and of $e$ and $i$ in such positions, although in positions of importance they are distinct phonemes." ${ }^{10}$ The phonological portion of the grammar was handicapped by the highly inaccurate raw material of the texts upon which it was based. Like Kroeber, Bunzel was aware of the distinction between long and short vowels and between single and geminate consonants, but she was no more careful than he in distinguishing them. More ceriously, glottalized stops and fortis unaspirated stops were frequently confused, with the result that many words were transcribed with initial $p^{p}$ - or $t^{?}$,, which are structurally impossible in that position (2.1). The morphology was marred by an overzealous attention to fine shades of meaning and a correspondIng inattention to the systematic analysis and classification of forms. But, until the 1950's, Bunzel's grammar was the only linguistic source among the several hundred publications dealing with the Zunis.

My linguistic work with Zuni began in 1952. I selected this language for neveral reasons. Among languages of the Southwest, Zuni appeared to be relatively simple and transparent in its sound system and in its morphological atructure; I wanted to obtain data which would provide beginning linguistic ntudents with easier drill material than the Isleta and Laguna data I had proviously gathered. Zuni students attending the University of New Mexico, furthermore, offered me the convenient possibility of getting informants withnut suffering the acute frustrations of doing a lengthy field study within the houtlle environment of the pueblo. This grammar, consequently, is based upon work done in a large number of brief sessions with Zuni college students, supplemented by short field trips to Zuni pueblo for intensive work with older Informants. Finally, although the Zunis were one of the most intensively nuludied groups of the Southwest, their language had never been described in lerma of a modern structural treatment. The linguistic structures of other \&outhwentern Indians, on the other hand, had been described in the 1930's and 1940's, when Whorf had worked and published on Hopi, Halpern on Yuma, Hoijer on the Apachean languages, and Trager on Tanoan. ${ }^{11}$

Up to the present time my publications on Zuni have consisted of a brief phonomic dencription, an ethnolinguistic study, and a dictionary. ${ }^{12}$ In the ohonomic deacription and the dictionary, I used a "practical" orthography; Riunl forma in the present grammar, an in the ethnolinguiatic paper, are writ-

[^1]ten in a "technical" orthography. For the convenience of readers who may wish to use the grammar in conjunction with the dictionary, the following is a list of the symbols which differ in the two orthographies

| Technical | Practical |
| :---: | :---: |
| $\check{c}$ | ch |
| h | j |
| $\neq$ | lh |
| $\mathrm{k}^{\mathrm{w}}$ | q |
| $\check{\mathrm{s}}$ | sh |
| c | z |
| p | $/$ |
| $(\mathrm{V}) \cdot$ | $(\mathrm{V}):$ |

I offer my humble thanks to the necessarily nameless informants in Zuni pueblo, who were willing to withstand the criticisms of their neighbors for working with a white man. My appreciation also goes to the younger Zuni informants at the University of New Mexico, especially to Edmund Ladd, who managed to sustain his patience, thoughtfulness, and enthusiasm in working with me over a period of several years. For financial aid in supporting my Zuni research I am grateful to the Wenner-Gren Foundation for Anthropological Research, which awarded me a grant in 1955 to study Zuni language and culture; to the Southwest Project in Comparative Psycholinguistics (Social Science Research Council) for the opportunity to work with Zuni informants during the summers of 1955 and 1956; to the University of New Mexico for providing a sabbatical leave which permitted me to complete the grammar; and to the Research Committee of the University for granting funds to cover preparation of the manuscript.

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## PHONEMICS

## 1. Phonemes and Allophones

The phonemes of Zuni include sixteen consonants-p, $t, c, c \check{c}, k, k^{w},{ }^{\rho}, s, \check{s}^{\text {, }}$ $l_{1} h, m, n, l, w, y ;$ ten vowels-i, $i^{i}, e, e^{*}, a, a^{*}, o, o^{\circ}, u, u^{*} ;$ two stresses-strong and weak; and three pitch levels.

On the basis of allophonic types, the consonants may be grouped into three major classes: stops and affricates, spirants, and continuants.
1.1. Stops and Affricates. Before vowels, $\mathrm{p}, \mathrm{t}$, and ${ }^{\mathrm{P}}$ are voiceless, lenis, and unaupirated; $k, k^{w}, c$, and č are voiceless, fortis, and aspirated. The only conuonant of this group which has a perceptible allophone of articulatory position $10 k$, which appears as a velar before o or $u$, as a palatal before $a, e$, or $i$.
A phonetically glottalized consonant is produced when any stop, except the nlottal atop, or an affricate is followed by a glottal stop. The velar release of $h_{1}$ for example, is approximately simultaneous with the glottal release in $k^{?}$ ola chiles and, similarly, the affricative and glottal stop are released as a fused thonotic element in yapciika be cut bimself. This fusion takes place across word boundaries as well as within word units: the $t$ and ${ }^{?}$ form a unit phonetimally in ${ }^{9}$ imat ${ }^{\text {P }}$ an tena ${ }^{\text {ka }}$ it-seems for-him he-sang, as does the $\check{c}$ and ${ }^{\rho}$ in ${ }^{9} a \cdot \check{c}$ "uluka they-two put-it-in.
A atop or affricate is unreleased when it occurs before any consonant other than the glottal stop: e.g., the k is an unreleased velar stop in mokčinne elbow ur "Ikna like. As a parallel phenomenon, the first in a cluster of two identical urop or affricates is unreleased: the kk combination in ${ }^{\text {P }}$ ukka he gave it to him In pronounced as a long velar stop followed by a palatal release, and the plustors $\mathrm{PP}, \mathrm{tt}$, and ${ }^{\text {PP }}$ manifest the same phonetic characteristics in their mprective atop positions. On this basis a phonetically unreleased [k] is inmproted as $k^{" /}$ when it precedes $k^{m}$ : in mok ${ }^{w} k^{w i n n e}$ onion, for example, the W"K" cluater is actualized as a long velar stop with a labiovelar release; the whnters in "ocei male or ${ }^{P}$ ečžiye it remains are long dental stops with, respecHualy, an alvoolar and an alveopalatal affricative release. The interpretation of | $h \mid$ as the first unreleased $k^{\prime \prime}$ in an identical cluster, and of $[t]$ as the firto unraleneed c or c of an identical cluator is mado for seasons of phonomic aymmolryi all other consonants occur doubled. No auch phonatic complex as [kw], |ce|, of [d] can appear preconnonantally.
1.2. Spirants. The spirants are always voiceless. The sibilant $s$ is a grooved alveolar; $\check{s}$, a grooved alveopalatal; and $¥$, a lateral. The phoneme $h$ is a glottal spirant [ h ] before vowels, a velar spirant [ x ] before consonants: thus, the cluster hh in ${ }^{\text {Pahha }}$ pick it up! is actualized as a velar followed by a glottal spirant.
1.3. Continuants. The continuants-m, $\mathrm{n}, 1, \mathrm{w}, \mathrm{y}$-have optionally unvoiced allophones before $h$ or ${ }^{\text {? }}$, either within word units or across word boundaries: the n in yanhaku breathe! or the w in $\mathrm{ko}^{\circ} \mathrm{w}$ hom ${ }^{\top}$ an $\mathrm{k}^{\top}$ alu a-little me for pour-it-in, i.e., pour in a little for me, may be voiceless. Such unvoicing is especially common when the continuant is preceded by a voiceless consonant as well as followed by h or ${ }^{\text {P }}$, as in lesn hol thus perhaps or te ? ${ }^{\text {P }}$ aša pot make!
1.4. Vowels. With the exception of a, the short vowels fluctuate between open and close varieties. The high vowels, i and u , appear most frequently as close types; occasionally an open i or $u$ may be heard in a weak-stressed position. The open variety of e and $o$, however, is preferred; the most favorable conditions for the close types are the occurrence of weak-stressed e before $y$ or weak-stressed o before w.
The five short vowels assume an incremental length in the initial heavystressed syllable of a word, when this syllable is open: e.g., the first a in tasasanne a stiff object is slightly longer than the other a's in the word and also longer than the a-vowels in tattanne tree or in tampowanne wagon bow.
Short vowels in utterance-final position may be unvoiced (5.1.) : the terminal a, for example, is optionally voiced or voiceless in 'ičunan $s^{\text { }}$ 'łka after-lying. down then he-slept.

The long vowels manifest no perceptible variations in quantity or quality. The long high vowels, $i^{\cdot}$ and $u^{+}$, are invariably close; $e^{\cdot}$ and $o^{*}$ are nearly always open, though close vowels may occasionally be heard in rapid speech; a• is always a low central vowel.
1.5. Stress. The position of the strong stress is morphologically determinable, for this stress falls on the first syllable of the word unit. All other syllables have the weak stress. No symbols will be used to indicate stress phonemes. The word space will identify the syllable following space as the
 it for $m$ e.

In words of four syllables or more, a subphonemic secondary stress may sometimes be heard on the penult or antepenult, occurring as a fluctuating phenomenon. When it appears, it is considerably weaker in articulatory force than the strong stress.

Cutting across the phenomena of word stress are features of phrase stress, whose details are not clearly understood, for they involve stylistic variables. Some monosyllabic words, such as certain particles and pronouns, which retain their strong stress when they occur initially in utterances or in clauses, may take the weak stress when they are medial. The loss of strong stress seems to be conditioned by a number of factors. It is more apt to occur in certain syntactic combinations than in others: a modifying particle or pronoun is more likely to be weakened in stress when it is governed by a particle than by a noun. Frequency of usage appears to be another factor: certain high-frequency combinations of monosyllabic particles, such as $k^{W} a^{?}$ hot something perhaps, are nearly always actualized with a strong stress on the first particle and a weak utress on the second. But phrasal stress fluctuates considerably with style of upeech: in the more deliberate types of utterance, such as prayers, even the most commonly juxtaposed particles are each given a separate strong stress.
1.6. Pitch. Three pitch levels characterize Zuni intonation: low (1), middle (2), high (3). Utterances usually begin with a middle pitch (2) and sag to a low pitch (1) before the end of the utterance is reached; but in a short utterance the middle pitch is often maintained until the final intonational glide. At utterance-medial pause points, such as the end of a dependent clause, a shallow rlae occurs (1-2, 2-3).

The end of a minimal utterance is identified by one of two intonational patterns. A rare intonation, occurring as a rhetorical device in storytelling, is the nteep rise in pitch located on the last syllable of the utterance, accompanied by an exaggerated lengthening of the vowel ( $1-3 \cdots$ ). This intonation always falls on a verb and denotes an event covering a long period of time: łat ${ }^{\text {P }}$ allukka ( $1.3 \cdots \cdot)$ he went about hunting and hunting and hunting. The predominant mark of the utterance terminus is the intonational fall (3-1). The first syllable, always the strong-stressed syllable, of the final word in the utterance takes the high pitch (3). If the terminal word contains only one syllable, it has a steep drop in pitch. If, as is more frequent, there are several syllables in the last word, the intonation drop is more gradual, being distributed over the remainIng ayllables. Examples are: łat ${ }^{\text {Pallukka }}$ (3-1) he went about hunting, hop to? ${ }^{\prime}{ }^{\prime}$ 'ne (3-1) where are you going?, ${ }^{\text {Pa nuwa?ši (3-1) will he go? }}$

## 1. Diatribution of Phonemes

Vowels occur singly, always flanked by consonanta in any sequence of dionomes. Consonants may appear aither aingly or in cluaters, depending
upon the position of the cluster in the syllable (2.1), upon the position of the syllable in the word (2.2), and, for clusters which include the glottal stop, upon the location of morpheme borders (2.4).
2.1. Phoneme Sequences in Syllables. The structural range of syllables containing C (consonant) and V (vowel) is indicated in the following typological scheme.

|  | $A$ | $B$ |
| :--- | :--- | :--- |
| 1 | CV | CCV |
| 2 | CVC | CCVC |
| 3 | CVCC | CCVCC |

Restrictions upon phoneme sequences can be most conveniently described in terms of initial borders, nuclei, and final borders of syllables. When the initial border of a syllable is a single consonant (types $1 \mathrm{~A}, 2 \mathrm{~A}, 3 \mathrm{~A}$ ), this position may be filled by any consonant. When the initial border is a consonant cluster (types $1 B, 2 B, 3 B$ ), only $k^{P}, k^{m p}, c^{P}$, or $\check{c}^{P}$ may occupy this position. When $\mathrm{k}^{\mathrm{m}}$ or $\mathrm{k}^{\mathrm{mP}}$ forms the initial border, it must be followed by a front or central vowel; these labiovelars, plain or glottalized, never precede o, $\rho^{\circ}, \mathrm{u}$, or $\mathrm{u}^{\circ}$.

When the vowel nucleus is terminal in the syllable or is followed by a single consonant (types 1A, 1B, 2A, 2B), it may consist of any vowel, long or short. When the nucleus is followed by a consonant cluster (types 3A, 3B), a long vowel is found only before the cluster $\mathrm{k}^{\mathrm{p}}$; a short vowel may precede any consonant cluster.

When the final border of a syllable is a single consonant (types 2A, 2B), it may be filled by any consonant. When the final border is a cluster (types 3A, 3B), the first member may be any consonant. But if the first consonant of a final cluster is $1, k^{w}, c$, or $\check{c}$, it must be followed either by a glottal stop or by an identical consonant to form a geminate cluster (2.3). When the first member is any other consonant, however, there appear to be no limitations on the second member of the final cluster.

The following examples will illustrate the syllable types in monosyllabic words or in the first syllables of longer words.

CV: si then, ta again
CCV: $\mathrm{k}^{\text {w }}$ alaši crow, $\mathrm{k}^{\text {P }}$ o־si Joshua cactus
CVC: ten in vain, ta•p and
CCVC: $\mathrm{k}^{\text {p }}$ usna it is $d r y, \mathrm{c}^{\mathrm{Y}} \mathrm{u} \cdot \mathrm{k}^{\mathrm{P}} \mathrm{ip}$ pati it makes a liquidlike sucking sound
CVCC: lesn thus, la $\cdot \mathrm{k}^{\rho}$ today (sandhi-reduced forms of lema, la $\cdot \mathrm{k}^{\mathrm{P}} \mathrm{i}$ )

2.2. Syllable Sequences in Words. Some of the syllable types are further restricted in the positions they may occupy within the word unit. Syllables can be classified in accordance with four patterns of permitted occurrence: 1) those limited to initial position in the word; 2) those limited to final position; 3) those which may occur either finally in the word or nonfinally before a glottal stop; and 4) those which may fill any position.

Syllables whose initial border contains a consonant cluster (types 1B, 2B, 3B) are limited to word-initial position; in this position, only $k^{P}, k^{W P}, c^{P}$, or $c^{?}$ comprise the initial border, and their occurrence here is not paralleled by other clusters. When any of these four clusters occur word medially, however, they must be interpreted as ambisyllabic, for in this position they are paralleled by other consonant clusters which can be analyzed only as ambisyllabic. Thus, Pak? large metate is analyzed syllabically as CVC-CV (not CV-CCV), because it is structurally parallel to such forms as '?anše bear, ${ }^{\mathrm{P}}{ }^{\mathrm{P}}$ le rock, or mołe spherical objects in a container. Similarly, makk ${ }^{?} \mathrm{i}$ woman with children is interpreted as CVCC-CV (not CVC-CCV), for here it is equivalent in syllabic structure to łašs? ${ }^{2}$ he is getting old, Pakl'? at the fire, or he? ${ }^{?}$ ?ap when it is glued. The distinctive phonemic status of $\mathrm{k}^{P}, \mathrm{k}^{\mathrm{mp}}, \mathrm{c}^{?}$, and $c^{\mathrm{P}}$ is also reflected in the unique distribution of these clusters in morphemes (2.4).

Syllables limited to word-final position have a long vowel as their nucleus and a consonant cluster at their final border. The only examples appearing in my data are monosyllabic words of type 3A: ka $\mathrm{k}^{?}$ sometime (sandhi-reduced form of $k a \cdot{ }^{2}{ }^{\mathrm{i}}$ ).
Syllables ending in a consonant cluster (types 3A, 3B) but, in contrast to the preceding type, containing a short vowel as the nucleus may occur oither finally in the word or nonfinally before a syllable beginning with a
 person who wheezes and coughs. The same limitations of occurrence apply to ayllables ending in a single consonant (type 2A, 2B) and having a long-

Syllables ending in a single consonant (type 2A) preceded by a short vowel and syllables ending in a vowel (type 1A), whether long or short, are positionally free; they may occur initially, medially, or finally before any consonant.

In their patterns of permitted occurrence, the syllabic structures may be aymbolized by using (C) for alternative consonantal phonemes (i.e., CCV (C) Indicates CCV or CCVC), $v$ for ahort vowel, $v \cdot$ for long vowel, and $v(\cdot)$ for long or short vowel.

1) Syllables limited to word-initial position: $\mathrm{CCv}^{\prime}(\mathrm{C}), \mathrm{CCV}(\mathrm{C})(\mathrm{C})$.
2) Syllables limited to word-final ponition: $\mathrm{Cv}\left({ }^{( }\right) \mathrm{CC}$.
3) Syllables limited to either word-final position or to nonfinal position before glottal stop: $(\mathrm{C}) \mathrm{CvCC},(\mathrm{C}) \mathrm{Cv} \cdot \mathrm{C}$.
4) Syllables which may occur in any word position: $\mathrm{CvC}, \mathrm{Cv}(\cdot)$.
2.3 Geminate Clusters of Consonants. Any consonant may occur in a geminate cluster, pronounced with a slightly longer quantity than the single consonant but with considerably less than a doubled duration. Examples are: čippa it is coarse, citta mother, ${ }^{\text {Pakka because, pacc? }{ }^{\text {Papa }} \text { kinglet (bird species), }}$
 bullsnake, Pełła no, '? ${ }^{\prime}$ hho'li deer, ${ }^{\text {Pulle }}$ it is inside, kemme leather, ' innaye it costs, $\mathrm{k}^{\mathrm{w}}$ awwopp ${ }^{\mathrm{P} a}$ at the store, poyye roadrunner. These identical clusters, which are found with great frequency in Zuni words, are structured like other CC clusters: i.e., they may be ambisyllabic, as in čippa it is coarse, whose syllable structure is CVC-CV; or they may comprise the final cluster of a syllable, as in paccªpa kinglet, which contains the syllables CVCC-CV-CV.
2.4. Morphemic Status of Glottal Clusters. The unique status of $k^{P}, k^{w P}, c^{p}$, and $\mathscr{c}^{?}$, discussed above with reference to syllabic structure (2.2), is also manifested on the morphemic level. These are the only glottal clusters which are found within morpheme units. Any other cluster of consonant plus glottal stop is always split by 2 morpheme border.
As morpheme-internal sequences $k^{?}$ and $c^{P}$ occur frequently, $k^{m p}$ is rather rare, and $\breve{c}^{r}$ is found in my data only as the initial in a half-dozen verb stems of a uniform semantic type, referring to liquidlike sounds: č ${ }^{P} \mathrm{ak}^{\mathrm{WP}} \mathrm{a}^{\text {PP }}$ ati it makes a splash, č̌ u $\mathfrak{k i p}{ }^{\text {P }}$ ati it makes a squirting sound. In word-initial position these four clusters are always morphemically internal, for they cannot be formed by any combination of morphemes. They are also unique in this position; no other glottal cluster occurs word-initially. In word-medial position, three of the clusters ( $k^{P}, \mathrm{k}^{\mathrm{mp}}, \mathrm{c}^{\mathrm{P}}$ ) may be found within morphemes, the morpheme-internal č čappearing, as noted above, only as a word-initial cluster:
 All four of these glottal clusters, however, occur word-medially spanning a morpheme border, which is indicated by a hyphen in the following examples: susk- ${ }^{2}{ }^{2}$ wan of coyotes, $\mathrm{k}^{\mathrm{P}} \mathrm{ak}^{\mathrm{w}} \mathrm{-}^{\mathrm{P}}$ an at the house, $\mathrm{k}^{\mathrm{P}}$ acc- ${ }^{\mathrm{P}}$ appa after it smelled of cooked meat, $\mathrm{k}^{W} \mathrm{a}^{P}$ šopč-Pamme don't be mischievous. Parallel to this phenomenon, a cluster of any other consonant plus glottal stop may be found, separated by a morphemic seam, in word-medial position: wop-pe things in a tall container, tatt- ${ }^{\top} \mathrm{an}$ at the tree, $\mathrm{k}^{W} \mathrm{a}^{?} \mathrm{k}^{\mathrm{wi}} \mathrm{i}^{\mathrm{P}}{ }^{\mathrm{P}}$ amme it is not spilled, ${ }^{\text {Pan- }}$ ? elum- ${ }^{\text {Pa }}$ be likes it.

On the basis of the unique status of the four glottal cluatera in the present atructure of Zuni, it is ponsible to make some historical inferences. The oc-
currence of these combinations within morphemes, both initially and medially, slves them a close-knit, unitary character distinct from all other glottal dlusters, suggesting that they may have been unit phonemes at an earlier lime. The rarity of morpheme-internal $k^{w P}$ and $\check{c}^{P}$, compared to the frequency of $k^{w}$ and $\check{c}$, further suggests a diminishing distribution for two of the four unltary clusters. Finally, their adaptation to a pattern prevailing in modern Zunl is shown in their word-medial occurrence, like all other glottal clusters, ncross morpheme boundaries.

## MORPHOPHONEMICS

## 3. Phonemic Changes in Phoneme Sequences

Phonemes may undergo change as their environments are altered through the operation of morphological processes within word units. All such changes are regressive, the environment exerting its influence upon preceding phonemes.
3.1. Vowel Shortening. The only vocalic change consists in the shortening of fundamentally long vowels, whose conditions of occurrence are limited. A long vowel may occur word-finally; nonfinally it may be followed by a single consonant or by a consonant cluster only if the second consonant of the cluster is a glottal stop (2.2). A long vowel is consequently shortened when morphological changes induce alterations in the following consonantal environment, wherein a long vowel is not permitted. Thus, in the penult of the verb root ${ }^{\text {'itulla.pi go around, the long vowel is maintained throughout the }}$ inflections in which it is followed by a single consonant: Pitulla'pinna be will go around, ${ }^{\rho}$ itulla•pippa after he went around. But the long vowel is shortened in the inflections of the consonant-ending stem ${ }^{\text {itulla }} \cdot \stackrel{p}{ }$ - when it is followed by a morpheme beginning in a consonant other than the glottal stop: Pitullapka he went around, ' itullapnan after going around. The verb root yu'a'šo to grieve will illustrate the maintenance of the long vowel when followed by a single consonant or by a cluster whose second member is a glottal stop: yu'a'šoka he grieved, yu'a ${ }^{\text {s. }}{ }^{\top}$ anna he will grieve.
3.2. Replacement of $k^{w}$ by $k$. Of all consonants $\mathrm{k}^{w}$ is the most restricted in its possibilities of occurrence. It can be followed only by a front or central vowel, a glottal stop, or another $\mathrm{k}^{\mathrm{w}}(2.1,2.3)$. When these permitted environments are changed by morphological processes, a morphemically basic $k^{w}$ of the root is replaced by $k$ in the stem. The replacement may result from a change in the following vowel: łak ${ }^{\mathrm{w}}$ - $-\mathrm{F}_{\mathrm{ka}}$ it was inserted but łak-u-ka he caused it to be inserted, where the stem $*^{*}$ łak $^{w}$ - $\left(<\right.$ root $\left.\mathfrak{l a k}^{w_{i}}\right)$ is followed by the $-u$ causative. The change of $k^{w}$ to $k$ takes place with the appearance of a following back vowel, even though a word boundary and a glottal stop intervene: ${ }^{\text {Pehk }}{ }^{\text {wi-P }}$ ka he was first but ${ }^{\text {P }}$ ehk ${ }^{\text {Pona one who is first. It should }}$ be noted that the word boundary does not prevent a stop consonant and a glottal stop from fusing into a phonetically glottalized consonant (1.1).

The $\mathrm{k}^{\mathrm{w}}$ is similarly replaced when it is followed by a consonant other than $\mathrm{k}^{\mathrm{w}}$ or ${ }^{\text {P }}$ : ${ }^{\text {Pak-na }}$ it is ripe, containing -na static added to a stem of the root
 the subordinating suffixes, is attached to a stem of the root sik ${ }^{w}$ i to laugh. Both consonants of the geminate cluster $\mathrm{k}^{\mathrm{w}} \mathrm{k}^{\mathrm{w}}$ undergo replacement in environments that do not permit $\mathrm{k}^{\mathrm{w}}$. In this double change, if the second member of the cluster becomes k (e.g., because of a following back vowel), the first member, which now precedes a consonant other than $\mathrm{k}^{\mathrm{w}}$ or ${ }^{\text {? }}$, must also be replaced by k : ${ }^{\text {Pikk-u-ka he wrapped } i t \text {, in which the causative }-\mathrm{u} \text { is suffixed to }{ }^{\text {a }} \text {, }}$ a stem of the root ${ }^{\rho} \mathrm{ik}^{\mathrm{w}} \mathrm{k}^{\mathrm{w}}$ to be wrapped around.
3.3. Replacement of $l$ by $t$. The phoneme 1 may precede any vowel, but its consonantal environment is limited to a following glottal stop or another 1 . A basic 1 is replaced by $\not \mathrm{when}$, through morphological change, it is followed by a consonant other than ${ }^{?}$ or 1 : čiłči-? ${ }^{?}$ a they are making rhythmic rattling sounds, where reduplication of the root čili to make a rattling sound causes the replacement of 1 by $\ngtr$ because of the change of the following phoneme from i to č; ${ }^{\text {a }}$ l-ka he fell asleep, containing -ka past added to a stem of the root Pala to sleep; but ${ }^{\mathrm{P} e l}-\mathrm{Pan}$ where it is standing, in which the locative - -an is auffixed to a stem of the root ${ }^{?}$ ela to be standing.

There is one morpheme, however, containing an 1 which is replaced by 1 before ${ }^{\text {? }}$. The suffix -la objects in a shallow container (10.321), when it forms the last portion of a stem which loses its final vowel, becomes $\ddagger$ before ${ }^{\text {? }}$ : compare sa $-\ell^{?}$ e a pan of dishes, where the suffix without its vowel is followed by the singular $-{ }^{-} \mathrm{e}$, with sa-la--we pans of dishes where the full suffix is followed by the plural -we?.

## 4. Phonemic Changes in Morpheme Sequences

Two types of phonemic changes are associated with affixation: 1) affixes occur in a number of patterned sets of alternants; 2) affixes induce phonemic changes in neighboring morphemes. In addition to these changes, a stem undergoes abbreviations when it appears in the first-position slot of a compound.
4.1. Patterns of Affix Alternants. Characteristically, the Zuni affix is a morpheme having a set of differentiated forms. With some affixes, phonological conditions can be adduced for the morpheme alternants. But each of thene conditioning factorn, such as consonant ansimilation, has a limited application to one or a few affixes. Unlike the changes discuased in the prereding aection (3), no phonological rationale applien univeraally throughout
the affix system. With most affixes the alternants are distributed in accordance with strictly morphological criteria and display no discernible phonological basis.

The patterns of affix alternants represent an intricately fragmented system. The very multiplicity of these patterns, some with a phonological and others with a morphological basis of distribution, is one indication of the loose and unintegrated nature of the morphophonemics of Zuni affixes. Furthermore, some of the alternant patterns overlap: one affix set of three allomorphs shows a partial resemblance to another set containing two alternants (4.16 and 4.17). Finally, an affix which possesses some allomorphs belonging to one definable pattern may have additional allomorphs which belong to another pattern or which, being merely suppletive, cannot be assigned to any of the recurrent patterns (4.14). In spite of their fragmented character, certain formal patterns of affix differentiation emerge with sufficient clarity to merit description. For each affix treated in the following paragraphs dealing with alternant sets, reference will be made to a later section where more examples are presented and the relevant morphological details are described.
4.11. Consonant-Assimilated Alternants. The final consonant of the indirective prefix (9.313) is assimilated to the initial consonant of the stem. The alternant forms are ${ }^{\mathrm{P}}$ ah- before $\mathrm{h},{ }^{\mathrm{P}}{ }^{\mathrm{P}}$ - before $\mathrm{l},{ }^{\mathrm{P}}$ am- before m or p , ${ }^{\mathrm{P}}{ }^{\text {aw- }}$ before $w$, Pay-before $y$, and Pan-before all other consonants; the prefix does not appear before vowels.
4.12. Vocalic-Consonantic Alternants. Several prefixes occur in paired forms: one of the allomorphs ends in a vowel and is attached to stems whose roots begin in a consonant other than the glottal stop; the other prefix form, ending in a consonant, is added to vowel-beginning stems derived from roots whose initial glottal stop has been zeroed. One suffix and two enclitics have alternants with a somewhat similar rationale of distribution.

One of the prefixes indicating plurality-the plural of particles referring to persons, the plural subject of intransitive verbs or the plural object of transitive verbs $(9.3152,12.21)$-has the form ' a '- before consonants other than ${ }^{P}$ and ${ }^{P}{ }^{\circ} \cdot w$ - before vowel-beginning stems which have dropped the rootinitial ${ }^{P}$ : ${ }^{P} \mathrm{a}$-hotta grandmothers, granddaughters (hotta grandmother, granddaughter), ${ }^{\mathrm{P}} \cdot \mathrm{l}$-la?hika they jumped (la'hika he jumped), ${ }^{\mathrm{P}} \mathrm{a} \cdot \mathrm{w}$-occi males

Three prefix morphemes have the shape ${ }^{{ }^{\mathrm{i}}} \mathrm{i}$ - before consonants other than ${ }^{\text {? }}$ and $y$-before the zeroed ${ }^{?}$ of the root. One of these morphemes is a plural prefix attached to verbs (9.3152) : Pi-tapka he bought them; y-ǎeka they died (Paseka he died). Another is the reflexive (9.314): Pi-piya'ka he hanged him-
self, $y$-apc ${ }^{2}$ ika he cut himself ( ${ }^{\prime} \mathrm{apc}^{\top} \mathrm{ika}$ he cut it). The same pair of forms indicates the inchoative (9.3113): Pi-pottiye it is getting full, $y$-oka it became ('oka it was made).
A similar rationale of allomorphic distribution applies to two morphemes, each of which occurs in three prefixal forms. The reciprocal ( 9.3151 ) appears as ${ }^{2} \mathrm{i}$ - before consonants other than ${ }^{\text {? }}$, ${ }^{\mathrm{i}} \cdot{ }^{\cdot}$ w- before the zeroed ${ }^{\text {? }}$ when the first vowel of the stem is $i$, and ${ }^{\mathrm{P}} \mathrm{i} y$ - before the zeroed ${ }^{?}$ when the first stem vowel is other than i : $\mathrm{P}_{\mathrm{i}}$-hannil? ${ }^{2}$ they like each other, $\mathrm{P}_{\mathrm{i}} \cdot \mathrm{w}$-ihto ${ }^{\mathrm{P}} \mathrm{u}$ tie them together ( ${ }^{\prime}$ ihto ${ }^{\text {' }}$ tie another piece to it ), $\mathrm{P}_{\mathrm{i}} \mathrm{y}$-amahčinapka they laughed at one another ('amahčinapka they laughed at it). A plural prefix (9.311) has the form tebefore consonants other than $t$ or ${ }^{?}$, tet- before $t$, and $t$ - before the zeroed ${ }^{?}$ : te-čuneka they stopped, tet-tunati open your (plural) eyes, t-ikwakka they said ( ${ }^{\prime} \mathrm{ik}^{\mathrm{W}}{ }^{\text {akka }}$ he said).
One suffix exhibits a similar pattern of allomorphic distribution, but additional phonological idiosyncracies are involved. The continuative (9.3242) takes the form -e after consonant-ending stems of polysyllabic roots whose final $e$ or a vowel has been zeroed; the allomorph -y is added to vowel-ending atems of polysyllabic roots with a final i , o, or u , this vowel not being zeroed before the continuative; and the allomorph -ye* is suffixed to the vowel-ending atem of monosyllabic roots, whose vowel is never zeroed. In summary, then, a stem ending in a consonant takes a form of the continuative suffix beginning in a vowel; stems ending in a vowel take one of the suffixes beginning in a
 is eating ( $<{ }^{\mathrm{P}}$ ito to eat), $\mathrm{k}^{\mathrm{P}} \mathrm{o}-\mathrm{ye}-{ }^{-} \mathrm{a}$ a he is crying ( $<\mathrm{k}^{\circ}$ on to make weeping noises).

Two enclitics appear in paired forms which are differentiated for consonantending as against vowel-ending stems. The interrogative (13.1) is -ši after consonants, --'si after vowels, and the similarly patterned adversitive (13.2) occurs as -te after consonants, ${ }^{-}$te after vowels: tenekkan-ši ${ }^{~} \mathrm{a}$ aka did he go there to sing? Paliye-'ši is it nice? yute'činan-te even though he's tired, "uč̌upa-? ${ }^{\text {te }}$ he's just wearing the shirt.
4.13. Alternants Differentiated for Monosyllabic and Polysyllabic Roots. The continuative suffix described in the preceding section (4.12) has distinctive allomorphs not only for vowel-ending versus consonant-ending verbs but aloo for monosyllabic versus polysyllabic verbo. The latter pattern, differentiating alternants on the basis of the syllabic content of roots, applies more extenaively to the morphophonemica of nouns than verbe.

The forms of the aingular suffix (10.21) are. . ${ }^{2} e^{\text {P }}$ with monoayllabic nouns of clam 1 and $\cdot \mathrm{mma}^{\text {p }}$ with clams 2 nouns (Table 2), all of which are mono-
syllabic: łi- $^{-}{ }^{\mathrm{P}}{ }^{\mathrm{P}}$ sinew, $\mathrm{k}^{\mathrm{P}} \mathrm{e}-\mathrm{mme}{ }^{\mathrm{P}}$ stalk. The singular forms associated with polysyllabic nouns are -nne with class 1 and -e with class 3 , the latter containing only polysyllabic noun roots: homa-nne juniper leaf, sap-?e (< sapa) a box of dishes.

The same rationale differentiates the alternants of the plural suffix (10.22). The form -we? is added to monosyllabic nouns of class 1 and to class 2: łi-we ${ }^{?}$ sinews, $\mathrm{k}^{\mathrm{P}} \mathrm{e}$-we? stalks. For polysyllabic nouns the plural is $-(\mathrm{V}) \cdot{ }^{\circ} \mathrm{w}^{?}$ : homa-'we ${ }^{\text {P }}$ juniper leaves, sapa--we ${ }^{\text {P }}$ boxes of dishes.
4.14. ${ }^{{ }^{2} a-a-\phi}$ Alternants. Four of the suffixes added to verbs appear in the following triplicate forms.
-Pappa , -appa, -ppa, subordinate with a subject distinct from that of the following verb (9.231) : šole-Pappa after it swells, $\mathrm{k}^{\text {? }}$ on-appa when he wept, ho ${ }^{\text {P }}{ }^{\text {ok wi-ppa when } I \text { awoke. }}$

- Panna, -anna, -nna, future tense or nonpast conditional (9.213) : ${ }^{\text {Poš̌- }}$ - ${ }^{2}$ anna he will be hungry, to ${ }^{\text {P }} \mathrm{yu}^{\text {² }} \mathrm{ya}{ }^{\circ} \mathrm{w}$-anna you will know about $i t$, Pallu-nna he would move about (if he got well).
 who is getting fat, ' $\mathrm{P} \mathbf{i y - a n}$ 'ona one who is arriving, tene-n ${ }^{\text {? }}$ ona one who is singing.
$-\mathrm{P} a,-\mathrm{a},-\phi$, present tense or imperative (9.212): taša -P a it is growing, hatiya'w-a listen!, ho ${ }^{\top} \mathrm{k}^{\text {Peccana- }}$ I am happy.

The three forms of each suffix are distributed in accordance with verbclass categories. The basis of distribution is entirely morphological; the verb classes have no phonological characteristics that could determine the selection of suffix alternants.

Although a consistent pattern of form is displayed in the three allomorphic types illustrated above, the suffixes manifest a number of inconsistencies. The distribution of the three alternants among verb classes is not entirely sym-
 has an overlapping distribution as follows: -Pappa is suffixed to verb classes 1 , 2, and 9: - Panna, to classes 1 and 2 ; - P an, to class 1 ; and -P , to classes 1,2 , and 8 . Furthermore, most of these suffixes include additional allomorphs which do not conform to the alternant configuration: the future tense or nonpast conditional occurs as -Panna, -anna, -nna with stems of only some of the verb classes and as -uwa, $-\mathrm{a},-\mathrm{k}^{\mathrm{P}}$ anna with the remaining verb classes; the subordinate -9 an, -an, -n includes a form - $\varnothing$ with certain verb classes; the present tense or imperative, in addition to the alternants -P a, $-\mathrm{a},-\phi$ affiliated with some verb classes, appears as $-e^{p}$, -e, -ye with other verb classes. Only the subordinate suffix indicating a distinct subject has no allomorphs besides -?appa, -appa, -ppa.
4.15. Pa-a Alternants. Partially parallel to the forms of the preceding type are the following two-alternant morphemes.
$-{ }^{-}$amme, -amme, negative (9.3213) : $\mathrm{k}^{w} \mathrm{a}^{?}$ silow- ${ }^{?}$ amme it is not red, $\mathrm{k}^{w} \mathrm{a}^{\text {? }}$ tuna'w-amme he is without eyes.
 tatta' w -an by the trees.
${ }^{\text {Pannan, }}$-annan, inessive enclitic (13.5) : $\mathrm{k}^{\mathrm{P} o l}{ }^{\text {P? }}$ annan (mixed) in the chile, te? ${ }^{\text {l }}$-annan inside the pot.
Like the ${ }^{\mathrm{P}} \mathrm{a}-\mathrm{a}-\phi$ pattern discussed above (4.14), these alternants are distributed on a morphological rationale, and their distributional affiliations are not uniform. One of the morphemes, the inessive, has a third allomorph, -nan, in addition to the forms in the two-alternant pattern.
4.16. Simplex-Geminate-Glottal Alternants. Six suffixes attached to verb stems have a pattern of three alternants with the form -CV . . , -CCV . . . , . ${ }^{\text {PCV }}$. . .
$-\mathrm{ka},-\mathrm{kka},-{ }^{-} \mathrm{ka}$, past tense (9.211) : wakłi-ka he gouged the ground, pokłi-kka he was smoking, $\mathrm{k}^{\text {? }}$ okši- ${ }^{\mathrm{P}} \mathrm{ka}$ it was good.
-kan, -kkan, -Pkan, resultative subordinate (9.235) : Pišema-kan ${ }^{\mathrm{P}}$ a'ne he
 Coli. ${ }^{-}$kan ${ }^{\text {'ika }}$ he came to play cards.

 used to be.

- Ye, -ssse, -`še, hortatory (9.221) : tena-š̌ let's sing, ${ }^{\text {P }}$ ayna--š̌se let's kill it, "affu'wa-šse let's speak to him.

 so that) she should not be washing it, $\mathrm{k}^{\mathbf{W}} \mathrm{a}^{?} \mathrm{k}^{\text {Pokši- }}$-šuk ${ }^{\mathrm{w}} \mathrm{a}$ (if it isn't done right) it won't be good.
-tu, -ttu, $-^{-}$tu, permissive (9.222) : ${ }^{\rho}$ et to ${ }^{\rho} \mathrm{k}^{\mathrm{w}}$ ayik ${ }^{\text {P anam-tu }}$ don't let him go out, ho? Payna-ttu let me kill it, ta lak? teya-tu (may you) be our son-in-law.

This set of morphemes is completely symmetrical in form and in morphological distribution. None of the morphemes has other allomorphs in addition to the three forms. In distribution the simplex form of these suffixes is affiliated with atems of verb classes 1 through 6 , the geminate form with classes 7 and $A_{1}$ and the glottal form with clan 9.
4.17. Simplex-Geminate Alternants. In the following ouffixes the pattern of two alternanta partially resembles the triplicate pattern presented in the prereding section (4,16).
-čo, -ččo, repetitive (9.3221) : ${ }^{\text {ip }}$ pak-čo throw it several times, we ${ }^{\top}$ a-ččo yell (i.e., make repeated shouts).
$-k^{\top} \mathrm{a}$, $-\mathrm{kk}^{\mathrm{P}} \mathrm{a}$, causative (9.323) : ${ }^{\text {ito-k }}{ }^{\mathrm{P}} \mathrm{a}$ feed $\operatorname{him}$ (i.e., cause him to eat), ło?o-kk? a tighten it.
-na, -nna, static (9.3241) : tešla-na he is afraid, $\mathrm{k}^{\text {P oha-nna }}$ it is white.
-nišsip, -nnišsip, adverbial subordinate (9.236) : tešla-nišsip peka he spoke fearfully, $\mathrm{k}^{\text {'eccea-nnišsi' }}$ to ${ }^{\text {'a'tu may you go happily. }}$

Only the two alternants, as listed above, are found for each of the suffixes. But the alternants do not exhibit a symmetrical distribution among verb classes, although their distribution is somewhat similar to that of the preceding set (4.16) : thus, the simplex $-\mathrm{k}^{\mathrm{P}} \mathrm{a}$ is suffixed to stems of classes 1 through 6 ; and the geminate form $-\mathrm{kk}^{\mathrm{P}}$ a occurs with classes 7 through 9 , a distribution which overlaps that of the geminate and glottal alternants in the previously discussed pattern (4.16). The more complex distributional details of the other morphemes in this group will be described in their appropriate morphological sections.
4.2. Changes Induced by Affixes. Besides exhibiting sets of differentiated forms, affixes may also effect changes in neighboring forms. These induced changes are of two types: 1) zeroing of root-initial glottal stop, with certain prefixes; 2) lengthening of root-final vowel, with certain suffixes. Both changes are morphologically conditioned.

The initial glottal stop of roots is zeroed after the plural prefixes (9.3111, $9.3152,12.21$ ), the inchoative (9.3113), the reflexive (9.314), and the reciprocal (9.3151). (Examples illustrating the morphophonemics of these prefixes are presented in 4.12.) Other prefixes, however, do not have this reduction effect. The indeterminate yu- (9.312), for example, appears before all root consonants, including the glottal stop: yu-šelna he's full of food, yu-Pašenanne it's greenish.

A few suffixes lengthen the final vowel of the root, an effect indicated by the symbol $(\mathrm{V}) \cdot$ with a vowel-lengthening suffix: -(V)• contemporaneous subordinate (9.234), -(V)• alternative (12.2213), $-(\mathrm{V}) \cdot \mathrm{k}^{\mathrm{W}} \mathrm{e}$ agentive (12.2224), -(V) tii to be a pile of ( 9.3212 j ), (V) 'wa plural subject of transitive verbs ( 9.325 ), and -( V$) \cdot{ }^{\text {we }}$ ? plural of nouns (10.22). An example of the latter is homata-we ${ }^{\text {j }}$ juniper trees but homata-nne juniper tree.
4.3. Abbreviated Stems in Compounds. When they occur as first-position stems in compounds (8.8), roots of more than one syllable are abbreviated to their initial CV: tu-mok ${ }^{\mathrm{m}} \mathrm{k}^{\mathrm{mP}}$ a-nne stocking is composed of tu-, an abbreviated stem of tukni toe, added to mok $\mathrm{k}^{\mathrm{w}} \mathrm{k}^{\mathrm{mP}} \mathbf{e}$ shoe and the singular suffix -nne; me-k ${ }^{W P i}$ isso negro contains me-, abbreviated from melika Anglo, White Man, plus $\mathrm{k}^{\text {WPifro }}$ black person.

## 5. Sandhi: Phonemic Changes in Word Sequences

Sandhi reduction affects only word-final phonemes, which are zeroed or unvoiced in two types of environment: 1) utterance-final and 2) utterancemedial.
5.1. Reduction of Phonemes in Utterance-Final Position. A word-final n or ${ }^{\rho}$ is invariably zeroed when it appears finally in the utterance: kalapak ${ }^{W}$ in ${ }^{P}$ a $\cdot \mathrm{ka}$ he went to Gallup, but in answer to Where are you going? the response might be kalapakwi to Gallup; šiwe ${ }^{?}$ ta.p . . . meat and . . . but šiwe meat, when pronounced in isolation.

A word-final short vowel suffers a subphonemic reduction, that of unvoicing, at the end of an utterance (1.4). This change is optional, though it occurs with greater than fifty-percent frequency in my folktale texts and conversational material.
5.2. Reduction of Phonemes in Utterance-Medial Position. In a word of more than one syllable, the final $-v$ or $-v^{?}$ is zeroed before another word beginning in h or ${ }^{\text {P }}$ : ${ }^{P}$ ači they (dual) appears in its full form in ${ }^{P}$ ačci ye lahka the two of them ran, in its reduced form in 'a'č hirnina they two are the same; Passela? crookedly, leaning to one side occurs in its full form in ${ }^{\text {Passela }}{ }^{?}$ powaye he is sitting crookedly, in its reduced form in ?assel 'elaye he is standing crookedly. This type of reduction is automatic.

Other types of reduction within the utterance are optional and, apparently, depend on the style of speech. Frequently the second consonant of a cluster is itself zeroed before a zeroed $-v$ or $-v^{?}$. This type of consonantal zeroing affects a postconsonantal glottal stop or the second consonant in a geminate cluster: the full form $k^{w}$ awwop ${ }^{\text {P }}$ a store is reduced in $k^{w}$ awwop (or $k^{w}$ awwop ${ }^{\text {P }}$ ) ${ }^{\text {Pilli }}$ he owns a store; the full form manikka underneath is reduced in manik (or manikk) ${ }^{\rho}{ }^{\rho P} \mathrm{u}$ put it underneath. When the consonant before a reduced -v or $\cdot v^{p}$ is a continuant ( $\mathrm{m}, \mathrm{n}, \mathrm{l}, \mathrm{y}, \mathrm{w}$ ), it is often reduced by unvoicing (1.3): the m of $\mathrm{ko}^{\mathrm{P}}$ ma all right may be voiced or unvoiced in $\mathrm{ko}^{9} \mathrm{~m}$ ho pottutu all right, let me fill it; similarly, the $y$ of $c^{9} y a^{9}$ pretty may be voiced or unvoiced in hom 'an ${ }^{P}$ uččun $c^{\text {P }}{ }^{\text {y }}{ }^{\text {Poka a pretty shirt was made for me. }}$

The reductions described above take place before an initial $h$ or ${ }^{?}$ of the following word. Certain morphemes undergo the same types of reduction before any consonant, an environment which includes all utterance-medial conditlons, since every word begins in a consonant. The morphemes susceptible to roduction before any consonant are high.frequency forms, such as common particles or word-final suffixes which normally appear on words within the body of an utterance. A particle such as tomil still, until can be olicited in its
full form only by obtaining it in isolation from the informant; in context, where it never occurs at the end of an utterance, it is invariably found in the form tem. The following are other particles with their reduced forms, which always occur in context, and their full forms: ${ }^{\top}$ ałna ${ }^{P} t<{ }^{\top}$ ałna ${ }^{\top}$ te once more,
 there (near person spoken to), čim < čimi recently, hoł < hołi probably,
 now, today, li$\downarrow<$ liłła here, $\mathrm{s}<$ si and, then, yam < yami one's own. The following word-final suffixes occur in their reduced forms before any consonant: various allomorphs of the singular suffix on nouns, such as .? $<-\mathrm{Pl}^{?}$, -n or $-\mathrm{nn}<-\mathrm{nne},-\mathrm{m}$ or $-\mathrm{mm}<-\mathrm{mme}^{\mathrm{P}},-\phi$ or $\mathrm{T}^{\mathrm{P}}<-\mathrm{P} \mathrm{e}$ (10.21); allomorphs of the noun plural, $-\mathrm{w}<-\mathrm{we}^{?}$ and $-(\mathrm{V}) \cdot \mathrm{w}<-(\mathrm{V}){ }^{\cdot}{ }^{\mathrm{w}}{ }^{\text {? }}$ (10.22), the allomorphs $-\mathrm{Pap},-\mathrm{ap},-\mathrm{p}<-\mathrm{Pappa}$, -appa, -ppa, which form a subordinate verb with a subject distinct from the main verb (9.231) ; the interrogational $-\mathrm{P} \mathrm{p},-\mathrm{p}<-\mathrm{P} \mathrm{p}$, -ppi, -pi (12.2216). Some examples of these suffixes in context are:

summ ${ }^{\text {P }}$ uwe-n s 'ikatika and that fellow Coyote became angry ('uwe-n $<$ Puwe-nne fellow) ;
ho ${ }^{\text {P }}$ mu-w tihka $I$ bought bread (mu-w $<$ mu-we ${ }^{\text {P }}$ bread);
ko-p ley- ${ }^{?}$ ap $\mathrm{k}^{\mathbf{W}} \mathrm{a}^{\text {P }}$ hom ${ }^{\text {P }}$ an to ${ }^{\text {P }}$ tena $\cdot{ }^{\cdot} \mathrm{na}^{\text {P }}$ ma what is happening that you aren't singing for me? (ko-p < ko-ppi what?, ley-ªp < ley-ªppa is happening). The allomorphs of the future, -Panna, -anna, -nna, $-k^{\text {P }}$ anna (9.213), have their full form in a main verb, which, being final in an utterance, does not undergo this type of reduction. But these allomorphs always appear without the terminal -na before all forms of the defective verb Piyaha to intend to, to want to: tena ${ }^{\text {P }} \mathrm{u}$-nna he will sing but tena ${ }^{\text {P }} u$-n ${ }^{\text {Piha }}$ he intends to sing; ' ${ }^{\text {iluwa-k? }}$ anna they will stand up but ' ${ }^{\text {iluwa- }}$ ? an tha they want to stand $u p$.

## 6. Gradations of Morpheme Length

One of the pervasive features of Zuni structure is the presence of different kinds of short and long forms of morphemes. The extensive sandhi reductions discussed above (5) represent only one system of morpheme shortening. Certain forms of the personal pronoun also exhibit short and long alternants. The short forms resemble the sandhi-reduced particles described in 5.2, in that they always appear without a final vowel when they occur in utterance-medial position before any consonant. But because the pronominal short forms also show unique features not found in sandhi processes or elsewhere in the language, they are treated as part of the lexicon. For example, the utterance-final alter-
nants ho.? $I$, to.? you, and 'a.ni his, hers, its appear in utterance-medial as $h 0^{\prime}$, to ${ }^{\circ}$, and ${ }^{\text {'an }}$; the unique feature here is the vowel shortening. Alternating with the long forms ho'no we and to'no you (plural subject) are the short forms hon and ton; the dropping of the glottal stop is the unique element in thene cases.
Differences in morpheme length are likewise characteristic of some patterns uf affix alternants (4.1), such as the ${ }^{P} a-a-\phi$ pattern (e.g., -Panna, -anna, -nna, (future tense or nonpast conditional) and the simplex-geminate-glottal pattern (0.g., -še, -šse, -š̌e, hortatory).

Inally, the morphological process of abbreviation (8.9) also results in whort forms of longer morphemes, such as we-, abbreviated from wek ${ }^{\mathbf{w}} \mathbf{i}$ foot. All of these factors-the various types of sandhi reduction, the short and long variants of personal pronouns, some of the affix-alternant patterns, and albreviation of stems-combine to present a complex picture in which the 'Auni morpheme characteristically manifests a gradation ranging from the full-length to a variety of shorter alternants.

## MORPHOLOGY

## 7. Word Classes: Inflection and Derivation

Words are identified by their distinctive inflectional suffixes as either verbs, nouns, or personal pronouns; particles are uninflected words. To be a complete word, an inflected form must have one final suffix marking the inflection. Several derivational layers may underly the single inflectional suffix which finishes the word. Thus, ka , past tense, is the verb-marking inflection in the following derivational expansions: ${ }^{\text {apc }}$ 'i-ka he cut it, ${ }^{\text {' apc }}$ 'i-nap-ka they cut
 ting them.
Verbs are inflected for tense, mode, and subordination, nouns for number, and pronouns for number and case.

## 8. Types of Morphemes

The morpheme units which enter into the construction of words are stem forms of roots, suffixes, enclitics, prefixes, reduplicatives, suppletives, compounding patterns, and abbreviations.
8.1. Roots and Stems. In terms of their morpheme complexity, roots may be classified into basic (unimorpheme) roots and derived (multimorpheme) roots. Basic roots are selectively determined for class membership: ${ }^{\text {Pali }}$ to be attractive is inherently a verb, 'alla shield a noun, and 'ale ceremonial relationship a particle. The word class of derived roots is defined either by the reference type of compounded roots (8.8) or by the last derivational suffix of other multimorpheme roots, for derivational suffixes are verb-forming, noun-forming, or particle-forming.

Most roots, whether basic or derived, have membership in only one class. However, a number of the roots belonging to verb class 9 are also treated
 (-(V) ${ }^{\circ}$ we? , plural on class 1 nouns) and ${ }^{P}$ učču- ${ }^{?} \mathrm{ka}$ he wore a shirt ( $-{ }^{-} \mathrm{ka}$, past tense on class 9 verbs). But many class 9 verb roots cannot function as nouns, and many class 1 noun roots do not participate in verb formation. Since this dual affiliation is found in no other classes and is manifested in only
certain members of class 9 verbs and class 1 nouns, it is interpreted as a selective overlapping of class membership rather than as a distinctive class of roots.

A root may appear in several stem forms for the operation of inflections and derivations. For example, the root tena? ${ }^{\text {? }}$ to sing occurs without modification in the present stem tena ${ }^{\text {Pu }} \mathbf{- \phi}$ he is singing and with modifications in the preconsonantal past stem tena-ka he sang and the prevocalic past stem ten-e-kka he was singing.
8.2. Suffixes. Suffixation accounts for most of the formal machinery of wordbuilding in Zuni. Inflections for all the word classes are formed solely by suffixes. The inflectional categories of the verb are those of tense and tensemode (e.g., past tense, past conditional), mode (e.g., permissive, hortatory), and subordination (e.g., contemporaneous subordinate, resultative subordinate). Nouns are inflected only for number in the singular and the plural. Pronoun inflection includes case as well as number; because their inflections are unique and limited in scope, the pronouns will be treated synthetically as paradigmatic forms rather than analytically as forms composed of stem and suffix.

In addition to the inflections, most of the derivations are expressed by ouffixes. The verb-forming derivations cover several conceptual categories: a) aspect (e.g., continuative, punctiliar), b) mode (e.g., negative, perceptive), c) collective (e.g., to be objects growing together on the ground, to be objects in a shallow container), d) voice (only the causative), e) number (only the plural subject of transitive verbs), and f) mixed categories of aspect-voice or aspect-voice-mode (e.g., mediopassive repetitive, conversive causative punctiliar). Noun derivations are formed only by suffixes indicating different kinds of collectives (e.g., objects in a dispersed collectivity, objects in a wrapped bundle). More than a dozen particle-forming suffixes express a variety of derivational concepts (e.g., alternative, multiplicative, instrumental), which cannot be conveniently grouped into any of the more familiar categories.
8.3. Enclitics. In contrast to the suffix, the enclitic is a structurally loose olement attached to the end of a word, following any inflectional suffix that may be present. The enclitic has greater freedom of distribution than a suffix: the interrogative enclitic -Pri (13.1), for example, may be appended to any word in the sentence.
These morphemes comprise a amall class of forms. Besides the interrogative, the enclitics include the adversitive, the directional, the locative, and the Inessive (13.2-13.5).
8.4. Prefixes. All prefixes are derivational. Involving only some half-dozen morphemes, prefixation covers a relatively small area of the morphology as compared to suffixation. The categories of prefix morphemes refer to a) voice (e.g., reciprocal, indirective), b) number (plural subject of intransitive verbs, plural object of transitive verbs), c) aspect (only the inchoative), d ) mode (only the indeterminate), and e) a unique category, with a prefix indicating natural phenomena (9.3112).
8.5. Discontinuous Morphemes. Only one derivation, the inchoative, is formed by the combination of a prefix and a suffix (9.33). This discontinuous affix, demanded by certain verbs, is a formal coalescence of the prefix (9.3113) and the suffix (9.3222), each of which functions alone as an inchoative when attached to other verbs.

Illustrating discontinuous morphemes on a syntactic level, one of the negative particles ( $\mathrm{k}^{\mathrm{w}} \mathrm{a}^{\mathrm{P}},{ }^{\mathrm{P}} \mathrm{e} \nmid \mathrm{a}$ ) invariably accompanies a verb containing one of the derivational suffixes expressing the negative (9.3213, 9.326, and especially 16.42).
8.6. Reduplicatives. Reduplication is restricted to only one of the verb classes. Reduplicative patterns are applied to express the mediopassive repetitive ( 9.341 ) and the mediopassive semelfactive (9.342).
8.7. Suppletives. Suppletion occurs in the complete replacement of a few verb stems. It has the same function as one of the prefixes, that of indicating the plural subject of intransitive verbs or the plural object of transitive verbs (9.35) : ' ela be standing (singular subject) and łuwa be standing (plural subject) are functionally parallel to čapi be burned and ${ }^{\mathrm{P}} \mathrm{a}$-čapi, in which ${ }^{\mathrm{P}} \mathrm{a}$ :indicates the plural subject.
8.8. Compounds. The morphological characteristic of a true compound consists in the use of a first-position stem with the form Cv - or CCv -, which may either be abbreviated or a full stem: me-Poše tramp, hobo (me- abbreviated from melika White Man, Anglo, 'oše to be hungry), pa-lokk? ${ }^{2} \cdot \mathrm{k}^{\mathrm{w}} \mathrm{e}$ Ramah Navajo (pa- abbreviated from paču Navaho, lokkª to be gray, -(V) $\mathrm{k}^{\mathrm{W}} \mathrm{e}$ people of). Monosyllabic stems are particularly productive as firstposition elements in compounds: he-šonči-nne fork (he metal, šonči claw, -nne

 vinegar ('opi to be sour). In addition to this morphological identification, the compound is phonologically marked, like any other word unit, by having a single heavy stress on its initial syllable (1.5).

Only nouns and particles are formed by compounding. The type of reference designated by the compound determines whether it is to be classed as a
noun, and therefore inflected, or as an uninflected particle. In the examples given in the preceding paragraph, the word for tramp, hobo is a particle like other references, whether native or borrowed, to human beings: šiwani rain priest, mu'ma Mormon < English "Mormon." The word for fork belongs to the noun class and is inflected for singular and plural, like other references denoting man-made objects: šok? ${ }^{?}$-nne spoon (-nne singular), ma*kina-nne machine $<$ Spanish "maquina." And the word for soda pop is a noun inflected only in the plural like any other noun indicating a mass: $k^{P} \mathrm{a}-\mathrm{we}{ }^{?}$ liquid (we? plural), maso-*we? muscle < English "muscle."

As distinct from compounds, syntactic constructions have more than one heavy stress. But certain combinations of words-constructions with specialized meanings and derivations from constructions (10.31, 15.3)-manifest some of the unitary lexical characteristics of compounds. A construction such as $k^{\top}$ ate taša ( $k$ ?ate bird-tail, taša lengthened) may either mean lengthened bird-tail or, as a specialized construction, magpie. Lexemes of this kind, formed by syntactic constructions, are frequent in Zuni. Songs and prayers, in particular, employ specialized constructions, which sometimes show considerable syntactic elaboration: thus, in songs, frogs are woliye tinan $\mathrm{k}^{?}$ ayapa, literally they-are-in-a-shallow-container they-sitting they-are-floating-in-water. Derivations from constructions are even more close-knit syntactic combinations, for they are unified by an overt morphological change: the instrumental derivation -kka belongs to the entire construction as ?asi łana-kka thumb ('asi finger, łana to be big); similarly, the singular inflection -nne is part of the constructional lexeme in $k^{?} \mathbf{o}^{?}$ łana-nne glutton ( $k^{?} \mathrm{o}$ intestine,.$^{?}$ singular) or in $k^{\top} o^{-}$lana-nne the large intestines $(-(\mathrm{V}) \cdot$ plural). Though displaying some superficial similarities to compounds, constructions of this kind are to be differentiated from compounds, which can be formally identified by the presence of a first-position Cv - or CCv - stem and a single heavy stress (2.2).
8.9. Abbreviations. Abbreviated noun and particle stems are found in unit words, compounds, and certain syntactic constructions. The suffix -mme (12.2211), denoting familiarity, is added to a Cv - or CCv - abbreviation of a atem: $\mathrm{k}^{\mathrm{mP}} \mathrm{a}-\mathrm{mm}{ }^{\text {P }}$ uwenne that fellow Crow ( $\mathrm{k}^{\mathrm{wP}} \mathrm{a}$ - abbreviated from $\mathrm{k}^{\mathrm{wP}}$ alaši crow, -mm sandhi-reduced from -mme, ${ }^{\text {P }}$ uwenne fellow). In compounds the firat-position element is the stem of a monosyllabic root with a Cv or CCv atructure, or it is the stem of a longer root abbreviated to this structure (8.8). Similarly, the head term of a substantive construction may take the shape of a Cv- or CCv- atem, either the full form of a monosyllabic root or the abbreviated form of a longer root (10.23) : li.? yilowa penny (li- abbreviated from liya li unit of money < Spaniah "real", ${ }^{\text {p aingular, yilowa red) } \text {. }}$

## 9. The Verb

9.1. Verb Classes. The classes of the verb, with their roots and stems, are listed in Table 1. Each verb root appears in two morphologically determined stem forms, which, for convenience, are designated as the past and present stems. The past stem, besides adding the inflectional suffix of the past tense, is also used for other inflectional suffixes and for many derivational suffixes as well. One of the derivations and several inflections other than the present tense are suffixed to the present stem. Only suffixal morphemes are affiliated with these verb stems; other types of morphemes-prefixes, reduplicatives, etc.-operate directly upon verb roots.

As Table 1 indicates, some of the stems undergo secondary, phonologically determined reductions. Where the present or past stem occurs in two forms, the full form (presented first in the Table) is employed for zero suffixes or for suffixes beginning in a single consonant other than the glottal stop: e.g., the present tense $-\phi$ is added to the full form of the present stem, as in yała- $\phi$ (class 9b) he is asking; the past tense -ka is suffixed to the full form of the past stem, as in $\mathrm{k}^{\mathrm{w}}$ ayi-ka (class 4a) he emerged. Three types of reduced stems are to be distinguished: the prevocalic ( pv ), the preglottal ( $\mathrm{p}^{?} \mathrm{v}$ ), and the preconsonant-cluster (pcc) forms. The prevocalic form is used before suffixes beginning in a vowel: the repetitive -ela, a nonfinal suffix, is appended to the prevocalic past stem, as in $\mathrm{k}^{\mathrm{w}}$ ay-ela to emerge repeatedly. To the preglottal stem are added suffixes beginning in a glottal stop followed by a vowel: the subordinate -'appa is suffixed to the preglottal present stem, as in yat-? ${ }^{\text {appa }}$ after asking. Suffixes beginning in two consonants, of which neither is a glottal stop, are attached to the preconsonant-cluster form, which is found only among verbs of class 8: e.g., -kka past is suffixed to the preconsonant-cluster form but $-k^{3}$ a causative to the full form of the past stem, as in tene-kka he sang but tene $-k^{?}$ a to cause to sing; -ppa subordinate is attached to the pre-consonant-cluster form but - P a present to the full form of the present stem,


Verbs are differentiated into classes on the basis of two criteria: the morphologically determined distinctions in a) present versus past stem treatment and b) selection of suffix alternants. The distinctive features of each of the verb classes are identified in the following comments.

Class 1: Both stems retain the final root vowel. The present or imperative inflection is :?a.

Class 2: The final root vowel is zeroed in the present stem.
Class 3: The root ends in a consonant (-w in $3 \mathrm{a},-\mathrm{y}$ in $3 \mathrm{~b},-\mathrm{n}$ in 3 c ), which is zeroed in the past atem.

## Table 1．Verb Classes：Roots and Stems

Verb class and root
1． $\mathrm{k}^{\text {＇eya }}$ to be thirsty
2． $\mathrm{k}^{\mathrm{P}}$ eya to imitate
3a．$y^{\text {P }} \mathrm{ya}^{\circ} \mathrm{w}$ to become
aware
b．Piy to come
c．pen to speak
4a．$k^{w}$ ayi to emerge
b．šema to call
5．tena－${ }^{?} \mathrm{u}$ to sing
6a． $\mathrm{k}^{\text {ªłi to become hot }}$
b．šema－na？ma not to call
c．šema－na＇wa to call （plural subject）
7．${ }^{\mathrm{i}} \mathrm{ik}^{\mathrm{W}} \mathrm{a}$ to say
8a．ten－e to be singing
b．${ }^{\text {ito－y }}$ to be eating
9a．tena to be music
b．yała to ask
c．${ }^{\text {Puli to be inside }}$
10a．Piči to be lazy
b．łupcit to be yellow

Past stem
$k^{\text {P }}$ eya－
$k^{2}$ eya－
yuya：－
${ }^{\mathrm{i}} \mathrm{i}$－
pe－
$k^{\text {w }}$ ayi－， $\mathrm{k}^{\text {way }}$－（pv）
šema－，šem－（pv）
tena ${ }^{-}$，ten－（pv）
$k^{\text {Pał－}}$
šemanam－
šemanap－

$$
\begin{aligned}
& \text { tene }{ }^{\circ} \text {, tene- (pcc) } \\
& \text { Pitoy-, }{ }^{\text {ito- }} \text { (pcc) } \\
& \text { tena-, ten- (pv) } \\
& \text { yała-, yał-(pv) } \\
& \text { 'uli-, }{ }^{\text {Pul- (pv) }}
\end{aligned}
$$

${ }^{\text {Piči－}}$
łupc ${ }^{\text {i－}}$

Present stem

$$
\mathrm{k}^{2} \text { eya- }
$$

$$
k^{?} \mathrm{ey}-
$$

yu'ya'w-

$$
{ }^{\text {Piy }}-
$$

pen-

$$
\mathbf{k}^{\mathrm{w}} \mathrm{ayi}
$$

šema-

$$
\text { tena }{ }^{3} u-
$$

$$
k^{\top} \mathrm{a} \mathrm{a}_{1}-
$$

šemana ${ }^{\text {P }} \mathrm{ma}$－
šemana＇wa－，
šemana ${ }^{\mathrm{w}}$－（ pv ）

$$
{ }^{2} \mathrm{ik}^{\mathrm{w}} \mathrm{a}^{2}
$$

$$
\text { tene }- \text {, tene- (pcc) }
$$

$$
{ }^{{ }^{\text {itoy }} \text {-, }{ }^{\text {ito- (pcc) }} \text { ) }}
$$

$$
\text { tena-, ten- }\left(\mathrm{p}^{?} \mathrm{v}\right)
$$

$$
\text { yała-, yał- (p } \left.{ }^{p} v\right)
$$

Puli, ’ul-(ppv),
?ull- (pv)
ーーーーー

$$
----\infty
$$

Abbreviations：（pv）prevocalic，（pcc）preconsonant－cluster，（ppv）preglottal．The table is oxplained in 9．1．

Class 4：Both stems retain the root vowel．The inflection $-\phi$ is a present or imperative with $4 a$ but only an imperative with $4 b$ ；the latter cannot form a present tense directly but must first add the continuative derivation，form－ ing verbs of class 8 ，to which the present tense－ P a may be added．

Class 5：A unique change is effected in the past stem of this class，whose membership is limited to verbs derived by -P ，one of the causative derivations （9．323）．
Class 6：The root vowel is zeroed in the past stem．In 6a this is the only change．Additional unique changes are involved in the past stems of 6 b and $6 c$ class $6 b$ is composed entirely of verbs formed by the negative－na ${ }^{\text {Pma }}$ （9．326），clasa $6 c$ of verba derived by na＇wa，plural subject of tranaitive verba （9．325）．

Class 7: Both stems retain the root vowel. In contrast to class 1 through 6, which add the simplex alternants of the suffixes having simplex, geminate, and glottal forms (4.16), classes 7 and 8 take the geminate alternants. The present and imperative with verbs of class 7 is $-\phi$.

Class 8: Both stems retain the root vowel, which, however, undergoes phonological changes unique to this class. Like 7, class 8 verbs append the geminate alternants of the appropriate suffixes, but, in contrast to 7 , their present and imperative suffix is -P a.

Class 9: Both stems retain the root vowel. This is the only class which takes the glottal alternants of suffixes with simplex, geminate, and glottal allomorphs. Internal differences within class 9 are marked by the present or imperative suffix: 9 a forms this inflection with -ye, 9 b with $-\phi$, and 9 c with -e.

Class 10: Unlike other verbs, those of class 10 possess only one stem, which is morphologically restricted. These verbs cannot be inflected directly but must first undergo derivational changes. The class 10 a verb may either be reduplicated (9.34), thus becoming a verb of class 1 , or add the punctiliar ${ }^{-P}$ a ( 9.3214 ), which produces a 10 b verb. Neither of these derivations is available to class 10 b verbs, which, however, can take such derivational suffixes as the inchoative or inceptive -ti (9.3222), the causative $-\mathrm{k}^{\mathrm{P} a}$ (9.323), or the static -nna (9.3241).
9.2. Inflections of the Verb. Each of the inflectional suffixes of the Zuni verb system will be described by 1) listing its allomorphs, 2) assigning the allomorphs to their appropriate verb classes, 3) indicating the stem to which the morpheme is added, 4) identifying the meaning category of the morpheme, and 5) giving examples.
9.21. Tense and Tense-Mode. The past (9.211) is the sole inflection expressing a pure tense; the other tense inflections have a mixed tense-mode reference. One of these suffixes denotes either the present tense or the imperative mode (9.212). A past conditional (9.214) contrasts in function with a nonpast conditional, the latter also having a future tense meaning (9.213). A distinct suffix is used for the negative future tense or negative nonpast conditional (9.215), though other negative tenses or tense-modes are formed with a negative derivation $(9.3213,9.326)$ plus a tense or tense-mode inflection.

Just as the past conditional (9.214) in its form is a transparently composite suffix, containing the nonpast conditional plus -nka, so the negative past conditional (9.216) is composed of the negative nonpast conditional form plus . P ka. The use of composite suffix forms is a rare phenomenon in Zuni, limited to these two past conditional morphemes.
9.211. - ka (with classes $1-6$ ), - kk (with 7-8), . ${ }^{-9} \mathrm{ka}$ (with 9), attached to the past stem, past tense.
 distance from where he had been before: $\mathrm{P}_{\mathrm{i}} \mathrm{mu}$ (class 4 b ), to sit down.
ta ${ }^{\text {čis }} \mathrm{k}^{\mathrm{wP}}$ alaši łat ${ }^{\mathrm{P}}$ allu-kka also it seems Crow was moving about hunting: ${ }^{\text {'allu (class 7) to move about. }}$
 where Crow was sitting, he spoke to him: ${ }^{\text {Passsưpa (class 9b) to speak to. }}$
9.212. -Pa (with classes $1,2,8$ ), -a (with 3a-b), $-\mathrm{e}^{\mathrm{p}}$ (with $3 \mathrm{c}, 6 \mathrm{c}$ ), $-\varnothing$ (with $4-6 \mathrm{~b}, 7,9 \mathrm{~b}$ ), -ye (with 9a), -e (with 9c), attached to the present stem, present tense or imperative mode.
${ }^{1}$ iton čun-? ${ }^{\text {Pa }}$ stop eating: čune (class 2 ) to stop.
 to be doing it that way.
ta. $s$ ' ${ }^{\text {an }}{ }^{\text {ist }}{ }^{\mathrm{P}} \mathrm{iy}$-a there he comes again: ${ }^{\mathrm{P}} \mathrm{iy}$ (class 3 b ) to come.
$\mathrm{ma}^{\text {P }}$ pen-e? well, talk!: pen (class 3c) to talk.
 (i.e., we are moving toward the end of the world) : ${ }^{\mathrm{a}} \mathrm{a}^{\circ} \mathrm{wa} \cdot \mathrm{n}$ (class 3c) to go (plural subject).
 more: tena ${ }^{\text {P }} \mathbf{u}$ (class 5) to sing.
hop to ${ }^{\rho} \mathrm{k}^{\mathrm{P}} \mathrm{ak}^{\mathrm{W}} \mathrm{e}$-ye where do you live?: $\mathrm{k}^{\mathrm{P} \mathrm{ak}^{\mathrm{w}} \mathrm{e}}$ (class 9a) to dwell.

9.213. - ${ }^{2}$ anna (with classes 1-2), -anna (with 3a-3b), -nna (with 4-6b, 7-8), -uwa (with 3c), -a (with 6c), $-k^{\text {P anna (with } 9 \text { ), suffixed to the present stem, }}$ future tense or nonpast conditional.
we-Panna he will be sick, he would be sick (if he hadn't taken medicine): we (class 1) to become sick.
liłn ${ }^{9}{ }^{\circ}$ 'wiy-anna they will come past this place: ${ }^{?}{ }^{\prime}$ 'wiy (class 3 b ) to come (plural subject).
 (class 5) to sing.
 comes a Long-Horn Society member, $I$ will go to join you: ${ }^{?} \mathrm{a} \cdot \mathrm{n}$ (class 3c) to go.
hom ${ }^{\text {PankP }}$ eyana'w-a they will like me: ${ }^{\text {Pank }}{ }^{\text {Peyana'wa (class 6c) to like }}$ (plural subject).

if we drink coffee and talk nonsense, then we will be at the end: Pa'te?čina (class 9a) to be at the end, to have arrived.
'? anik ${ }^{W}$ a-k? anna he should know how, he'd know how (if you showed him).
9.214. A composite suffix, made up of -nka added to the future allomorphs (9.213) and, like the future, attached to the present stem; it expresses the past conditional.

tesšsuk ${ }^{\text {w? }} \mathrm{a}^{\text {? }}$ to ${ }^{\text {P }}$ ?an-uwa-nka you were supposed to have gone yesterday: ${ }^{\mathrm{a}} \cdot \mathrm{n}$ (class 3 c ) to go.
tom ho? 'itok'? a-nna-nka I would have fed you (if I had had food): 'itok? ${ }^{\text {a }}$ (class 7) to cause to eat, to feed.
piya- $k^{\text {'anna-nka }}$ he would have been hanged (if he hadn't run away): piya (class 9) to be hanging.
9.215. -šuk ${ }^{\mathrm{w}}$ a (with classes $1-6$ ), -š̌uk ${ }^{\mathrm{w}} \mathrm{a}$ (with 7-8), - ${ }^{\text {š̌uk }}{ }^{\mathrm{w}} \mathrm{a}$ (class 9), attached to the past stem, negative future tense or negative nonpast conditional.
 to be hungry.
 thing (unless you made him angry): ${ }^{\mathrm{i}} \mathrm{i}^{\mathrm{w}} \mathrm{a}$ (class 7) to say.

9.216. A composite suffix, made up of . $^{2} \mathrm{ka}$ added to the negative future forms ( 9.215 ) and, like the negative future, attached to the past stem; it expresses the negative past conditional.
 plenty of food): ' ${ }^{\text {itok }}{ }^{\text {² }}$ (class 7) to cause to eat, to feed.
$\mathrm{k}^{w} \mathrm{a}^{\text {P }}$ piya--šuk ${ }^{w} \mathrm{a}^{2}{ }^{?} \mathrm{ka}$ he would not have been hanged (if he hadn't tried to escape): piya (class 9a) to be hanging.
9.22. Mode. Zuni has only two purely modal suffixes among its inflectional elements. One of these is the hortatory (9.221), somewhat akin in function to the imperative (9.212) : the hortatory verb, which occurs without a subject noun or pronoun, expresses a command to the person spoken to or makes a more inclusive request, often translated as let's do so-and-so. The permissive ( 9.222 ) is accompanied in the sentence by an overt subject; with a second person subject it indicates a polite command; with a first or third person subject it expresses a request or makes a petition.
9.221. -še (with classes 1-6), -8̌se (with 7-8), . ${ }^{\text {Y̌̌e (with 9), suffixed to the }}$ past stem, hortatory.

'allu-šse let's move around: Pallu (class 7) to move around.
Pota--še let's dance: Pota (class 9a) to dance.
9.222. -tu (with classes 1-6), -ttu (with 7-8), - - tu (with 9), added to the past stem, permissive.
$\mathrm{k}^{\text {Peccannišsi to }}{ }^{\text {P }}{ }^{2} \mathrm{a} \cdot$ tu may you go with joy (a formal greeting): ${ }^{?} \mathrm{a} \cdot \mathrm{n}$ (class 3c) to go.
${ }^{\mathrm{P}} \mathrm{a}$ с̌̌i ye-lah-tu let them (dual) run: ye-laha (class 6a) to run.

ho? ${ }^{\text {P }}{ }^{\prime}{ }^{\cdot}$ wan to ${ }^{\text {P }}$ tallak ${ }^{\text {P }}$ teya- ${ }^{\text {Ptu }}$ may you be our son-in-law: teya (class 9a) to be.
9.23. Subordination. Half of the inflectional morphemes of the verbs are subordinating suffixes. Two of these define the relationship between the subject of the main verb and that of the subordinate verb: one (9.231) indicates that the subordinate verb has a distinct subject, the other (9.232) that it has the same subject as that of the following verb, which is usually the main verb. Another suffix produces subordinates which function as modifiers of substantives or predicates (9.233). The contemporaneous subordinate (9.234) indicates a continuous event which accompanies that of the main verb. A verb denoting the goal or purpose of the main verb is marked by the resultative subordinate (9.235), and a verb modifying the main verb is formed by the adverbial subordinate (9.236). Another suffix (9.237) has the limited function of forming a subordinate which, when used before the independent word ?ona, refers to the agentive. Finally, another subordinating inflection produces an agentive which is specifically located in the past (9.238).
9.231. - ${ }^{\text {Pappa (with classes 1-2, 9), -appa (with 3), -ppa (with 4-8), added }}$ to the present stem, subordinate with a subject distinct from that of the following verb. The syntactic function of this suffix is to form the verb of a dependent clause (15.21). As a result of sandhi this suffix loses its final -pa in most of its occurrences (5.2), though the full form often appears in prayers.
lesn hot Pay-Pap summ ${ }^{\text {P }}$ uwenn ${ }^{\text {Pok }}{ }^{\text {wika }}$ when he (Woodpecker) was still on top, that fellow Coyote woke up: Paya (class 9a) to be on top.
tom tem le' hot Pa'n-ap łapa' nixapak ${ }^{\text {Pa }}$ ala'hi-p \& yam tenan 'okk' akka after he had gone just a little way, when the mourning doves flew up with a flapping noise, he lost his song: ${ }^{\mathrm{P}} \mathrm{a}^{\prime} \mathrm{n}$ (clast 3c) to go, ${ }^{\mathrm{a}} \mathrm{a}^{\prime} \mathrm{la}^{\mathrm{P}} \mathrm{hi}$ (clast 4 a ) to fly (plural oubject).
tom ho.p halawtinan toya"urppa . . . when I give you prayer-meal . . . :
łeya ${ }^{\text {º }}$ (class 5) to cause to hold, to give. (This example is taken from a Zuni prayer.)
9.232. -nan (with classes 1-6a, 7-8), suffixed to the past stem, and -n (with $6 \mathrm{~b}-6 \mathrm{c}, 9$ ), suffixed to the present stem, subordinate with the same subject as that of the following verb. Like the preceding suffix (9.231), this subordinator produces the verb of a dependent clause (15.21).
 he had gone just a little way and tripped over a piece of wood, he lost his

 again some distance from where he was before: Pelemaku (class 6a) to stand up from a sitting position.
 remember it, he said this: ${ }^{~}{ }^{2}{ }^{\top}{ }^{\top}$ awana ${ }^{\top}$ ma (class 6 b ) not to remember.

9.233. -n (with classes $1-8$ ),.$^{?}$ (with 9), added to the past stem, adjunctive subordinate. Verbs with this morpheme modify substantives or predicates; as predicate modifiers they may function as adverbials or as complements.
ta ${ }^{\cdot}$ ho ${ }^{?}$ yam papa• suw hot tena'-n hakk? anna again $I$ will ask my older brother or younger brother to sing: tena ${ }^{\text {Pu }} \mathbf{u}$ (class 5) to sing.
paniy-n hakk? akka he asked him to come down: paniyu (class 6a) to descend.
 Coyote, the stupid fellow, went about feeling around with his hands: tuna'wamme (class 9b) to be without eyes, ${ }^{\text {a }}$ 'wallu (class 7) to move around (plural subject).
he čuwap hiš tenan co ${ }^{9}$ ya- ${ }^{?}$ tene $\cdot{ }^{? 3}$ a well, who is singing the very pretty song?: $\mathrm{co}^{\text { y }} \mathrm{ya}$ (class 9b) to be pretty.
9.234. $-\mathrm{a}^{\cdot}$ (with class 3 ), $-(\mathrm{V}$ ) ( (with $1-2,4-9$ ), attached to the present stem, contemporaneous subordinate.
${ }^{P}{ }^{2} \cdot$ wa'n-a tečuneka they quit going: ${ }^{?}{ }^{2} \cdot w a \cdot n$ (class 3 c ) to go (plural subject).
${ }^{\text {Pose- hi.niha }}$ be is feeble from being hungry: ${ }^{\text {Poše (class 1) to be hungry. }}$
 (the tree) resting, Coyote woke up: Piyute? ${ }^{\text {činaša (class 6a) to be resting. }}$
 of them sat there making their eyes run about: ${ }^{~}{ }^{\text {iluwask }}{ }^{\mathrm{P}} \mathrm{a}$ (class 7) to cause to run.
sik $\mathrm{w}_{\mathrm{i}} \cdot$ łuwaye they are standing there laughing: sik $\mathrm{w}_{\mathrm{i}}$ (class 9a) to laugh.
9.235. -kan (with classes 1-6), -kkan (with 7.8), .Pkan (with 9), suffixed to the past stem, resultative subordinate, expressing an event which is the complementive goal of the main verb.
tena'-kan ${ }^{\text {Pa'nuwa }}$ he will go there to sing: tena'u (class 5) to sing.
hom yałašo-kkan ${ }^{\top}$ ika he came to visit me: yałašo (class 7) to visit.
 once again to ask my older brother or younger brother: ${ }^{\text {Payyała (class 9b) to }}$ ask.
9.236. -nišsi ${ }^{\text {P }}$ (with classes 1-6), -nnišsip (with 7-9), suffixed to the past stem, adverbial subordinate.
${ }^{P} \mathrm{i}-\mathrm{k}$ ’eya-niš ${ }^{\mathrm{P}}{ }^{\circ}$ wika they arrived thirsty: ${ }_{\mathrm{i}} \mathrm{i}$ plural subject, k 'eya (class 1 ) to be thirsty, -niš < -nišsip (sandhi reduction).
 taking) : $k^{\text {Peccana (class 6a) to behave joyfully. }}$
$c^{\text {P }}$ umme-nnissip ${ }^{\text {Pała? }}$ draw it apart more tightly: $\mathrm{c}^{\text {Pumme (class 9b) to be }}$ tight, to be strong.
9.237. -P an (with class 1 ), -an (with $3 \mathrm{a}-3 \mathrm{~b}$ ), -n (with $4-8$ ), $-\phi$ (with $2,3 \mathrm{c}$, 9 ), added to the present stem, subordinate before ${ }^{\text {Pona, agentive. }}$
we-Pan Pona the one who is sick: we (class 1) to be sick.
hatiya. w -an ${ }^{\text {P }}$ ona the one who is listening: hatiya'w (class 3a) to listen.
 Pallašanna, after he had tired out the one he was chasing, just as another one came out, he would run after that one: ' allaše'( class 8a) to be chasing repeatedly.
 sałpon teya?ka because of his being very stupid, because he never ate well, he was very skinny: teya (class 9a) to be.
9.238. -kowa ${ }^{P}$ (with classes $1-6$ ), $-\mathrm{kkowa}^{P}$ (with $7-8$ ), - ${ }^{\text {Pkowa }{ }^{P} \text { (with 9), }}$ attached to the past stem, past agentive subordinate; it refers to one who or that which was the agent of the verbal event or, with transitive verbs, either the agent or the receiver of the verbal event.
 ta hokti $k^{\mathrm{w}} \mathrm{inna}$ because he jumped at the burnt tree trunk and (was) the one who bit it, Coyote today has a black snout and tail: ${ }^{\text {Putte (class 4b) to }}$ bite, -kow <-kowa ${ }^{\text {P }}$ (sandhi reduction).
 cause he (was) the one who made eyes for himself with coyote-weed berries, today coyotes have yellow eyes: ${ }^{\mathrm{i}} \mathrm{itune}$ (class 8a) to cause oneself to have eyes.
teya- $\cdot$ kowa ${ }^{P}{ }^{\prime} \mathrm{a}$ 'Kiya ${ }^{P}$ Puluka he put the two (berries) in the place where they (his eyes) used to be: teya (class 9a) to be.
pokłi-kkowa? the one who was smoking, that which he was smoking: pokliy (class 8 b ) to be smoking.
9.3. Verb-Forming Derivations. Whereas all inflections are formed by wordfinal suffixes, derivations are scattered over a variety of structural processes. A few derivations of the verb are assigned to five prefix positions. The heaviest load of verb-forming derivation is carried by the suffixes, arranged into six relative positions preceding the final inflectional elements. Other derivational morphemes change the internal constitution of the root, but these are limited in their scope: there are two reduplicatives with aspectual functions; some dozen suppletive verb forms, expressing the plural subject of intransitive verbs, reflect the same voice function as that indicated by one of the prefixes.

The following cross-referenced list will provide a summary of verb-forming derivations, classified by functional categories.
Number:
plural subject of intransitive verbs (9.3111)
plural subject of intransitive or plural object of transitive verbs (9.3152)
plural subject of transitive verbs (9.325)
Voice:
causative (9.323)
indirective (9.313)
reciprocal (9.3151)
reflexive (9.314)
Aspect:
continuative (9.3242)
inchoative or inceptive ( $9.3113,9.3222,9.33$ )
punctiliar (9.3214)
repetitive (9.3221)
static (9.3241)
Mode:
indeterminate (9.312)
negative $(9.3213,9.326)$
perceptive (9.3211)
Mixed:
collectives (9.3212)
conversive causative punctiliar (9.3223)
conversive causative repetitive (9.3224)
mediopassive repetitive (9.341)
mediopassive semelfactive (9.342)
terrestrial (9.3112)
9.31. Prefixes. The prefixing derivations will be presented in terms of their relative positions, starting with the first position adjacent to the stem. Several of the prefixes have special allomorphs before a stem whose root begins in a glottal stop which is zeroed (4.2).
9.311. Three prefixes are mutually exclusive in the first position.
9.3111. tet- (before t ), t - (before the zeroed ${ }^{\text { }}$ ), te- (before other conmonants), plural subject of intransitive verbs.
tet-toma'yo'anna they will forget: toma'yo (class 1) to forget.
$\mathrm{ko}^{P}{ }^{\mathrm{P}} \mathrm{i} y-\mathrm{an}-\mathrm{t}-\mathrm{k} \mathrm{k}^{\mathrm{w}} \mathrm{a}$ they are saying (insulting) things to each other: ${ }^{\mathrm{i} \cdot \mathrm{y}} \mathrm{y}$ reciprocal, an- indirective, ${ }^{\mathrm{P}} \mathrm{ik}{ }^{\mathrm{W}} \mathrm{a}$ (class 7 ) to say.
${ }^{\circ} \mathrm{i}$-te-powahka they untied themselves: $\mathrm{p}_{\mathrm{i}}$ - reflexive, powaha (class 6a) to untie.
9.3112. te- terrestrial. This prefix frequently has reference to the ground, but it may indicate other natural phenomena, such as the sky or the air.
te-sikłi rake the ground: sikłi (class 4a) to scratch.
te-šaka the dirt is loosened (i.e., not tightly packed): šaka (class 9b) to be loose, to be soft in consistency.
te-łupc'innaye the sky is yellow: łupc'inna (class 9a) to be yellow.
te- $k^{2}$ ałi the weather is hot: $\mathrm{k}^{\text {Pałi (class 6a) to be hot. }}$
9.3113. y- (before the zeroed ${ }^{\text { }}$ ), ${ }^{\text {Pi- (before other consonants), inchoative }}$ or inceptive.
y -alo ${ }^{9} \mathrm{ka}$ it got roasted; ${ }^{\text {Palo (class 9a) to be roasted. }}$
$\mathrm{k}^{\mathrm{w}} \mathrm{a}^{\mathrm{P}} \mathrm{y}$-ona${ }^{\text {P }}$ ma it did not start to get formed (in the mold): ?ona? (class 6 b) not to be made.
${ }^{\mathrm{P}} \mathrm{i}$ hašina ${ }^{\text {Pka }}$ it became tighter: hašina (class 9b) to be tight.
9.312. The sole prefix of the second position is yu- indeterminate. Most frequently this prefix gives the verb the semantic force of an approximation, generally translated as sort of or slightly. Sometimes it results in a derived verb with a specialized meaning, as in yu-Passela to be envious < 'assela to be askew, to be crooked (as a picture on the wall).
tom s 'i-yu-te'čik' anan homat'an 'ičurnan s 'ałka after tiring bimself out, he lay down under a juniper tree and went to sleep: ${ }^{\mathrm{i}} \mathrm{i}-\mathrm{reflexive}, \mathrm{te}^{\text {Pcik? }} \mathrm{a}$ (class 7) to cause to arrive.
yu-Pik? ${ }^{\text {P }}$ hati it is getting sort of whitish: ' ik ? ohati (class 4a) to become white.
 hot.
yu-sik ${ }^{\text {winne }}$ a person with a frozen smile: šikwi (class 9a) to laugh, to smile.
9.313. The third position is filled by the indirective prefix, which either deflects the action of a transitive verb to another object or transitivizes an intransitive verb. It is formally unique in having a number of assimilated allomorphs (4.11) : ' ah- (before h), ’al- (before l), ’am- (before m, p), ' ${ }^{\text {aw- (before w), ' }}$ ay- (before y), ' ${ }^{\text {an- (before other consonants). }}$
${ }^{\text {P }}$ ah-heyeka he defecated on it: heye (class 4b) to defecate.
 ta $\cdot$ hokti $\mathrm{k}^{\mathrm{mP}}$ inna because he jumped at the charred $\log$ and (was) the one who bit it, Coyote today has a black snout and tail: lahi (class 4a) to jump.
ho? Pam-pałto ${ }^{\text {kow }}{ }^{\text {Pakka }} \mathrm{k}^{\text {P oye }} \cdot \mathrm{Pa}$ he is crying because I put a boundary on it: pałto ${ }^{\text {ºu }}$ (class 5) to make a boundary.
${ }^{P} a^{\circ}$ w-aw-we ${ }^{\text {Pa-ka }}$ he burst out laughing at them: ${ }^{P}$ a'w- plural object of transitive verbs, we'a (class 4 b ) to burst out laughing.
 Pay-yučipatika when Crow made his eyes run about, Old Coyote became very much amazed at him: yučipati (class 10b) to be amazed.
suski siš ${ }^{\text {P }}$ imat tenan ${ }^{\text {P }}$ an- ${ }^{\text {P }}$ elumanan ${ }^{\text {P }}$ akka tam tununu powa yałtok ${ }^{\text {win }}$ te? ${ }^{\text {cinan }} \mathrm{s}$ les ${ }^{\text {P }}$ anik ${ }^{\text {wakka because Coyote enjoyed the song so much, he went }}$ to the place where Woodpecker was perched and said this to him: ${ }^{P}$ eluma (class 2) to enjoy.
ta`čis tam tununu suski ${ }^{\top}$ an $k^{\top}{ }^{\top}$ ohak ${ }^{\top}$ anan $s$ les $k^{\text {w }}$ akka meanwhile, after perceiving Coyote, Woodpecker said this: $\mathrm{k}^{\text {ºhak? }}$ (class 7) to cause to become light in color, to make visible.
9.314. The only prefix of the fourth position is $y$ - (before the zeroed ${ }^{\text { }}$ ), ${ }^{\mathrm{i}} \mathrm{i}$ - (before other consonants), reflexive.
 after turning himself around and reaching the place where Woodpecker was perched, he said this to him: ${ }^{\text {Pallu'pi (class 6a) to turn it around facing self. }}$
 again faced in the direction of his house: tuna? u (class 5) to turn it in the direction of.
$y$-apc ${ }^{\text {Pika }}$ he cut himself: ${ }^{\text {Papc }}{ }^{\text {i (class } 4 \mathrm{~b}) \text { to cut. }}$
${ }^{\mathrm{P}} \mathrm{i}-\mathrm{y} \cdot \mathrm{k}^{\mathrm{k}} \mathrm{a}$ a get ready: ya $\mathrm{k}^{\mathrm{P} \mathrm{a}}$ (class 7 ) to cause to be ready.
tom tuna ${ }^{{ }^{1} \mathrm{i}-\nmid u w a h a n n a}$ your eyes will run about: $\mathrm{P}_{\mathrm{i}-\nmid u w a-h a ~ t o ~ r u n ~(p l u r a l ~}$ subject), literally to cause themselves to discontinue standing < luwa (class 9a) to be standing (plural subject).
9.315. The fifth position, the farthest from the stem, is occupied by two prefix morphemes.
9.3151. $\mathrm{P}_{\mathrm{i}} \mathrm{w}$ - (before the zeroed ${ }^{\text {? }}$ followed by i ), P i y- (before the zeroed ? followed by other vowels), Pi- (before other consonants), reciprocal.
 we are holding one another's hand with strength and grasping each other tightly . . . help us reach the end of the road safely (passage extracted from a prayer) : piya (class 9a) to hold by the hand, yakna (class 9a) to grasp.
${ }^{\mathrm{P}} \mathrm{i}$.w-ipiya'u shake hands with one another; ' ${ }^{\mathrm{ipiya}}{ }^{\mathrm{P}} \mathrm{u}$ (class 5) to shake the hand of, literally to cause oneself to hold the hand of.
$\mathrm{P}_{\mathrm{i}} \cdot \mathrm{y}$-ay-ye'la'še let's have a race with each other: ay- indirective, ye-la (class 9a) to run.
9.3152. Several morphologically determined sets of allomorphs participate in forming the plural subject of intransitives or the plural object of transitives. Suppletion performs this function for a few verbs (9.35). Only two verbs, $\mathrm{k}^{\mathrm{w}}$ ato (class 4a) to enter and $\mathrm{k}^{\mathrm{w}}$ ayi (class 4a) to emerge, are pluralized by the prefix ${ }^{\text {P }} \mathrm{uk}^{\mathrm{w}}$.. The two other pluralizing prefixes of the fifth position are ${ }^{\mathrm{P}} \mathrm{a} \cdot \mathrm{w}$ - (before the zeroed ${ }^{\mathrm{P}}$ ), ${ }^{\mathrm{P} \mathrm{a} \text { - ( (before other consonants), which occurs }}$ with the great majority of verbs, and the more restricted $y$ - (before the zeroed ${ }^{\text {P }}$ ), ${ }^{\mathrm{P}} \mathrm{i}$ (before other consonants).
si Pana ${ }^{\top}{ }^{1} k^{w}-k^{w}$ ayiše oh no, let's go out: $\mathrm{k}^{\mathrm{w}}$ ayi (class 4a) to go out.
 flew up with a flapping noise, he lost his song: laphi (class 4a) to fly.
 house, I will be bouncing my children on my lap: ?ote" (class 8a) to be bouncing a child on the lap, to cause to be dancing.
y -ašeka they died; ${ }^{\text {Paše (class 4a) to die. }}$

ho ${ }^{9}{ }^{\text {' }}{ }^{\mathrm{i}}$-hakk' ${ }^{\prime}$ akka he requested us to do it: hakk'a (class 7) to request.
9.32. Suffixes. Derivations which form verbs from nonverbs are few in number. Only one verbalizing morpheme is suffixed to particles (9.3211). A group of collective suffixes, comprising a formally and functionally uniform set of derivations, is added primarily to nouns to convert them into verbs (9.3212).

Most of the verb-forming derivations are applied to verb stems. But the two stem forms, the past and the present, are unequally represented in the derivational formations. The present stem provides only a single positional slot preceding the inflectional suffixes of the final position; the sole derivational element assigned to this slot is one of the negative suffixes (9.3213). The re-
maining verb-forming suffixes are distributed in six positional slots after the past stem.

As in describing the prefixes, the derivational suffixes will be treated in terms of their positions, beginning with the position next to the stem. Whereas prefixes could be described without reference to the past or present stem, these stems being determined by terminal derivations or inflections, the description of each suffix must include reference to the type of stem which it selects. Similarly, prefixes effected no change in the class membership of the verb roots to which they were attached; but because each suffix forms a verb of a given class, the resulting membership must be included as part of the formal description of the suffix.

Some of the derivational suffixes are highly productive and have been found freely added to verbs of all classes; these offer no difficulties in description. The unproductive suffixes, on the other hand, raise some problems. Being of rare occurrence, they are generally found only with a few of the many verb classes; it is impossible to determine, of course, whether this restriction of occurrence is a patterned restriction in the distribution of these suffixes or whether it merely reflects the limited sample of Zuni material which was obtained. In any case, the description will include the distribution of each suffix among the various verb classes to which it has been found attached. In addition, some of the rare suffixes manifest anomalies of form, which will also be indicated.
9.321. Derivational verb-forming suffixes of the first position are added either to particle stems (9.3211), to noun and particle stems (9.3212), to the present stem of verbs (9.3213), or to the past stem of verbs (9.3214).
9.3211. One suffix, -ma perceptive, is added to a few exclamative particles to form verbs of class 2 . The semantic force of the perceptive is to refer to the perception or feeling associated with the meaning of the particle.
${ }^{P} a^{\circ}$ w-ic ${ }^{P} u$-ma-ti-ka they were getting cold: ${ }^{?} \mathbf{a}^{\cdot}$ w- plural subject of intransitive verbs, ${ }^{9}{ }_{i c}{ }^{?} \mathrm{u}$ (particle) exclamative in reaction to something cold, -ti inchoative, -ka past.
koči-m-? ${ }^{2}$ he is being cautious: koči (particle) exclamative of pain, used only by men, - ?a present.

 subject of transitive verbs, -ka past.
9.3212. Verb-forming suffixes attached to noun and particle stems belong to a fairly uniform type. The ten morphemes of this set are all first-position suffixes. They follow a prevailing pattern of being appended to nouns,
though two of the ten suffixes are added to particles as well. They form roots that are verbs of class 9 a and nouns of class 1 , though two of the ten suffixes, insofar as the field data show, seem to give rise solely to class 9a verbs. In their semantic function these suffixes refer to some type of collectivity or spacial arrangement of objects (or of a mass, which is generally treated in Zuni as a plurality of objects), such as to be objects growing together on the ground, to be objects on the surface, to be objects in a pile. The semantic contrast between objects in a shallow container and those in a deep container, occurring among some of these verb-forming derivatives $(9.3212 \mathrm{~b}, \mathrm{f}$, and $i$ ), is also found among noun-forming suffixes (10.321, 10.324).
a) -la (with class 9a verbs and class 1 nouns) (to be) objects growing together on the ground (forms class 9a verbs and class 1 nouns).
mo-la-pa-nna there will be several melon patches, literally there will be plural clusters of spherical objects growing together on the ground: mo (noun class 1) spherical object, -pa plural subject of transitive verbs, -nna future.
łuwa-la- ${ }^{\text {p }}$ a there was a town, literally, they (people) stood growing together on the ground: łuwa (verb class 9a) to be standing (plural subject). łuwa-la-we? towns: - ${ }^{\text {we }}{ }^{?}$ plural of nouns.
b) -li (with class 1 nouns) (to be) objects in a shallow container (forms class 9a verbs and class 1 nouns).
mo-li-ha- $\phi$ take the eggs out of the nest: mo (noun class 1) spherical object, -ha conversive causative punctiliar, $-\phi$ imperative.
 tive, -ka past.
$\mathrm{k}^{\mathrm{P}} \mathrm{a}-\mathrm{li} \cdot{ }^{-} \mathrm{we}^{\mathrm{P}}$ honey, literally liquid in shallow containers (in the honeycomb): $-{ }^{-w e}$ plural.
c) -lo (with class 1 nouns) to be buried, to be stuck in, objects that have been buried (forms class 9a verbs and class 1 nouns).
ho ${ }^{P}$ mi-lo-y-? $I$ am roasting corn, literally $I$ have corn ears buried (in ashes): mi (noun class 1) corn ear, - $y$ continuative, -Pa present.
wo-lo-nne something that has several objects stuck in it, as a package of pins: wo- (bound stem) things, -nne singular.
d) $\nVdash \mathrm{i}$ (with class 1 nouns) (to be) objects in a pile on top, (to be) the place on which objects are piled (forms class 9a verbs and class 1 nouns).
taya-łli-ye he has hair on top of his head: taya (noun class 1) hair of head, -ye present.
sa-łłi-nne cupboard, literally the place where pieces of crockery are piled: sa (noun class 1) piece of crockery, -nne singular.
e) -na (with particles and class 1 nouns) (to be) objects on the surface
(forms class 9 a verbs and class 1 nouns). This suffix is frequently used to form nouns denoting colors.
 malachite, green ceremonial paint, $-\mathrm{k}^{\mathrm{P}}<\mathrm{k}^{\mathrm{P}}$ a causative, $-e^{\cdot}$ continuative, $\mathrm{P}^{\mathrm{P}} \mathrm{a}$ present.

Pakwati-na-nne a light green-blue color:-nne singular.
Pate $k$ '? a-na-ye there is blood on the ground: $k$ 'a (noun class 1) liquid, -ye present.
f) -ppo (with class 1 nouns) (to be) objects in a deep container (forms class 9 c verbs and class 1 nouns).
hon wahta?kowa ${ }^{\text {P }}$ mo-ppo-p-ka we had oranges in our pockets: mo (noun class 1) spherical object, -p plural subject of transitive verbs, -ka past.
he-ppo-ka bag (or box) in which money is kept: he (noun class 1) metal, coin, -ka instrumental.
${ }^{\text {Pohe-ppo-nne }}$ a witch, literally a deep container of brains: ${ }^{\text {Pohe (noun class }}$ 1, plural only) brains.
g) -tta (with class 1 or 2 nouns) (to be) a growing collectivity of (forms class 9a verbs and class 1 nouns).
wo-tta-pa- $\phi$ they are growing in bunches: wo- (bound stem) things, -pa plural subject of transitive verbs, $-\phi$ present.
 piñon tree: ta (noun class 1) wood, -9 an locative.
ha-tta-nne bush: ha (noun class 1) weed, -nne singular.
h) -ya (with particles and class 1 or 2 nouns) (to be) a growing mass of (forms class 9a verbs and class 1 nouns).

sa-ya-pa- $\mathrm{k}^{\mathrm{w} e}$ members of the Masked God society, literally people who have horns: sa (noun class 2) bone, -pa plural subject of transitive verbs, $-\mathrm{k}^{\mathrm{W}} \mathrm{e}$ people of.
pe-ya-nne a field of grass: pe (noun class 1) grass, -nne singular.
i) -pi (with class 1 nouns) to remove objects from a deep container (forms class 4a verbs).
$\mathrm{k}^{\mathrm{P}} \mathrm{a}-\mathrm{pi}-\phi$ pour the water out (of the bottle): $\mathrm{k}^{\mathrm{P}} \mathrm{a}$ (noun class 1) liquid, $-\phi$ imperative.
wo-p-čo-y-9 a he keeps taking them out (of the box, sack): wo- (bound stem) things, -čo repetitive, -y continuative, -Pa present.
j) -(V) $\cdot$ ti (with class 1 nouns) to be a pile of (forms class 9a verbs).
${ }^{\text {Pisk' }}$ ?
bread from a pile there: mu (noun class 1) bread, h conversive causative punctiliar, -ka past.
 .'an locative.
9.3213. - Pamme (with class 9), -amme (with 6c), negative, is the only derivation affiliated with the present stem of verbs; it forms verb roots of class 9 b . Another set of negative allomorphs, allocated to the remaining verb classes, is suffixed to the sixth, or last, position of the past stem (9.326). The uingle positional slot of the present stem may be regarded, therefore, as grammatically equivalent to the last positional slot of the past stem.

As the following examples illustrate, the particle $\mathrm{k}^{\mathrm{w}} \mathrm{a}^{\mathrm{P}}$ not or the negative "elła always occurs with negative verb forms.
$\mathrm{k}^{w} \mathrm{a}^{P}$ hiš to ${ }^{\text {P }}{ }^{\text {Pošok }}{ }^{W} \mathrm{k}^{w-}$ - amme- $\phi$ you are very foolish, literally you do not have very much of a head: ${ }^{P}{ }^{\circ}{ }^{\circ}{ }^{\circ} k^{W} k^{w_{i}}$ (class 9a) to have a head, $-\phi$ present.
 Coyote, the stupid fellow, went about feeling around with his hands: tuna•wa (class 6 c ) to have eyes, ${ }^{?}$ adjunctive subordinate.
9.3214. Only one suffix fits into the first position of the past stem: -PPa (with class 10a), punctiliar (forms verbs of class 10b). All class 10a verbs must add this derivational element. Next, as verbs of class 10 b , they must be derived by either the inchoative $(9.3222,9.33)$ or the static $(9.3241)$ before they can undergo inflection or further derivation.
 inchoative, -ka past.
 static, $-\phi$ present.
9.322. To the second position of the past stem belong four aspect morphemes: a repetitive appearing in several morphologically determined forms; an inchoative or inceptive; and two conversive causatives, one a punctiliar and the other a repetitive. The term "conversive" refers to the semantic function of indicating the converse or opposite of the meaning contained in the root; for example, the conversive causative of to be closed is to open.
9.3221. The repetitive is one of the unproductive suffixes of Zuni. It occurs in six apparently related forms, each selectively affiliated with a few verbs. A phonological anomaly is the use of the prevocalic past stem with -čo and -čela. The forms and distribution of the repetitive are: -sle (with verbs of class 4 b ) forms class 7 verbs; -čo (with classes 4 and 6a) and -ččo (with classes 4 b and 9a) form class 4 b verbs; -ela (with class 4), -čela (with class 4), and -ttela (with classes 3 b and 4 a ) form class 6 a verbs. Of the repetitive allomorphs,
-ela, -čela, and -čo are attached to the prevocalic form of the past stem, the remaining allomorphs to the preconsonantal form.
? utte-sle-nap-ka they bit him repeatedly: ?utte (class 4b) to bite, -nap plural subject of transitive verbs, -ka past.
 - P present.
sik ${ }^{\text {wi-ččo- }}$ Pelaye he is standing there laughing repeatedly: sik ${ }^{w i}$ (class 9a) to laugh, $-(\mathrm{V}) \cdot$ contemporaneous subordinate.
hap-el-k? ${ }^{2}-{ }^{-}$a he keeps getting them together for meetings: hapo (class 4a) to meet, $-\mathrm{k}^{\mathrm{p}}$ causative, $\mathrm{e}^{\cdot}$ continuative, -P a present.
ho ${ }^{\top} \mathrm{k}^{\mathrm{w}}$ ač-ela-n hakk? anna I will ask him to make a hole through it: $\mathrm{k}^{\mathrm{w}}$ ači (class 4b) to puncture, -n adjunctive subordinate.
čap-čel $-k^{\top} a-\phi$ tend the fire: čapi (class 4a) to burn, $-k^{3}$ a causative, $-\phi$ imperative.
 of intransitive verbs, ${ }^{\text {Piy }}$ (class 3 b ) to come, $-\mathrm{na}{ }^{ }$ma negative, $-\phi$ present.
9.3222. -ti (with verbs of classes 1-2, 9, 10b), inchoative or inceptive (forms verbs of class 4a).
we-ti-ka he got sick: we (class 1) to be sick, -ka past.
čim stuna-ti-ka and then he opened his eyes: tuna (class 9a) to have an eye, -ka past.
 ti-ka when Crow made his eyes run about, that fellow Coyote became very much amazed at him: ${ }^{\text {Pay- indirective, yučipa (class 10b) to be or become }}$ amazed, -ka past.
9.3223. -ha (primarily with class 9 verbs), conversive causative punctiliar (forms verbs of class 6a).
 "Kokwalakom," your eyes will run about, literally . . . your eyes will cause themselves to do the converse of standing: ${ }^{\text {i- reflexive, łuwa (class 9a) to be }}$ standing, -nna future.
 this, Coyote asked him about it four times: ? an- indirective, tekkuna-ha (a bound stem occurring only with the conversive causatives, -ha or -ša) to ask, -ka past.

Pele-h-ka he was undersold: ${ }^{\text {Pele (class 9b) to be satisfactory, -ka past. }}$
In addition to its occurrence with class 9 verbs, this suffix is also found in cici-ha to wean < cici (class 4b) to suck, ?o'ye-ha to run off with another man's wife < ${ }^{\text {Po'ye }}$ (particle) wife, mistress, and Poyemili-ha to run off with another woman's husband < 'oyemil (particle) hurband, lover.
9.3224. -ša (with verbs of class 9), conversive causative repetitive (forms class 6 a verbs).
 two of them sat there making their eyes run around: $\mathrm{P}_{\mathrm{i}-\mathrm{r}}$ reflexive, łuwa (class 9a) to be standing, $\mathrm{k}^{\mathrm{P}}$ a causative, $-(\mathrm{V}) \cdot$ contemporaneous subordinate.
topa $k^{\text {wayip ta}} \mathrm{s}$ ' ${ }^{\text {ahs }}{ }^{\text {Pona }}{ }^{\text {Palla-ša-nna whenever another one comes out, }}$ he will chase it: ${ }^{\text {Palla-ša (bound stem occurring only with the conversive }}$ causatives, -ha or -ša) to chase, -nna future.
 Woodpecker was perched on top of the burnt tree trunk making a croaking noise, literally . . . removing the piece of straw placed across (the opening of his throat): yała (class 9a) to be placed across, $-(\mathrm{V}) \cdot$ contemporaneous sub. ordinate.
Panimo-ška he took it (e.g., the machine) apart: ${ }^{\text {P animo (class 9b) to be in }}$ place, -ka past.
9.323. The third positional slot of the past stem is given over to the causative. The forms $-k^{\mathrm{P}} \mathrm{a}$ (with verbs of classes $1-6 \mathrm{a}, 10 \mathrm{~b}$ ) and $-\mathrm{kk}^{\mathrm{P}} \mathrm{a}$ (with classes 7 and 9), forming class 7 verbs, are the most productive of the causativizing derivations. Two other causatives have a more limited distribution. One of these is $-u$ (with class 9), which forms class 4 a verbs. The other is .? (with class 9 ), which forms the unique class 5 , containing only verbs derived by this causative element. In class 5 verbs the full form ${ }^{\circ} u$ appears only in the present stem (see Table 1, in 9.1); vocalic length is the only manifestation of this suffix in the preconsonantal past stem; with the zeroing of the final vowel in the prevocalic past stem, no overt mark of the causative remains.
 lying under a juniper tree, he fell asleep: ${ }^{\mathrm{P}} \mathrm{i}-$ reflexive, yu- indeterminate, te?či (class 4a) to arrive, yu-te ${ }^{\text {cci }}$ to be tired, -nan subordinate with the same subject as the following verb.
ta' s 'imat suski yam tuna' ${ }^{\text {P }}$ iłuwa-h-k'a-kka so again Coyote made his eyes run around: $\mathrm{P}_{\mathrm{i}}$ - reflexive, łuwa (class 9a) to be standing (plural subject), łuwa-ha to run, -kka past.
$k^{\top}$ oksi-kkPa- $\phi$ make it good: $k^{\text {P }}$ okXi (class 9b) to be good, $-\phi$ imperative.
 Crow: ' ${ }^{\text {ann }}$. indirective, $\mathrm{k}^{\text {'Ohoha (class 10b) to be or become light in color, }}$ "an-k'oha-k? to see, to make visible, -kka past.
teya"kowa: "a'ciya" "ul-u-ka he put the iwo (berries) in where they (his eyes) used to be: pull (clam vn) to be invide of, -ka past.

Pa.ma ta• lesn-u-ф let's see you do it that way again: lesna (class 9b) to be used in that way, $-\phi$ imperative.
$\mathrm{k}^{3}$ okš-u- $\phi$ make it good: $\mathrm{k}^{\text {ºkši }}$ (class 9b) to be good, - - imperative.
 (class 9a) to be music, -nna future.
ta ho ${ }^{\text { }}$ yam papa' suw hot tena- - n hakk'anna again I will ask my older brother or younger brother to sing: -n adjunctive subordinate.
 (conventional phrase used in mourning) : teya (class 9a) to be, - $\phi$ present.
ši'in 'ayyo--ka he bought the name: ' ayyo (class 9b) to be taken away, to be bought, -ka past.
9.324. Two aspectual morphemes, a static and a continuative, belong to the fourth position of the past stem.
9.3241. -na (with classes 1-7), -nna (with 10b), static. This derivational suffix forms nouns of class 1 or verbs of either class 9 a or 9 b . Some examples have been found in which the same static root may be used as a 9 a or 9 b verb, with the 9 a verb having a more specialized meaning: $\mathrm{k}^{\text {wPinna- }}$ it is black, $\mathrm{k}^{\mathrm{mP}}$ inna-ye he is the clan Bow Priest ( $-\phi$ is the present tense for 9 b verbs, -ye the present for 9 a verbs): telupc'inna- $\phi$ there is yellow on the ground, tełupc ${ }^{3}$ inna-ye the sky is yellow.
hom $k^{\top} \mathrm{i}-\mathrm{k}^{\mathrm{P}} \mathrm{a}-\mathrm{na}-\mathrm{k}^{\mathrm{P}} \mathrm{anna}$ he will get me wet: $\mathrm{k}^{\mathrm{P}} \mathrm{i}$ (class 1) to become wet, $-k^{\rho}$ a causative, $-k^{\top}$ anna future.
 ing nonsense, then we will be at the end: ${ }^{\mathrm{P}} \mathrm{a} \cdot$ - plural subject of intransitive verbs, te ${ }^{9}$ či (class 4 a ) to arrive, to reach the end, $-\mathrm{k}^{2}$ anna future.

Putte-na-ye (the dog) has his jaws clamped on it: ${ }^{\text {P }}$ utte (class 4b) to bite, -ye present.
$y$-allup-na-nne a screw: y- reflexive, ${ }^{\text {Pallu'pi (class 6a) to turn it around }}$ facing self, -nne singular of noun class 1 .
łiti-P?a-ti-na-ye it has a scratch: łiti (class 10a) to make a scratch, ${ }^{-P P}$ a punctiliar, -ti inchoative, -ye present.
tuna• łupc ${ }^{?} \mathrm{i}$-nna- ${ }^{\text {ka }}$ (his) eyes were yellow: łupc? (class 10 b ) to be or become yellow, -- Fk past.
9.3242. -ye• (with monosyllabic verbs of class 3c), -e• (with other verbs ending in $e$ or a), $-y$ (with other verbs ending in $i, o$, or $u$ ), continuative. The allomorphs $-\mathrm{ye} \mathrm{e}^{\cdot}$ and $-\mathrm{e}^{\bullet}$ give rise to class 8 a verbs, -y to class 8 b . Verbs formed by this continuative derivation are the sole members of class 8 .
 land: pen (class 3c) to talk, -nna future.
 (elas 4b) to cut, -He repetitive, $-\mathrm{kk}^{p}$ causative,.$^{\mathrm{P}}$ a present.
toy-e'-nap-ka they were planting: toye (class 7) to plant, -nap plural aub. joct of transitive verbs, -ka past.
cil ko'ah 'ana to ley-e'-Pa I don't care what you are doing: leya (class 9a) 10 happen, ${ }^{?} \mathrm{a}$ present.
pokłi-y-na'w-e? they are smoking: pokłi (class 4b) to blow smoke on, -na'w plural subject of transitive verbs, $-e^{?}$ present.
yanhak-čo-y-? he is breathing: yanhaku (class 6a) to take a breath, -čo repetitive, - P a present.
9.325. The fifth position of the past stem has only one derivational morpheme, the plural subject of transitive verbs: -na'wa (with classes 1-6a, 7-8), $\cdot(\mathrm{V})$ 'wa (with 9 ) form verbs of class 6 c , composed solely of these pluralized verbs (Table 1, in 9.1); some class 9 verbs take -pa, another allomorph of this derivational set, which forms verbs of class 6 a. In the past stem the two allomorphs, -(V) 'wa and -pa, fall together as -p: compare the past stems in yała-p-ka they asked him and 'uli-p-ka they were worn by him with the present stems in yała-w-e? they are asking him and 'uli-pa- $\phi$ they are worn by him. A few verbs have developed alternative forms with the present stem based on both of these allomorphs: ${ }^{\text {P }}$ una-w-e? or ${ }^{\text {P }}$ una-pa- $\phi$ they see it, ${ }^{\text {Passssu' }}$ wa-w-e? or ${ }^{\text {Passsur }}$ 'wa-pa-ф they are speaking to him.
${ }^{\text {P }}$ an-Pelu-ma-na'w-a-'ši will they like it? ' ${ }^{\text {an }}$ - indirective, ${ }^{\text {Pelu }}$ exclamative of pleasure, -ma perceptive, -a future, - P ši interrogative enclitic.

 Coyote, the stupid fellow, went about feeling around with his hands: tuna (class 9a) to have an eye, -amme negative, $?^{?}$ adjunctive subordinate.
hasuski mo ${ }^{\circ}{ }^{\mathrm{P}}{ }^{\mathrm{a}}$ ačì ${ }^{\mathrm{P}}$ ahnan yam tuna-p-ka after getting two berries from the bush, he had eyes: -ka past.

Pas Puli-pa-nna he will wear gloves, literally they will be worn by him on the hands: ${ }^{\text {? }}$ uli (class 9a) to be worn by, -nna future.
9.326. The sole morpheme assigned to the sixth position of the past stem is the negative -na ${ }^{\text {P }}$ ma (with classes $1-6 a, 7-8$ ), producing verbs of the unique class 6 b (Table 1, in 9.1). The negative of classes 6 c and 9 is formed by - ?amme, -amme ( 9.3213 ), added to the present stem. One of the negative particles, $\mathrm{k}^{\mathrm{W}} \mathrm{a}^{\mathrm{P}}$ or ${ }^{\mathrm{P}} \mathrm{e} \nmid \mathrm{l}$, is always found with a verb containing a negative suffix.
 I will bite you: tena (class 9a) to be music, $-(\mathrm{V}) \cdot<-\mathrm{P} \mathrm{u}$ causative, $-\mathrm{p}<-\mathrm{ppa}$
subordinate with a subject different from that of the following verb.
 remembering it, he said this: 'an? awa (class 4b) to remember, -n subordinate with the same subject as that of the following verb.
$\mathrm{k}^{\mathrm{w}} \mathrm{a}^{\mathrm{P}}$ čum hoł $\mathrm{ko}{ }^{\rho} \mathrm{k}^{\mathrm{w}} \mathrm{a}$-nam-ka nobody said anything: $\mathrm{k}^{\mathrm{w}} \mathrm{a}$ (class 7) to say, -ka past.
9.33. Discontinuous Affixes. To form the inchoative or inceptive, most verbs add either the prefix (9.3113) or the suffix (9.3222) which express this function. A few verbs of class 9 b , however, require both affixes, resulting in y- . . . -ti (before the zeroed ${ }^{\text {P }}$ ), ${ }^{\mathrm{P}} \mathrm{i}$. . . - ti (before other consonants) for the inchoative or inceptive; this prefix-suffix combination forms verbs of class 4 a , as does the ti suffix alone.

 (class 9b) to know, -nan subordinate with the same subject as the following verb.
 colored, $-\phi$ present.
${ }^{\mathrm{i} \text { i-poča-ti-ka it got bad: poča (class 9b) to be bad, -ka past. }}$
9.34. Reduplicatives. Only verbs of class 10a undergo reduplication. Two reduplicative patterns, both resulting in verbs of class 1 , are applied to class 10a roots composed of two syllables. Some class 1 verbs have the form and meaning of these reduplicatives, but the class 10a verbs from which they were presumably derived can no longer be elicited: e.g., $c^{\top}$ iłci to make irregular wheezing and coughing noises, Poy'o to make weeping sounds, cilili to make wheezing noises in breathing, ?owowo to laugh boisterously; but these class 1 verbs have no underlying class 10a verbs, such as $* c^{\top}$ ili, ${ }^{*}{ }^{\circ}$ oyo, or ${ }^{*}{ }^{\text {Powo, }}$ which are productive at the present time.
9.341. The formula 12312 indicates the reduplicative morpheme expressing a mediopassive repetitive function. It affects four-phoneme roots of class 10a and forms verbs of class 1 .
čołčo-9a it makes irregular crackling sounds (as in shaking a paper bag with candy in it): čoło (class 10a) to make the sound of crinkling paper, -Pa present.
łitti-ti-k? ${ }^{\text {Pakka }}$ he scratched it off (with repeated scratches): łiti (class 10a) to make a scratch, -ti inchoative, -k? a causative, -kka past.
čuwapi tomto-k? ${ }^{?}-e^{?}$ ? who is making noises on the skin drum?: tomo (class 10a) to strike the skin drum, $-k^{p}<-k^{P} a$ causative, $e^{\prime}$ continuative, $\cdot \mathrm{P}_{\mathrm{a}}$ present.
9.342. The reduplicative 123434 (applied to four-phoneme roots of class 10a), $123^{\circ} 43^{\circ} 4$ (applied to five-phoneme roots of class 10a, when the second syllable is C V ) results in class 1 verbs and indicates the semelfactive.
tomomo-9 the skin drum is being played: tomo (class 10a) to strike the skin drum, - - ${ }^{2}$ present.
łititi-na-nne a saw: łiti (class 10a) to make a scratch, -na static, -nne singular.
hec ${ }^{\text {P }} u^{\mathrm{P}} \mathrm{u}-\mathrm{k}^{\mathrm{P}} \mathrm{a}-\phi$ massage $i t$ : hec ${ }^{\text {? }} \mathrm{u}$ (class 10a) to squeeze, $-\mathrm{k}^{\mathrm{P}} \mathrm{a}$ causative, $-\phi$ imperative.
9.35. Suppletives. A few verbs have a lexical meaning which parallels the grammatical meaning of the derivational prefix (9.3152) referring to the plural subject of intransitives or the plural object of transitives. The following is a list of singular and plural verb roots.
> to sleep: Pala (singular subject), ya`tela (plural subject)
> to be standing: ${ }^{\text {Pela (singular subject), łuwa (plural subject) }}$
> to be in a sitting position: ${ }^{\text {imo }}$ (singular subject), tina (plural subject)
> to be in a lying position: čuwa (singular subject), wo ${ }^{\text {P }}$ yo (plural subject)
> to take: Pahha (singular object), wo'tiha (plural object)
> to kill: ’ayna (singular object), łata (plural object)
> to hold: łeya (singular object), woppona (plural object)

## 10. The Noun

10.1. Noun Classes. The entire structural system of the noun is considerably simpler than that of the verb. Noun classes are differentiated solely by means of the two inflectional suffixes of the noun, singular and plural. The classes of the noun, with their inflectional forms, are presented in Table 2.

Of the three noun classes, 1 contains both basic and derived roots (8.1), 2 only basic monosyllabic roots, and 3 only derived roots formed by -la (10.321) objects in a shallow container or -pa (10.324) objects in a deep container. Basic noun roots are unevenly divided between classes 1 and 2: a sampling of dictionary entries reveals that about 95 per cent of basic nouns belong to class 1 , with class 2 possessing the remainder. Class 1 , therefore, is a large and productive class, containing not only the greatest proportion of basic roots but also roots formed by a number of derivations. In contrast, class 2 has a relatively amall membership of nouns; and class 3 is limited to two derivations for its members,

A few nouna of clans 1, roforring to masaes or abatractn, occur in the plural form only. Some of thene are hanie rootal $k^{1 / n}$.wa water, luho-we? dust,
cema-'we? thoughts. Among the derived plurals are some nouns apparently related to other types of roots by derivations no longer productive: ${ }^{\text {Pohe--we }}{ }^{\text {P }}$ brains, marrow ('oha, a particle meaning medulla), yose--we? a lie (yose', a particle meaning unsuccessful attempt), P ${ }_{\text {icip }}{ }^{\text {P }} \mathrm{a}$-we ${ }^{\text {P }}$ laziness (Piči, a class 10a verb meaning to be or become lazy, -?Pa punctiliar).
10.2. Inflections of the Noun. Only two inflections, a singular and a plural, are suffixed to nouns. In addition to the full forms of the number suffixes (10.21-10.22), special short forms may be used for monosyllabic stems which function as head terms in syntactic constructions (10.23).

Table 2. Noun Classes and Inflections

Noun class and root

1. lu ash (monosyllabic root) no? li nose (polysyllabic root)
2. łe board
3. lupa box of ashes

| Singular stem and suffix | Plural stem and suffix |
| :---: | :---: |
| lu-Ple? | lu-we ${ }^{\text {P }}$ |
| nopli-nne | nopli-we? |
| te-mme ${ }^{\text {P }}$ | łe-we ${ }^{\text {P }}$ |
| lup-Pe | lupa-we ${ }^{\text {P }}$ |

10.21. Singular (Full Form). - ${ }^{-P}{ }^{P}$ (with monosyllabic roots of noun class 1), -nne (with polysyllabic roots of class 1 ), $-\mathrm{mme}^{\mathrm{P}}$ (with class 2 ), $-{ }^{\mathrm{P} e}$ (with class 3 ), singular.
ši-Ple? ło ${ }^{?}$ oka? ${ }^{\text {Ši }}$ was the piece of meat tough?: ši (class 1) piece of meat.
 (noun class 1, verb class 9a) song, to be music, -n $<-n n e$ (see 5.2).
 Woodpecker was perched on top of the burnt tree trunk making a croaking noise: ta (class 2) piece of wood, $-\mathrm{m}<-\mathrm{mme}^{\text {P }}$ (ta-m tununu woodpecker, literally wood rumbler, one who makes a series of thudding sounds on a piece of wood), $\mathrm{k}^{\mathrm{P}} \mathrm{u}$ (class 2) log, tree trunk.
$\mathrm{k}^{\top}$ ap- ${ }^{-} \mathrm{e}$ powaye a bottle of water is standing there: $\mathrm{k}^{\boldsymbol{\gamma}}$ apa (class 3 ) a deep container of liquid.
10.22. Plural (Full Form). -we (with monosyllabic roots of classes 1 and 2) - we? (with polysyllabic roots of classes 1 and 3), plural.
 cause he was the one who put coyote-weed berries where his eyes were, today coyotes have yellow eyes: mo (class 1) spherical object, berry.
ta-w 'illap ?ona the ones who have the canes (i.e., officers of the pueblo): ta (class 2) piece of wood, cane, $-\mathrm{w}<-\mathrm{we}^{\text {P }}$ (5.2).
to'so--w ' aša shell the corn, literally make seeds: to־š (class 1) seed.
> $W^{*}$ apa.'w wottiye there are bottles of water on it: $\mathrm{k}^{\prime} \mathrm{apa}$ (elase 3) a deep venrainer of liquid.

10,23. Short Forms of the Singular and Plural. A special type of inflectional iroutment is accorded head terms having a Cv or CCv form and occurring an first-position stems in close-knit syntactic combinations. This treatment 10 primarily found in constructions which function as lexemic units. For the mont part, the head terms are monosyllabic nouns of classes 1 or 2. In addition, prlysyllabic particles or polysyllabic nouns of class 1 (but not class 3) may be abbreviated to a Cv or CCv structure (8.9) ; the abbreviated stem is then glven the special short form of inflection suffixed to a monosyllabic noun which is the head term in a construction.
10.231. ? (with monosyllabic head terms, basic or abbreviated), singular in constructions which are singular; - $\phi$ (with monosyllabic head terms, basic or abbreviated), singular in constructions which are plural.
he-P $c^{3}$ ummenne a gun spring, literally metal strong: he (class 1) metal, coin; he- c $^{\top}$ umme ${ }^{*}{ }^{\text {e }}$ gun springs.
li- $\phi$ šilowa'we? pennies, literally unit-of-money red-(plural): li- abbreviated from liyali (particle) unit of money (< Spanish "real").
we.? $c^{\top}$ ana puppy, literally animal small: we (class 2) animal.
ta.? łasssi father's older brother, literally father old: ta- abbreviated from tačču (particle) father.
One lexeme has been found in which the first element is derived from a verb stem: či-p monne a rattle, containing či- abbreviated from čili (verb class 10a) to make a rattling sound; či-ф mo ${ }^{\circ} \mathrm{we}^{\mathrm{P}}$ rattles.
10.232.-(V)• (with monosyllabic head terms, basic or abbreviated), plural in constructions which are singular or plural.
mo- čikwa peach, peaches, literally spherical-objects sweet: mo (class 1) spherical object.
he-- tomme? a pipe, literally metal tubular: he (class 1) metal, coin; he.towe ${ }^{\text {P }}$ pipes.
$\mathrm{ke}-\mathrm{k}^{\mathrm{w}}$ ayina•${ }^{\mathrm{we}}{ }^{?}$ saddle thongs, literally leather sticking-out: ke (class 2) leather.
he- ${ }^{\text {PaPleP an adobe brick, literally clay stone: he- abbreviated from heli }}$ (class 1) clay, mud.
10.3. Noun-Forming Derivations. As compared to verbs, nouns are relatively restricted in their techniques of derivation. Suffixation and compounding are the two processes by which nouns may be formed.
10.31. Inflectional Sufixes Forming Derivations from Constructions. As illustrated above (10.23) unit lexemes may be expressed by syntactic con-
structions. In some lexemes of this kind the second term, though a verb stem, appears with the number suffixes of noun class $1:-n n e$ (singular), -*we (plural). The first two examples in 10.231 show -nne attached to $c^{?}$ umme (verb class 9b) to be strong and - $\cdot$ we ${ }^{\text {P }}$ added to šilowa (verb class 9b) to be red. The form of the plural suffixed to the second term is determined by the total construction rather than by the second term: the example in the last paragraph of 10.231 has - we?, normally the plural form added to polysyllabic roots, appended to the monosyllabic root mo (noun class 1) spherical object. These suffixes, then, must be regarded as belonging to the total construction rather than to the final word of the construction, like "s $s$ " in "the Queen of England's visit." The total construction is treated like a derived noun, taking its own inflection and functioning as a substantive in the larger syntactic context of the clause (15.22).
 the construction containing $\mathrm{k}^{\text {? }}{ }{ }^{\text {w }}{ }^{\mathrm{w}}{ }^{\mathrm{w}}$ (verb class 9a) to stick out.
he pačči-we? tortillas, literally metal being-stuck-on, referring to the manner of cooking tortillas on the metal surface of a stove: - -we? plural with the construction containing pačči (verb class 9a) to be stuck on.
10.32. Derivational Suffixes. The only other suffixes which form nouns are those added to particle or noun roots; nouns cannot be derived by suffixation from verbs. The noun-forming suffixes belong to a single conceptual category, indicating some type of collective or spatial grouping of plural objects or of a mass entity. Some suffixes of this meaning category, which produce verbs of class 9a as well as nouns, have already been described and illustrated ( $9.3212 \mathrm{a}-\mathrm{h}$ ). Additional suffixes of the same semantic type, which form nouns only, are described below.
10.321. -la (with class 1 nouns) objects in a shallow container (forms class 3 nouns). Before the singular suffix -P e, la becomes $\downarrow$ (see 3.3).
lu- $\mathcal{l}_{-} \mathrm{P} \mathrm{e}$ ashes in an ashtray: lu (class 1 ) ash, -P e singular.
$\mathrm{k}^{\mathrm{P}} \mathrm{a}-\mathrm{la}-\mathrm{w}^{\mathrm{w}}$ wołliye there are plates of water on it: $\mathrm{k}^{\mathrm{P} \mathrm{a}}$ (class 1 , plural only) liquid, - $\cdot \mathrm{w}<\cdot{ }^{-}$we ${ }^{\text {P }}$ plural (5.2).
10.322. -limo (with particles and class 1 nouns) objects in a dispersed collectivity (forms class 1 nouns).

Pate-limo-nne--si is it covered with blood?: Pate (particle) blood, -nne sing-

taya-limo--we? things with hair all over them: taya (class 1) hair of head, - we ${ }^{\text {P }}$ plural.
10.323. łpo (with class 1 nouns) objects in an arrangement (e.g., a stack, a bundle) (forms class 1 nouns).
 well, he was a skeleton: sa (class 1) bone, $-\mathrm{n}<-\mathrm{nne}$ singular, sa-łpo skeleton, literally bundle of bones.
he-łpo-nne a bridle bit, literally metal in an arrangement: he (class 1) metal, coin, -nne singular.
10.324. -pa (with class 1 nouns) objects in a deep container (forms class 3 nouns).
$c^{P}$ ina-p-Pe papers in a drawer: $c^{3}$ ina (class 1 ) paper, letter, $-{ }^{-P}$ e singular.
mo-pa-we? spherical objects in deep containers, (e.g., truckloads of melons, boxes of beads): mo (class 1) spherical object, -we? plural.
10.325. -pała (with class 1 nouns) objects in a wrapped bundle (forms class 1 nouns).
monk 'ikna ${ }^{\text {P }}$ ci-pała-n łana he is a big bundle of hair like a monkey: ci (class 1) body hair, -n $<-n n e$ singular.
sa-pała-we? very skinny people, literally bones wrapped in bundles: sa (class 1) bone, $\cdot *$ we plural.
10.33. Compounds. In addition to suffixation, compounding is a technique for the construction of nouns. In a noun compound, the first-position element is a noun stem with a monosyllabic ( Cv or CCv ) form, representing either the complete monosyllabic noun or an abbreviation of a longer noun root. The second-position stem may be either a noun or a verb. The total compounded unit is inflected as a polysyllabic noun of class 1 .

Examples of noun plus noun compounds are: he-šonči-nne fork, containing he (noun class 1) metal, coin, šonči (noun class 1) claw, fingernail, -nne singular; tu-mok ${ }^{W} \mathrm{k}^{\mathrm{WP}} \mathrm{a} \cdot{ }^{-}$we ${ }^{\mathrm{P}}$ stockings, socks, containing tu- abbreviated from tukni (noun class 1) toe, mok ${ }^{\mathrm{W}} \mathrm{k}^{\mathrm{mP}} \mathrm{a}$ (noun class 1) shoe, - ${ }^{-} \mathrm{we}^{\mathrm{P}}$ plural.
Examples of noun plus verb compounds are: ta-tepowa-nne wagon, containing ta (noun class 2) wood, tepowa (verb class 9a) to be hitched; no-čapi-•we? coffee, containing no (noun class 1) kidney bean, čapi (verb class 4a) to burn.

## 11. The Personal Pronoun

As indicated in Table 3, Zuni has three pronouns of person, differentiated for number (singular, dual, plural) and for case (subject, object, possessive). The paradigm is too lacking in aymmotry to permit one to identify the constituent morphemes with any confidence, but tho underlying roote of the three persons appear to be "hn' firmt jwnwill, * to' necond person, and " Pa' third person. The firat and mocond mporina fullow the anine paradigmatic pattorn,
but the third person is distinctive. There are no subject pronouns for the third person in the singular or the plural, and the third person objects are employed only as emphatics. The third person subject, then, is indicated by the absence of a pronoun, with the verb denoting the singular or plural number of the subject ( $9.3111,9.3152,9.325$ ). The singular or plural third person object, though it may be overtly expressed for emphasis, is more commonly indicated in the same manner, i.e., by the number affix on the verb.

## Table 3. Personal Pronouns

| Subject |  |  |  |
| :---: | :---: | :---: | :---: |
| Medial | Possessive |  |  |
| Final | Object | Medial Final |  |

## Singular

| First person | ho ${ }^{\text {a }}$ | ho. ${ }^{\circ}$ | hom | hom | homma |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Second person | to ${ }^{\text {P }}$ | to ${ }^{\circ} \mathrm{P}$ O | tom | tom | tomma |
| Third person | - | - - | Pan | Pan | Pa•ni |

Dual
First person
Second person
Third person

Plural

| First person | hon | ho'no | ho ${ }^{\text {na }}{ }^{\text {? }}$ | ho ${ }^{\text {a }}{ }^{3} \mathrm{a}^{\text {a wan }}$ |
| :---: | :---: | :---: | :---: | :---: |
| Second person | ton | to ${ }^{\text {P }}$ \% | to ${ }^{\text {na }}{ }^{\text {a }}$ | to? ${ }^{\text {P }}{ }^{\text {a }}$ wan |
| Third person | - | - - | ${ }^{\text {a }}$ a wan | $\mathrm{P}^{2}$ 'wan |

Utterance-medial and -final pronouns are listed for comparison where the medial forms exhibit unique types of reduction. The predictable sandhi reductions, however, are not indicated in the table; they are described in section 5.

Only the third person has a distinctive form for the dual subject or the dual object different from that of the plural. The first and second persons have the same forms for the dual as for the plural subjects or objects, the distinction between the two numbers being indicated in the verb: a dual meaning results from the undifferentiated dual-plural pronoun with a singular verb, a plural meaning from the same pronoun with a plural verb. Contrast the following pairs of examples:
hon šema-ka we (dual) called him; hon šema-nap-ka we (plural) called him, in which the verb contains -nap, plural subject.
 ${ }^{?}$ a nuwa I will take you (plural) with me, in which the verb contains ${ }^{?}{ }^{2} \cdot{ }^{*}$-, plural object.

Subject pronouns differ from object and possessive pronouns in all numbers. But the object and possessive pronouns have overlapping forms in the singular and dual. Because object pronouns do not occur in utterance final position, they have no distinctive forms based on utterance position. But the possessives, which are differentiated in the singular for medial as against final position, can distinguish between the modifying function in utterance medial position, as in hom $\mathrm{k}^{\top} \mathrm{ak}^{\mathrm{W}}$ enne $m y$ house, and the function performed in nonpredicative utterances (15), where a pronoun may occur finally, as in homma (it's) mine.

## 12. The Particle

12.1. General Features. In distinction to all other classes of words, particles are uninflected. They constitute a relatively large portion of the vocabulary. From a sampling of the basic roots in the Zuni dictionary, roughly a third of the entries are particles.

Syntactically, particles cover a wide range of functions. Like nouns, they may be employed as substantives. Although no system of semantic categories can be established for distinguishing nouns from particles, some differentiations can be discerned. All kinship terms, names of animals, and indefinites (e.g., someone, something), for example, are particles; all body parts, items of clothing, and tools are nouns. The terms for plants, however, are not consistent in their word classification: tobacco and words for varieties of corn (blue corn, yellow corn, etc.) are particles, but most plant names, including cactus, onion, and terms for parts of the corn plant, are nouns. In derivations formed by suffixation, of course, the noun or particle membership of the word is determined by the suffix: thus, although ${ }^{~}{ }^{\text {ašek }}{ }^{\text {P a p pine tree is an unanalyzable }}$ basic particle, homa-tta-nne juniper tree (literally a growing collectivity of juniper leaves) is a noun because it is derived by -tta (to be) a growing collectivity, which forms nouns of class $1 ; c^{\top} \mathrm{i}^{\mathrm{w}} \mathrm{k}^{\mathrm{w}} \mathrm{a}$ bark, skin is a basic noun root but ${ }^{\text {Pisi }}$ ina-ka inner bark is a particle, for it ends in the particle-forming -ka , instrumental.

In addition to their substantive function, particles may also be used as modifiers, a syntactic role which they share with some of the subordinating inflections of the verb (9.23) and with some of the nouns referring to reified qualities, such as wak ${ }^{\text {wP }}$ ali $\operatorname{limp}$ (object), $\mathrm{k}^{\mathrm{P}}$ asso chubby (person). Among particles with a modifying function are tapnimte suddenly, ${ }^{\text {P }}{ }^{\text {ik }}{ }^{\text {wata }}$ ) back, in return, $\mathrm{k}^{\top}$ ayu fresh (object), youthful (person), lahašoma giddy (person). The semantic types of modifiers which invariably belong to the particle class are demonstratives and numerals.

Relater functions (in, on, with, etc.) are expressed by particles as well as by enclitics (13). Only particles, however, serve as conjunctions.
12.2. Particle-Forming Derivations. Particles may be secondarily constructed by prefixation, suffixation, or compounding.
12.21. Prefix. Only one prefixed morpheme is affiliated with particles: ${ }^{?}{ }^{\circ} \mathrm{w}$ (before the zeroed ${ }^{\text {? }}$ ), ${ }^{\text {P }}{ }^{\circ}$ - (before other consonants), plural, is appended to particles referring to persons. This has the same form as one of the allomorphs prefixed to verbs for the plural subject of intransitives or the plural object of transitives (9.3152).
hom ${ }^{\top}{ }^{\circ}$ 'w-ikina (they are) my younger sisters: 'ikina (particle) man's younger sister.
${ }^{1} \mathrm{a}$--šiwi Zuni people: šiwi (particle) Zuni person.
A specialized use of this prefix occurs in ${ }^{P}{ }^{2}$-towa, a prayer term for corn, based upon towa (particle) ancient, traditional, old-fashioned; apparently the plural form carries the literal implication of the ancient ones.
12.22. Suffixes. Some particle-forming suffixes are added only to particles (12.221); others are attached to verbs or to verbs and particles (12.222).
12.221. The derivational suffixes added to particles are extremely limited in scope. Each of them is restricted to particles of a particular semantic type.
12.2211. -mme, familiar, is attached to the abbreviated first syllable ( Cv or CCv ) of some kinship terms. In myths Coyote's name is sometimes found with this suffix.
lesn hot ${ }^{\text {Pay' }}$ 'ap su-mm ${ }^{\text {P }}$ uwen ${ }^{\text {P }}$ ok ${ }^{\text {wika }}$ when he (Woodpecker) was still on top (of the tree trunk), that fellow Coyote woke up: su-abbreviated stem of suski (particle) coyote, -mm <-mme (5.2).
ku-mme ta.p ho.?o father's sister and I: ku- abbreviated stem of kuku (particle) father's sister.
ho-mme, term of familiarity used to an old lady or, by an older man, to a young woman: ho- abbreviated stem of hotta (particle) grandmother, granddaughter.
12.2212. -mo is suffixed to certain terms of kinship and ceremonial relationship to form words which are pronounced in reciprocal series by the two participants in the smoking ritual of the winter solstice ceremony. The sequence is indicated by numbers in the list below, with each series including the word spoken by one participant (a) and the response given by the other (b).

1) (a) tačču-mo <tačču (particle) father; (b) tale-mo < tale (particle) woman's brother's son, woman's clan brother.
2) (a) papa-mo < papa (particle) older brother; (b) nuwe.mo < auwe
(particle) man's younger brother.
3) (a) kaka-mo < kaka (particle) mother's brother; (b) $\mathrm{k}^{\mathrm{P} \text { asse-mo }<~}$ $\mathrm{k}^{\mathrm{P}}$ asse (particle) man's sister's child.
4) (a) nana-mo < nana (particle) grandfather, grandson; (b) tošle-mo $<$ tošle (particle) a ceremonial relationship, the details of which could not be obtained ( $\mathrm{P} \cdot \mathrm{a}$ tossle, the plural, is bogeymen).
 mo $<$ ? uwaka (particle) a ceremonial relationship.
12.2213. - (V)', alternative, is added to the first in a pair of kinship terms. It apparently carries a humorous connotation, the implication being that the speaker poses the alternative because of ignorance. The particle hapiš or is ordinarily employed to denote an alternative.
ta ${ }^{-10}{ }^{\text {P }}$ yam papa-• suw hot tena'n hakk? anna again I will ask my older brother or younger brother to sing: papa (particle) older brother. tačču-• papa father or older brother: tačču (particle) father.
12.2214. -na ${ }^{\text {P }}$, similitive, is suffixed to tribal names and indicates behavior like or in the manner of the tribe.
paču-na ${ }^{\text {P }} \mathrm{k}^{\text {P }}{ }^{\text {ak }}{ }^{\mathrm{W}}$ eye he lives like a Navaho: paču (particle) Navaho.
šiwi-na ${ }^{3}$ in the Zuni manner: šiwi (particle) Zuni.
12.2215. ${ }^{-}$ma, vernacular, is used with names of tribes or other groups of people to refer to their language.
$\mathrm{k}^{\mathrm{P}}{ }^{\text {assinita }} \cdot \mathrm{k}^{\mathrm{W}} \mathrm{e}_{\mathrm{e}}{ }^{\mathrm{P}}$ ma pene say it in Isleta: $\mathrm{k}^{\mathrm{P}} \mathrm{a}$ šsita $\cdot \mathrm{k}^{\mathrm{w}} \mathrm{e}$ (particle) Isleta.
melika- ${ }^{\text {Pma }}$ peyekka he was talking in English: melika (particle) White Man, Anglo.
12.2216. - pi or -Ppi, interrogational, is appended to indefinite particles to form interrogatives.
$\mathrm{k}^{\mathrm{w}} \mathrm{a}^{P}$-pi what (did you say)?: $\mathrm{k}^{\mathrm{w}} \mathrm{a}^{?}$ (particle) something perceptible.
$\mathrm{ko}^{?}$-p tom leyaye how do you feel?: ko ${ }^{2}$ (particle) something intangible, $-\mathrm{p}<$ - pi .
ko ${ }^{\circ}$ wi•p tey'a how much is it?: ko'wi (particle) few.
čuwa-p Puhsi who (is) that?: čuwa (particle) someone.
12.222. All particle-forming derivations suffixed to inflected-word stems are added to verbs. Some of these suffixes may be attached to particles as well.
12.2221. $-\mathrm{k}^{\mathrm{w}} \mathrm{a}^{\text {P }}$, suffixed to some 10 b verbs denoting colors, forms words referring to ceremonial or otherwise valued objecta.
he' łupc'i-k ${ }^{\text {wa}}$ ana-nne the color of yellow ceremonial clay: he' abbreviated stem of heli (noun class 1) clay, mud, łupe ${ }^{i} 1 \cdot \mathrm{k}^{W} a_{a}^{p}$ yellow corn, łupe $i \mathrm{i}$ (verb clace 10b) to be or become yollow, $k^{w_{n}}<\cdot k^{m} a^{\eta}$, na (to be) objects on the surface, ane aingular.
 become blue, green, $-k^{w}<-k^{w} a^{2}$.
$k^{\top}$ oha- $k^{W} a^{P}$ white corn, ceremonial white shell necklace: $k^{\top}$ oha (verb class 10b) to be or become white.
12.2222. -ka, instrumental, appears to be attached only to verbs of class 9 .
tena-ka phonograph: tena (verb class 9a) to be music.
tesu-kk²-na-ka potbellied stove: tesu (verb class 9b) to be warm indoors, -kk ${ }^{\top}$ a causative, -na static.
 sharp.
he-ppo-ka wahtanne wallet, purse: he (noun class 1) metal, coin, -ppo (to be) objects in a deep container (forms class 9 verbs), wahtanne bag.
12.2223. $\mathrm{k}^{\mathrm{P}}$ an, multiplicative, is added to numerals, which are particles, and quantifiers, some of which are verbs.
 to him, Coyote asked him four times: ${ }^{2}{ }^{\circ}$ witen (particle) four.
ha $\cdot \cdot \mathrm{i} \mathrm{i} \mathrm{k}$ ? an ${ }^{\text {P }}$ utteka he bit him three times: ha $\cdot \cdot \mathrm{in}$ (particle) three.
 to increase.
12.2224. - (V) $\cdot \mathrm{k}^{\mathrm{w}} \mathrm{e}$, agentive, is suffixed to particles as well as verbs. It is most commonly used to form a collective term referring to the members of a group-tribal, national, societal.
he'muši- $\mathrm{k}^{w} \mathrm{e}$ the Jemez people: he'muši (particle) Jemez.
mu'ma- $\mathrm{k}^{\mathrm{w}} \mathrm{e}$ the Mormons: mu'ma (particle) Mormon.
sa-ya-pa- $\mathrm{k}^{\mathrm{w}} \mathrm{e}$ members of the Masked God Society: sa (noun class 2) bone, -ya (to be) a growing mass (sa-ya [to be] a horn), -pa plural subject of transitive verbs (forms verbs of class 9).
$\mathrm{k}^{\mathrm{P}} \mathrm{ak}^{\mathrm{P}}{ }^{\mathrm{ali}} \mathrm{i} \cdot \mathrm{k}^{\mathrm{W}} \mathrm{e}$ people of the Eagle Clan: $\mathrm{k}^{\mathrm{P}} \mathrm{ak}^{\mathrm{P}}$ ali (particle) eagle.
temaya- $k^{W} e$ one who watches: temaya (verb class 9a) to watch.
$c^{\text {Pina }}{ }^{\prime}{ }^{\text {P }}$ aš-na- $\mathrm{k}^{\mathrm{W}} \mathrm{e}$ schoolchildren, literally those who have made papers: $c^{3}$ ina ${ }^{\circ} w<c^{\top}$ ina ${ }^{\circ}$ we ${ }^{\text {P }}$ papers, ${ }^{\top}$ aša (verb class 6a) to make, -na static.

cawa-k'i young man, son: cawa (particle) young man.
łassi-k?i man, man of the house, husband: łašsi (verb class 2) to become old.
talla-k'i male relative by marriage: tala-, a bound stem occurring in $\mathrm{ta} \cdot \mathrm{la}-\mathrm{k}^{\mathrm{m}}$ in (particle) (home of) man's relatives by marriage.

A number of unanalyzable particles denoting persons appear to contain
 woman with children.
12.23. Compounds. Only two combinatory patterns are found to result in noun compounds: noun plus noun and noun plus verb (10.32). But compound particles may be formed by a wider variety of word-class combinations. The first-position element in a particle compound may be a noun or particle stem having a monosyllabic ( Cv or CCv ) form, either based upon a monosyllabic root or abbreviated from a longer form. A first-position noun may combine with only a verb; a particle may combine with a verb, a noun, or another particle.
Examples of noun-plus-verb compounds are: še-maye corn-husk headdress worn by members of the newe $\cdot \mathrm{k}^{\mathrm{w}} \mathrm{e}$ Clown Society, containing še (noun class 1) corn husk, maye• (verb class 8a) to have angular projections (e.g., corners protruding from the sides of the head); we-hirnihna an irresponsible person, containing we (noun class 2) animal, hirnihna (verb class 9b) to be irresponsible. Combinations of this type may end with particle-forming suffixes, as in mo-pinna-ka hail, containing mo (noun class 1) spherical object, pinna (verb class 9a) to be windy, -ka instrumental.
Examples of particle-plus-verb compounds are: tu-łašsi old nag, containing tu- abbreviated from tuši (particle) horse, łašsi (verb class 2) to become old; pa-k'awiša Navajo Water-Carrier (the Zuni nickname of a Navaho man), containing pa- abbreviated from paču (particle) Navaho, kªwiša (verb class 6a) to bring water. Particle-forming suffixes are added to these combinations as well as to the noun-plus-verb type: pa-lokk${ }^{\mathrm{P}} \cdot \mathrm{k}^{\mathrm{w}} \mathrm{e}$ Ramah Navahos, containing pa- < paču Navaho, lokkª (verb class 10b) to be or become gray, -(V) $\mathrm{k}^{\mathrm{w}} \mathrm{e}$ agentive.
Examples of particle-plus-noun compounds are: su-tek ${ }^{W} k^{w}$ ante stupid Coyote (an epithet occurring frequently in folktales), containing su-abbreviated from suski (particle) coyote, tek ${ }^{W} k^{w}$ ante (noun class 1) a stupid person; me-li:ku a rich Anglo, containing me- abbreviated from melika (particle) Anglo, White Man (< English "American"), liku (noun class 1) rich person ( $<$ Spanish "rico").
Examples of particle-plus-particle compounds are rare: ho-tonaši Old Lady Badger (a Zuni nickname of an Anglo woman), containing ho- abbreviated from hotta (particle) grandmother, granddaughter, tonaši (particle) badger.

## 13. Enclitics

As distinct from suffixes, onclitice are loosely postposed to complete words; when added to inflected worda, onelitect follow the inflectional suffixes. Most enclitice appear to be frooly attachad to words of any class. The allomorpho of enclitic morphemen are determinad liy the final phoneme of the word.
13.1. - 'si (after a vowel), -si (after a consonant), interrogative enclitic. tewan to' Pa'n-uwa-P'si will you go tomorrow?: ' ${ }^{\prime} \cdot \mathrm{n}$ (verb class 3c) to 80 , -uwa future.
to ${ }^{2}$-s tewan ${ }^{\text {Pa'nuwa }}$ is it you who will go tomorrow?: to ${ }^{\text {P }}$ (pronoun) you (singular), -š <-ši.
tewani--ši tomorrow?: tewani (particle) tomorrow.
13.2. - ${ }^{\text {te }}$ (after a vowel), -te (after a consonant), adversitive enclitic, translated as in spite of, even though, just as, still.
tunati-nan-te s tuna• łupcinaka just as his eyes opened, they were yellow: tunati (verb class 4a) to open the eyes, -nan subordinate with the same subject as the following verb.
$s^{\mathrm{P}} \mathrm{a} \cdot \mathrm{ma}$ hom ${ }^{\mathrm{P}} \mathrm{an}^{\mathrm{P}} \mathrm{a}_{\mathrm{an}}{ }^{\mathrm{P}} \mathrm{P}^{\mathrm{t}}$ tena${ }^{\mathrm{P} \mathrm{u}}$ go ahead and sing it for me just once more: Pałna (particle) more, $-{ }^{-} \mathrm{t}<-{ }^{\mathrm{P}}$ te.
13.3. $-\mathrm{k}^{\mathrm{m}}$ in directional enclitic, denoting motion toward a goal.
 (verb class 6 c ) to be eating (plural subject), -n adjunctive subordinate.
kalapa-k ${ }^{\text {win }}{ }^{\top}$ a ka he went to Gallup: kalapa (particle) Gallup.
tatta- $k^{w} i$ toward the tree: tatta (noun class 1) tree, $-\mathrm{k}^{\mathrm{w}} \mathrm{i}<-\mathrm{k}^{\mathrm{w}}$ in (5.1).
Words referring to the cardinal directions end with this enclitic: pišlank ${ }^{w}$ in north, an unanalyzable term; $\mathrm{ma}^{\mathrm{P}} \mathrm{k}^{\mathrm{P}}$ aya- $\mathrm{k}^{\mathrm{m}}$ in south, literally toward Salt Lake, containing ma rock salt, $\mathrm{k}^{\text {² aya ( }}$ (verb class 9 a ) to be a collectivity of water, to be a lake ( $\mathrm{ma}^{\mathrm{P}} \mathrm{k}^{\mathrm{P}}$ aya Salt Lake); tewan $-\mathrm{k}^{\mathrm{w}} \mathrm{in}$ east, containing tewani (particle) tomorrow; sunha $\cdot \mathrm{k}^{\mathrm{w}}$ in west, containing sunha (verb class 6a) to become evening.
13.4. -an (after w), -P an (elsewhere) locative enclitic.
 class 1) house, $-(\mathrm{V}) \cdot \mathrm{w}<-(\mathrm{V}) \cdot \mathrm{we}^{\mathrm{P}}$ plural.
 pecker, making croaking noises, was perched on top of the place where the burnt tree trunk was standing: ${ }^{\text {Pel }}<{ }^{\text {Pela (verb class 9a) to be standing }}$ (singular subject).
hom mass-Pan ${ }^{\text {Puwe }}$ my back hurts, literally there is hurting on my back: massi (noun class 1) back.
${ }^{\text {Papte-w-an pikwayika }}$ it is after five o'clock, literally it has gone through to the fives: ' ${ }^{\text {appte }}<{ }^{\text {Papten ( }}$ (particle) five, $-(\mathrm{V}) \cdot \mathrm{w}<(\mathrm{V}) \cdot{ }^{\circ}{ }^{\top}$ plural.
13.5. The distribution of the inessive enclitic appears to be determined by morphological factors rather than the phonological conditions of other enclitics. Because of its rare occurrence, however, its distributional pattern can-
not be described with certainty. It has the allomorphs .Pannan (with particles), -annan (with nouns), -nan (after $-k^{\top}$ an, multiplicative).
$k^{P} \mathrm{ol}$ - Pannan (mixed) in the chile: $\mathrm{k}^{\mathrm{P}} \mathrm{ol}-<\mathrm{k}^{\mathrm{P}} \mathrm{ola}$ (particle) chile.
te- -1 -annan inside the pot: te (noun class 1 ) pot, $-\mathrm{P} 1<-{ }_{-} \mathrm{le}{ }^{\mathrm{P}}$ singular.
${ }^{\mathrm{P}} \mathrm{O}$-w-annan $\mathrm{k}^{\mathrm{P}} \mathrm{ol}{ }^{\text {Piyya? }}{ }^{\text {sek }}{ }^{\text {Pa }}$ mix the chile into the flour: ${ }^{\mathrm{P}} \mathrm{o}$ (noun class 1 , plural only) flour, -w $<-$ we? plural.
ha'i-k' an-nan ${ }^{\text {P }}$ utteka he bit him the third time: ha' $\mathrm{i}<$ ha' $^{\text {'in }}$ (particle) three, $-\mathrm{k}^{\mathrm{P}}$ an multiplicative.

## 14. Types of Utterance

14.1. The Minimal Utterance. An intonation, either 1-3 • • or 3-1, marks the end of a minimal utteranice (1.6). On the basis of syntactic structure, two types of minimal utterance may be distinguished, the utterance which lacks a predicate and the sentence type of utterance which contains a predicate.
14.2. The Nonpredicative Utterance. A particle of affirmation or negation may form a total utterance: ${ }^{\mathrm{P}} \mathrm{e}$ yes, ${ }^{\mathrm{P}}{ }^{\mathrm{P}} \neq \mathrm{l}$ no. Zuni abounds in particles having an exclamative force, and these may be used singly or in combination as utterance units: he, an exclamative of surprise, used only by men; holo, an exclamative of negation; holo ${ }^{\text {Pełła }}$ oh, no.

Casual speech employs a variety of stereotyped utterances which lack a predicate. Taunts and encouragements are primarily of this type: wan stom šola (literally wait then you scorpion) all right for you, scorpion, tem hiš to ${ }^{?}$ wiha (still very you baby) you're still just a baby, ${ }^{\top}$ awisk ${ }^{W \rho}$ at to ${ }^{\circ} \mathrm{P}$ (un-expectedly-fortunate you) good for you. In sacred situations, $k^{P}$ eccannisssi happy is the standard reply to the formal greeting, How have you been these past days? A common formula used by women in mourning is hana' 'iče $h^{\circ}{ }^{\text {n }}{ }^{\text {ª }}$ 'wan (tačču) oh, our dear (father), the final word of the utterance being reserved for the appropriate kin term.

Utterance fragments, which omit the predicate expressed in a preceding utterance, are normal in everyday speech. In reply to Where should I put it?, one may answer tattan ${ }^{\mathrm{P}} \mathrm{el}^{\mathrm{P}}$ a by the tree as well as tattan ${ }^{\mathrm{P}} \mathrm{elP}^{\mathrm{P}}{ }^{\mathrm{P}}{ }^{\mathrm{P}}{ }^{P P} \mathrm{u}$ put it by the tree. Words joined in a copular relationship, lacking a predicate, also constitute an utterance: čuwap ${ }^{\text {P }}$ uhsi (who that) who is that?
14.3 The Sentence. The predicative utterance, or sentence, is the most frequent utterance type encountered in any of the styles from which I have gathered material-casual speech, stories, or prayers. It is identified by thè occurrence of a predicate. The minimal sentence is composed of a single word, a finite verb expressing a predication and the number of the subject. When no substantive appears in the sentence to specify the subject, the third person is understood: ${ }^{\mathrm{P}} \mathrm{ika}$ (he) came; ${ }^{\mathrm{P}}{ }^{2} \cdot \mathrm{w}$-ika (they) came, ${ }^{\mathrm{P}} \mathrm{a} \cdot \mathrm{w}$ - plural subject.

## 15. Analysis of the Sentence

15.1. Sentence Types. The two types of sentences occurring in Zuni-the uimple and the complex-can be described in terms of the clauses they contain, the clause being defined as a predication. The simple sentence is composed of a single independent clause. The complex sentence is made up of one or more dependent clauses and one independent clause. Two formal characteristics identify the complex sentence: 1) a dependent clause always preceden its governing independent clause; 2) the predicate verb of the dependent clause is marked inflectionally by one of the subordinating suffixes (see 9.23 for examples of complex sentences containing these suffixes).
15.2. Components of the Sentence. The only necessary and sufficient component of the sentence is the predicate. A sentence may also contain substantives, functioning as subjects or objects. Either one of these basic syntactic structures, predicate or substantive, may appear in the minimal form of a single word or in the expanded form of a phrase, containing modifiers, complements, or parallel constructions. In all styles of the language, expanded predicates and substantives which have specialized meanings appear with great frequency $(10.23,10.31)$; constructions of this type offer a productive source for the formation of new lexemes.

The two major structures and their expansions will be described in the following subsections.
15.21. The Predicate. The minimal predicate, consisting of a single word, can be formed only by a verb. The verb with a subordinating suffix may function as the minimal component of a dependent clause (9.231, 9.232). The verb with an inflection other than a subordinating suffix can form the minimal component of an independent clause (9.21, 9.22). Examples are:

Pito-nan ${ }^{\mathrm{P} a} \mathrm{a}-\mathrm{ka}$ after eating, (he) went: -nan subordinate with the same subject as that of the following verb, -ka past.
 a different subject from that of the following verb, -uwa future.
15.211. One type of expanded predicate is composed of a verb preceded by its complement. Some of the subordinate verbs-those suffixing the resultative subordinate (9.235) or the adjunctive subordinate (9.233) -may function as complements.

tene'-n hakk? ${ }^{\text {P }}$ kka he was asking him to sing: -n adjunctive subordinate.
Verbs containing the suffix which denotes the future tense or the nonpast
conditional (9.213) are complements of the defective verb ${ }^{\text {iy }}$ igha to intend to, to want to in its various forms.
ho ${ }^{\text {c čun- }}{ }^{\text {Pan }}{ }^{\text {Piyahka } I \text { intended to stop: }{ }^{\text {P }} \text { an }<^{\text {P }} \text { anna future. }}$
łeya $-k^{\text {P }}$ an ${ }^{\text {Piha }}$ he wants to carry $i t$ : $-\mathrm{k}^{\mathrm{P}}$ an $<-\mathrm{k}^{\text {P anna }}$ future.
tene'na'w-e? tha they want to sing: -ep future.
Nouns, pronouns, and particles, as objects of the verb, take the syntactic role of complements.
łe-mm Piyoka it froze, literally it became a board: -mm <-mme? singular, łe (noun class 2) board.
tom ho ${ }^{\text {P }}$ Puttenna $I$ will bite you: tom you (singular object).
suski $\mathrm{k}^{\mathrm{WP}}$ alaš ${ }^{\text {Panik }}{ }^{\mathrm{W}}$ akka Coyote said to Crow: $\mathrm{k}^{\mathrm{WP}}$ alaš $<\mathrm{k}^{\mathrm{mP}}$ alaši (particle) crow.
15.212. In addition to complements, modifiers provide another means for expansion of the predicate. This adverbial function is assumed by verb stems, by some subordinate verbs, and by a variety of particles. Certain verbs of location and movement can be modified by a verb whose stem is immediately preposed to form a close-knit construction.
łuwa yałto ${ }^{\circ} \mathrm{ka}$ (they) were on top standing: łuwa to stand.
tewana ${ }^{\text {hoł }}{ }^{\text {Pimat }}$ łat ${ }^{\text {Pallukka every day, perhaps, it seems he went about }}$ hunting: łat < łata to hunt.
Examples of subordinate verbs acting as predicate modifiers are:
 Woodpecker, making croaking noises, was perched on top of the place where the burnt tree trunk was standing: -(V)• contemporaneous subordinate, ${ }^{\top}$ iš ${ }^{\rho}$ yałaša (verb class 6a) to make croaking noises, literally to remove the piece of straw placed across (the opening of the throat).
ya'na-? powaye he is standing ready: -? adjunctive subordinate, ya?na (verb class 9a) to be ready.
tešla-nišsip peka he spoke fearfully: -nišsip adverbial subordinate, tešlabound stem occurring in tešla-na (verb class 6a) to be afraid.

The following are some examples of particles which function as modifiers of the predicate.
 ticle) back.
summ ${ }^{\text {Puwen }}$ siš ${ }^{~}$ ayyučiPatika that fellow Coyote was very much surprised: siš (particle) very, very much.

Pa'witena-k’an ${ }^{\text {Pantekkunahap . . . after asking him four times . . . : }}$ $-k^{P}{ }^{2}$ (particle-forming) multiplicative, ${ }^{2}{ }^{\prime} \cdot$ witena $-<{ }^{1} a^{\prime}$ witen (particle) four.
15.213. Complements and modifiers may themselves occur in an expanded form, of course, in the predicate.
${ }^{P}$ a'ma hom ${ }^{P}$ an tuna• ${ }^{\text {'iluwahk' }}$ (let's-see me for eyes cause-to-run-around) let's see you make my eyes run around: hom 'an tuna' is an expanded complement of the verb 'iłuwahk? ${ }^{\text {P }}$.
ta ${ }^{-}$ho ${ }^{\text {P }}$ yam papa' suw hoł tena'n hakk ${ }^{\text {P }}$ anna (again I one's-own older-brother-or younger-brother perhaps to-sing will-ask) again I will ask my older or perhaps younger brother to sing: yam papa' suw hot tena•n is an expanded complement of the verb hakk' ${ }^{\text {anna }}$.
tu'š ${ }^{\top}$ akka hon ${ }^{P} a \cdot k a$ (horse by we went) we went by horse: tu'š ${ }^{\top}$ akka is an expanded modifier of the verb ${ }^{P} a \cdot k a$.
 standing in-the-shade lying-down then fell-asleep) after lying down in the shade where the juniper tree was standing, he fell asleep: homatt'an ${ }^{\mathrm{P}} \mathrm{el}$ Pan tełu'wan is an expanded modifier of the subordinate verb Piču'nan.
15.22. The Substantive. The minimal substantive is either a noun, pronoun, or particle. Any of these word types may function syntactically as the subject of a verb or as the object complement of a verb or particle.
 $<{ }^{9} a \cdot{ }^{\circ} \mathrm{c} i$ (pronoun) is the subject of the verb $\mathrm{k}^{\mathrm{w}}$ atoka.
le? hoł tam tunun ${ }^{\text {P }}$ anik ${ }^{\text {ºp }}$ ap . . (this perhaps wood making-repeated-thudding-sounds saying-to) after saying this to Woodpecker . . . : tam tunun $<$ tamme ${ }^{\text {P }}$ tununu (particle) Woodpecker is the object of the verb ${ }^{2}$ anik ${ }^{W}$ ap.
łem powan manikka čuwa?ka (board that-which-is-standing under was-lying) he was lying under the table: łem powan $<$ łemme ${ }^{\text {P }}$ powanne (noun class 1 ) table is the complement of the particle manikka.
15.221. The expansion of substantives is primarily achieved through the use of modifiers. Three types of subordinate verbs may modify substantives.
he ${ }^{-}$čuwap hiš tenan $c^{P}{ }^{9} y^{-}{ }^{?}$ tene $e^{P}$ a well, who is singing the very pretty song?: - ? adjunctive subordinate, co ya (verb class 9b) to be pretty.
čim hoł yam 'allaše'-n 'ona yute'čik? ap . . . after he had tired out the one he was chasing . . . : -n subordinate before the agentive ${ }^{\text {'ona, }}{ }^{\text {P allaše. }}$ (verb class 8a) to be chasing repeatedly.
 Growing-Trees-Came-to-an-End: -Pkowa ${ }^{P}$ past agentive subordinate, pałto (verb class 9a) to have an end; tanaya pałto ${ }^{9}$ kowa $^{\text { }}$ is a place name, with the literal meaning wood-growing-in-a-mass-on-the-surface that-which-came-to-an-end.
The following oxarnplea illuartrate particles, pronouns, and nouns functioning as nubatantive modlifiera.
hasuski mo ${ }^{\rho}{ }^{1}{ }^{\mathrm{P}} \mathrm{a} \breve{c k i}^{\mathrm{c}}$ ahnan . . . after getting the two coyote-weed berries . . . : hasuski (particle) coyote weed, ${ }^{\mathrm{a}} \mathrm{a}$ či (pronoun) they (dual), the two.
$\mathrm{k}^{\text {? }} \mathrm{o}^{-}$łana-nne (tubes large-one) large intestines: -nne singular, łana (noun class 1) large (object).
15.222. Expansion of substantives is also effected by complementation. Particles, pronouns, or nouns may function as the object complements of substantives which are themselves either particles, nouns, or certain subordinate verbs.
pok’a łat ${ }^{\text {Pallukkowa }}$ the one who went about hunting jackrabbits: the particle pok? ${ }^{\text {P }}$ jackrabbit is the complement of łat ${ }^{\text {Pallu-kkowa? }{ }^{\text {P }} \text {, a close-knit }}$ verb construction (15.212) containing -kkowa? past agentive subordinate with Pallu (verb class 7) to go about, łat < łata (verb class 9a) to hunt.
hom 'ill 'ona (me having the-one-who) my spouse: the pronoun hom me is the complement of Pill Pona, a sandhi reduction of Pilli- ${ }^{\text {P }}$ ona, composed of
 9a) to have.
Pačiya• ${ }^{\text {Pottaka }}$ knife sharpener: the noun ${ }^{\text {Pačiya-', containing }-(V) \cdot \text { plural }}$ with Paciya (class 1) knife, is the complement of ${ }^{\text {Potta-ka, composed of }-k a}$ (particle-forming) instrumental with ${ }^{\text {Potta (verb class 9b) to be sharp. }}$
pewi yałtonne bedspread: the noun pewi (class 1) bed is the complement of yałto-nne, containing -nne singular, which forms a noun derivation from a verb construction (10.31) when suffixed to yałto (verb class 9a) to be on top of.
 made eyes for himself with coyote-weed berries . . . : the noun phrase hasuski mo-we?, composed of -we? plural with mo (noun class 1) spherical object, berry and hasuski (particle) coyote weed, is the complement of ${ }^{\text {P }}$ itunekkow, containing -kkow $<$-kkow past agentive subordinate with ${ }^{\text {Pitune- }}<$ ${ }^{\text {Pitune }}$ (verb class 8a) to cause oneself to have eyes.
15.223. In contrast to predicates, substantives may be expanded by coordination.
 went about hunting cottontails and jackrabbits in the sagebrush: the coordinated substantive is composed of 'okšik? $<$ ' ${ }^{\prime}$ okšik'o (particle) cottontail rabbit, ta’p (particle) and, pok? (particle) jackrabbit.

Some of the numbers are expanded substantives formed by coordinated
 $P_{a}$ 'witen (twice ten and four) twenty-four.
15.3. Incorporation. Substantives, in the form of particles or nouns, may be incorporated into the verb complex, and verb prefixes are then preposed to the substantive. However, the two components are treated phonologically as separate word units, for each receives the word stress on its first syllable:
 reciprocal (a prefix for verbs), -kih $<$ kihe (particle) ceremonial brother, ${ }^{?}$ aš- $<{ }^{\text {'aša (verb class 6a) to make, -ka past. These constructions with in- }}$ corporated substantives appear very rarely in the types of material which I have collected (casual speech, stories, prayers), and the incorporated forms are grammatical alternatives of the more common, syntactically looser constructions: thus, kih ${ }^{\mathrm{i}} \mathrm{i} y$-aš-ka, with the reciprocal prefix attached to the verb, is an optional variant of the preceding example.
Incorporated substantives may function as subjects of the verb as well as objects: in ${ }^{\mathrm{P}}{ }^{\text {as }}{ }^{\mathrm{P}} \cdot \mathrm{w}$-allu-kka (hand[s] they-moved-about) he felt about with his hands, the prefix ${ }^{\mathrm{P}} \cdot{ }^{\cdot} \cdot \mathrm{w}$ - indicates that ${ }^{\mathrm{P}}$ as $<{ }^{\mathrm{P}}$ asi (noun class 1) hand is a plural subject, for the verb ${ }^{\top}$ allu (class 7) to move about is intransitive. Even though the plural element is a verb prefix, it may be attached to the substantive in order to pluralize the total construction: compare the preceding
 nouns are the incorporated substantives, they are usually not inflected for number, as in the preceding examples of an incorporated subject or in the following incorporated object: ${ }_{\mathrm{i}}$-we taku-ka he wore the fur pieces around his neck, containing ${ }^{\mathrm{P}} \mathrm{i}$ - reflexive (a verb prefix), we (noun class 1) fur of small animal, taku (verb class 9a) to wear around the neck, -ka past. In some instances incorporated nouns take inflectional suffixes, but the cases are too few to permit the conditions for this practice to be determined: la $\cdot \mathrm{k}^{\mathrm{P}}$ susk ${ }^{\mathrm{P}} \mathrm{a}^{\prime}$-tunałupc ${ }^{\text {i-nna- } \phi \text { today coyotes have yellow eyes, in which the verb complex con- }}$ tains ${ }^{\mathrm{P}} \mathrm{a}$ - plural subject (a verb prefix), tuna (noun class 1) eye, $-(\mathrm{V})^{\cdot}$ plural (a noun suffix), łupc?i (verb class 10a) to be or become yellow, -nna static, $-\phi$ present.
15.4. Concord. Negative sentences and sentences involving subject or object number demand syntactic concord.
15.41. Negative Concord. Constructions in which the verb contains a negative suffix are accompanied by a negative particle. The particle Pełła, which occurs independently as the negative utterance no (14.2), is the element which appears with predicates containing imperative or permissive verbs; with verbs having other inflectionn, the nagative particle is $k^{w} a^{?}$.
Pelt to " Pute-nam-lil you (ringular) shouldn't bet: ${ }^{\text {Pett }}$ sandhi-reduced from Petta, -nam nemailue, III impimimiva.

Pełł tešlan-nama- $\phi$ don't be afraid: -na²ma negative, - $\phi$ imperative.
$\mathrm{k}^{\mathrm{w}} \mathrm{a}{ }^{\mathrm{P}}$ tešlan-nam-ka he wasn't afraid: -ka past.
$k^{w} a^{P} k^{P} a t-$ scuk $^{w}{ }^{w}$ it won't get hot: -šuk ${ }^{w}$ a negative future.
15.42. Number Concord. A singular subject or object is expressed by a singular noun or pronoun in agreement with its predicate verb, the verb being singular in lacking a plural subject or object affix. For the plural, the noun or pronoun takes the plural inflection, and plurality is again indicated in the verb.
yam ča-Ple ${ }^{P}$ ho ${ }^{P}$ Potenna $I$ will make my child dance: $-P^{P}{ }^{P}$ singular with ča (noun class 1) child.
yam ča-we? ho ${ }^{\text {P }}{ }^{\circ}{ }^{\circ}$ w-otenna I will make my children dance: -we ${ }^{\text {P }}$ plural, ${ }^{\mathrm{P}}{ }^{\circ}$. $w$ - plural object.
hon ' ${ }^{\circ}$ 'w-ote'-nap-ka we made them dance: -nap plural subject.
The singular form of a noun, when used with a verb containing a plural morpheme, denotes the dual.
pasi-n $\mathrm{k}^{\mathrm{P}}$ apa the sleeve is wide: $-\mathrm{n}<-\mathrm{nne}$ singular with pasi (noun class 1) sleeve.
pasi-n ${ }^{P} \mathrm{a} \cdot \mathrm{k}$ ’ apa the sleeves (dual) are wide: ${ }^{\mathrm{P}} \mathrm{a} \cdot$ - plural subject. The only distinctively marked dual form in Zuni is the third person pronoun (Table 3, in 11). For other pronouns the dual is expressed by the undifferentiated dualplural form in conjunction with a singular verb.
ho'n ${ }^{\text {P }}$ unaye he sees us (dual): ho' $\mathrm{n}<$ ho $^{\text {na }}{ }^{\text {P }}$ us (dual or plural).
ho' ${ }^{\mathrm{n}}{ }^{\mathrm{P}}{ }^{\circ} \cdot \mathrm{w}$-unaye he sees us (plural): ${ }^{\mathrm{P}} \mathrm{a}^{\circ} \mathrm{w}$ - plural object.
15.5. Order of Components. In complex sentences the independent clause is always the final clause. In any type of clause the verb is always the terminal word. It is axiomatic, then, that an object complement precedes its verb. Following the same sequence, a complement in an expanded substantive always precedes its governing substantival term (15.222).

No other components manifest such fixity of order, but certain dominant positional patterns can be described. Particles which function as clause modifiers or predicate modifiers are generally placed at the beginning of the clause.
čim $s k^{w} a^{\text {P }}$ ho ${ }^{\text {P }}$ okk ${ }^{\text {Passsuk }}{ }^{W}$ a (now then not I will-forget-it) now, then, I will not forget it.
ta's ${ }^{\text {'imat }}{ }^{\text {' }}$ an tena'ka (again then $i t$-seems for-him sang) then he sang for him again, it seems.

Modifiers of substantives show considerable variability of position. But there is some tendency for modifying particles and personal pronouns to precede their governing substantive, and for modifying nouns and verbs to follow it.
hiš tenan cosya. ${ }^{3}$ a very pretty song: hiš (particle) very, $\overbrace{}^{?}$ adjunctive subordinate with co ${ }^{P}$ ya (verb class 9b) to be pretty.
tom tuna• ${ }^{\text {ifluwahanna your eyes will run away: tom (pronoun) your. }}$
${ }^{2}{ }^{2}{ }^{\text {P }}$ walolo-nne (mica shiny) glass: -nne singular with walolo (noun class 1 ) shiny (object).
However, a modifier may be separated from its governing substantive by intervening words which are not part of the substantive construction.

čim syam ta ${ }^{\cdot} \mathrm{k}^{\rho} \mathrm{a}^{\mathrm{w}} \mathrm{k}^{\boldsymbol{w}}$ in ${ }^{\text {P }}$ ituna ${ }^{\circ} \mathrm{ka}$ (now then one's-own [i.e., his] again to-house directed-himself) now he directed himself toward his house again.

When a clause contains both a subject and an object, the subject usually precedes.
 [i.e., woodpecker] coyote perceiving) meanwhile, when Woodpecker perceived Coyote . . . .
 one's-own [i.e., bis] eyes causing-to-run-away) then, after Coyote perhaps made his eyes run away again . . . .
ta ${ }^{\cdot}$ ho ${ }^{\top}$ yam papa' suw hot tena $\cdot n$ hakk${ }^{\top}$ anna (again I one's-own [i.e., my] older-brother-or younger-brother perhaps sing will-ask) perhaps I will ask my older brother or younger brother to sing again.
${ }^{\text {Pa'č ho'n }}{ }^{\text {PayyučiPatika (they-two us were-amazed-at) they (dual) were }}$ amazed at us (dual).

The common sequence in a clause, then, is: 1) clause and predicate modifiers in the form of particles, 2) subject substantive, 3) object substantive, and 4) verb complex of predicate. In a close-knit predicate construction, modifiers and complements immediately precede their governing verb; otherwise, they may appear earlier in the clause (15.211-15.212). Within a substantive the usual order is for complements and modifying particles or pronouns to precede their governing term, for other modifiers to follow it.

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