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A S K E T C H

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A R A P A H O G R A M M A R

A SKETCH OF ARAPAHO GRAMMAR

By

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0. I n t r o d u c t i o n

0.1. This dissertation is concerned with the grammatical structure of Northern Arapaho, the dialect of Arapaho habitually spoken by several hundred Indians residing on the Wind River Indian Reservation in Wyoming. In addition to these speakers, there are around a thousand other Northern Arapahos living in the Wind River area who occasionally make limited use of their language. Throughout this sketch, the Northern Arapaho dialect will be referred to simply as Arapaho.

0.2. First of all I wish to express my gratitude to Indiana University and to the American Philosophical Society for the financial support which made my work on Arapaho grammar possible. The former institution financed an exploratory field trip to the Wind River Indian Reservation in the summer of 1949 and was again helpful when I brought an Arapaho informant to the university campus for the Linguistic Institute held there during the summer of 1952. The American Philosophical Society provided funds for fieldwork

during the summers of 1950 and 1961 and also supported my Arapaho research during the summers of 1952 and 1962.

I owe an expression of gratitude to Professor Carl F. Voegelin for his assistance in securing research funds and for his continual encouragement throughout the years during which the writing of this grammar was in progress. To him and to Dr. Florence M. Voegelin, as editors of International Journal of American Linguistics and Anthropological Linguistics respectively, I am furthermore indebted for permission to quote or paraphrase from the articles on Arapaho which I have already published in the two journals.¹

Last but not least, I am very grateful to my wife, who not only has been an unfailing source of encouragement to me but has also cheerfully helped me with the preparation of this manuscript.

O.3. Most of the linguistic material was obtained in 1949 and 1950 from the late John B. Goggles (1883-1952), a Northern Arapaho of Ethete, Wyoming (Wind River Indian Reservation). A friend and guide of the late Algonquianist Truman Michelson, Goggles proved to be a very cooperative and intelligent informant. Because of his appreciation of the old values, his deep interest in his native language, and his reliability, the quality of the data he provided may never be duplicated.

The remaining portion of the material comes from two informants. Data obtained in 1952 and 1961 were contributed by William Shakespeare (born 1901) of Arapahoe, Wyoming, an acculturated Arapaho with

useful experience as a tribal interpreter. In August 1957 I was able to supplement my field notes with about thirty hours of additional work with Shakespeare who was then in Flagstaff, Arizona, in connection with research on sign language sponsored by the anthropology department of Indiana University. Shakespeare's help has been of great value to me.

Some data obtained in 1949 and 1950 were provided by Ralph Edward G. Hopper (born 1908) of Ethete, Wyoming; however, his chief contribution was to our record of Arapaho music.

Other native speakers (including a few women) were consulted on details only.

O.4. Before I proceed with an outline of Arapaho phonology, it may be of interest to discuss briefly the relationship of the several Arapaho dialects. The traditional classification of the Algonquian language family comprises four divisions: I. the Central-Eastern languages, with the Central and New England subdivisions; II. Blackfoot; III. Cheyenne; and IV. Arapaho-Atsina-Nawathinehena.² The languages of the last three divisions—the so-called Plains Algonquian languages—are of particular importance for the comparative study of Algonquian: they are characterized in varying degrees by special developments in their phonology, morphology, and lexicon. Furthermore, Arapaho and apparently also Cheyenne parallel a number of the eastern languages in that their accentual systems are distinctive.

Following Kroeber,³ the Arapaho-Atsina-Nawathinehena division may be subdivided as follows: 1. Arapaho proper, with two branches— 1.1. Northern Arapaho (Wyoming) and 1.2. Southern Arapaho (Oklahoma); 2. Gros Ventre or Atsina; 3. Nawathinehena; 4. Besawunena; and 5. Ha^ʔanahawunena.⁴

Of these dialects, Ha^ʔanahawunena was very likely extinct by the time Kroeber did his pioneering fieldwork among the Arapaho at the turn of the century. Since then, two other dialects have undoubtedly become extinct—Nawathinehena and Besawunena. The former, according to Kroeber,⁵ was still remembered by a few old people, but probably was no longer habitually spoken by anyone. The latter dialect was reported by Kroeber⁶ to have been habitually spoken by several individuals among both the Northern and the Southern Arapaho, and was heard by Michelson.⁷ Mooney estimated the number of the Besawunena speakers at about one hundred⁸ toward the end of the last century and later at about fifty;⁹ with the possible exception of a few individuals, these speakers resided with the northern branch. Hilger, who did her fieldwork among both the Northern and the Southern Arapaho between 1935 and 1942, reported¹⁰ having found members of the Besawunena group, but made no mention of the dialect they spoke. I made several inquiries concerning these two dialects among my Northern Arapaho informants; from their information it appears that among the Northern and the Southern Arapaho there are no speakers of either Nawathinehena or Besawunena living at the present time.

As regards the distance between the dialects of the Arapaho division, the following summary of the available information may be of interest.

Differences between Northern and Southern Arapaho are few and of no great structural significance. On the lexical plane, one encounters occasional differences in the denominations of nonnative culture elements, e.g., Southern Arapaho čěčehnóókuθóó as against the Northern Arapaho číítooʔoyóó, meaning harness. On the phonological plane, the only conspicuous difference observed was a Southern frontal allophone [š] of the phoneme/s/ in certain positions. In all fairness, however, I should say that I have not made a systematic inquiry into the differences between Northern and Southern Arapaho. Kroeber¹¹ quoted his informants as stating that the speech tempo of the northern speakers is more rapid than that of the southern speakers; the same information was volunteered by my own informants.

Closest to Arapaho proper stands Besawunena. The brief comparative vocabulary given by Kroeber¹² bears out this statement. According to Kroeber, the two dialects were very close¹³ and Besawunena was easily understood by the speakers of Arapaho proper.¹⁴

Next in proximity to Arapaho proper is Gros Ventre. According to Kroeber,¹⁵ it is "certainly intelligible to the Arapaho for at least the greater part." One of my informants, William Shakespeare, confirmed this: "When an Arapaho first hears Gros Ventre, he has trouble understanding it. After a while he can understand when it's

spoken slowly and later on even when it's spoken fast; but certain words are different and they can't be understood. It's harder to understand the Gros Ventre women than the men."¹⁶ Historically, Proto-Algonquian *θ > Arapaho θ and Gros Ventre t; PA *ʔθ > Arapaho s and Gros Ventre θ; PA *č > Arapaho θ and Gros Ventre c; and PA *p > Arapaho k ~ č and Gros Ventre c.

Nawathinehena is more distant from Arapaho proper than either Besawunena or Gros Ventre. Historically, PA *l > Nawathinehena t and Arapaho-Gros Ventre n;¹⁷ PA *θ > Nawathinehena t and Arapaho θ; PA *m > Nawathinehena m and Arapaho-Gros Ventre b ~ w; PA *w > Nawathinehena b ~ w ~ m (?) and Arapaho-Gros Ventre n; and PA *č > Nawathinehena c and Arapaho θ. Thus, in the treatment of PA *θ and *č, Nawathinehena and Gros Ventre are in agreement as against Arapaho proper. We have no direct information as to the degree of intelligibility between Nawathinehena and the other dialects. However, on the basis of the data provided by Kroeber,¹⁸ one may venture the following conclusion: (a) the information transfer between Arapaho proper and Nawathinehena was lower than that between Gros Ventre and Arapaho proper; (b) the information transfer between Gros Ventre and Nawathinehena was higher than that between Arapaho proper and Nawathinehena.

Concerning Ha⁷anahawunena no information is available other than that offered by the Arapaho themselves and cited by Kroeber: the dialect "...is said to have differed most from the Arapaho and to have

been the most difficult to understand."¹⁹

If we accept the native judgment on Ha^ʔanahawunena and arbitrarily consider this dialect as one extreme of an intelligibility scale, the other extreme of which is Northern/Southern Arapaho, then we may list the dialects of the Arapaho division of the Algonquian family as follows (dialects presumed extinct are underlined): Northern/Southern Arapaho—Besawunena—Gros Ventre—Nawathinehena—Ha^ʔanahawunena.

1. P h o n o l o g y

1.1. The stream of speech in Arapaho may be described as a succession of phrases which are delimited by pauses and consist of one or more accentual contours. The extent of a contour is determined by the style of delivery. Thus, utterances forthcoming under circumstances of formal nature—e.g., during ceremonies, deliberate storytelling (such as of an old Arapaho to his grandchildren), or controlled linguistic inquiry—are broken up by junctures into contours which closely correspond to words. On the other hand, utterances of an informal discourse or a spontaneous narration are characterized by more extensive contours and sandhi forms in certain instances where junctures occur in the formal style. Thus, to cite at least one example, the very deliberately phrased (and hence formal in style) sequence néhéʔ hinén nonoohówoot núhúʔ hísein this man sees this woman corresponds in the informal style to néhéʔ inén nonoohówoot núhúʔ úsein; the loss of h illustrated above occurs regularly in instances where the cluster -ʔh- would otherwise be the outcome of the

fusion of two contours.

Needless to say, a potential utterance may be spoken, according to circumstances, either in the formal style or in the informal style, which is somewhat faster than the former. Occasionally, both styles are found mixed in longer utterances.

Isolated words cited hereafter are to be understood as bounded by pauses; Arapaho examples spanning more than one contour are written with spaces marking junctures. All distributional statements made below are in reference to the contour as the matrix.

1.2. The consonant phonemes of Arapaho comprise five stops (including one affricate), four spirants, one nasal, and w and y. A second nasal, m, recorded exclusively in the loanword (or onomatopoeic form) muú moo is excluded from the regular repertory of consonant phonemes.

Employing five articulatory zones--labial, apical, frontal, dorsal, and faucal--one may tabulate the consonants as follows:

b	t	č	k	ʔ
	θ	s	x	h
		n		
w			y	

Their main allophones are listed below.

The phoneme b¹ is a bilabial stop, voiced initially, intervocalically, and following another consonant; in the final position it is voiceless (occasionally unreleased). A corresponding voiced

spirant [β] is rarely heard in free variation with [b] between vowels.

The phoneme t is a voiceless dental stop, aspirated finally, and with markedly prolonged closure in intervocalic position after a short vowel associated with a high-pitch prosodeme.

The phoneme k is a voiceless velar stop articulated according to the following vowel between the prevelar and mediovelar points; in the final position and as the first member of a cluster it has an aspirated, occasionally u-colored, allophone [k^c(U)].

The glottal stop ʔ is aspirated in the final position, and in emphatic speech it is sometimes followed by an echolike effect corresponding to the preceding vowel.

The phoneme č̣ is treated herein as a unit rather than a cluster. Among the reasons for doing so is the total absence of initial consonant clusters in my material. č̣ is a voiceless prepalatal affricate, slightly aspirated in final position and also as the first member of the cluster -č̣č̣-.

The phoneme θ generally occurs as a voiceless interdental spirant in all positions.

The phoneme s is a voiceless alveolar groove spirant; in final position and before the high front vowel it is often slightly palatalized; intervocalically after a short high-pitched vowel it is somewhat lengthened.

The phoneme x is a voiceless velar spirant articulated according

to the contiguous vowel between the prevelar and mediovelar points.

The phoneme *h* is a glottal spirant; the position of the articulators approaches that of the following vowel; between vowels, one may frequently hear a voiced or murmured allophone.²

The nasal *n* is a dental continuant, voiced nonfinally; the final allophone is voiceless or partially devoiced; intervocalically after a short high-pitched vowel *n* is somewhat lengthened.

The bilabial *w* and mediopalatal *y* each have two main allophones: a voiceless one in the final position and a voiced one elsewhere; the voiceless allophone of *w* is also heard in clusters before another consonant.

All these phonemes occur singly in the initial prevocalic position, between vowels, and in the final position after vowels.

Examples follow:

b—initially: *beʔítei* bedbug; intervocalically: *hébes* beaver;
finally: *nééséb* my daughter-in-law.

t—initially: *tíʔiihii* kildeer; intervocalically: *woʔotéénox*
black bear; finally: *honóókowúúbeest* elephant.

č—initially: *čóóʔotóoyoʔ* camel; intervocalically: *nisíče*
antelope; finally: *wóókeč* cow.

k—initially: *kohóhʔok* bee; intervocalically: *bexóókee* cougar;
finally: *hókok* soup.

ʔ—initially: *ʔóó* yes (woman speaking); intervocalically:
niiʔéhii bird; finally: *hééniʔ* ant.

e--initially: éííhoho forefinger; intervocalically: béθit anus;
finally: héθ dog.

s--initially: seeníwoo lizard; intervocalically: bíísee bug;
finally: bénes arm.

x--initially: xooó skunk; intervocalically: nóóxobeʔ frog;
finally: wóx bear.

h--initially: henééčee buffalo bull; intervocalically: hehéč
vagina; finally: bíhʔih deer.

n--initially: noʔéixʔi mink; intervocalically: wonóʔ ankle;
finally: yooθón five.

w--initially: wonót belly; intervocalically: nówoʔ fish;
finally: wow now.

y--initially: yéín four; intervocalically: seyóót marrow;
finally: čééséy one.

Several minimally contrastive sets are offered below in concluding this section: bétee heart, kétee is it your heart?, hétee your heart, nétee my heart; xooó skunk, hooó porcupine; čís nighthawk, híś liver; hótoʔ your nape, nótoʔ my nape, wótoʔ nape; béʔ blood, béθ navel, béś wood, bén pus; néb fish, néč water, néʔ goose, néθ my navel; nótoʔ my nape, nówoʔ fish. Note also níítoní hear me! (said to one person) as against níítoníʔ hear me! (said to more than one person).

1.3. There are four vowel phonemes in Arapaho:

i	u
e	o

The vowels are voiced and oral,³ and their phonetic record shows some conditioned and some free variation around or within the ranges of tongue positions indicated below. The vowel i is lower-high front-central unrounded; e is lower-mid front unrounded, generally heard as somewhat lower after b; u is lower-high back unrounded; o is lower-mid nonfront slightly rounded, generally heard as somewhat lower after b and w.

These vowels occur singly and in both identical and nonidentical clusters. They are found only medially and finally, thus having a more limited distribution than consonants, which are also found initially.

Examples of vowels occurring singly are:

i and í—medially: nííʔehíhiʔ birdie; finally: hinéni moose,
ǎíʔoonooθítóóní tell me stories! (from a traditional narrative).

e and é—medially: hébes beaver; finally: nisíʔe antelope,
hiniín hééʔihnótóneʔ notóustoo koohéésówoobé his wife asked him,
"What's the matter, are you sick?" (from a traditional narrative).

o and ó—medially: kohóhʔok bee; finally: níítc six, néésó three.

u and ú—medially: kooʔoh(o)wúhuʔ coyote; finally: nóóku rabbit,
nóʔouhʔú squirrel.

Minimally contrastive pairs for i : e, e : o, and o : u are:
hítii his mouth and hétii your mouth, héθ dog and hóc arrow, and
nihʔóóθoo spider and nihʔóóθou spiders.

1.4. Every vowel phoneme in Arapaho is associated with one of

two prosodemes; these are high level pitch and low level pitch. In the phonemic transcription here employed, the former is marked by an acute accent and the latter is unmarked.⁴ Apart from the difference in relative pitch, the prosodeme of high pitch is further differentiated from that of low pitch by being correlated with greater loudness.

Each of the two contrastive levels of pitch is actualized in several variations. The exact extent to which these variations are free and to which they are positional is yet to be determined. Consequently, the two generalized statements which follow allow further refinement.

(a) Lower variants of either register, or both, are regularly heard in contour-final position. In phrases consisting of two or more contours the phrase-final variants are extra low, i.e., they are characterized by frequencies of glottal vibration which are relatively somewhat lower than those of variants of the contour-final position.

(b) Longer sequences of either register in positions other than those mentioned under (a) have frequently been observed with lower variants occurring within the sequence.

It should also be observed that occasionally certain morphemes—besides having alternant shapes as to pitch—may freely vary as to pitch from speaker to speaker or even with one speaker at different times. Specific sequences of phonemes exhibit with some frequency

two freely varying prosodemic arrangements, e.g., -C'VVCV ~ -C'VVCV' as in béíθe' ééno ~ béíθe' ééno' heads.

A phonetic transcription of an Arapaho phrase consisting of three contours is given below, with the observable pitch variations marked 6 through 4 for high and 3 through 1 for low: [ní³h²á⁶⁻⁶θ³⁻² hÉ⁶⁻⁶ʔ³x³á³⁻³wí⁶ní³⁻³hí⁵s²⁻² ní³⁻³ǰ³⁻³hÉ⁴h²á¹ʔ^c] White Man was walking down the river; phonemically, this is written as nih³óó³θ³ hée³ʔ³ix³ʔ³owúnihísee níí³í³héhé³.

1.5. Consonant clusters in Arapaho are noninitial and consist of two members. Some of the medial clusters are found within morphemes, others arise across morpheme boundaries, and still others result when short contours are consolidated into longer contours of less formal delivery.

The following listing displays all the medial clusters that I have recorded. In parentheses, those consonants are listed which, in clusters, follow the consonant that precedes the parenthetical material:

b (k); t (b, t, č, k, θ, s, h, n, w); č (t, č, k, x, n); k (b, t, č, k, ʔ, θ, s, x, h); ʔ (t, č, k, s, n, w);

θ (b, t, č, k, θ, x, h, n); s (b, t, č, k, θ, s, x, h, n, w); x (b, t, č, k, ʔ, θ, s, x, h, n, w); h (b, t, ʔ, h, n, w, y);

n (b, t, č, k, θ, s, h, n);

w (b, t, č, k, θ, s, x, n).

Among the above 82 medial clusters t, č, k, θ, s, x, h, and n occur geminated; y does not occur as the first member of any cluster;

and x is followed by all consonants except y.

Examples of all the medial clusters are now given in the order in which they are listed above: čéébkóohut he is running by; hóótbiííhnoo I am going to eat; wottoóet saliva; kooóótčiiíhbee "Do you care to eat, friend?" (from a traditional narrative); hóótkořúxowoo I am going to cut something; heetěiřisóónoo I will urinate; bétson elbow; tooótheeníhoo heeěíhók "Where are you going?" she asked (from a traditional narrative); yéin hóótnííhinoo I am going to count to four; heétwonbiííhnoo I am going over to eat; hínee wócxé hoow(u)čéčtoyo(o) that knife isn't very flat; heččésee robin; kohořowóon nihřeenéičkúuóóót he was throwing up a ball; hítořócwúř héhneeheečxoočóótíniř his house is very narrow; neěřihyííěčneíhiinoř heétoxnókóhuniě nihřóóoo they sent it [the mouse] over to where White Man slept (from a traditional narrative); heěřixxookbíseiřínoořoo his leg went through (from a traditional narrative); heěěeneiěiřokteesbiííhíitóoneř the dog is sitting under a table (informal style); nonóckčeneéteeyooř (it is) light green; nóówo hókókkúhebínoo I like to drink soup; nonóhřoř nóókuhéheř hetííěoo heeěíhókřuusóhřoho "Tell [the bear,] 'I killed the rabbit,' said her brothers (from a traditional narrative); nóókeetóok white of the eye; nooksíísiic swan; teřiyoonóhřoř heěřixřoonóokooětókxónoř the children ran scared to their homes (from a traditional narrative); hóók(u)húřee head; ěiořtox nine; béěčěsoř chest; nihiřkóóhu run!; neěříísiíyei water snake; niíceřnóúbee horsefly; heěřixěóuxóhuřuu

núhú¹?wóxuusóono he boiled the bear babies (from a traditional narrative);

hée¹?ihnonoθbii¹?ínee hícebéh¹?e¹ she soon found it near by (from a traditional narrative); hē¹θeneesθi¹?ókut θi¹?okuútoóne¹? the dog is sitting on a chair (informal style); hée¹?ihnóce¹θe¹?i¹?oo hē¹?ix¹?iiteen¹?hee he walked away without touching it (from a traditional narrative); hē¹beθkoh¹?ok bumblebee; hē¹θeneiθi¹?ókteesbí¹?θi¹?it¹?óne¹? the dog is sitting under a table (informal style); nii¹θx¹ceyó¹ fence; hē¹θeneiθi¹?ókteesbí¹?θi¹?it¹?óne¹? the dog is sitting under a table (informal style); hē¹θene¹?i¹?oohóto¹? θi¹?okuúto¹?o the dog is looking at a chair (informal style); hē¹θeneiθi¹?ókteesbí¹?θi¹?it¹?óne¹? the dog is sitting under a table (informal style); né¹hē¹?inen hē¹?ixteestoxu¹?ó hí¹?ooθ hohóbtin this man put his leg on a tree to sharpen it (from a traditional narrative); beesc¹enee ostrich; séskout nightingale; bé¹es¹é¹é¹θoo thumb; bé¹esse¹? big toe; hē¹xko¹?ú hē¹n¹isxoh¹?onó¹θi ní¹n¹i¹?i¹?i¹hi¹θi¹? pumpkins are good to eat when they are ripe; hókóuyoono ni¹no¹?oθ ní¹shí¹?i hí¹nee hē¹tihno¹(o) they make many reservoirs where I come from; bí¹isnin¹?oo¹θoo monkey; cé¹ese¹?iseihi¹? hē¹?ihné¹én híneneeswoxúunit one girl pretended to be the bear (from a traditional narrative); hē¹?ix¹?iibe¹toxbí¹?é he wanted to eat (from a traditional narrative); se¹?ix¹too foot; ben¹ix¹ceyó¹? (it is) pink; wotoxko¹? chin; wox¹?oo¹? badger; wokóoux¹é¹é¹θoo back of the hand; hē¹?ixse¹?isinen núhú¹?eeto toxu¹?oho¹? hí¹?ooθ it [the tree] was lying where he was sharpening his leg (from a traditional narrative);

^hee^hixxookbisei^hino^hoo his leg went through (from a traditional narrative); woxhoox horse; wonoxno^h skins; xoxóoyixwoxuhóox zebra; hehbéteetoxu^hei^h wóoke^hci ten cows; tohto^howó^h because I strike him; kohó^hok bee; hehneé^htikoti^hino^h nohheenésinéeno^h we are very tired and hungry (from a traditional narrative); hehniísootoxu^hei^h wóoke^hci seven cows; koo^hoh(o)wuhu^h coyote; hehyó^hoon^hei^h wóoke^hci five cows; hee^hixce^heni^hihenbíxou^hoo he came out of the water (from a traditional narrative); éoonteéc crown of the head; wó^hoteenceneéteeyoo^h (it is) dark green; hee^hihiiscéno^hoo toónkooxcéit he jumped toward one [buffalo] (from a traditional narrative); woséin^hé^hin^hei^h bat; cenéeteensíisi^hyei^h green snake; béen^hhé^hee^h he ^hih^hni^hw^hoh^hoo^hun bees ^hib^hino he took a few plums with him (from a traditional narrative); wó^hoteenni^hhooyó^h (it is) brown; hoowú^hni neihow^hbei hee^hé^hihók "No, I don't give it away," he said to him (from a traditional narrative); neihowtonó^hun nu^hh^héeni^hsoú^hu heehé^hxk wox "I don't use this kind [of wood]," said the bear (from a traditional narrative); heihow^hciiteino^h hinéno^h neyeh^hé^h men don't come into my tepee (from a traditional narrative); hotoowku^hutoot uvula; hót^hni^hhoowé^hoxoyéi he will not talk harshly; neh^hi^hhoow^hé^hesín I was not lying (down); xou^héeyó^ho the chimney was not straight; hee^hixci^hini^h they could not run any longer (from a traditional narrative).

My recordings yield only three final consonant clusters, of two members each: -x(t, k) and -h^h. Examples are: niixó^hsext

blue racer, heehé'xk nih'óó'óoo White Man said (from a traditional narrative), and beexóó'óih' a little later.

1.6. Vowel clūsters are of two main types, those consisting of like vowels and those consisting of unlike vowels.

The clusters of the first type are dyadic and triadic. Since each vowel in Arapaho is associated with one of two prosodemes, a number of different arrangements are possible.

Two contiguous like vowels with like pitch constitute a long vowel, phonetically characterized by a single impulse of stress. Examples of contrastive pairs based solely upon the difference in quantity are hísi' tick and híisi' day, hó' dirt and hóó' field, and hóú blanket and hóúú crow. As against their short counterparts, the long high vowels are closer and tenser.

In the case of two contiguous like vowels with unlike pitch, the first vowel in the sequence VV̄ is more sonorous and acts as the peak of the syllable; in the sequence V̄V, the two vowels are peaks of two separate syllables marked by a y-like or h-like transition in the case of i, and an h-like transition in the case of the other three vowels (represented below by [̣]).

The description of the phonetic materialization just given holds true also of triadic clusters of like vowels with unlike pitch. Thus, híií snow and hóóó bed would have been phonetically transcribed as [hí⁵₁í²í⁴] and [h⁵_ωω²ω⁴].

Clusters of unlike vowels consist of either two or three members,

but do not involve more than two different phonemes.

An exhaustive alphabetic list of vowel clusters is presented below. Vowels or clusters thereof do not occur initially.

(a) Dyadic clusters of like vowels occurring medially are: ee, ée, éé, ii, íi, íí, oo, óo, óó, uu, úu, úú; those occurring finally are: ee, ée, éé, ii, íi, íí, oo, óo, óó, uu, úu, úú.

(b) Triadic clusters of like vowels occurring medially are: éee, ééé, ééé, íii, ííí, óoo, óóó; those occurring finally are: eeé, ííí, ííí, oóó, ócc, óóó, úúú.

(c) Dyadic clusters of unlike vowels occurring medially are: ei, eí, éi, éí, eo, ío, íó, oe, óe, óé, ou, ou, ou, ou; those occurring finally are: ei, eí, éi, éí, íe, ío, oe, óe, óé, óí, ou, ou, ou, uc, úó.

(d) Triadic clusters of unlike vowels occurring medially are: eii, oéé, óee, oee, óóú, óuo, ouu, ouú, óuu, óuu; those occurring finally are: éii, éíí, oee, óee, óuu, óúú, úúo.

Examples are now given in the order in which the clusters are listed above:

(a) heebeθíinén big man; henéetáyéinoo I push; héécesóóʔ it is narrow; béxsihʔi all; bíitéí ghost; bííyi feather; wóʔooθ leg; nonóotééʔ it burns; hohóót tree; wóxuusoo bear cub; hoowúuní not; tééxokúút saddle horse;

ʔeʔíθee ashes; heé hóótnééθebíseenoo yes, I am going to visit

you (from a traditional narrative); heé^{11?}ix^vcix^vce^vθix¹o¹hee he started back (from a traditional narrative); céetée¹¹ smoke; betíhi tail (of land mammals); héenií ants; heé^{11?}ix^vcix^v?eneitén heéto¹¹x¹u¹θetní béxo she gathered it where the wood was good (from a traditional narrative); nííííí river; hooxóonínoo I am laughing; wó¹¹o(h)ó cat; nóhóo stallion; hóo porcupine; cécinóhuu chicken hawk; seeníwuú lizards; tihííiiskóxtiseé¹¹θi¹? hí¹¹o¹?owú they got over the mountains onto a plain (from a traditional narrative); hookúú mouse.

(b) ho¹¹éet clay; níínebeh¹¹?éet kingfisher; wohéí neneéexkóni¹¹? nu¹¹hú¹¹?o¹¹o¹¹?u beenokú¹¹θi¹¹? níyíi¹¹θeíhí¹¹θi¹¹? now, these are the stars called 'they sit together' [Pleiades] (from a traditional narrative); besíise¹¹? eye; hiisíííí¹¹? heé^{11?}ix^vce^v?¹¹o¹¹onkóohunó¹¹? hónoot hee^{11?}ihbíh¹¹?iyóon they kept running through the day until it was dark (from a traditional narrative); hinócox bark of a tree; wox¹¹?óo¹¹? badger;

heeé yes (man speaking); híisíííí¹¹? days; híííí snow; hooó porcupine; wokóoo back; hóóó bed; wuuú copulate!

(c) bei¹¹θón tongue; níh¹¹?oo^vceíhíi grasshopper; heneíxó¹¹? I fear him; níh¹¹?ootéíbee butterfly; híceobée¹¹ thigh; θio¹¹?tox nine; (~) θio¹¹? nine; hootnee^véinoehínoo I'll go out for a little while (from a traditional narrative); beneéseinóehít he is big; nonóokoxóehít light horse; níí¹¹θouyoo milker (cow); biíhóut cricket; konoo¹¹?ou¹¹θó¹¹? dust; hítoohóunoox draft horse;

be¹¹?ítei bedbug; neí son; woseí devil; bíiteí ghost; nííííí river; níí¹¹?ehío bird (obv.); níh¹¹?ó¹¹θoo hee^{11?}ihnoo¹¹?ó¹¹hoe woxuuhuu White Man

killed the elks (from a traditional narrative); woθonóhoé pencil;
 woθonohóe paper; hóí here!; nih^ʔooθou white man (obv.); hooxé^hhiisóono
 nih^ʔe^ʔtenóu heehéxk nih^ʔooθoo "I pulled out young wolves," said White
Man (from a traditional narrative); hóú blanket; woxoθou^ʔuo young bull
 (obv.); nookuwó white buffalo (obv.).

(d) ce^ʔeiinóuyoo snowball; nene^ʔtikoti^ʔinoo nohoesine^ʔeno
 kooneci^ʔini^ʔeete^ʔin heehéxk nih^ʔooθoo "I'm tired, I'm hungry; can I
stop here?" asked White Man (from a traditional narrative);
 noh^ʔoeseihí^ʔ firefly; híseino^ʔ heé^ʔixcíncoehíno^ʔ the women were
coming out [of their tepees] (from a traditional narrative);
 wokó^ʔux^ʔee^ʔee^ʔoo back of the hand; wonóuo^ʔ palate; heé^ʔix^ʔe^ʔé^ʔin
 heé^ʔix^ʔco^ʔouutenin hoxotóono^ʔ he knew that there was a cliff [ahead]
 (from a traditional narrative); θou^ʔyeteene^ʔθ police dog; wo^ʔóusoo
kitten; wow heé^ʔihbihi^ʔinou^ʔoo now it was getting dark (from a
 traditional narrative);

besíise^ʔii eyes; beete^ʔii bows; heé^ʔixceni^ʔyiikóhoee he ran a long
way (from a traditional narrative); beéto^ʔxce^ʔénoee hinin^ʔxk hootni^ʔhow
 hiiyeice^ʔénoe if you want to go out again, you won't go out alive
 (from a traditional narrative); beexóuu red fox; hóú crow; cécinohúuo
chicken hawk (obv.).

1.7. There are very few consonant-vowel (or vowel-consonant)
 sequences that are not substantiated by my record. Examples have
 been found for every possible combination of the type vowel + con-
sonant. Among the sequences consonant + vowel, xi, bu, ^ʔcu, θu, su,

and *yu* do not occur in my material. Such morphophonemic changes as those exemplified by the forms *síísiič duck*, *síísiičii duck* (obv.) on the one hand, and *síísiiku^ʔuu ducks* ([proximate] pl. and obv. pl.) on the other, suggest that even a corpus more extensive than the one I am drawing on would not be likely to yield these missing sequences.

The sequence *ki* was obtained from Shakespeare, but not from Goggles. It occurred in interrogative sentences of the English type *did you...?*, e.g., *kihbííθ hókok did you eat the soup?*, *kihben hókok* or *kih^ʔókokuh^ʔeb did you drink the soup?* It appears that the sequence *kih-* of the above examples is a recent contraction and/or allegro style version of *kóóhíh-* (~ *kóóhix-*), as in *kóóhix^ʔííne^ʔítii did you live?* Compare also *kóóhuh-* (~ *kóóhux-*) > *kuh-* (~ *kux-*) *did he...?*, as in *kuhbííθ čó^ʔóó^ʔ did he eat the bread?*, and *kóónihbííθ... did I eat...?*, which does not contract, as it would otherwise cease to contrast with the *did you...?* form.

The form *muú moo*, with its unique occurrence of *m*, has already been mentioned.

The sequence *wi* was obtained only in the expressive form *wí*, an interjection used, according to Goggles, "in a certain game when you barely miss a stake you try to hit with a stone."

The sequence *tu* is rare; my notes yield only two examples, both from traditional narratives: *híituúk néhé^ʔínén héé^ʔihno^ʔúsee sure enough this man came* and *tuxcéihino^ʔ heníísoonínoo hehéxk nih^ʔóó^ʔoo "How do your babies taste?" asked the White Man.* I should

not exclude the possibility that I misheard tu for to.

The sequences bo and we require a special comment. Kroeber correctly observed⁵ that "between these two sounds [b and w], the rule is that b occurs before the front vowels i, e, ä, äⁿ, and w before the back vowels u, o, a, aⁿ. This is a consistent phonetic law of Arapaho; even within the dialect the same stem changes from b to w if the vowel becomes a back one." In a footnote⁶ to his observation he adds that "bā'aⁿ, road, and baha'aⁿ, thunder, are exceptions noted in simple stem words." His examples (bóóó road and box^ʔóóó thunder in my phonemicization) may be supplemented by čóóboonoo I am shooting (intrans.), bó^ʔonóóke red buffalo, bo^ʔóókeč red cow, bó^ʔos glans (penis), bóó^ʔoowu^ʔ catchup, néniibóótowóó niibóót I am singing a song, bónoo^ʔéinóó I fight, and others (some of my examples are not "simple stem words").

The sequence we occurs in my material only as a sandhi form, e.g., in wówéé^ʔihbí^ʔiyóón it was already dark corresponding to the absolute wów (~wow) héé^ʔihbí^ʔiyóón. Morphophonemic examples of the b ~ w alternation are numerous: cf. néibehe^ʔ my grandmother and hiníiwóho^ʔ his or her grandmother; nonoohobéénoo he sees me, nonoohówoot he sees him, and nonóóhowúéi^ʔ they see me.

1.8. As has already been stated, formal Arapaho utterances are broken up by junctures into contours corresponding closely to words. The change from the formal style to the allegro style of a spontaneous narration or of an informal discourse, with the

concomitant consolidation of two or more such contours, is in certain instances accompanied by changes affecting the phonemes at the juncture boundary or, less frequently, in other positions as well.

By far the most common type of such an external morphophonemic change is the loss of h in instances where a consonant cluster terminating in h would otherwise be the result of the fusion of two contours. Thus, hínee hókok héhneeténéíʔóóʔ becomes híneehókokéhneeténéíʔóóʔ that's very thick soup, heeʔíitehíʔi beebéíʔón hixčébeʔ éííʔóókuut becomes heeʔíitehíʔi beebéíʔónixčébeʔ éííʔóókuut there is someone standing way up there, and so on.

When the fusing of two contours brings together two identical consonants, either a long consonant is heard, or in extra fast delivery a single consonant results, e.g., héʔʔeneiʔiʔókteesbííʔhiítóóneʔ the dog is sitting under a table, extra fast héʔenei... (héʔ dog).

Unaccented short vowels preceding a sequence of consonant plus accented vowel(s) occasionally lose their voicing or are elided when delivered in the fast style: thus, čéebikóohút he is running by as against the allegro performance čéebkóohút. Before an utterance-final pause, the sequence -hVt has an allegro alternant -xt.

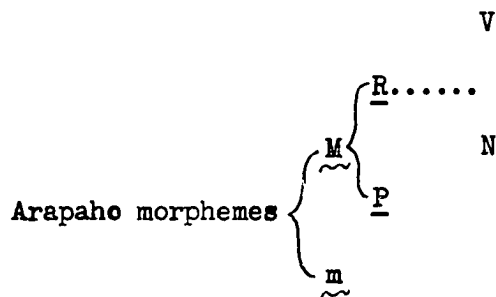
Finally, the sequence -ei- (regardless of the prosodemes it may be associated with) alternates with the sequence -ii- in rapid delivery; thus, híítoneíhʔi nenííwohʔúyeʔít as against híítóníhʔinenííwohʔúyeʔít he's got both arms full of stuff.

There are numerous and very intricate internal morphophonemic

changes, i.e., those resulting from the association of the various morphemes that go into the making of a word. Some of them will be discussed in connection with Arapaho morphology.

2. N o u n m o r p h o l o g y

2.1. Arapaho morphemes may be divided into two classes— .
major morphemes (M) and minor morphemes (m). The class of major
morphemes includes particles (P) and stem-generating roots (R).
The class of minor morphemes includes a variety of affixes. Roots
underlie noun stems (N) and verb stems (V). Graphically—



Among the noun stems (N), two subdivisions are distinguishable—
simple noun stems and compound noun stems. The former are underlain
by one root, e.g., néč water; the latter by two or more roots, e.g.,
heebeθíinen big man (cf. hinén man), héébeθkohóh[?]ok bumblebee (= big
bee; cf. kohóh[?]ok bee), beesčénee ostrich (= big turkey or quail;
cf. čénee turkey, quail), béésniičíe big river, Mississippi (cf.

niičíe river), nih[?]óóθouwóx pig (= white man's bear; cf. nih[?]óóθoo white man and wóx bear), and nihóónčebítee butter (= yellow fat; cf. nííhooyóó[?] [it is] yellow and čebítee fat, grease).

There is also a group of stems which share in both noun and verb inflection. Thus, the form honóókowúúbeet, meaning elephant and also it has a bent nose, appears to be a verb form and is pluralized as such—honóókowúúbeeθí[?] elephants and also they have a bent nose. However, the possessed forms of honóókowúúbeet follow the paradigm of the possessed nouns, e.g., notóókowúúbeet my elephant (as against honóókowúúbeenoo I have a bent nose). This overlapping group of stems will be discussed in connection with verb morphology.

The present treatment of the noun morphology will be essentially concerned with the relationships between noun stems (N) and the associated minor morphemes (m). An analysis of the structure of stems (derivation) has been reserved for future study. In what follows, therefore, the symbol N should not necessarily be taken to stand for a single major morpheme inflected as a noun stem, though in many cases this would in fact be so.

In order that the grammatical exposition may be as clear as possible, all minor morphemes connecting with the noun stems have been numerically identified and assigned to decades. Furthermore, those morphemes operating as prefixes have been numbered within the range of 1 through 99, those operating as suffixes within the range

of 201 through 299. All of these affixes are surveyed in Section 2.11. (Minor morphemes connecting with the verb stems will be similarly identified beginning with 1001. This system of numbering has been chosen in order to allow for future expansion within the present framework.)

All statements concerning Arapaho grammar have been provided with generous examples. As a rule, I list all those alternants of minor morphemes which are reliably attested in my field notes. In addition, cited Arapaho forms are generally followed by a double analysis in parentheses. The first parenthetical formula, before the virgule, lists the morphemes of a given sequence by symbol or number; the hyphenated morphophonemic formula which follows the virgule identifies the morpheme alternants which materialize the sequence. For Arapaho such treatment is of considerable importance in view of the unusually great extent of morphemic variation.

2.2. Arapaho nouns fall into two gender classes, animate and inanimate. While in general these native categories correspond to the Western dichotomy of organic and inorganic, there are instances of disagreement; some of these are listed below.

Nouns designating people and animals are animate; however, bíiseenííθoctééyoo pupa is inanimate. Names of supernatural beings are animate, e.g., betééθoo archangel, shadow; hóóčoo, woséí devil; and bíitéí ghost.

Body parts and plants are generally inanimate, e.g., béíćíθ

tooth and θéíciʔ root. Those classified as animate include the following: hinót blood clot, čiʔíθ calf of the leg, bétson elbow, beníisíoʔ eyebrow, bííyi feather, hééčén hide (of a buffalo), wóčeʔók hip, hiniínis horn, betííθiθ kidney, čeʔéítei knee, beθéneč milk, wóʔox nail, béθ navel, wonóuoʔ palate, hinénteheʔ pupil, wóxos shin, betéyeoʔ shoulder, wonóx skin, and béʔib vein; hóhoʔoyóóx cactus, yenéínit carrot, bés log (but not in the meaning stick, wood), xóučén onion, béxkoʔ pumpkin or squash, hiʔíisoonoʔ rice (meaning maggots), síísowoo tobacco, hohóót tree, and nóóxowóuhut watermelon.

The nouns wóčeʔót stomach and honíʔo raspberry occur both as animate and inanimate.

Other nouns found to be animate contrary to our expectation include the following: teebíičesoʔóʔ Big Dipper, biikóusíís moon, nookóóx morning star and also cross, hóθoʔ star (as well as híisiinóθoʔ daystar and nénowóθoʔ North Star), hohʔonóókee rock or stone, hííí snow, hiisíís sun, boxʔóó thunder (but not cloud, lightning, and sky); kohoʔowóo ball, θóóxe glove, wəθonínooʔóót picture (photograph), hiíčóó pipe, čeʔeiinóuyoo snowball, heebíyoo spoon, kohoyéí bikúúθoo stamp, hokóóx tepee pole, and hotíí wagon or wheel.

The noun tečénoo door occurs both as animate and inanimate.

Formally, the two Arapaho gender classes of nouns are contrastive with respect to the morpheme marking the obviative: this morpheme associates with animate nouns but is incompatible with

inanimate nouns, thus defining the two classes.

Aside from this diagnostic morpheme, a testing frame may be used to determine gender. One such testing frame is the construction hinén nonoohówoot X a man sees X, in which the verb form nonoohówoot marks an animate goal (X), as against hinén nonoohóotoʔ Y a man sees Y, in which the verb form nonoohóotoʔ marks an inanimate goal (Y).

Still another criterion of gender is the pair of demonstrative particles néhéʔ this and núhúʔ this, these, which marginally share in noun morphology. The particle néhéʔ may precede animate nouns in proximate singular, while núhúʔ may precede inanimate nouns in both singular and plural constructions, and animate nouns in obviative singular, proximate plural, and obviative plural constructions. The morphemes néhéʔ and núhúʔ are here considered two separate particles rather than two morpheme alternants of a demonstrative prefix associated with noun stems, as they clearly constitute a separate contour in the more formal style of delivery. The particles vaguely emphasize or identify the nominal referent which they precede and are generously employed in traditional narratives, as in wohéí néhéʔ wóx hééʔihnoohóót núhúʔ néč (deliberately phrased) well, this bear saw this water.

There was not complete agreement among my informants as to the gender of some of the nouns. The statements made in this section largely follow my late informant Goggles rather than Shakespeare, who is Goggles' junior by one generation. Goggles' speech clearly

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and actively preserved some of the morphological features of Arapaho (such as the distinction between the inclusion and exclusion of the addressee in the first person plural of verbs and possessed nouns) which in the younger generations have become obsolescent; they may still be understood but are not always elicitable.

2.3.1. Animate nouns in Arapaho distinguish in both singular and plural between proximate and obviative forms; this distinction is compulsory. The absolute form of an animate noun is the uninflected proximate singular form. It denotes which of two nominal referents is nearer, which has been mentioned first, or which acts as the principal character of a discourse or narrative. The obviative form, which is marked, denotes the subsidiary referent of the two.

Occasionally, one may hear in constructions involving singular nouns a secondary obviative, denoting a referent subsidiary to one already marked by the obviative.

2.3.2. The high degree of morphemic variation attested for sequences N + 211 (noun stems followed by the suffix marking the obviative) and N + 221 + 211 (pluralized noun stems, marked for obviative constructions, unmarked for proximate) is assignable either to the class of major morphemes, i.e., noun stems, or to the class of minor morphemes—in this case, the suffixes. In the present analysis, I have chosen to follow the former procedure, which permits a more manageable and exhaustive description of the Arapaho

noun inflection. The basis for the classification of noun stems is morphophonemic.

According to the formal marking of the plural (to be referred to as morpheme 221) and of the obviative (morpheme 211), the class of animate nouns may be divided into two subclasses, each of which in turn subdivides further. The sorting of nouns stops short of detailing prosodemic differences. Since there is a noticeable amount of nonautomatic variation in the distribution of prosodemes over certain morpheme sequences, including those under discussion, a prosodemic subanalysis would be deceptive. The forms -oʔ and -ii, for example, should therefore be taken to subsume such prosodemic shapes as -óʔ, -íí, and -ií as well. The many Arapaho examples, cited in the commonly attested forms, provide a satisfactory prosodemic specification.

2.3.3.1. Subclass I of the animate nouns comprises those stems which form their plural by suffixing morpheme 221 in the shape of -oʔ. The morpheme alternant of the obviative in the obviative plural construction, i.e., in the sequence N + 221 + 211, has a subtractive force in that it reduces the shape of the plural suffix from -oʔ to -o (in the morphophonemic formulae below it is given as 'subtractive' and its effect is indicated by brackets).

Two divisions of Subclass I are recognized; they both consist of sets and subsets, defined and exemplified below.

2.3.3.1.1. Noun stems assigned to Division 1 of Subclass I

employ $-\emptyset$ as the morpheme alternant of the obviative in the sequence N + 211. The division comprises three sets.

Division 1, Set a: Noun stems of this set add morphemes 211 and 221 directly to their absolute form. The membership of this set is very limited. The noun bétson¹ elbow may serve as an example: bétson (15, N, 211 / b-étson- \emptyset), bétsono \sim bétsóno (15, N, 221 / b-étson- \sim étsón-o $\bar{?}$), bétsono \sim bétsóno (15, N, 221, 211 / b-étson- \sim étsón-o [r-'subtractive']).

Division 1, Set b: Nouns of this set reshape the absolute form of their stems before morphemes 211 and 221 by substituting $-\bar{w}$ for a stem-final $-b$ or by adding $-\bar{w}$ to a stem terminated in a vowel. Examples of this set, limited in membership and not formally defined, are: bérib vein, bériw (15, N, 211 / b-ériw- \emptyset), bériwo (15, N, 221 / b-ériw-o $\bar{?}$), bériwo (15, N, 221, 211 / b-ériw-o [r-'subtractive']); hotíí wheel or wagon, hotííw (N, 211 / hotííw- \emptyset), hotííwo (N, 221 / hotííw-o $\bar{?}$), hotííwo (N, 221, 211 / hotííw-o [r-'subtractive']); béritéi bedbug, béritéiw (N, 211 / béritéiw- \emptyset), béritéiwo (N, 221 / béritéiw-o $\bar{?}$), béritéiwo (N, 221, 211 / béritéiw-o [r-'subtractive']); betéí louse, betéíw (15, N, 211 / b-etéíw- \emptyset), etc.; and betéé θ oo shadow or archangel, betéé θ oo \bar{w} (N, 211 / betéé θ oo \bar{w} - \emptyset), etc.

Division 1, Set c: Nouns of this set reshape the absolute form of their stems by the addition of $-(\bar{C})V_n$ before morphemes 211 and 221. According to the phonemic shape of the increment, five subsets are attested in my material—c₁ through c₅.

Subset c_1 —with stem increment of -n. This subset has a large membership of noun stems, all of which are terminated by an identical vowel cluster or the vowel cluster -ei. Examples are: henéécee buffalo henééceen (N, 211 / henééceen-∅), henééceenoʔ (N, 221 / henééceen-oʔ), henééceeno' (N, 221, 211 / henééceen-o' [ʔ-'subtractive']); hiícóó' pipe, hiícóóon (N, 211 / hiícóóon-∅), hiícóóonoʔ (N, 221 / hiícóóon-oʔ), hiícóóono' (N, 221, 211 / hiícóóon-o' [ʔ-'subtractive']); and biitéi ghost, biitéin (N, 211 / biitéin-∅), biitéinoʔ (N, 221 / biitéin-oʔ), biitéino' (N, 221, 211 / biitéin-o' [ʔ-'subtractive']). Among the other nouns belonging to this subset are kohoʔowoo ball, néécee chief, beexóókee cougar, tecénoo doctor, nóubee fly, bísee insect, ʔeʔéitei knee, wooʔuxʔei magpie, níʔouyoo milker (cow), hinenítee person, hohʔonóókee rock, siísíiyéi snake, héeyei swift hawk, and hísei woman.

Subset c_2 —with stem increment of -un. The membership of this subset appears to be restricted to noun stems terminating in -k or -x, as in wóceʔok hip, wóceʔokun (15, N, 211 / w-óceʔokun-∅), wóceʔokunoʔ (15, N, 221 / w-óceʔokun-oʔ), wóceʔokuno' (15, N, 221, 211 / w-óceʔokun-o' [ʔ-'subtractive']); and hokóóx tepee pole, hokóóxun (N, 211 / hokóóxun-∅), hokóóxunoʔ (N, 221 / hokóóxun-oʔ), hokóóxuno' (N, 221, 211 / hokóóxun-o' [ʔ-'subtractive']).

Subset c_3 —with stem increment of -on. The member nouns of this subset have stems terminating in a consonant other than -k or -x. Examples are: téexokúut saddle horse, téexokúuton (N, 211 /

tééxokuúton- \emptyset), tééxokuútonoʔ (N, 221 / tééxokuúton-oʔ),
 tééxokuútono (N, 221, 211 / tééxokuúton-o [P-'subtractive']);
 wóceʔót stomach, wóceʔóton (15, N, 211 / w-óceʔóton- \emptyset), wóceʔótonoʔ
 (15, N, 221 / w-óceʔóton-oʔ), wóceʔótono (15, N, 221, 211 /
 w-óceʔóton-o [P-'subtractive']); yéiy otter, yéiyon (N, 211 /
 yéiyon- \emptyset), yéiyonoʔ (N, 221 / yéiyon-oʔ), yéiyono (N, 221, 211 /
 yéiyon-o [P-'subtractive']); and wóxos shin, wóxosón (15, N, 211 /
 w-óxosón- \emptyset), wóxosónoʔ (15, N, 221 / w-óxosón-oʔ), wóxosóno (15,
 N, 221, 211 / w-óxosón-o [P-'subtractive']).

Subset c₄--with stem increment of -in. Very few member nouns
 of this subset are on record. Apparently only some of the noun
 stems that are terminated in a consonant other than -k or -x be-
 long to this group. Examples are: hohóót tree, hohóótin (N, 211 /
 hohóótin- \emptyset), hohóótinóʔ (N, 221 / hohóótin-oʔ), hohóótinó (N, 221,
 211 / hohóótin-o [P-'subtractive']); béé navel, bééin (15, N, 211 /
 b-ééin- \emptyset), bééinóʔ (15, N, 221 / b-ééin-oʔ), bééinó (15, N, 221,
 211 / b-ééin-o [P-'subtractive']); and hinót blood clot.

Subset c₅--with stem increment of -Cin. Only one noun stem of
 this group has been attested in my field notes: hóóxei wolf,
 hóóxeihin (N, 211 / hóóxeihin- \emptyset), hóóxeihinoʔ (N, 221 / hóóxeihin-oʔ),
 hóóxeihino (N, 221, 211 / hóóxeihin-o [P-'subtractive']).

2.3.3.1.2. Noun stems assigned to Division 2 of Subclass I
 employ in the sequence N + 211 morpheme alternants of the obviative
 other than - \emptyset . The division comprises four sets.

Division 2, Set a: The shape of 211 is -n, following the absolute form of the noun stem. The stem is reshaped before morpheme 221 (including the sequence N + 221 + 211, i.e., the obviative plural construction). The noun tíʔihii killdeer may serve as an example: tíʔihiiin (N, 211 / tíʔihii-n), tíʔihííhoʔ (N, 221 / tíʔihííh-oʔ), tíʔihíího (N, 221, 211 / tíʔihííh-o [ʔ-'subtractive']).

Division 2, Set b: The shape of 211 is -in. In Subset b₁, the absolute form of the noun stem also serves the sequences N + 211 and N + 221 + 211; in Subset b₂, the sequence N + 211 employs the absolute form of the noun stem, whereas the sequence N + 221 + 211 associates with a reshaped stem.

Subset b₁: The membership of this group is very limited. My field notes yield only one example: hinén man, hinénin (N, 211 / hinén-in), hinénoʔ (N, 221 / hinén-oʔ), hinéno (N, 221, 211 / hinén-o [ʔ-'subtractive']).

Subset b₂: This subset likewise has a very limited membership. The noun číʔíθ calf of the leg may serve as an example: číʔíθin (N, 211 / číʔíθ-in), číʔíθnoʔ (N, 221 / číʔíθn-oʔ), číʔíθno (N, 221, 211 / číʔíθn-o [ʔ-'subtractive']).

Division 2, Set c: The shape of 211 is -on, following the absolute form of the noun stem. The stem is reshaped in the sequence N + 221 + 211. One noun only has been attested for this set: wonóx skin, wonóxon (15, N, 211 / w-onóx-on), wonóxnoʔ (15, N, 221 / w-onóxn-oʔ), wonóxno (15, N, 221, 211 / w-onóxn-o [ʔ-'subtractive']).

Division 2, Set d: The shape of 211 is -o. In Subset d₁, the absolute form of the noun stem also serves the sequence N + 211, whereas 221 is preceded by a reshaped stem terminated in -h. In Subset d₂, a reshaped stem serves both the sequence N + 211 and N + 221 + 211. In Subset d₃, the sequences N + 211 and N + 221 + 211 are each served by a separate alternant, different from the absolute shape of the stem; the stem alternants of the sequence N + 221 + 211 are also characterized by a terminal -h.

Subset d₁: The noun stems of this subset are terminated in -u. Examples are: ^{v/v}cecinohuu chicken hawk, ^{v/v}cecinohuuo (N, 211 / ^{v/v}cecinohuu-o), ^{v/v}cecinohuuho (N, 221 / ^{v/v}cecinohuu-o), ^{v/v}cecinohuuho (N, 221, 211 / ^{v/v}cecinohuu-o [P-'subtractive']); ^{v/v}nooku rabbit, ^{v/v}nookuo (N, 211 / ^{v/v}nooku-o), ^{v/v}nookuho (N, 221 / ^{v/v}nooku-o), ^{v/v}nookuho (N, 221, 211 / ^{v/v}nooku-o [P-'subtractive']); ^{v/v}woxoθou young buffalo bull, ^{v/v}woxoθouuo (N, 211 / ^{v/v}woxoθou-o), ^{v/v}woxoθouuh (N, 221 / ^{v/v}woxoθou-uh), ^{v/v}woxoθouuh (N, 221, 211 / ^{v/v}woxoθou-uh [P-'subtractive']); ^{v/v}biyoθou colt, ^{v/v}biyoθouuo (N, 211 / ^{v/v}biyoθou-u), ^{v/v}biyoθouuh (N, 221 / ^{v/v}biyoθou-uh), ^{v/v}biyoθouuh (N, 221, 211 / ^{v/v}biyoθou-uh [P-'subtractive']); and ^{v/v}hecesohuu vulture.

Subset d₂: The two recorded noun stems which belong to this group are terminated in -V: noʔeixʔi mink, noʔeixʔo (N, 211 / noʔeixʔo-o), noʔeixʔoʔ (N, 221 / noʔeixʔo-ʔ), noʔeixʔo (N, 221, 211 / noʔeixʔo-o [P-'subtractive']); and noʔouhʔu squirrel, noʔouhʔo (N, 211 / noʔouhʔo-o), etc.

Subset d₃: This subset has a sizable membership of noun stems terminated in a vowel other than -u. Some designate various kinds of birds or other animals of the air (e.g., woséínθeṽinéíhii bat); these stems are generally compound and end in -Vhii (compare niiṽéhii bird; one should also note that tíṽiihii killdeer belongs to Set a of Division 2). The following nouns may be given as examples: nisíce antelope, nisíčo (N, 211 / nisíč-o), nisíčohoṽ (N, 221 / nisíčoh-oṽ), nisíčoho (N, 221, 211 / nisíčoh-o [ṽ-'subtractive']); niiṽéhii bird, nííṽehío (N, 211 / nííṽehí-o), nííṽehíhoṽ (N, 221 / nííṽehíh-oṽ), nííṽehího (N, 221, 211 / nííṽehíh-o [ṽ-'subtractive']); nónooni young buffalo cow, nónoonihío (N, 211 / nónoonihí-o), nónoonihíhoṽ (N, 221 / nónoonihíh-oṽ), nónoonihího (N, 221, 211 / nónoonihíh-o [ṽ-'subtractive']); honóhṽe young man, honóhṽo (N, 211 / honóhṽ-o), honóhṽohóṽ (N, 221 / honóhṽoh-óṽ), honóhṽohó (N, 221, 211 / honóhṽoh-ó [ṽ-'subtractive']); and čeitéhii visitor, čeitéhío (N, 211 / čeitéhí-o), čeitéhíhoṽ (N, 221 / čeitéhíh-oṽ), etc.

2.3.3.1.3. The groupings of the animate nouns of Subclass I are reviewed in a summary form below. (Prosodemic differences are not detailed; stem alternations are discussed with reference to the absolute stem as the basic form.)

Subclass I (see Section 2.3.3.1):

The shape of 221 is -oṽ; the morpheme alternant of 211 in the sequence N + 221 + 211 has a subtractive effect [plural -oṽ becomes reduced to -o].

Division 1: The shape of 211 in the sequence $N + 211$ is \emptyset (see Section 2.3.3.1.1).

Set a: Inflectional suffixes follow the absolute form of the stem.

Set b: The stems reshape before 211 and 221, viz., stem-final $-b \rangle -w$ and stem-final $-V \rangle -Vw$.

Set c: The stems reshape before 211 and 221 by the addition of the increment $-(\boxed{C}V)n$.

Subset c₁: The stem increment is $-n$.

Subset c₂: The stem increment is $-un$.

Subset c₃: The stem increment is $-on$.

Subset c₄: The stem increment is $-in$.

Subset c₅: The stem increment is $-Cin$.

Division 2: The shape of 211 in the sequence $N + 211$ is other than \emptyset (see Section 2.3.3.1.2).

Set a: The shape of 211 is $-n$, following the absolute form of the stem; the stems reshape before 221.

Set b: The shape of 211 is $-in$.

Subset b₁: Inflectional suffixes follow the absolute form of the stem.

Subset b₂: The stems reshape before 221.

Set c: The shape of 211 is $-on$, following the absolute form of the stem; the stems reshape

before 221.

Set d: The shape of 211 is -o.

Subset d₁: The stems reshape before 221.

Subset d₂: Suffixes 211 and 221 are preceded by a reshaped form of the stem.

Subset d₃: The stems reshape twice—before 211 and before 221.

2.3.3.2. Subclass II of the animate nouns comprises those stems which form their plural by suffixing morpheme 221 in a shape other than -oʔ. The morpheme alternant of the obviative in the obviative plural construction, i.e., in the sequence N + 221 + 211, is -∅.

Two divisions of Subclass II are recognized; they both consist of sets and subsets, defined and exemplified below.

2.3.3.2.1. Noun stems assigned to Division 1 of Subclass II employ in the sequence N + 211 morpheme alternants of the obviative which are phonemically distinct from the shape of the plural morpheme 221. The division comprises two sets.

Division 1, Set a: Nouns of this set associate in the sequence N + 211 with a morpheme alternant of 211 in the shape of -∅, which follows the absolute form of the stem. In Subset a₁, the shape of morpheme 221 is -ii, following the absolute form of the noun stem. In Subset a₂, the morpheme alternant of 221 is -uu, following a reshaped form of the noun stem.

Subset a_1 : The noun stems included in this subset are very limited in number. The noun $xóu\check{c}én$ onion may serve as an example: $xóu\check{c}én$ (N, 211 / $xóu\check{c}én-\emptyset$), $xóu\check{c}énii$ (N, 221 / $xóu\check{c}én-ii$), $xóu\check{c}énii$ (N, 221, 211 / $xóu\check{c}én-ii-\emptyset$).

Subset a_2 : The membership of this subset, too, is limited to only a few noun stems, e.g., $hookúú$ mouse, $hookúú$ (N, 211 / $hookúú-\emptyset$), $hookúúhuu$ (N, 221 / $hookúúh-uu$), $hookúúhuu$ (N, 221, 211 / $hookúúh-uu-\emptyset$).

Division 1, Set b: Nouns of this set add morpheme 211 in the shape of $-ii$ to the absolute form of the stem. The morpheme alternant of 221 is $-uu$, following a reshaped form of the noun stem. The noun $síísiič$ duck is an example: $síísiičii$ (N, 211 / $síísiič-ii$), $síísiičúʔuu$ (N, 221 / $síísiičúʔ-uu$), $síísiičúʔuu$ (N, 221, 211 / $síísiičúʔ-uu-\emptyset$).

2.3.3.2.2. Noun stems assigned to Division 2 of Subclass II employ in the sequence $N + 211$ alternants of 211 that are phonemically identical with the alternants of morpheme 221. The division comprises four sets.

Division 2, Set a: Nouns of this set add $-u$ to a reshaped form of the stem to mark both obviative (singular) and plural. A number of noun stems which end in $-oo$ belong to this set, but there are some others as well. Examples are: $nihʔóó\thetaoo$ white man or spider, $nihʔóó\thetaou$ (N, 211 / $nihʔóó\thetao-u$), $nihʔóó\thetaou$ (N, 221 / $nihʔóó\thetao-u$), $nihʔóó\thetaou$ (N, 221, 211 / $nihʔóó\thetao-u-\emptyset$); $beʔénoo$ turtle, $beʔéno$ (N, 211 / $beʔéno-u$), $beʔéno$ (N, 221 / $beʔéno-u$), $beʔéno$ (N, 221,

211 / beʔéno-u-∅); and nihʔénoʔ blackbird, nihʔénoú (N, 211 / nihʔéno-u), nihʔénoú (N, 221 / nihʔéno-u), nihʔénoú (N, 221, 211 / nihʔéno-u-∅).

Division 2, Set b: Nouns of this set add -i to a reshaped form of their stems to mark both obviative (singular) and plural. Only one noun stem belonging to this group has been attested in my field notes: hóteʔ sheep, hótei (N, 211 / hóte-i), hótei (N, 221 / hóte-i), hótei (N, 221, 211 / hóte-i-∅).

Division 2, Set c: The shape of 211 in the sequence N + 211 and of 221 is -uu. In Subset c₁, the inflectional suffixes follow the absolute form of the noun stems. In Subset c₂, the inflectional suffixes follow a reshaped form of the noun stems.

Subset c₁: The membership of this group includes many of those noun stems which are terminated in -x or -k, as well as some of those with a stem-final glottal stop—e.g., wóx bear, wóxuu (N, 211 / wóx-uu), wóxuu (N, 221 / wóx-uu), wóxuu (N, 221, 211 / wóx-uu-∅); kohóʔok bee, kohóʔokuu (N, 211 / kohóʔok-uu), kohóʔokuu (N, 221 / kohóʔok-uu), kohóʔokuu (N, 221, 211 / kohóʔok-uu-∅); and hóθoʔ star, hóθoʔuu (N, 211 / hóθoʔ-uu), hóθoʔuu (N, 221 / hóθoʔ-uu), hóθoʔuu (N, 221, 211 / hóθoʔ-uu-∅). Among the other nouns belonging to this subset are nookóox morning star, wóʔox nail or claw, séenook rope, and woxʔóóóʔ badger.

Subset c₂: The membership of this group consists of noun stems terminated both vocally and consonantly. Those stems in my

material which end in -Cout have the increment -ow- before the inflectional suffixes 211 or 221. Examples are: seeníwoo lizard, seeníwuú (N, 211 / seeníw-uú), seeníwuú (N, 221 / seeníw-uú), seeníwuú (N, 221, 211 / seeníw-uú-∅); hooó ~ hoo' porcupine, hóúú (N, 211 / hó-uú), hóúú (N, 221 / hó-uú), hóúú (N, 221, 211 / hó-uú-∅); wó'oo' cat, wó'ouu (N, 211 / wó'o-uu), etc.; beexóuu red fox, bééxóuhuú (N, 211 / bééxóuh-uú), etc.; nówo' fish, nówuú (N, 211 / nów-uú), etc.; and biihout' cricket, biihoutowuu (N, 211 / biihoutow-uu), etc. Among the other nouns belonging to this group are séskout nightingale, woo' calf (obv. sing., prox. and obv. pl.—wóu'uu), and xooó ~ xoo' skunk.

Division 2, Set d: The shape of 211 in the sequence N+211 and of 221 is -ii. In Subset d₁, the inflectional suffixes follow the absolute form of the noun stems. In Subset d₂, the inflectional suffixes follow a reshaped form of the noun stems.

Subset d₁: The membership of this group consists of many of those noun stems which are terminated in consonants other than -x, -k, or -ř. Examples are: hébes beaver, hébesii (N, 211 / hébes-ii), hébesii (N, 221 / hébes-ii), hébesii (N, 221, 211 / hébes-ii-∅); wóókeč cow, wóókečii (N, 211 / wóókeč-ii), wóókečii (N, 221 / wóókeč-ii), wóókečii (N, 221, 211 / wóókeč-ii-∅); betííθiθ kidney, betííθiθii (15, N, 211 / b-etííθiθ-ii), betííθiθii (15, N, 221 / b-etííθiθ-ii), betííθiθii (15, N, 221, 211 / b-etííθiθ-ii-∅); and bíh'ih deer, bíh'ihii (N, 211 / bíh'ih-ii), bíh'ihii (N, 221 /

bíh^ʔih-ii), bíh^ʔihii (N, 221, 211 / bíh^ʔih-ii-∅). Among the other nouns belonging to this subset are čís nighthawk, hiisíís sun, and biikóusíís moon.

Subset d₂: Some of the noun stems in this group end in -i^ʔ or -e^ʔ; they generally add the morpheme alternants of 211 and 221 (in the typical prosodemic arrangement of -ií) in place of the stem-final -i^ʔ or -e^ʔ. Other nouns of the subset reshape their stems differently. Examples are: hééni^ʔ ant, héénií (N, 211 / héén-ií), héénií (N, 221 / héén-ií), héénií (N, 221, 211 / héén-ií-∅); nóóxobe^ʔ frog, nóóxobií (N, 211 / nóóxob-ií), nóóxobií (N, 221 / nóóxob-ií), nóóxobií (N, 221, 211 / nóóxob-ií-∅); héé dog, hééebii (N, 211 / hééeb-ii), hééebii (N, 221 / hééeb-ii), hééebii (N, 221, 211 / hééeb-ii-∅); and wóxhoox ~ wóxuuhóóx horse, wóxhooxebii (N, 211 / wóxhooxeb-ii), wóxhooxebii (N, 221 / wóxhooxeb-ii), wóxhooxebii (N, 221, 211 / wóxhooxeb-ii-∅) ~ wóxuuhóóxebii. Among the other nouns belonging to this group are čooóóni^ʔ or hóni^ʔ prairie dog, beexóni^ʔ woodchuck, and hísi^ʔ tick.

2.3.3.2.3. The groupings of the animate nouns of Subclass II are reviewed in a summary form below.

Subclass II (see Section 2.3.3.2):

The shape of 221 is other than -o^ʔ; the morpheme alternant of 211 in the sequence N + 221 + 211 is -∅.

Division 1: The shape of 211 in the sequence N + 211 is phonemically distinct from the shape of 221 (see

Section 2.3.3.2.1).

Set a: The shape of 211 is $-\emptyset$, following the absolute form of the stem.

Subset a₁: The shape of 221 is -ii, following the absolute form of the stem.

Subset a₂: The shape of 221 is -uu, following a reshaped form of the stem.

Set b: Morpheme 211 follows the absolute form of the stem in the shape of -ii; morpheme 221 follows a reshaped form of the stem in the shape of -uu.

Division 2: The shape of morpheme 211 in the sequence N + 211 is phonemically identical with the shape of morpheme 221 (see Section 2.3.3.2.2).

Set a: The shape of morpheme 211 in the sequence N + 211 and of morpheme 221 is -u, following a reshaped form of the stem.

Set b: The shape of 211 in the sequence N + 211 and of 221 is -i, following a reshaped form of the stem.

Set c: The shape of 211 in the sequence N + 211 and of 221 is -uu.

Subset c₁: Inflectional suffixes follow the absolute form of the stem.

Subset c₂: Inflectional suffixes follow
a reshaped form of the stem.

Set d: The shape of 211 in the sequence N + 211
and of 221 is -ii.

Subset d₁: Inflectional suffixes follow
the absolute form of the stem.

Subset d₂: Inflectional suffixes follow a
reshaped form of the stem.

2.3.3.3. There are two noun stems which have not been accommodated in the preceding divisions of the noun inflection—bés log and néʔ goose. The former essentially follows Subclass I; the latter overlaps the two subclasses: bés log, béxon (N, 211 / béxon-∅ or béx-on), béxoʔ (N, 221 / béx-oʔ), béxonó (N, 221, 211 / *béxon-∅ [ʔ-'subtractive']); and néʔ goose, néʔiin (N, 211 / néʔiin-∅), néʔii (N, 221 / néʔ-ii), néʔiino (N, 221, 211 / *néʔiin-o [ʔ-'subtractive']).

2.3.4. There are several defective nouns which do not form a plural, among them néb fish and hinéni moose. Generally, as in the case of these two examples, there are other synonymous forms which regularly associate with morpheme 221 (and morpheme 211), e.g., nówoʔ fish, nówuú fish, fishes (obviative singular as well as proximate and obviative plural [see Section 2.3.3.2.2, Division 2, Subset c₂]). The noun hííí snow has an obviative form híín, but no plural forms have been recorded.

A rare example of irregular plural formation is the pair hi(i)wóxuú elk and wóxuuhúú herd of elk.

2.3.5. In the case of the secondary obviative (already briefly mentioned in Section 2.3.1), the morpheme marking the obviative is repeated twice in succession. The second consecutive occurrence of this morpheme is formally limited—at least in my material—to one particular shape, -in, among the several morpheme alternants of the obviative. Apparently the secondary obviative construction no longer obtains in the plural, if indeed it ever did.

Examples are: hinén nonoohówcot núhúʔusein hitééxokúútonin the man sees this woman's saddle horse (13, N, 211, 211 / hi-tééxokúúton- ϕ -in)², nééʔé nonoohówoot núhúʔinénin hiníínin the chief sees this man's wife (13, N, 211, 211 / hi-níín- ϕ -in), and hééʔixkoʔús hitéyeiʔónin xookúúhʔu he hit through his [the buffalo's] shoulder (13, N, 211, 211 / hi-téyeiʔón- ϕ -in).

2.4.1. Inanimate nouns in Arapaho regularly distinguish between singular and plural forms. The absolute form of an inanimate noun is the uninflected singular form.

According to the formal marking of the plural (morpheme 221), the class of inanimate nouns may be divided into two subclasses, each of which subdivides further. Following the procedure established in Section 2.3, the sorting of the inanimate nouns stops short of detailing prosodemic differences.

2.4.2.1. Subclass I of the inanimate nouns comprises those stems

which form their plural by suffixing morpheme 221 in the shape of -o. Four divisions of this subclass are recognized; they consist of sets defined and exemplified below.

2.4.2.1.1. Division 1: Nouns assigned to this group add the suffix -o to the absolute form of their stems, which are terminated in -Vn. Examples are: béθen breast, béθeno (15, N, 221 / b-éθen-o); hííkón ~ hííkon lung, hííkonó ~ hííkonó (N, 221 / hííkon-hííkon-o); bésonon ~ bésonón neck, bésonónó (15, N, 221 / b-ésonón-o); níyiinon tepee, níyiinónó (N, 221 / níyiinón-o); and beiθón tongue, beiθónó (15, N, 221 / b-eiθón-o).

2.4.2.1.2. Nouns assigned to Division 2 reshape the absolute form of their stems by the addition of -([C]V)n before morpheme 221. According to the phonemic shape of the increment, five sets are attested in my material—a through e.

Set a—with stem increment of -n. This set has a large membership of noun stems, a large majority of which are terminated vocally. The two noun stems in my material that are terminated in a consonant each have an alternant plural form, apparently in free variation. Examples are: becé[∨]í[∨]í[∨]ó[∨] cheek, becé[∨]í[∨]í[∨]ó[∨]no (15, N, 221 / b-écéííóón-o); se[∨]í[∨]x[∨]to[∨]o foot, se[∨]í[∨]x[∨]to[∨]o[∨]no (N, 221 / se[∨]í[∨]x[∨]to[∨]o[∨]o); béí[∨]θe[∨]í[∨]é[∨] head (hair), béí[∨]θe[∨]í[∨]é[∨]no (15, N, 221 / b-éí[∨]θe[∨]í[∨]é[∨]no); bé[∨]í[∨]i[∨] mouth, bé[∨]í[∨]i[∨]no (15, N, 221 / b-éí[∨]i[∨]no); and bé[∨]í[∨]to[∨]o throat, bé[∨]í[∨]to[∨]o[∨]no (15, N, 221 / b-éí[∨]to[∨]o[∨]no); also—čé[∨]č[∨] year or winter, čé[∨]č[∨]no (N, 221 / čé[∨]č[∨]no) ~ čé[∨]č[∨]ini; and hí[∨]s liver, hí[∨]sno (N, 221 / hí[∨]sno) ~ hí[∨]sino.

Set b—with stem increment of -en. This set appears to be limited to noun stems terminated in -e^ʔ. Examples are: bééssé^ʔ big toe, bééssé^ʔenó (N, 221 / bééssé^ʔen-ó); woté^ʔ hat, woté^ʔeno (N, 221 / woté^ʔen-o); and hečéssé^ʔ small toe, hečéssé^ʔenó (N, 221 / hečéssé^ʔen-ó).

Set c—with stem increment of -un. Three noun stems have been attested which belong to this group: woxú^ʔ grass, woxú^ʔun-o; distributively); nóók^ʔeitóok white of the eye, nóók^ʔeitóokúno (N, 221 / nóók^ʔeitóokún-o); and hóóxuukúh bellyband, hóóxuukúhuno (N, 221 / hóóxuukúhun-o).

Set d—with stem increment of -on. The noun stems of this set are terminated in -o^ʔ, -(V)Vt, or -y preceded by a nonfront vowel, and also include híx bone. Examples are: béé^ʔčeso^ʔ chest, béé^ʔčeso^ʔóno (15, N, 221 / b-éé^ʔčeso^ʔón-o); wotóxko^ʔ chin, wotóxko^ʔóno (15, N, 221 / w-otóxko^ʔón-o); betíít heel, betíítono (15, N, 221 / b-etiíiton-o); hoxóbetíít week or ration, hoxóbetíítono (N, 221 / hoxóbetíítón-o); wonót belly, wonótóno (15, N, 221 / w-onótón-o); kokúy gun, kokúyonó (N, 221 / kokúyon-ó); wototóoy backbone, wototóoyóno (15, N, 221 / w-ototóoyón-o); and híx bone, hixóno (N, 221 / hixón-o).

Set e—with stem increment of -in. The noun stems of this set are terminated in -(V)Vt, -b preceded by a nonback vowel, and other -VC sequences. Examples are: niibóót song, niibóótino (N, 221 / niibóótin-ó); θéisinéét casket, θéisinéétino (N, 221 / θéisinéétin-o); hótowkuútóot uvula, hótowkuútóótino (N, 221 / hótowkuútóótin-o); hoxéíb well, hoxéíbino (N, 221 / hoxéíbin-o); béésíb plum, béésíbino

(N, 221 / béésíbin-o); wonóŕ ankle, wonóŕinó (15, N, 221 / w-onóŕin-ó); béécét hand, béécétino (15, N, 221 / b-éécétin-o); ʘoontééc crown (of the head), ʘoontéécino (N, 221 / ʘoontéécin-o) ~ ʘoontéécii; betééc brain, betéécino (15, N, 221 / b-etéécin-o) ~ betééko ~ betéécii; hís liver, hísino (N, 221 / hísin-o) ~ hísno; and hinís sac, hinísino (N, 221 / hinísin-o).

2.4.2.1.3. Certain nouns change their stem-final consonants before the -o of morpheme 221. These nouns form Division 3. According to the type of this nonautomatic alternation, six sets are recognized—a through f—and exemplified below.

Set a—stem-final \check{c} > k: betééc brain, betééko (15, N, 221 / b-etéék-o) ~ betéécii ~ betéécino [but note ʘoontééc, Section 2.4.2.1.2, Set e].

Set b—stem-final b > w: biiθib ~ bííθib food, bííθiwo food-stuffs (N, 221 / bííθiw-o) [but note béésíb, Section 2.4.2.1.2, Set e].

Set c—stem-final s > x: bénes arm, benéxo (15, N, 221 / b-enéx-o); bíííís leaf, bííííxo (N, 221 / bííííx-o); bíís bush, bííxó (N, 221 / bííx-ó); bés stick, béxo (N, 221 / béc-c; compare also bés, in the sense log, which is animate). [Note, on the other hand, béses, Section 2.4.2.2.2, Set a.]

Set d—stem-final s > θ: béŕis nose, beŕíθó (15, N, 221 / b-eŕíθ-ó) [note, on the other hand, hís, Section 2.4.2.1.2, Set e].

Set e—stem-final θ > t: héétoókúθ canine, héétoókúto (N, 221 /

héé'tóókút-o); wó'ooθ leg, wo'óoto (15, N, 221 / w-o'óót-o); bé'í'í'θ incisor, bé'í'í'to (15, N, 221 / b-é'í'í't-o). [Note, on the other hand, hóθ, Section 2.4.2.2.2, Set a.]

Set f--stem-final x > θ: hóh'ónóox ax, hóh'ónóoθo (N, 221 / hóh'ónóoθ-o) [but note hinóox, Section 2.4.2.2.1, Set a].

2.4.2.1.4. Several nouns in my material reshape their stems uniquely before the -o of the plural morpheme, constituting Division 4: béteení'í nostril, béteení'íwo (15, N, 221 / b-éteení'íw-o) alternating with the more recent variant béteení'íθo; hóú blanket, hóúwo (N, 221 / hóúw-o); wóxu'uu medicine, wóxu'úwo (N, 221 / wóxu'úw-o); b'étee heart, betóóho (15, N, 221 / b-etóóh-o); wóoxé knife, wóoxoho (N, 221 / wóoxoh-o); heeyóúhuu thing, hééyoohúúho (N, 221 / hééyoohúúh-o); θí'íhoθo forefinger, θí'íhoθo (N, 221 / θí'íhoθ-o); and others.

2.4.2.1.5. The groupings of the inanimate nouns of Subclass I are reviewed in a summary form below.

Subclass I (see Section 2.4.2.1):

The shape of 221 is -o.

Division 1: Morpheme 221 is suffixed to the absolute form of the noun stem (see Section 2.4.2.1.1).

Division 2: The stems reshape before 221 by the addition of an increment -([C]V)n (see Section 2.4.2.1.2).

Set a: The stem increment is -n.

Set b: The stem increment is -en.

Set c: The stem increment is -un.

Set d: The stem increment is -on.

Set e: The stem increment is -in.

Division 3: The stems change their final consonant before 221 (see Section 2.4.2.1.3).

Set a: Stem-final č > k.

Set b: Stem-final b > w.

Set c: Stem-final s > x.

Set d: Stem-final s > θ.

Set e: Stem-final θ > t.

Set f: Stem-final x > θ.

Division 4: The stems reshape uniquely before 221 (see Section 2.4.2.1.4).

2.4.2.2. Subclass II of the inanimate nouns comprises those stems which form their plural by suffixing morpheme 221 in a shape other than -o. There are two divisions of this subclass.

2.4.2.2.1. Noun stems assigned to Division 1 add the suffix -uu to mark the plural. According to the shape of their stems, the nouns fall into two sets.

Set a: Nouns assigned to this group add -uu to the absolute form of their stems, which in my material are terminated in -x or -k or in -uʔ or -oʔ (but not all inanimate nouns terminated in -uʔ or -oʔ belong to this set—see Section 2.4.2.1.2, Sets c and d, and below). Examples are: hinóox bark (of a tree), hinóoxúú (N, 221 / hinóox-úú); beetéyook string, beetéyookúú (N, 221 / beetéyook-úú);

beenóókuhuʔ bale, beenóókuhúʔuu (N, 221 / beenóókuhúʔ-uu); hómoʔ sky, hómoʔuu (N, 221 / hómoʔ-uu); and hoxotóónoʔ cliff, hoxotóónoʔuu (N, 221 / hoxotóónoʔ-uu).

Set b: Nouns of this set, generally terminated in -oʔ or -uʔ, reshape their stems before 221, e.g., wonotóónoʔ ear, wcnotóónoʔuu (15, N, 221 / w-onotóónoʔ-uu); and hoʔóówuʔ house, hoʔóówuʔuu (N, 221 / hoʔóów-uu).

2.4.2.2.2. Noun stems assigned to Division 2 add the suffix -ii to mark the plural. According to the shape of their stems, the nouns fall into two sets.

Set a: The nouns assigned to this group add -ii to the absolute form of their stems. The member nouns of the set are terminated consonantly. Examples are: hóθ arrow, hóθii (N, 221 / hóθ-ii); béʔ blood, béʔii (N, 221 / béʔ-ii); betééc brain, betéécii (15, N, 221 / b-etééc-ii) ~ betééko ~ betéécino; θoontééc crow (of the head), θoontéécii (N, 221 / θoontééc-ii) ~ θoontéécino; tóónotíʔ hole, tóónotíʔii (N, 221 / tóónotíʔ-ii); bésés lip, bésésii (15, N, 221 / b-ésés-ii); and neyóóoxét top of the head, neyóóoxétii (N, 221 / neyóóoxét-ii).

Set b: The nouns of this set reshape their stems before the -ii of 221. Two subsets are recognized—b₁ and b₂.

Subset b₁: The stem is changed by the addition of the increment -in before 221, e.g., čéc year or winter, čécinii (N, 221 / čécin-ii) ~ čécno.

Subset b₂: The stems, terminated in either -iʔ or -eʔ, drop the glottal stop before 221. Examples are: ʰéíçíʔ root, ʰéíçííí (N, 221 / ʰéíçí-íí); híísiʔ day, híísiíí (N, 221 / híísi-íí); bééteʔ bow, béetéíí (N, 221 / béeté-íí); besíiiséʔ eye, besíiiséii (15, N, 221 / b-esíiisé-ii); and béʔiçíʰééʔ money, béʔiçíʰééii (N, 221 / béʔiçíʰéé-ii).

2.4.2.2.3. The groupings of the inanimate nouns of Subclass II are reviewed in a summary form below.

Subclass II (see Section 2.4.2.2):

The shape of 221 is other than -o.

Division 1: The shape of 221 is -uu (see Section 2.4.2.2.1).

Set a: Morpheme 221 follows the absolute form of the noun stems.

Set b: The stems reshape before 221.

Division 2: The shape of 221 is -ii (see Section 2.4.2.2.2).

Set a: Morpheme 221 follows the absolute form of the noun stems.

Set b: The noun stems reshape before 221.

Subset b₁: The stem increment is -in.

Subset b₂: The stem-final -iʔ or -eʔ becomes -i or -e before 211.

2.5. A limited number of nouns, among them the majority of kinship terms and several words for common animals, have special vocative forms for the singular. These vocative constructions are highly

irregular.

For nouns that do not belong to this group, the proximate singular and proximate plural forms serve to indicate direct address. While most of the terms of relationship have their vocative forms associated with the first person possessive (marked by a prefix), those words denoting animals which distinguish the vocative formally, mark the unpossessed stem only.

The vocative suffix, assigned to Decade 210 and numbered 212, has several shapes. The sequence N + 212 commonly shows a prosodic rearrangement, with the end of the sequence characterized by vowels bearing the high-pitch prosodeme.

The noun stems denoting common animals employ morpheme alternants in the shape of $-(\boxed{V}V)n$, depending on the stem-final phoneme(s): *niiʔehii* bird, *niiʔehíín* (N, 212 / *niiʔehíín-n*); *henééčee* buffalo, *henecéén* (N, 212 / *henecéén-n*); *wóʔcó* cat, *wóʔoun* (N, 212 / *wóʔo-ún*); *wóx* bear, *woxúún* (N, 212 / *wox-úún*); and *heé* dog, *heéebíín* (N, 212 / *heéeb-íín*).

The alternants of morpheme 212, when it is associated with kinship terms, are 'abbreviative' or $-óó$. The 'abbreviative' alternant has as its effect the truncation of the preceding noun stem, indicated below by brackets; the shape $-óó$ follows a shortened, an extended, or otherwise reshaped form of the stem. Examples are: *notóó* (my) daughter! (11, N, 212 / *n-otóó* [*ne*-abbreviative]; cf. *notóóne* my daughter); *neí* (my) son! (11, N, 212 / *n-eí* [*hʔe*-abbreviative];

cf. neih⁷e my son); neixóó (my) father! (11, N, 212 / n-eix-óó;
 cf. neisónoo my father); néiwóó (my) grandmother! (11, N, 212 /
 n-éiw-óó; cf. néibehe⁷ my grandmother); nésihóó (my) uncle! (11, N,
 212 / n-ésih-óó; cf. nési my mother's brother or uncle); nehéihóó
 (my) aunt! (11, N, 212 / n-ehéih-óó; cf. nehéi my father's sister
 or aunt); and néésóbóó (my) daughter-in-law! (11, N, 212 /
 n-éésób-óó; cf. nééseb my daughter-in-law).

The possessed noun neyóó my brother-in-law (man speaking) has
 the corresponding vocative form yóó brother-in-law! (man speaking).
 The vocatives betébi wife! and hisée sister-in-law! (woman speak-
 ing) are suppletive; cf. netesih⁷e my wife and noto⁷u my sister-in-
law (woman speaking).³

2.6. Arapaho nouns are either dependent or nondependent. The
 class of dependent nouns is limited in number, not exceeding, in my
 estimate, some two hundred. It seems to belong to an old lexical
 stratum and is apparently closed to new coinages.

Nondependent nouns occur both with a specific personal possessor
 prefix and in their absolute form. Dependent nouns occur exclusively
 in possessed form, whether prefixed by a morpheme marking a specific
 personal possessor or an indefinite one, thus always participating
 in polymorphemic sequences. They are with few exceptions (e.g.,
 be⁷éneč milk [cf. bé⁷en breast and né⁷ water]) underlain by simple
 noun stems. Semantically, the bulk of dependent nouns denotes most
 of the body parts and kinship relationships.

Among the few dependent nouns outside these two semantic categories are béyeiʔih home (cf. néyeiʔih my home), betéí louse or flea (cf. netéí my louse), and béítehʔéí friend (cf. néítehʔéí my friend).

Among the nondependent nouns denoting body parts are hís liver, hix bone, béʔ blood, hííkón lung, kósoo scrotum, and others. Some of these can be readily distinguished from the dependent nouns because they lack the indefinite personal possessor prefix b- ~ w-, others because their possessed forms have a specific personal possessor prefix added to the noun stem rather than substituted for what in the dependent nouns is the indefinite personal possessor morpheme (cf. béʔ blood, nébeʔííb my blood).

The dependent noun betíhii tail has a nondependent doublet tíhii tail. The compound noun beθéneč milk acts as both dependent and nondependent: the constructions neθéneč my milk (following the morphology of the dependent nouns) and nébeθéneč my milk (nondependent) are in free variation.

The indefinite personal possessor prefix, which marks dependency, is assigned to Decade 10 and numbered 15. It occurs in two morpheme alternants, b- and w-. Examples are: bétée (someone's) heart (15, N / b-étee), béíćíθ tooth (15, N / b-éíćíθ), béécét hand (15, N / b-éécét), besíiiséʔ eye (15, N / b-esíiiséʔ), béʔis nose (15, N / b-éʔis), béíθeʔéé head (hair) (15, N / b-éíθeʔéé), beiθón tongue (15, N / b-eiθón), wótoʔ nape (15, N / w-ótoʔ), and wonót belly (15, N / w-onót).

In view of the nonoccurrence of vowels in contour-initial position, the preceding analysis of the dependent nouns may seem inconsistent with the earlier statement concerning the patterning of Arapaho phonemes, as it admits vowels stem-initially. However, the morphemic cuts here employed are fully justified analytically.

The stems in question belong to the small special group of dependent nouns. Since these nouns do not occur unprefixally, the possibility of a contour-initial stem-initial vowel is excluded. As has been already shown in the discussion of the consonant-vowel sequences, a selective distribution operates in Arapaho with respect to the phonemes *b* and *w* and the vowels which succeed them: *b* is generally followed by *i* or *e*, *w* by *o* or *u*. In my material all of the dependent nouns elicited with the indefinite personal possessor prefix begin with the sequence *be(V)-* or *wo-* (disregarding the prosodies), except for *bóʔos glans penis*. The morphemic cuts I employ (viz., *b-éííííθ*, *w-ótóʔ*, *b-éʔis*, etc., rather than *béí-íííííθ*, *wó-toʔ*, and *bé-ʔis*) are made with the assumption of a phonemically conditioned regressive alternation, almost wholly automatic, in preference to setting up a fairly large number of morpheme alternants of the indefinite personal possessor prefix (*wo- ~ be- ~ bee- ~ bei-* as well as other prosodic shapes) and then listing the stems occurring with each particular alternant.

The morphophonemic economy thus effected extends further to the prefixes marking the first person and second person possessive

(morphemes 11 and 12). There is no need to set up the rhyming alternants for prefixes 11 (nei-, nee-, etc.) and 12 (hei-, hee-, etc.) with the corresponding assumed alternants of 15 (bei-, bee-, etc.), as in béí'íí'í tooth, néí'íí'í my tooth, héí'íí'í your tooth, and béé'cét hand, néé'cét my hand, héé'cét your hand. However, for the third person possessive form (13 + N), the stems of the dependent nouns reshape by dropping the vowel or vowels that precede the first consonant of the stem, e.g., hinií'íí'í his tooth, híí'cét his hand, and hinií'íí'í his head, with -í'íí'í, -cét, and -íí'íí'í being the shortened stems.

2.7.1. The rest of the paradigm of personal possessor prefixes consists of those marking the first, second, and third person. The third person possessive makes no distinction as to the sex of the referent; it translates as his, her, or its, depending on the context.

The specific personal possessor prefixes are assigned to Decade 10 and are numbered respectively 11, 12, and 13. The following alternants of these three morphemes are attested in my material:

- (11) first person possessive: n- ~ ne- ~ né- ~ no- ~ nó-;
- (12) second person possessive: h- ~ he- ~ hé- ~ ho- ~ hó-; and
- (13) third person possessive: hi- ~ hí- ~ hii- ~ híí- ~ hinií- ~ hiniíí- ~ hínii-.

The morpheme alternants of 11 and 12 are correlative, i.e., the shape ne- of 11 is replaced by he- of 12, no- corresponds to ho-, etc.

The distribution of the alternants of morphemes 11, 12, and 13

is contingent upon the stem-initial phonemes of the possessed noun. The shapes n- and h- of prefixes 11 and 12 respectively are limited to dependent nouns (cf. Section 2.6). The shapes ne- ~ né- of prefix 11 (and correlatively also he- ~ hé- of 12) precede those nondependent nouns whose stem-initial consonant is followed by a nonback vowel (i.e., i or e). The shapes no- ~ nó- of prefix 11 (and correlatively also ho- ~ hó- of 12) precede those nondependent nouns whose stem-initial consonant is followed by a nonfront vowel (i.e., o or u). The shapes hiníi- ~ hiníí- ~ hínii- of prefix 13 precede the shortened stems of those dependent nouns which begin their 15 + N form with b-ei... (disregarding the prosodemes); the shapes hii- ~ híí- precede the shortened stems of those dependent nouns which begin their 15 + N form with b-ee... (disregarding the prosodemes); the remaining alternants of 13, hi- ~ hí-, occur elsewhere.

Examples are: bétee heart (15, N / b-étee), nétee my heart (11, N / n-étee), hétee your (sg.) heart (12, N / h-étee), hítee his heart (13, N / hí-tee); wonót belly (15, N / w-onót), nonót my belly (11, N / n-onót), honót your (sg.) belly (12, N / h-onót), hinót his belly (13, N / hi-nót); beiθón tongue (15, N / b-eiθón), neiθón my tongue (11, N / n-eiθón), heiθón your (sg.) tongue (12, N / h-eiθón), híniθón his tongue (13, N / hínii-θón); beí'θe'ée head (15, N / b-eí'θe'ée), neí'θe'ée my head (11, N / n-eí'θe'ée), heí'θe'ée your (sg.) head (12, N / h-eí'θe'ée), hiníí'θe'ée his head (13, N / hiníí-θe'ée); néibeheṽ my grandmother (11, N / n-éibeheṽ), hiníiwóhoṽ

his grandmother (13, N, 211 / hinii-wohoʔ-∅); beecet hand (15, N / b-éecet), neecet my hand (11, N / n-éecet), heecet your (sg.) hand (12, N / h-éecet), hiicet his hand (13, N / hii-cet); beʔib vein or blood, nebeʔib my vein (11, N / ne-beʔib), hebeʔib your (sg.) vein (12, N / he-beʔib), hiibeʔib his vein (13, N / hii-beʔib); hiineʔititit life, netiineʔititit my life (11, N / ne-tiineʔititit), hetiineʔititit your (sg.) life (12, N / he-tiineʔititit), hitiineʔititit his life (13, N / hi-tiineʔititit); and wooxé knife, nowoxé my knife (11, N / no-wooxé), howoxé your (sg.) knife (12, N / ho-wooxé), hiwooxé his knife (13, N / hi-wooxé).

Whereas most of the inanimate noun stems remain unchanged for the possessed form, there are some that are reshaped. Thus, for example, the noun híx bone lengthens its stem: netíxonéb my bone (11, N / ne-tíxonéb) [the change h > t is very common; see other examples immediately below].

On the other hand, animate nouns commonly reshape their stems when possessed, e.g., netébesiib my beaver (11, N / ne-tébesiib [cf. hébes beaver]); netenéceeb my buffalo (11, N / né-tenéceeb [cf. henécee buffalo]); nenisíchehiib my antelope (11, N / ne-nisíchehiib [cf. nisíche antelope]); hetéθebíib your (sg.) dog (12, N / he-téθebíib [cf. héθ dog]); and howóokeciib your (sg.) cow (12, N / ho-woóokeciib [cf. wóokec cow]).

When prefixed by morpheme 13, animate nouns assume an obviative form. There is some indication, however, that outside the context of

a whole phrase or in the case of words infrequently employed, the sequence 13 + N + 211 is slowly being replaced by the sequence 13 + N.

Apparently, the shape of the obviative in the possessed noun (i.e., in the sequence 13 + N + 211) derives from the stem alternant of the possessed form rather than from the absolute form of the stem. Thus, the alternant of the absolute form $h\acute{e}\theta$ in the possessed form $net\acute{e}\theta ebi\acute{i}b$, viz., $-t\acute{e}\theta ebi\acute{i}b$, follows Set b of Division 1, Subclass I, of the animate nouns in that it substitutes $-w$ for the stem-final $-b$ and employs \emptyset as the morpheme alternant of 211: $hit\acute{e}\theta ebi\acute{i}w$ his dog (13, N, 211 / $hi-t\acute{e}\theta ebi\acute{i}w-\emptyset$). Other examples of this kind are: $h\acute{i}ten\acute{e}\acute{e}cew$ his buffalo (13, N, 211 / $h\acute{i}-ten\acute{e}\acute{e}cew-\emptyset$ [cf. $h\acute{e}ten\acute{e}\acute{e}ceb$ your buffalo]); $hit\acute{e}\acute{e}niw$ his ant (13, N, 211 / $hi-t\acute{e}\acute{e}niw-\emptyset$ [cf. $net\acute{e}\acute{e}niib$ my ant and $h\acute{e}\acute{e}ni\acute{?}$ ant]); $n\acute{e}\acute{e}ce\acute{e}$ $hiw\acute{o}o\acute{k}e\acute{c}\acute{i}w$ the chief's (his) cow (13, N, 211 / $hi-w\acute{o}o\acute{k}e\acute{c}\acute{i}w-\emptyset$); etc.

Other animate nouns exhibit greater regularity, e.g., $hot\acute{i}\acute{i}$ wagon, $hot\acute{i}\acute{i}w$ (N, 211 / $hot\acute{i}\acute{i}w-\emptyset$), $no\acute{t}ot\acute{i}\acute{i}$ my wagon (11, N / $no\acute{t}ot\acute{i}\acute{i}$), $h\acute{i}tot\acute{i}\acute{i}w$ his wagon (13, N, 211 / $h\acute{i}-tot\acute{i}\acute{i}w-\emptyset$)—cf. Subclass I, Division 1, Set b; $neis\acute{o}noo$ my father, $h\acute{i}niis\acute{o}noon$ his father (13, N, 211 / $h\acute{i}niis\acute{o}noon-\emptyset$)—cf. Subclass I, Division 1, Subset c_1 ; and $x\acute{o}u\acute{c}\acute{e}n$ onion, $x\acute{o}u\acute{c}\acute{e}n$ (N, 211 / $x\acute{o}u\acute{c}\acute{e}n-\emptyset$), $hix\acute{o}u\acute{c}\acute{e}n$ his onion (13, N, 211 / $hi-x\acute{o}u\acute{c}\acute{e}n-\emptyset$).

2.7.2. Pluralization of possessed inanimate nouns is generally

regular: neícító my teeth (11, N, 221 / n-eícít-o)—cf. Subclass I, Division 3, Set e; héíθeíéno your (sg.) heads (12, N, 221 / h-eíθeíéno-o)—cf. Subclass I, Division 2, Set a; hiwóoxoho his knives (13, N, 221 / hi-wóoxoh-o)—cf. Subclass I, Division 4; and betéécii brains (15, N, 221 / b-etééc-ii)—cf. Subclass II, Division 2, Set a. For the noun híx bone (pl. hixóno [Subclass I, Division 2, Set d]), the form hitíxonówo his bones is on record. The source of this citation is a narrative in which the bones appear to be alive.⁴ Indeed, the form is easily analyzable as animate: hitíxonówo (13, N, 221, 211 / hi-tíxonówo [ɔ̄-'subtractive']).

Pluralization of animate nouns in the first and second person possessive involves in most cases suffixing to those stem alternants which are employed in the possessed obviative (singular) construction (i.e., 13 + N + 211) morpheme 221 in the shape of -oɔ̄. When the nouns are pluralized and prefixed by the third person possessive, these same stem alternants enter into an obviative (plural) sequence, viz., 13 + N + 221 + 211. Examples are: netéθebííwoɔ̄ my dogs (11, N, 221 / ne-téθebííwo-oɔ̄); hotóónohoɔ̄ your (sg.) daughters (12, N, 221 / ho-tóónoh-oɔ̄)—cf. notóóne my daughter, hitóóno his daughter (13, N, 211 / hi-tóón-o) of Subclass I, Division 2, Subset d₃; hitéθebííwo his dogs (13, N, 221, 211 / hi-téθebííwo-o [ɔ̄-'subtractive']); hitóónoho his daughters (13, N, 221, 211 / hi-tóónoh-o [ɔ̄-'subtractive']); and hixóúćenii his onions (13, N, 221, 211 / hi-xóúćen-ii-ø)—cf. xóúćenii (N, 221, 211 / xóúćen-ii-ø).

2.7.3. There are some cases of suppletion in the possessed nouns. My material yields níyíinon tepee, but néyei my tepee, héyei your (sg.) tepee, etc.; hóθ arrow, but neič my arrow, heič your (sg.) arrow, híníič his arrow, néiko my arrows, etc.; hiníín his wife, but betesíh[?]e (dep.) wife, netesíh[?]e my wife, etc.; ninííhen čébičóohút automobile or car [=it runs by itself], but nótotíí my car [= my wagon or wheel], nótotííwo[?] my cars, etc.; and wóxhoox ~ wóxuuhóox horse, but nótoníhi[?] my horse, hítoního[?] his horse, nótoníh[?]o[?] my horses, hítoníh[?]o his horses, etc.

The nouns wóxuuhúú elk (pl.) and wóx bear have special constructions for possession: nótoníh[?]o[?] wóxuuhúú my herd of elk, hótóníh[?]o[?] wóxuuhúú your (sg.) elk (pl.), etc., and nótoníhi[?] wóx my bear, hótóníhi[?] wóx your (sg.) bear, etc. According to one informant, constructions employing the paradigmatic forms of nótoníhi[?] in conjunction with another noun carry the meaning of pet (animal), e.g., nótoníhi[?] wóx my pet bear. For the third person possessive of the two nouns my record also shows the forms (nééčee) hiwóxuuhííw (the chief's) elk [= the chief, his elk] and (nééčee) híwoxúúw (the chief's) bear.

The set néés my husband, héés your (sg.) husband, hííx her husband appears to be defective, as neither an absolute nondependent form nor a form prefixed by the indefinite personal possessor morpheme could be elicited. However, the change s > x is common.

2.7.4. The specific personal possessors, denoted by prefixes

11, 12, and 13, are pluralized by the personal possessor pluralizer morpheme suffixed to a lengthened form of the associated noun stem. The suffix, numbered 231, occurs in the shapes -ínoo ~ -únoo [following a certain few consonants], as well as some additional prosodemic variants.

Examples are: heté^éebiibínoo your (pl.) dog(s) (12, N, 231 / he. Examples are: heté^éebiibínoo your (pl.) dog(s) (12, N, 231 / sehe-té^éebiib-ínoo); né^écé^éno^é nonó^óh^óowó^óéi^é? hihé^éihé^éhínoo the chiefs nosee their mothers-in-law (13, N, 231 / hi-hé^éihé^é-ínoo); né^écé^éno^é mononó^óh^óowó^óéi^é? honó^óh^ó?ohó hihé^éihé^éhínoo the chiefs see these men's hóm^óothers-in-law; hót^óotiibínoo your (pl.) wagon(s) (12, N, 231 / h^óh^ó-totiib-ínoo); hoxó^óú^úé^éniibínoo your (pl.) onion(s) (12, N, 231 / hí^hh^ó-xó^óú^úé^éniib-ínoo); hí^hwoxu^uwú^únoo their bear(s) (13, N, 231 / hihí^h-woxu^uw-únoo); hiní^íé^é?é^éenínoo their head(s) (13, N, 231 / hihiní^í-é^é?é^é-ínoo); and hití^íé^é?ití^ítoonínoo their life (13, N, 231 / hi-tí^íé^é?ití^ítoon-ínoo).

clusive first person possessive. The inclusive first person form subsumes the speaker, the addressee, and perhaps others (as when a boy talks to his sister about "our mother"); the exclusive first person form subsumes the speaker and others, but not the addressee (as when a mother talks to a visitor about "our children," meaning those who belong to her and her husband).

In the sequence 11 + N + 231, the addressee (or hearer) is excluded by definition: thus, né^éé^é?é^éenínoo means head(s) belonging

to us but not to you who are being spoken to (or might be hearing this). The inclusion of the addressee (and perhaps of others) is expressed by the inclusivizer morpheme, 241, which follows suffix 231 and is associated with prefix 12, which marks the second person possessive. The inclusivizer has a single morpheme alternant, termed 'subtractive,' which has the effect of reducing the suffix 231 from -Vnoo to -Vn, with an occasional redistribution of prosodemes over the morphemic sequence, as in héí'θe'éeénin our head(s), including yours or perhaps your head(s) as well as curs (12, N, 231, 241 / h-éí'θe'éeén-in [oo-'subtractive']) or heté'θebiíbin our dog(s) as well as yours (12, N, 231, 241 / he-té'θebiíb-in [oo-'subtractive']).

2.7.5. When the third person possessor is one which is classified as inanimate, a suffix marking the (third person possessor) inanimative, numbered 213, follows the lengthened form of the associated noun stem. The inanimative occurs in the shapes of -iinoo' (~ -íínoo') ~ -uunoo' (~ -úúnoo'), unless pluralized.

The inanimative is made plural by means of suffix 232, the (third person possessor) inanimative pluralizer. The single alternant of morpheme 232, -u, follows suffix 213 which then regularly assumes the shape of -iinóu' ~ -uunóu'.

In both of these sequences, viz., 13 + N + 213 and 13 + N + 213 + 232, the one-mora alternants of morpheme 13, hi- ~ hí-, are replaced by the lengthened alternant shapes of hii- ~ híí-, and the prosodemes are commonly redistributed over the morphemic sequence.

Examples are: hííteθebííbiinoo^ʔ its dog or dogs (13, N, 213 / híí-teθebííb-iinoo^ʔ [cf. hitéθebííbiínoo their dog or dogs]);
 hinííciθíínoo^ʔ its tooth or teeth (13, N, 213 / hiníí-çiθ-íínoo^ʔ);
 hinííθe^ʔeeníínoo^ʔ its head or heads (13, N, 213 / hiníí-θe^ʔeen-íínoo^ʔ);
 hííwoxúúwuunoo^ʔ its bear or bears (13, N, 213 / híí-woxúúw-uunoo^ʔ);
 hííwóoke^ʔííbiinóu^ʔu their cow or cows (13, N, 213, 232 / híí-wóoke^ʔííb-iinóu^ʔ-u [cf. hííwóoke^ʔííw his cow]); hííwoxúúwuunóu^ʔu their bear or bears (13, N, 213, 232 / híí-woxúúw-uunóu^ʔ-u); and
 hinííciθíínoú^ʔu their tooth or teeth (13, N, 213, 232 / hiníí-çiθ-íínoú^ʔ-u).

It is evident from some of the glosses of the Arapaho examples in this and the preceding section, 2.7.4, that nouns in sequences 11 + N + 231, 12 + N + 231 + 241, 13 + N + 231, and 13 + N + 213 + 232 are not explicit as to number. Thus, my informants translate hetéθebííbiínoo both as the dog that belongs to you (fellows) and the dogs that belong to you (fellows).

2.8. For the locative suffix, numbered 251, the morpheme alternants -e^ʔ ~ -i^ʔ ~ -ii^ʔ ~ -u^ʔ, as well as some additional prosodic variants, have been attested. The shape of 251 is largely dependent upon the final consonant of the associated stem alternant.

Examples are: hokóobe^ʔ on your back (12, N, 251 / h-okóob-e^ʔ [cf. wokóoo back]); netéθebííbe^ʔ on my dog (11, N, 251 / ne-téθebííb-e^ʔ); hitéθebííbe^ʔ on his dog (13, N, 251 / hi-téθebííb-e^ʔ); hóobe^ʔ in bed (N, 251 / hóob-e^ʔ [cf. hóoo bed]); níyíinóné^ʔ in the tepee (N, 251 / níyíinón-e^ʔ); no^ʔóote^ʔ on my leg (11, N, 251 / n-o^ʔóot-e^ʔ); netíxone^ʔ

on or in my bone (11, N, 251 / ne-tíxon-eí) ~ netíxonébeí (11, N, 251 / ne-tíxonéb-eí); hitíxonéí on or in his bone (13, N, 251 / hi-tíxon-eí) ~ hitíxonébeí; béseí in the wood (N, 251 / bés-eí); hitéineí on a limb or branch (N, 251 / hitéin-eí [cf. hiteí branch]); heéćetíneí in your hand (12, N, 251 / h-éćetín-eí); néćíí on or in the water (N, 251 / néć-íí); hisééθíí on the pine (N, 251 / hisééθ-íí [cf. hisééθ pine]); neeyéíćí(i)í in the timber (N, 251 / neeyéíć-íí ~ neeyéíć-íí [cf. neeyéíć timber]); hohóótíí in or on the tree (N, 251 / hohóót-íí); hohóótíneí on trees (N, 251 / hohóótín-eí); honóćíuí in the sky (N, 251 / honóć-uí); and seenóókúí on the rope (N, 251 / seenóók-uí).

Animate nouns prefixed by the third person possessive do not mark the obviative when they participate in a locative construction; thus, netéθebiíbeí on my dog and hiteθebiíbeí on his dog.

2.9.1. The suffix marking the diminutive is assigned to Decade 260 and numbered 261. It occurs in several shapes, all of which, disregarding prosodemic variants, correspond to the formula -(h)VhVí, where the two vowels, which are identical, may be i, e, or u. Those alternants beginning in -h... follow stems terminated vocally; the others follow stem-final consonants.

Examples are: híseihihií girl [= little woman] (N, 261 / hísei-hihií); honóćehíhií boy [= little young man] (N, 261 / honóće-híhií); niíćííheheí creek [= little river; cf. niíćíí ~ niíćíí river] (N, 261 / niíćíí-heheí); hockúhuhuí little mouse

(N, 261 / hookúuh-uh[̄]); béí[̄]é[̄]e[̄]eené[̄]e[̄] little head (15, N, 261 / b-éí[̄]é[̄]e[̄]een-é[̄]e[̄]); hinií[̄]é[̄]e[̄]eené[̄]e[̄] his little head (13, N, 261 / hinií[̄]-é[̄]e[̄]een-é[̄]e[̄]); bétee[̄]hé[̄]e[̄] little heart (15, N, 261 / b-étee[̄]-hé[̄]e[̄]); néí[̄]íté[̄]e[̄] my little tooth (11, N, 261 / n-éí[̄]ít-é[̄]e[̄]); nonóókú[̄]hé[̄]e[̄] my little rabbit (11, N, 261 / no-nóókú[̄]-é[̄]e[̄]); and hotíí[̄]bé[̄]e[̄] little wagon or wheel (N, 261 / hotíí[̄]b-é[̄]e[̄]).

The kinship terms néibe[̄]e[̄] my grandmother, nebésiibe[̄]e[̄] my grandfather, and nééhebe[̄]e[̄] my younger sibling likewise appear to terminate in morpheme 261, but a definitive analysis of these forms cannot be made from the available data (néibe[̄]e[̄] [11, N, 261 / n-éib-é[̄]e[̄]]) my little mother or my little one?

Before the morphemes marking the obviative (211), plural (221), and obviative plural (221+211) of animate nouns, the diminutive assumes the shorter form of -(h)vh- (subsuming prosodemic variants). The morpheme alternants of 211 and 221 which regularly associate with 261 are -o[̄] and -[̄]o[̄], respectively; the morpheme alternant of 211 in the sequence N + 261 + 221 + 211 has a subtractive force in that it reduces the shape of 221 from -[̄]o[̄] to -[̄]o.

The diminutive forms of inanimate nouns are pluralized by morpheme 221 in the shape of -[̄]o.

Examples are: honó[̄]h[̄]ehí[̄]o[̄] boy (obv.; N, 261, 211 / honó[̄]h[̄]e-hí[̄]-o[̄]); níí[̄]ehí[̄]o[̄] little birds or birdies (N, 261, 221 / níí[̄]eh-í[̄]-[̄]o[̄]); honó[̄]h[̄]ehí[̄]o[̄] boys (obv. pl.; N, 261, 221, 211 / honó[̄]h[̄]e-hí[̄]-[̄]o[̄] [̄-'subtractive']); hookúú[̄]h[̄]o[̄] little mice (N, 261, 221 / hookúú[̄]-uh-[̄]o[̄]);

and bétoohóh̄o little hearts (15, N, 261, 221 / b-étoo-hóh-̄o).

When followed by morphemes 211 or 221 (including the sequence 221 + 211), the vowel e of the expected morpheme [261] alternant -(h)eh- (or -[h]éh-) regressively assimilates to the vowel of the succeeding morpheme and becomes o. Thus, nóókuhéhē little rabbit (N, 261 / nóókuh-éhē), but hinóókuhóhō his little rabbit (obv.; 13, N, 261, 211 / hi-nóókuh-óh-ō), nóókuhóh̄ō little rabbits (N, 261, 221 / nóókuh-óh-̄ō), and nóókuhóh̄o (obv. pl.; N, 261, 221, 211 / nóókuh-óh-̄o [̄-'subtractive']); hotííbehē little wagon, but hotííwóh̄ō little wagons (N, 261, 221 / hotííw-óh-̄ō); béí̄ēeenéhē little head, but béí̄ēeenóh̄o little heads (15, N, 261, 221 / b-éí̄ēeen-óh-̄o); and béteehē little heart, but bétoohóh̄o little hearts (15, N, 261, 221 / b-étoo-hóh-̄o).

Among some of the other constructions in which morpheme 261 participates are the following: héniīéhiwóh̄ō your (sg.) little birds (12, N, 261, 221 / hé-niīéhiw-óh-̄ō); néteeheh̄ínoo our little hearts (exclusively; 11, N, 261, 231 / n-étee-heh̄ínoo); nótookúuh̄'únoo our little mouse or mice (exclusively; 11, N, 261, 231 / nó-tookúuh-uh̄'únoo); héteeéh̄in our little hearts (inclusively; 12, N, 261, 231, 241 / h-étee-héh̄in [oo-'subtractive']); hótotiib̄h̄in our little wagon or wagons (inclusively; 12, N, 261, 231, 241 / hó-totiib-éh̄in [oo-'subtractive']); hinií̄ēeenéh̄íínoō its (inanimate possessor's) little head (13, N, 261, 213 / hinií̄ēeen-éh̄íínoō); and hííteeheh̄íinoú̄u their (inanimate

possessors') little hearts (13, N, 261, 213, 232 / híí-tee-heh^ʔ-iinóu^ʔ-u). The shape of the diminutive in some of the sequences here illustrated (i.e., before 231 or 213) changes from -(h)ʋh- to -(h)ʋh^ʔ- (disregarding prosodemic variants).

Not all speakers of Arapaho today seem to make use of the third person possessor inanimate constructions. Thus, according to some informants, hinií^íčitéhe^ʔ his little tooth (13, N, 261 / hinií^í-čit-éhe^ʔ) is also used in the sense its (inanimate possessor's) little tooth, as of a saw.

Unless there has occurred an unexpected change in meaning, the diminutive constructions maintain the gender of the underlying noun stem.

2.9.2. The suffix denoting the young (offspring) of is assigned to Decade 260 and numbered 262. When it occurs as the terminal morpheme of a morphemic sequence, it has the shape -sóó; elsewhere, it appears in several other alternant shapes.

Those noun stems which are terminated in a long vowel (written as an identical vowel cluster) suffix morpheme 262 directly; others reshape accordingly.

Examples are: čénee quail, čéneesóó young quail (N, 262 / čénee-sóó); bexóókee mountain lion, bexóókeesóó mountain lion cub (N, 262 / bexóókee-sóó); hóúú crow, hóúsóó young crow or top (child's toy) (N, 262 / hóuu-sóó); with reshaped stems—síísiič duck, síísiičiisóó duckling (N, 262 / síísiičii-sóó) ~ síísiikú^ʔuusóó

(N, 262 / síisiikúʔuu-sóó); néʔ goose, néʔiisóó gosling (N, 262 / néʔii-sóó); and wóx bear, wóxuusóó bear cub (N, 262 / wóxuu-sóó).

Some of the other constructions in which morpheme 262 participates are listed below. The following additional morpheme alternants of 262 are exemplified: -soon- ~ -sóón- and -soow- ~ -sóow-.

Examples are: nótóusóó my top (11, N, 262 / nó-tóuu-sóó); hítóusóó his top (13, N, 262 / hí-tóuu-sóó); híteneéʔeineéʔébiisóón his lion cub [= the young of the buffalo dog; cf. heneéʔeinéʔ lion] (obv.; 13, N, 262, 211 / hí-tenééʔeineéʔébii-sóón-ʔ); bexóókeesoonóʔ mountain lion cubs (N, 262, 221 / bexóókee-soon-óʔ); hítóusoonó his tops (13, N, 262, 221 / hí-tóuu-soon-ó); hítóusoonó the young crows that belong to him (obv. pl.; 13, N, 262, 221, 211 / hí-tóuu-soon-óʔ [-'subtractive']); notóusoonínoo our top or tops (exclusively; 11, N, 262, 231 / no-tóuu-socn-ínoo); hotóusoonín our top or tops (inclusively; 12, N, 262, 231, 241 / ho-tóuu-soon-ín [oo-'subtractive']); hineʔiisóón his gosling (obv.; 13, N, 262, 211 / hi-neʔii-sóón-ʔ) ~ hineʔiisóow (obv.; 13, N, 262, 211 / hi-neʔii-sóow-ʔ); and hisíisiikúʔuusoowúnnoo their duckling or ducklings (13, N, 262, 231 / hi-síisiikúʔuu-soow-únnoo) ~ hisíisiicíiisooúnnoo (13, N, 262, 231 / hi-síisiicíiisoo-únnoo).

2.10. Some aspects of the morphemic variation in the inflection of Arapaho nouns have already been brought out, and others are reviewed in summary form in the section which follows. All those alternants of minor morphemes that are substantiated by my field notes

have been listed and most of them have also been exemplified.

The great extent of stem alternation is implicit in many of the cited forms. Thus, the absolute stem form héθ dog is one of the numerous alternants occurring in the different morphemic sequences: unpossessed, the stem has the shape of héθeb- before suffixes 211 and 221, heθeb- before 212, heθébi- before 262, and héébiíb- before 251; in the sequences 11 + N + 251, 12 + N + 251, 12 + N + 231 + 241, and 13 + N + 251 the stem assumes the shape -téébiíb(-), the prosodemic variants of which, -téébiib- and -teébiíb-, occur in sequences 11 + N + 231, 12 + N + 231, 13 + N + 231 and 13 + N + 213 + 232, respectively; following prefix 13, which in the case of animate nouns generally calls for the obviative (suffix 211), the stem appears in the shape of -téébiíw-; this stem form also serves the possessed pluralized noun sequences 11 + N + 221, 12 + N + 221, and 13 + N + 221 + 211.

Since many of the stems cited in the context of particular morphemic sequences employ alternants peculiar to these sequences, a glossary of absolute stem forms (and respectively 15 + N forms for dependent nouns) is appended.

There are several morphophonemic changes affecting certain consonants at morphemic boundaries. Thus, stem-initial h- becomes -t- whenever another morpheme precedes the stem: héθ dog and netéébiíb my dog, hiθóox intestine and netiθóox my intestine, hóte? sheep and heébetóte? big sheep, hookúú mouse and notookúúhuh?únoc

our little mouse or mice (exclusively), etc.

Stem-final -θ becomes -t- before a suffixal o or e, as in hēétoókúθ canine and hēétoókúto canines, wóʔooθ leg and noʔooʔ on my leg, béíciθ tooth and néíciʔo my teeth, etc. (cf. číʔíθ calf of the leg and číʔíθin calf [obv.]).

Instances of stem-final -s changing to -x- before a suffixal o are common, as in nénes my arm and nenéxo my arms, bííciís leaf and bííciixo leaves, neisonoc my father and neixóó my father! (voc.), béś log and béxon log (obv.), etc. On the other hand, there are some noun stems whose final -s under similar conditions becomes -θ- or is retained, e.g., béʔis nose and beʔíθó noses, and nóxos my shin and nóxosónoʔ my shins (in the latter case the suffix -oʔ [221] follows a stem augmented by the increment -ón- [see Section 2.3.3.1.1, Subset c₃]).

Stem-final -č becomes -k- before a suffixal o or u, as in betééc brain and betééko brains (but also betééčii or betééčino brains), síísiic duck and síísiikúʔuu ducks (but also síísiičii ducks), etc.

Stem-final -b changes to -w- before a suffixal o, as in béʔib vein and beʔiwoʔ veins, bííθib food and bííθiwo foodstuffs, néibeheʔ my grandmother and hiníiwóhoʔ his grandmother, etc.

I find only one instance of a stem-final -x becoming -θ- before a suffixal o in my material: hohʔonóox ax, hohʔonóóθo axes (cf. also hinóox bark [of a tree], pl. hinóoxúú).

Finally, it should be mentioned that some of the morphophonemic

changes occurring in the noun inflection strongly resemble vowel harmony, even though one rather limited in extent. There are instances of noncontiguous vocalic assimilation effective both progressively and regressively.

As examples of the progressive assimilation, one may cite hookúúhuhu[?] little mouse (cf. hookúú mouse) and béteehe[?] little heart (bétee [someone's] heart plus the allomorph -néhe[?] of the diminutive).

Regressive assimilation may be illustrated by bétoohóh[?] little hearts, in which the diminutive assumes the shape of -hóh- before the -o of 221, and the stem, together with the indefinite personal possessor prefix, appears in the form of béto- before -hóh[?] (261, 221 / -hóh-[?]); nótotíí my wagon (cf. hotíí wagon) and netébesiib my beaver (cf. hébes beaver); and other examples.

There are frequent instances in which the selection of any one from among the several alternants of a given morpheme is based on the articulatory position of a vowel, employing the distinction between nonfront and nonback vowels (o or u as against i or e).

Examples may be found in Section 2.7.1 and elsewhere.

2.11.1. Arapaho affixes which associate with the noun stems are listed below by the decades to which they have been assigned. All morpheme alternants exemplified in the preceding sections of this chapter are listed, except for some prosodemic variants which in several instances are indicated by ellipsis marks (...). Primary

distributional relationships among the various alternants of the individual morphemes are indicated by parentheses, brackets, and braces. The symbols N_2 and N_1 stand for animate noun(s) and inanimate noun(s), respectively.

prefixes

decade 10:

- 11--first person possessive: n- ~ (ne- ~ né-) ~ (no- ~ nó-)
- 12--second person possessive: h- ~
 ~ (he- ~ hé-) ~ (ho- ~ hó-)
- 13--third person possessive: (hi- ~ hí-) ~ (hii- ~ hii'-) ~
 ~ (hini- ~ hini'- ~ hini-)
- 15--indefinite personal possessor: b- ~ w-

suffixes

decade 210:

- 211--obviative: ([- \emptyset ~ { -n ~ -in ~ -on ~ -o ... }] ~
 ~ [- \emptyset ~ -i ~ -u ~ -ii ~ -uu ...]) ~
 ~ ('subtractive' ~ - \emptyset) ~
 ~ (-o? ~ 'subtractive')
- 212--vocative (singular): (-n ~ -ún ~ -úun ~ -íin) ~
 ~ ('abbreviative' ~ -óó)

213--(third person possessor) inanimative:

$$\left(\left[-iino\bar{o} \sim -i'ino\bar{o} \right] \sim \left[-uuno\bar{o} \sim -u'uno\bar{o} \right] \right) \sim$$

$$\sim (-iin\acute{o}\bar{o} \sim -uun\acute{o}\bar{o})$$

decade 220:

221--plural: $(N_a \left[\left\{ -o \dots \right\} \sim \left\{ -i \sim -u \sim -ii \sim -uu \dots \right\} \right] \sim$
 $\sim N_i \left[\left\{ -o \dots \right\} \sim \left\{ -ii \sim -uu \dots \right\} \right]) \sim$
 $\sim (N_a \left[-\bar{o} \right] \sim N_i \left[-\bar{o} \right])$

decade 230:

231--personal possessor pluralizer: $-i'noo \sim -u'noo \dots$

232--(third person possessor) inanimative pluralizer: $-u$

decade 240:

241--inclusivizer: -'subtractive'

decade 250:

251--locative: $-e\bar{o} \sim -i\bar{o} \sim -ii\bar{o} \sim -u\bar{o} \dots$

decade 260:

261--diminutive: $(\left[-ihi\bar{o} \sim -eh\bar{o} \sim -uhu\bar{o} \dots \right] \sim$
 $\sim \left[-hihi\bar{o} \sim -hehe\bar{o} \sim -huhu\bar{o} \dots \right]) \sim$
 $\sim (\left[-ih- \sim -oh- \sim -uh- \dots \right] \sim$
 $\sim \left[-hih- \sim -hoh- \sim -huh- \dots \right]) \sim$
 $\sim (\left[-ih\bar{o}- \sim -eh\bar{o}- \sim -uh\bar{o}- \dots \right] \sim$
 $\sim \left[-hih\bar{o}- \sim -heh\bar{o}- \sim -huh\bar{o}- \dots \right])$

262--"the young (offspring) of": $-so\acute{o} \sim$

$$\sim (\left[-soon- \sim -so\acute{o}n- \right] \sim$$

$$\sim \left[-soow- \sim -so\acute{o}w- \right])$$

2.11.2.1. The more common morphemic sequences in which animate nouns participate are charted below. A large majority of these sequences have been documented by examples given in the preceding sections of this chapter; the others have been attested in my field notes.

In the chart, any of the prefixes (or the lack of a prefix) marked by an "x" may occur associated with the patterns of suffixation indicated in the corresponding horizontal line to the right of the noun stem column (N_a).

Only dependent nouns associate with morpheme 15, the indefinite personal possessor prefix. They do not occur in the absolute form, being either prefixed by 15, or by any one of the three specific personal possessor morphemes—11, 12, or 13.

The use of the decade number (e.g., 260) denotes the inclusion of all morphemes assigned to that decade (viz., 261 and 262, in the case of Decade 260; both of these morphemes participate in identical sequences).

Thus, to sum up, the first line of the chart represents the following five morphemic sequences: N_a [nondependent nouns only], $11 + N_a$, $12 + N_a$, $13 + N_a$, and $15 + N_a$ [dependent nouns only]; the fifth line represents the following two morphemic sequences: $13 + N_a + 213$ and $13 + N_a + 213 + 232$; the next to the last line represents the following two morphemic sequences: $12 + N_a + 261 + 231 + 241$ and $12 + N_a + 262 + 231 + 241$; etc.

Un- prefixed	Prefixes				Noun stem	Suffixes		
	11	12	13	15		(+)	(+)	(+)
x	x	x	x	x	N _a			
x			x	x	N _a	211		
			x		N _a	211	211	
x	x				N _a	212		
			x		N _a	213	<u>±</u>	232
x	x	x		x	N _a	221		
x			x	x	N _a	221	211	
	x	x	x		N _a	231		
		x			N _a	231	241	
x	x	x	x	x	N _a	251		
x	x	x			N _a	260		
x			x		N _a	260	211	
			x		N _a	260	213	<u>±</u> 232
x	x	x			N _a	260	221	
x			x		N _a	260	221	211
	x	x	x		N _a	260	231	
		x			N _a	260	231	241
				x	N _a	261	<u>±</u>	221

2.11.2.2. The more common morphemic sequences in which inanimate nouns participate are charted below. A large majority of these sequences have been documented by examples given in the preceding sections of this chapter; the others have been attested in my field notes.

The arrangement of this chart follows that of the preceding one.

Un- prefixed	Prefixes				Noun stem	Suffixes		
	11	12	13	15		(+)	(+)	(+)
x	x	x	x	x	N ₁			
			x		N ₁	213	±	232
x	x	x	x	x	N ₁	221		
	x	x	x		N ₁	231		
		x			N ₁	231		241
x	x	x	x	x	N ₁	251		
x	x	x	x		N ₁	260		
			x		N ₁	260	213	± 232
x	x	x	x		N ₁	260	221	
	x	x	x		N ₁	260	231	
		x			N ₁	260	231	241
				x	N ₁	261	±	221

2.11.2.3. The following general statements concerning the morphemic sequences of Arapaho constructions involving noun stems are based on the charts found in the preceding two sections.

No morphemic sequences involving inanimate nouns are terminated by suffixes 211 or 212.

The sequence-terminal morpheme 241 is always preceded by morpheme 231, with the associated noun stem following prefix 12. This partially dependent and noncontiguous morphemic sequence marks the inclusive first person plural of possessed nouns.

As regards the relative position of suffixes in sequences associated with stems of animate nouns, morphemes 211⁵, 212, 232, 241, and 251 are ultimate within sequences; morpheme 221 is sequence-penultimate before 211, otherwise sequence-ultimate; morpheme 231 is sequence-penultimate before 241, otherwise sequence-ultimate; morphemes of Decade 260 are contiguous to the noun stem.

In association with the stems of inanimate nouns, morphemes 221, 232, 241, and 251 are sequence-ultimate; morpheme 231 is sequence-penultimate before 241, otherwise sequence-ultimate; morphemes of Decade 260 are contiguous to the noun stem.

2.12. In this appendix are listed all those noun stems, simple or compound, which have been cited throughout the chapter. With only a few exceptions, which are noted, the nondependent nouns are entered in their absolute form, the dependent nouns with the indefinite personal possessor prefix. The listing is alphabetical

according to the English glosses. The references in parentheses are to sections and sets (or subsets); in a number of instances a given noun stem has been cited several times within a section.

The primary purpose of the fine sectioning employed here is to identify in detail the classificatory system devised for the Arapaho noun inflection. Thus, animate nouns fall into the groupings ranging from Section 2.3.3.1 to Subset 2.3.3.1.2.d₃, from Section 2.3.3.2 to Subset 2.3.3.2.2.d₂, and also into Sections 2.3.3.3 and 2.3.4. Inanimate nouns are classified within the groupings ranging from Section 2.4.2.1 to Section 2.4.2.1.4 and from Section 2.4.2.2 to Subset 2.4.2.2.2.b₂.

ankle wonóʔ (2.4.2.1.2.e); ant hééniʔ (2.3.3.2.2.d₂, 2.7.1); antelope nisíče (2.3.3.1.2.d₃, 2.7.1); archangel betééθoo (2.2, 2.3.3.1.1.b); arm bénes (2.4.2.1.3.c, 2.10); arrow hóθ (2.4.2.1.3.e, 2.4.2.2.2.a, 2.7.3); aunt, my nehéi (2.5); automobile ninííhen čébi kóohút (2.7.3); ax hóhʔonóóx (2.4.2.1.3.f, 2.10)

back wokóoo (2.8); backbone wotctóoy (2.4.2.1.2.d); badger woxʔóóʔ (2.3.3.2.2.c₁); bale beenóókuhuʔ [diminutive?] (2.4.2.2.1.a); ball kohoʔowóo (2.2, 2.3.3.1.1.c₁); bark (of a tree) hinóoox (2.4.2.1.3.f, 2.4.2.2.1.a, 2.10); bat woséíneʔinéíhii (2.3.3.1.2.d₃); bear wox (2.1, 2.2, 2.3.3.2.2.c₁, 2.5, 2.7.3, 2.7.4, 2.7.5, 2.9.2); beaver hébes (2.3.3.2.2.d₁, 2.7.1, 2.10); bed hóóó (2.8); bedbug béʔitéi (2.3.3.1.1.b); bee kohóhʔok (2.1, 2.3.3.2.2.c₁); belly wonót (2.4.2.1.2.d, 2.6, 2.7.1); bellyband hóóxuukúh (2.4.2.1.2.c); Big

Dipper teebí'česo'ó' (2.2); big man heebeθínen (2.1); big river béésniičíe (2.1); big sheep héébetóte' (2.10); big toe béésé' (2.4.2.1.2.b); bird nii'éhii (2.3.3.1.2.d₃, 2.5, 2.9.1); birdie ní'ehíhi' [diminutive] (2.9.1); blackbird nih'éeno' (2.3.3.2.2.a); blanket hóú (2.4.2.1.4); blood bé' (2.4.2.2.2.a, 2.6), bé'ib (2.7.1); blood clot hinót (2.2, 2.3.3.1.1.c₄); bone híx (2.4.2.1.2.d, 2.6, 2.7.1, 2.7.2, 2.8); bow bééte' (2.4.2.2.2.b₂); boy honóh'ehíhi' [diminutive] (2.9.1); brain beté'č' (2.4.2.1.2.e, 2.4.2.1.3.a, 2.4.2.2.2.a, 2.7.2, 2.10); branch hitéi (2.8); breast bé'een (2.4.2.1.1, 2.6); brother-in-law, my [man speaking] neyóo (2.5); buffalo hené'č'ee (2.3.3.1.1.c₁, 2.5, 2.7.1); buffalo bull, young woxoθóú'u (2.3.3.1.2.d₁); buffalo cow, young nónooni (2.3.3.1.2.d₃); buffalo hide héé'č'een (2.2); bumblebee héébeθkohóh'ok (2.1); bush bíis (2.4.2.1.3.c); butter nihóončebítee (2.1)

cactus hóhó'cyóox (2.2); calf woo' (2.3.3.2.2.c₂); calf of the leg čí'í'í' (2.2, 2.3.3.1.2.b₂, 2.10); canine héé'č'ókú' (2.4.2.1.3.e, 2.10); car niní'íhen č'ebikóohút (2.7.3); carrot yené'ínit (2.2); casket é'ísineét (2.4.2.1.2.e); cat wó'p'oo' (2.3.3.2.2.c₂, 2.5); cheek beč'í'í'p'oo' (2.4.2.1.2.a); chest béé'č'eso' (2.4.2.1.2.d); chicken hawk č'ecínóhuu (2.3.3.1.2.d₁); chief néé'č'ee (2.3.3.1.1.c₁, 2.3.5, 2.7.1, 2.7.3, 2.7.4); chin wotóxko' (2.4.2.1.2.d); claw wó'ox (2.3.3.2.2.c₁); cliff hoxotóono' (2.4.2.2.1.a); colt bí'iyóθóú'u (2.3.3.1.2.d₁); cougar beexó'kee [see also mountain lion] (2.3.3.1.1.c₁); cow wó'keč' (2.3.3.2.2.d₁, 2.7.1, 2.7.5); creek nič'ihéhe' [diminutive] (2.9.1); cricket bihóut

(2.3.3.2.2.c₂); cross nookóox (2.2); crow hóúú (2.9.2); crown of the head θcontééc (2.4.2.1.2.e, 2.4.2.1.3.a, 2.4.2.2.2.a); cub of ... [suffix 262] (2.9.2)

daughter, my notóóne (2.5, 2.7.2); daughter-in-law, my nééséb (2.5); day híisiř (2.4.2.2.2.b₂); daystar híisiinoóoř (2.2); deer bíhřih (2.3.3.2.2.d₁); devil hóócoo (2.2), wosei (2.2); dog héθ (2.3.3.2.2.d₂, 2.5, 2.7.1, 2.7.2, 2.7.4, 2.7.5, 2.8, 2.10); door tečénoo (2.2, 2.3.3.1.1.c₁); duck síisič (2.3.3.2.1.b, 2.9.2, 2.10); duckling síisičičiisóó ~ síisiikúřuusóó (2.9.2)

ear wonotónoř (2.4.2.2.1.b); elbow bétscn (2.2, 2.3.3.1.1.a); elephant honóókowúubeet (2.1); elk hi(i)wóxuu (2.3.4, 2.7.3); eye besíiisěř (2.4.2.2.2.b₂, 2.6); eyebrow beníiisíoř (2.2); eyewhite nóčkθeitóok (2.4.2.1.2.c)

fat čebítee (2.1); father, my neisonoo (2.5, 2.7.1, 2.10); feather bíiyi (2.2); fish néb (2.3.4), nówoř (2.3.3.2.2.c₂, 2.3.4); flea betéí (2.6); fly nóúbee (2.3.3.1.1.c₁); food bíiθíb ~ bíiθib (2.4.2.1.3.b, 2.10); foodstuffs bíiθiwo [plural] (2.10); foot seřixtoo (2.4.2.1.2.a); forefinger θíihoho (2.4.2.1.4); fox, red beexóuu (2.3.3.2.2.c₂); friend béítehřéí (2.6); frog nóóxobeř (2.3.3.2.2.d₂)

ghost bíiteí (2.2, 2.3.3.1.1.c₁); girl híseihihiř [diminutive] (2.9.1); glans penis bóřos (2.6); glove θóóxe (2.2); goose néř (2.3.3.3, 2.9.2); gosling néřiisóó (2.9.2); grandfather, my nebesiibéheř (2.9.1); grandmother, my néibcheř (2.5, 2.7.1, 2.9.1,

2.10); grass woxú^ʔ (2.4.2.1.2.c); grease ʒebítee (2.1); gun kokúy (2.4.2.1.2.d)

hair béí^ʔθe^ʔéé (2.4.2.1.2.a, 2.6); hand béécét (2.4.2.1.2.e, 2.6, 2.7.1, 2.8); hat woté^ʔ (2.4.2.1.2.b); head béí^ʔθe^ʔéé (2.4.2.1.2.a, 2.6, 2.7.1, 2.7.2, 2.7.4, 2.7.5, 2.9.1); heart bétée (2.4.2.1.4, 2.6, 2.7.1, 2.9.1, 2.10); heel betíít (2.4.2.1.2.d); herd of elk woxuuhúú (2.3.4); hide of a buffalo héécen (2.2); hip woce^ʔók (2.2, 2.3.3.1.1.c₂); uncle tóónotí^ʔ (2.4.2.2.2.a); home béyei^ʔih (2.6); horn hiníinis (2.2); horse woxhoox ~ woxuuhóox (2.3.3.2.2.d₂, 2.7.3); house ho^ʔóowu^ʔ (2.4.2.2.1.b); husband, my néés (2.7.3)

incisor béí^ʔííθ (2.4.2.1.3.e); insect bíísee (2.3.3.1.1.c₁); intestine hi^ʔóóox (2.10)

kidney betíí^ʔθiθ (2.2, 2.3.3.2.2.d₁); killdeer tíí^ʔihii (2.3.3.1.2.a, 2.3.3.1.2.d₃); knee ʒe^ʔéítei (2.2, 2.3.3.1.1.c₁); knife wócxé (2.4.2.1.4, 2.7.1, 2.7.2)

leaf bíí^ʔííís (2.4.2.1.3.c, 2.10); leg wo^ʔooθ (2.4.2.1.3.e, 2.8, 2.10); life hííne^ʔitíít (2.7.1, 2.7.4); limb hitéi (2.8); lion henéé^ʔceinéθ (2.9.2); lip béses (2.4.2.1.3.c, 2.4.2.2.2.a); liver híis (2.4.2.1.2.a, 2.4.2.1.2.e, 2.4.2.1.3.d, 2.6); lizard seeníwoo (2.3.3.2.2.c₂), log bés (2.2, 2.3.3.3, 2.4.2.1.3.d, 2.10); louse betéí (2.3.3.1.1.b, 2.6); lung híí^ʔkón ~ hííkon (2.4.2.1.1, 2.6)

maggot hi^ʔíisoo (2.2); magpie woo^ʔúx^ʔei (2.3.3.1.1.c₁); man hinén (2.1, 2.2, 2.3.3.1.2.b₁, 2.3.5); man, young honóh^ʔie (2.3.3.1.2.d₃, 2.7.4); medicine woxu^ʔuu (2.4.2.1.4); milk be^ʔéne^ʔ (2.2, 2.6); milker

(cow) nííθouyoo (2.3.3.1.1.c₁); mink no^íéix^í (2.3.3.1.2.d₂);
Mississippi béésniíííe (2.1); money be^íííííe^í (2.4.2.2.2.b₂); moon
biikóúsíís (2.2, 2.3.3.2.2.d₁); moose hinéni (2.3.4); morning star
nookóóx (2.2, 2.3.3.2.2.c₁); mother-in-law, my nehéíhe (2.7.4);
mountain lion bexóókee [see also cougar] (2.9.2); mouse hookúú
(2.3.3.2.1.a₂, 2.9.1, 2.10); mouth bétii (2.4.2.1.2.a)

nail wo^ífox (2.2, 2.3.3.2.2.c₁); nape wóto^í (2.6); navel be^é
(2.2, 2.3.3.1.1.c₄); neck bésonon ~ bésonón (2.4.2.1.1); nighthawk
číís (2.3.3.2.2.d₁); nightingale séskout (2.3.3.2.2.c₂); North Star
nénowó^í (2.2); nose be^íis (2.4.2.1.3.d, 2.6, 2.10); nostril
béteeníí (2.4.2.1.4)

offspring of ... [suffix 262] (2.9.2); onion kóúcé^ín (2.2,
2.3.3.2.1.a₁, 2.7.1, 2.7.2, 2.7.4); ostrich beescé^ínee (2.1); otter
yéíy (2.3.3.1.1.c₂)

palate wonóuo^í (2.2); person hinenítee (2.3.3.1.1.c₁); pet
(animal), my nótoníhi^í (2.7.3); photograph wo^íθonínoo^íóót (2.2);
picture wo^íθonínoo^íóót (2.2); pig nih^íóó^íθouwóx (2.1); pine hiséé^í
(2.8); pipe híí^íóóó (2.2, 2.3.3.1.1.c₁); plum béésí^íb (2.4.2.1.2.e,
2.4.2.1.3.b); porcupine hoo^í ~ hó^í (2.3.3.2.2.c₂); prairie dog
čoo^íóni^í, hóni^í (2.3.3.2.2.d₂); pumpkin béxko^í (2.2); pupa
bííseeníí^íθootééyoo (2.2); pupil (of the eye) hinéntehe^í [diminutive]
(2.2)

quail cé^ínee (2.1, 2.9.2)

rabbit noóku (2.3.3.1.2.d₁, 2.9.1); raspberry honí^ío (2.2);

ration hoxóbetíít (2.4.2.1.2.d); red fox beexóuu (2.3.3.2.2.c₂);
rice hi^íiisoono^í [plural] (2.2); river niic^íe ~ niic^íi ~ niic^íí (2.1, 2.9.1); rock hoh^íonóókee (2.2, 2.3.3.1.1.c₁); root he^ííci^í (2.2, 2.4.2.2.2.b₂); rope se^éenook (2.3.3.2.2.c₁, 2.8)

sac hinís (2.4.2.1.2.e); saddle horse téexokúút (2.3.3.1.1.c₃, 2.3.5); scrotum kósoo (2.6); shadow betéé^éoo (2.2, 2.3.3.1.1.b);
sheep nóte^í (2.3.3.2.2.b, 2.10); sheep, big heé^ébetóte^í (2.10); shin woxcs (2.2, 2.3.3.1.1.c₃, 2.10); shoulder betéyeo^í (2.2, 2.3.5);
sibling, my younger neé^éhebéhe^í (2.9.1); sister-in-law, my [woman speaking] notó^íu (2.5); skin wonóx (2.2, 2.3.3.1.2.c); skunk xoo^ó ~ xoo^ó (2.3.3.2.2.c₂); sky hóno^í (2.4.2.2.1.a, 2.8); small toe he^éesse^í (2.4.2.1.2.b); snake sí^ísí^íyé^í (2.3.3.1.1.c₁); snow hí^í (2.2, 2.3.4); snowball ce^íei^ínóuyco (2.2); son, my neí^íhe (2.5); song niibóót (2.4.2.1.2.e); spider nih^íó^éoo (2.3.3.2.2.a); spoon heebíyoo (2.2); squash béxko^í (2.2); squirrel nó^íouh^íú (2.3.3.1.2.d₂); stamp kohoyé^íbikúú^éoo (2.2); star hó^éo^í (2.2, 2.3.3.2.2.c₁); stick bés (2.2, 2.4.2.1.3.d); stomach wó^éce^íot (2.2, 2.3.3.1.1.c₃); stone hoh^íonóókee (2.2); string beetéyook (2.4.2.2.1.a); sun hiisí^ís (2.2, 2.3.3.2.2.d₁); swift hawk heé^éyeyi (2.3.3.1.1.c₁)
tail betí^íhi (2.6), tí^íhi (2.6); tepee níy^íinon (2.4.2.1.1, 2.7.3, 2.8); tepee pole hoko^óx (2.2, 2.3.3.1.1.c₂); thing heeyó^úhuu (2.4.2.1.4); throat béitóo (2.4.2.1.2.a); thunder box^íóó (2.2); tick hí^íí^í (2.3.3.2.2.d₂); timber neeyé^íc (2.8); tobacco sí^ísowoo (2.2); toe, big beé^ése^í (2.4.2.1.2.b); toe, small he^éesse^í (2.4.2.1.2.b);

tongue beiθón (2.4.2.1.1, 2.6, 2.7.1); tooth béíííθ (2.2, 2.6, 2.7.2, 2.7.5, 2.9.1, 2.10); top [child's toy] hóusóó [see crow] (2.9.2); top of the head neyóóoxét (2.4.2.2.2.a); tree hchóót (2.2, 2.3.3.1.1.c₁, 2.8); turkey čénee (2.1); turtle beṽénoo (2.3.3.2.2.a) uncle, my nési (2.5); uvula hótowkuútoot (2.4.2.1.2.e) vein béṽib (2.2, 2.3.3.1.1.b, 2.7.1, 2.10); visitor čeitéhii (2.3.3.1.2.d₃); vulture héčesóhuu (2.3.3.1.2.d₁) wagon hotíí (2.2, 2.3.3.1.1.b, 2.7.1, 2.7.3, 2.7.4, 2.9.1, 2.10); water néč (2.1, 2.2, 2.6, 2.8); watermelon nóóxowóuhut (2.2); week hoxóbetíít (2.4.2.1.2.d); well [water well] hooxéb (2.4.2.1.2.e); wheel hotíí (2.2, 2.3.3.1.1.b, 2.7.3, 2.9.1); white man nihṽóóθoo (2.1, 2.3.3.2.2.a); white of the eye nóókθeitóok (2.4.2.1.2.c); wife betesíhṽe (2.3.5, 2.7.3), my wife netesíhṽe (2.5); winter čéc (2.4.2.1.2.a, 2.4.2.2.2.b₁); wolf hóóxei (2.3.3.1.1.c₅); woman hísei (2.3.3.1.1.c₁, 2.3.5, 2.9.1); wood bás (2.2, 2.8); woodchuck beexóniṽ (2.3.3.2.2.d₂) year čéc (2.4.2.1.2.a, 2.4.2.2.2.b₁); young buffalo bull woxoθcúṽu (2.3.3.1.2.d₁); young buffalo cow nónooni (2.3.3.1.2.d₃); young man honóhṽe (2.3.3.1.2.d₃, 2.9.1); young, the, of ... [suffix 262] (2.9.2); younger sibling, my nééhebéheṽ (2.9.1)

3. V e r b m o r p h o l o g y

3.1.1. Arapaho verb forms are underlain by roots and/or root-generated stems and are affixed by one or several of a large number of minor morphemes associating with the verb stems, e.g., hínenííninóó I am a man (cf. hinén man), béneeséiθénoo I am big, béneesíínenííninoo I am a big man; neníí'ehíínin you are a bird (cf. níí'ehii bird); neníitówootówoo I hear it or them (inanimate object [s]), neníitonó' I hear him (animate object), neníitóbeenoo I (can) hear, neníitonéihínoo I am heard, neníitonetít he hears himself, hee'íhniitóbee [hineníteen] he heard [a person], níitoní hear (sg.) me!; and nónoohóótowoo I see it or them (inanimate object [s]), nonóohowó' I see him or her, nonochóó'geinoo I (can) see, nonóohobéihínoo I am seen, nonochóbetínoo I see myself, noohóótoo see (sg.) it!

The very complex derivation of the Arapaho verb will be treated separately in the future, at which time attempts will be made to resolve the verb complex into the simplest morphemic

elements and to consider such other features of the verb morphology as aspectual constructions (cf. heessínenóó I am hurt and heneenessínenóó I am hurt in several places; noonóó^{''?}einínóó I am looking around and nonóononóó^{''?}einínóó I am looking around in different directions; nihníitóuhnóó I yelled out, nih[?]iiníitóuhnóó I was yelling, and nihníiníitóuhnóó I kept yelling; neečiinookóonotíinóó I am watering and neečiinookóonóó^{''}éinóó I am watering here and there; etc.).

The present portion of the verb morphology will deal primarily with the inflected forms, i.e., with the syntactically relevant morphemic sequences. Furthermore, only the main features of the verb inflection will be presented here; the not infrequent irregular or special formations will be taken up in subsequent reports. The verb stems, to which the associated inflectional and some of the derivational morphemes will be referred, have been designated as V, even though they are with only few exceptions derived forms and hence polymorphemic; in most cases the verb stems are further identified as Vt [transitive] and Vi [intransitive]. The style of analysis employed in this chapter closely parallels the treatment accorded to nouns. Again, with the exception of some of the prosodic variants, all those alternants of minor morphemes which have solid support in my field notes are listed.

3.1.2. Arapaho verb stems fall into two classes--transitive (Vt) and intransitive (Vi). The transitives are inflected for both

subject and object, the intransitives for subject only.

Each class makes formal distinctions as regards gender. The inflection of transitive animate verbs marks an animate subject and an animate object, whereas transitive inanimate verbs are conjugated for an animate subject and an inanimate object. The inflection of animate intransitive verbs marks an animate subject; inanimate intransitive verbs show an inanimate subject. Graphically—

		Subject	Object				
Arapaho verb stems	{	transitive	{	animate	an.	an.	
				inanimate	an.	inan.	
		}	animate	intransitive			an.
	inanimate		inan.				

3.1.3. To place events within the continuum of time, Arapaho verbs make use of four tenses—present, future, preterit, and narrative past.

The present tense refers to a time coincident with that of the utterance in which it occurs, e.g., hiisíís θónocθóóseet the sun is directly overhead, or it expresses a generally accepted proposition or timeless truth, e.g., čís neníí'ehíínit the nighthawk is a bird and biicííxo niice'ixó'ou'p'u tóoyouní'í leaves change color in the fall.

The future tense refers to time subsequent to the present, or it may indicate intent on the part of the speaker as in hóotnoohowún ~ heetnoohowún (more recent form) you (sg.) will see me and hootniiθiineʔitiiwoʔ ~ heetniiθiineʔitiiwoʔ (more recent form) I am going to live with her (or him).

The preterit refers to past events whether or not they relate to the present. Thus, nihbiisetinenóó may be translated, depending on the context, as both I grew a beard (which I subsequently shaved off) or I have grown a beard (and still have it).

The narrative past, employed primarily in the telling of traditional tales, may also be used with quotative effect in non-traditional context to denote secondhand information. The occurrence of this tense is restricted to noninterrogative constructions involving the third person singular or plural only. The phrase wohéi héeʔixkooniʔeinee hinʔin--siisiyei héeʔihnoónonoutóos (from a traditional narrative) may be translated as now then, he (is said to have) uncovered his wife's face and--a snake was there coiled up (they say); héeʔixʔeebeθooʔeikon tohbeetohnóohobeihinoóʔ hiiiceʔeexóowuʔ may be rendered as they all were supposed to have gathered [in camp] in order that they might see the tomahawk-lodge ceremony.

3.1.4. Verbs are inflected for the singular and plural of the customary three persons, including the obviative, with the sex of the speaker, addressee, or the person spoken of not formally

differentiated. Just as in the case of the possessed noun, the general Algonquian feature of distinguishing in the plural between the first person inclusive and the first person exclusive is present.

Arapaho verb forms fall into two orders—independent and conjunct. Occurrence of the constructions in the independent order, to be discussed first and in some detail, characteristically is not contingent upon any other verb forms in a given utterance. The independent order consists of two modes, the indicative, used in ordinary statements and simple questions, and the imperative, expressive of a command or prohibition.

Of the several types of constructions of the indicative mode, those expressing a positive assertion are classified as belonging to the affirmative submode; negative, interrogative, and negative interrogative constructions are assigned on the basis of form to the nonaffirmative submode. Constructions which employ the prefix marking the narrative past to denote a qualified assertion follow the nonaffirmative pattern of inflection, whether or not they are negative (i.e., whether or not they comprise prefix 1031, the negative).

3.2.1. Transitive animate verbs refer to a subject and to an object both of which are animate. Verb forms exemplifying the many possible combinations of the persons marking an animate subject (actor) with the persons marking an animate object (goal) are

tabulated below. The set was checked with several informants and the individual forms were compared with the many corresponding forms in my field notes.¹

The Arapaho verb used here as an example means strike or hit; accordingly, the English glosses would read I strike you, you strike me, he strikes us, etc. It may be worth mentioning here that in the course of translating texts and eliciting forms, my informants occasionally rendered transitive animate Arapaho constructions in passive constructions in English but they invariably translated English constructions of the type I am struck by you, you are struck by me, etc. by the transitive active forms which are listed in the table and correspond to the English glosses you strike me, I strike you, etc.

The numerical headings of the table below refer respectively to the first, second, and third person subject in the singular (1, 2, and 3) and in the plural (1, 2, and 3). These same numbers followed by a prime—1', 2', 3' and 1', 2', 3'—denote the three persons in the singular and in the plural when acting as objects. The inclusive forms of the first person plural are designated as such; the rest of the first person plural forms are to be construed as exclusive by definition. Reflexive forms, characterized by a special derivational morpheme (reflexivizer) occurring between the verb stem and the suffixes marking person, are not listed among the tabulated forms and are discussed separately.

	1'	2'	3'	1'	2'	3'
1	too'owunee	too'obe'een	too'owoo'ee	too'obe'een	too'obe'enee	too'owuu'
2	too'owun'		too'owot'	too'obe'een		too'owot'ii
3	too'obe'inoo	too'obe'in	too'obe'it too'owoot	too'obe'ino' [incl.]	too'obe'inee	too'obe'ie'?
1		too'obe'en	too'obe'et too'owoo'no' [incl.]	too'obe'enee		too'obe'ee'it? too'owoo'no' [incl.]
2	too'owunee		too'owoo'nee	too'obe'ee'nee		too'owoo'nee
3	too'owunee'?	too'obe'ino'it	too'owoo'ee'it?	too'obe'ee'ee'it? too'obe'ino' [incl.]	too'obe'inee	too'owoo'ee'it?

3.2.2. The verb forms tabulated above are not readily analyzable in terms of regularly recurring affixes which would underlie the entire set and reflect its basic patterning by means of their definite grammatical meaning and fixed relative position in a morphemic sequence. In the analysis here employed identifiable morphemic features are assigned to a number of paradigms, each comprehending a paradigmatic constant and several paradigmatic variables, and the insight into the underlying arrangement of the verb inflection gained from this procedure is next applied to resolving the obscure morphemic sequences of the set.² The paradigms which follow are referred to the forms listed in the table.

(i) Paradigm consisting of forms tabulated under 1-2' and

1-2'—

paradigmatic constant refers to subject, viz.,

-é0e- ~ -e0é- (1);

paradigmatic variables denote objects, viz.,

-n (2') and -n-ee (2').

(ii) Paradigm 1-2', 1-3', 1-2', and 1-3'—

paradigmatic constant: subject, viz., -ee- ~

-éé- ~ -ée- (1);

paradigmatic variables: objects, viz., -n (2'),

-t (3'), -n-ee (2'), and -0í? (3').

(iii) Paradigm 3-1', 3-2', 3-3', 3-3', and 3-2'—

paradigmatic constant: subject, viz., -éi- ~

-éi- (3) [-éi-nónii- (3)];

paradigmatic variables: objects, viz., -nóó

(1'), -n ~ -ø (2'), -t (3'), and -θi⁷

(3').

(iv) Paradigm 3-1' incl., 3-2', 3-1' incl., and 3-2'—

paradigmatic constant: subject, viz., -éi-

(3 and also 3);

paradigmatic variables: objects, viz., -no⁷

(1' incl.) and -n-éé (2').

(v) Paradigm 1-3' incl., 2-3', 3-3', 1-2' incl., 2-2',

and 3-2'—

paradigmatic constant: object, viz., -óó

(3' and also 3');

paradigmatic variables: subjects, viz., -no⁷

(1 incl.), -n-ee (2), and -θi⁷ (3).

(vi) Paradigm 2-1', 2-1', and 3-1'—

paradigmatic constant: object, viz., -ú- (1');

paradigmatic variables: subjects, viz., -n

(2), -n-ee (2), and -θi⁷ (3).

(vii) Paradigm 2-1', 2-1', and 3-1'—

paradigmatic constant: object, viz., -éi⁷ee- ~

-éi⁷ee- (1');

paradigmatic variables: subjects, viz.,

-n (2), -n-ee (2), and -θi⁷ (3).

An examination of the seven paradigms established thus far shows a great deal of uniformity in the affixes marking the paradigmatic variables and it also reveals the fact that the morpheme marking the second person, whether acting as a subject or as an object, never occurs in the position regularly held by a paradigmatic constant, namely, immediately following the verb stem. Using these underlying features of the paradigms as clues, the remaining verb forms (1-3', 1-3', 2-3', 2-3', and 3-3') are analyzed as follows:

(viii) Paradigm 2-3', 2-3', and 3-3'—

paradigmatic constant: object, viz., -ó¹- ~ -oo-

(3') [-ó¹-ii- (3')];

paradigmatic variables: subjects, viz., -∅ (2) and

-t (3).

Supplementing Paradigm (i), forms tabulated under 1-3' and 1-3'—

paradigmatic constant: subject, viz., -∅ (1);

paradigmatic variables: objects, viz., -ó¹ (3') and

-uu (3').

The forms of the transitive animate verb tabulated in 3.2.1 are now rewritten morpheme by morpheme. The symbol Vt stands for the transitive verb stem, occurring in two major morphemic alternants: ¹¹tó¹ob- ~ ¹¹tó¹ob- ~ ¹¹tó¹ob- before a morpheme with an initial e or i, and ¹¹tó¹ow- ~ ¹¹tó¹ow- before a morpheme with an initial o or u, whether or not a morphemic zero intervenes.

	1'	2'	3'	1'	2'	3'
1	Vt-e'e-n		Vt-θ-o'?		Vt-e'e-n-ee	Vt-θ-u-n
2	Vt-u-n		Vt-o't-θ	Vt-ei'ee-n		Vt-o't-ll-θ
3	Vt-ei-noo''	Vt-ei'n	Vt-ei-t Vt-oo-t	Vt-ei-no-o'?	Vt-ei-n-ee''	Vt-ei-θi'?
1	Vt-ee-n		Vt-ee-t V-oo-no-?		Vt-ee-n-ee	Vt-ee-θi'?
2	Vt-u-n-ee		Vt-oo-n-ee	Vt-ei'ee-n-ee		Vt-oo-n-ee
3	Vt-u-θi'?	Vt-ei-nonli-θ	Vt-oo-θi'?	Vt-ei'ee-θi'?	Vt-ei-n-ee''	Vt-oo-θi'?

3.2.3. A listing of the minor morphemes associated with the inflection of the transitive animate verb is given below. Morpheme alternants recorded in this morpheme list are supported by examples found in the section that follows.

The decade numbered 1210 comprises those suffixes which function as paradigmatic constants and occur immediately following the verb stem. The definition of the morphemic meaning of these suffixes includes a specification of their part in the marking of the subject-object references. The suffixes are--

(1211) first person singular subject: -eθe- ~ -eθé- ~ -éθe-
[all of which occur before 1272] ~ -∅- [occurring elsewhere];

(1212) first person singular object: -u- ~ -ú- [following stems terminated in w or h] ~ -i- ~ -í- [occurring elsewhere];

(1213) third person singular subject: -ei- ~ -éi- ~ -éí-;

(1214) third person singular object: -oo- [before 1273] ~ -ot- ~ -ót- [both occurring elsewhere];

(1215) first person plural subject (exclusive): -ee- ~ -ée- ~ -éé- ~ -ii- [the last allomorph being supported in my material by only one example];

(1216) first person plural object (exclusive): -éi^ʔéé- ~ -éi^ʔee-;

(1217) third person subject: -éi- ~ -éí-; and

(1218) third person object: -óó-.

The morpheme which causes suffixes 1213 and 1214 to assume a plural reference is assigned to Decade 1230, numbered 1231, and

termed pluralizer of the third person singular subject and object forms: -nonii- [following 1213] ~ -ii- [following 1214].

The decade numbered 1270 comprises those suffixes which function as paradigmatic variables. Their part in the marking of the subject-object reference is complementary to that of suffixes assigned to Decade 1210. The morphemic members of Decade 1270 are—

(1271) first person singular: -noo ~ -nóó;

(1272) second person singular: -ø [following 1214 and 1231] ~ -n(-) [occurring elsewhere];

(1273) third person singular: -oʔ ~ -óʔ [both following 1211] ~ -t [occurring elsewhere];

(1274) first person plural (exclusive): -ʔ; and

(1275) third person plural: -óu ~ -úu [both following 1211 and apparently in free alternation] ~ -θiʔ ~ -θíʔ [occurring elsewhere].

Assigned to Decade 1260 is the morpheme numbered 1261—the inclusivizer of the first person plural—occurring in two allomorphs, -no- ~ -no' [both before 1274].

Assigned to Decade 1280 is the morpheme numbered 1281, the pluralizer of the second person singular (viz., suffix 1272, which it follows), having two alternant shapes, -ee ~ -éé.

3.2.4. Examples are: neniistonéθen I work for you (sg.) (Vt, 1211, 1272 / neniiston-éθe-n); nonochóβeθen I see you (sg.) (Vt, 1211, 1272 / nonochóβ-eθe-n); nonóhʔoʔ I am killing him or her (Vt, 1211, 1273 / nonóhʔ-ø-oʔ); hénéixóʔ I fear him (Vt, 1211, 1273 / hénéix-ø-oʔ);

čoo^obo^o I am shooting at him (Vt, 1211, 1273 / čoo^ob-~~o~~-^o); too^oyow^o I am biting him (Vt, 1211, 1273 / too^oyow-~~o~~-^o); hoo^owuunono^o I pity her or him (Vt, 1211, 1273 / hoo^owuunon-~~o~~-^o); biixoo^o I like her (Vt, 1211, 1273 / biixoo^o-~~o~~-^o); too^oθiho^o I follow behind him (Vt, 1211, 1273 / too^oθih-~~o~~-^o); neniiton^oeθenee I hear you (pl.) (Vt, 1211, 1272, 1281 / neniiton-eθe-n-ee); nono^ochowuu ~ nono^ochowou I see them (Vt, 1211, 1275 / nono^ochow-~~o~~-uu ~ nono^ochow-~~o~~-ou); too^oyowuu I am biting them (Vt, 1211, 1275 / too^oyow-~~o~~-uu); beniinou I eat them (Vt, 1211, 1275 / beniin-~~o~~-ou);

θonookuhun you (sg.) follow me (Vt, 1212, 1272 / θonookuh-u-n); neniitonin you (sg.) hear me (Vt, 1212, 1272 / neniiton-i-n); neniisnениibin you (sg.) are keeping me company (Vt, 1212, 1272 / neniisnениib-i-n); nono^ochowun you (sg.) see me (Vt, 1212, 1272 / nono^ochow-u-n); too^oowun you (sg.) strike me (Vt, 1212, 1272 / too^oow-u-n); hoo^owuunonin ~ hoo^owuunonin you (sg.) have pity on me (Vt, 1212, 1272, / hoo^owuunon-i-n ~ hoo^owuunon-i-n); nono^ochowot you (sg.) see him or her (Vt, 1214, 1272 / nono^ochow-ot-~~o~~); čeniinenot howo^okeciib you (sg.) are betting your cow (Vt, 1214, 1272 / čeniinen-ot-~~o~~); neniiton^oei^o you (sg.) hear us (Vt, 1216, 1272 / neniiton-ei^o-ee-n); too^oowotii you (sg.) strike them (Vt, 1214, 1231, 1272 / too^oow-ot-ii-~~o~~);

biixoo^oθeinoo he or she likes me (Vt, 1213, 1271 / biixoo^oθ-ei-noo); yeneihone^oinoo he is after me (Vt, 1213, 1271 / yeneihon-ei-noo); nonochobe^oinoo he or she sees me (Vt, 1213, 1271 / nonochob-ei-noo); θoo^oxonihein he is mistreating you (sg.) (Vt, 1213, 1272 /

ʰóóxonih-éi-n); hóówuunonéin he pities you (sg.) (Vt, 1213, 1272 /
 hóówuunon-éi-n); neniibeít she [B] marries him [A] (Vt, 1213, 1273 /
 neniib-éi-t); neniíwoot he [A] marries her [B] (Vt, 1214, 1273 /
 neniíw-oo-t); ʰóóxonihéit he [B] mistreats him [A] (Vt, 1213, 1273 /
 ʰóóxonih-éi-t); ʰóóxonihoot he [A] mistreats him [B] (Vt, 1214, 1273 /
 ʰóóxonih-oo-t); neniítoneit he [B] hears him [A] (Vt, 1213, 1273 /
 neniítón-éi-t); neniítónoot he [A] hears him [B] (Vt, 1214, 1273 /
 neniítón-oo-t); biixóóʰoot he [A] likes him [B] (Vt, 1214, 1273 /
 biixóóʰ-oo-t); nii^ʔíhoot she treats him well (Vt, 1214, 1273 /
 nii^ʔíh-oo-t); nonoohówoot ~ nonoohówoot he sees him (Vt, 1214, 1273 /
 nonoohów-oo-t ~ nonoohów-oo-t), now frequently extended to also mean
he sees them, as in nonoohówoot wóokečii he sees cows; beenóowoot he
smells him (Vt, 1214, 1273 / beenóow-oo-t); neniítoneino^ʔ he hears
or they hear us, you included (Vt, 1217, 1261, 1274 / neniítón-éi-no^ʔ);
 nonoohobéínee he sees you (pl.) (Vt, 1217, 1272, 1281 /
 nonoohob-éi-n-ee); neniítoneínee he hears you (pl.) (Vt, 1217, 1272,
 1281 / neniítón-éi-n-ee); nonoohobéi^ʔ wóokečii he sees [them] cows
 (Vt, 1213, 1275 / nonoohob-éi-^ʔ);

čéebiin we are shooting you (sg.) (Vt, 1215, 1272 / čéeb-ii-n
 [the only instance of 1215 in the shape of -ii- in my material]);
 nonoohóbeen we see you (sg.) (Vt, 1215, 1272 / nonoohób-ee-n);
 neniítoneét we hear him (Vt, 1215, 1273 / neniítón-éé-t); hóówuunonóno^ʔ
we, you included, pity him or them (Vt, 1218, 1261, 1274 /
 hóówuunon-óo-no^ʔ); too^ʔóbeenee we are striking you (pl.) (Vt, 1215,

1272, 1281 / too⁷ob-ee-n-ee); nono^hob^{ee}θi⁷ we see them (Vt, 1215, 1275 / nono^hob-^{ee}-θi⁷);

hoox^{oo}x^{ee}n^{ee} you (pl.) tickle me (Vt, 1212, 1272, 1281 / hoox^{oo}x^{ee}n-ⁱ-n-ee); čeeb^{inee} you (pl.) are shooting at me (Vt, 1212, 1272, 1281 / čeeb-ⁱ-n-ee); nenⁱiton^{oo}nee you (pl.) hear him or them (Vt, 1218, 1272, 1281 / nenⁱiton-^{oo}-n-ee); nono^hob^{ee}í^{ee}nee you (pl.) see us (Vt, 1216, 1272, 1281 / nono^hob-^{ee}-í^{ee}-n-ee);

nenⁱitonⁱθi⁷ they hear me (Vt, 1212, 1275 / nenⁱiton-ⁱ-θi⁷); nono^how^uθi⁷ they see me (Vt, 1212, 1275 / nono^how-^u-θi⁷); nono^hob^{ee}in^{onii} they see you (sg.) (Vt, 1213, 1231, 1272 / nono^hob-^{ee}-n^{onii}-^o); nono^how^{oo}θi⁷ they see him or them (Vt, 1218, 1275 / nono^how-^{oo}-θi⁷); nenⁱiton^{ee}í^{ee}θi⁷ they hear us (Vt, 1216, 1275 / nenⁱiton-^{ee}-í^{ee}-θi⁷); nono^hob^{ee}in^{oo} they see us, you included (Vt, 1217, 1261, 1274 / nono^hob-^{ee}-n^{oo}-^o); nono^hob^{ee}nee they see you (pl.) (Vt, 1217, 1272, 1281 / nono^hob-^{ee}-n-ee).

3.2.5. Only a few transitive animate verb forms among the many recorded employ minor morpheme alternants other than those which have already been cited; these forms are as follows: nenⁱisikoh^uθen I whip you (sg.) (Vt, 1211, 1272 / nenⁱisikoh-^uθe-n); no^{oo}xowuh^uθen I knock you (sg.) out (Vt, 1211, 1272 / no^{oo}xowuh-^uθe-n); hii^θiwoh^uθen I make you (sg.) sneeze (Vt, 1211, 1272 / hii^θiwoh-^uθe-n); niisⁱkohe⁷ I whip him (Vt, 1211, 1273 / niisⁱkohe-^o-⁷); koox^ukohe⁷ I stab him (Vt, 1211, 1273 / koox^ukohe-^o-⁷); took^ohe⁷ I measure her or him (Vt, 1211, 1273 / took^ohe-^o-⁷); nenⁱí^{oo}to^{oo}í^{oo}he⁷ I am locking him in

(Vt, 1211, 1273 / neneí^íootó^íoh-~~é~~í^í); niisíkohéí I whip them (V, 1211, 1275 / niisíkoh-~~é~~í); too^íkoheí I measure them (Vt, 1211, 1275 / too^íkoh-~~é~~í); neniínisíkoheet he whips him (Vt, 1214, 1273 / neniínisíkoh-ee-t); and niisíkoheeé^íí^í they whip him or them (Vt, 1218, 1275 / niisíkoh-éé-í^í).

The additional allomorphs introduced in these forms are—
 1211: -u^íee- ~ -u^íee^í- ~ -u^íee- [before 1272]; 1214: -ee- [before 1273];
 1218: -éé-; 1273: -e^í ~ -e^í [following 1211]; and 1275: -éí [following 1211]. The verb stems of this group all terminate in ...^íoh-, ...woh-, ...wuh-, ...koh-, and ...kóh-, but there are also such sequences in my material as θ eneí^íí^íko^ího^í I carry him on my back and others, in which under like conditions the common set of allomorphs occurs. It is possible that a finer analysis in the future may show the distribution of these additional allomorphs to be morphologically defined.

3.3.1. In contrast with the minor morphemes marking the persons of the subject-object reference which in the affirmative submode are exclusively suffixed to the verb stem, the corresponding minor morphemes in the nonaffirmative submode are in part prefixed and in part suffixed.

In the affirmative submode, suffix 1272, functioning as a paradigmatic variable and marking the second person singular, subject or object, is set apart structurally from the other personal markers of the subject-object reference by having no complement among the suffixes

of Decade 1210, which function as paradigmatic constants and occur immediately following the verb stem. In the nonaffirmative submode, it is likewise the morpheme marking the second person singular, subject or object, which is structurally differentiated: alone among the personal markers it occurs exclusively as a prefix. Thus, if the second person and either the first or the third person combine to form the subject-object reference, the second person is prefixed whereas the other is marked by a suffix. If the first person together with the third person forms the subject-object reference, the former is prefixed and the latter suffixed, regardless of whether they mark a subject or an object. In the few cases of two third person markers combining, the subject is indicated by a prefix, the object by a suffix.

3.3.2. Negative constructions of the nonaffirmative submode employ several new affixes besides a number of those which have already been listed in Section 3.2.3, but which assume here additional alternant shapes.

Decade 1010 includes three prefixes—

(1011) first person singular: ne- ~ ne';

(1012) second person singular: he- ~ he'; and

(1013) third person singular: h- ~ \emptyset - [the zero alternant occurring primarily in utterances casually styled].

The morpheme expressing negation is assigned to Decade 1030, numbered 1031, and termed negative. One pair of its allomorphs, -ihoowu- (~ -ihoowu-), occurs only before verb stems with an ini-

tial consonant; another pair of allomorphs, -ihoow- (~ -i'hoow-), occurs before verb stems without restriction; the shapes -hoow(u)- (~ -ho'ow[u]-) follow the zero alternant of 1013 to form a contracted sequence more commonly employed in casual utterances.

The principal morpheme alternants of Decade 1210 employed in negative constructions are listed below;³ morpheme 1219 is new.

The suffixes are—

(1211) first person singular subject: -eθé- ~ -eθ;

(1212) first person singular object: -u' ~ -i' ~ -∅;

(1213) third person singular subject: -e[̄];

(1214) third person singular object: -oo- ~ -oo;

(1215) first person plural subject (exclusive): -ee- ~ -éé;

(1216) first person plural object (exclusive): -ei[̄]ee- ~ -ei[̄]ee;

(1217) third person subject: -éi-;

(1218) third person object: -oo- ~ -óó- [both in association with prefixes 1011 and 1012] ~ -ee- ~ -ee [both in association with prefix 1013]; and

(1219) third person plural subject: -eí.

The suffix marking the third person singular object (1214) is made plural by means of the pluralizer numbered 1231 and introduced in Section 3.2.3. In the negative constructions, this pluralizer terminates morphemic sequences and has the shape of -no[̄].

Inclusive forms of the first person plural are marked by the inclusivizer of the first person plural (morpheme 1261). The in-

clusivizer terminates morphemic sequences and occurs associated with prefix 1012; its shape in the nonaffirmative constructions is -n.

Assigned to Decade 1280 is the morpheme numbered 1282—

pluralizer of the first, second, and third person singular (marked respectively by prefixes 1011, 1012, and 1013). It occurs in two principal alternants: -no⁷ ~ -no¹⁷, associated with prefix 1013, and -be ~ -be', associated with prefixes 1011 and 1012 (the high-pitched forms generally follow a low-pitched vowel, and conversely).

3.3.3. Following are examples of negative constructions arranged according to subject-object reference: hé'íhoow(u)noohobéθ I don't see you (sg.) (1012, 1031, Vt, 1211 / hé'-íhoow[u]-noohob-éθ); né'íhoowúte⁷éinoo I am not catching him (1011, 1031, Vt, 1214 / né'-íhoow-úte⁷éin-oo [cf. hiite⁷éino¹⁷ I am catching him]); neihoowbii⁷éinoo I don't find him (1011, 1031, Vt, 1214 / ne-íhoow-bii⁷éin-oo); hé'íhoowunoochobeébe I don't see you (pl.) (1012, 1031, Vt, 1211, 1282 / hé'-íhoowu-noohob-eéé-be); hé'íhoowuθookuheébe I don't follow your (pl.) track (1012, 1031, Vt, 1211, 1282 / hé'-íhoowu-θookuh-eéé-be); né'íhoowunoochówoonó⁷ I don't see them (1011, 1031, Vt, 1214, 1231 / né'-íhoowu-noochów-oo-nó⁷);

he-you (sg.) don't see me (1012, 1031, Vt, 1212 / hé'-íhoow-noóhob-é⁷ / hé'íhoowunoochówoo you (sg.) don't see him (1012, 1031, Vt, 1214 / hé'-íhoowu-noochów-oo); hé'íhoowunoochobéi⁷éé you (sg.) don't see us / hé'íhoowunoochówoo you (sg.) don't see him (1012, 1031, Vt, 1214 / hé'-íhoowu-noochów-oo); hé'íhoowunoochobéi⁷éé you (sg.) don't see us

(1012, 1031, Vt, 1216 / hé-íhoowu-noohob-éi^{ee}); héíhoowunochóoonó[?]
you (sg.) don't see them (1012, 1031, Vt, 1214, 1231 / hé-íhoowu-
noohów-oo-nó[?]);

néíhoowéé[?](i)nóné[?] he doesn't know me (1011, 1031, Vt, 1213 /
né-íhoow-éé[?][i]nón-e[?] [cf. hee[?]ínowóó I know it]); héíhoowuni[?]íhe[?]
he doesn't treat you (sg.) well (1012, 1031, Vt, 1213 / hé-íhoowu-
ni[?]íh-e[?]); héíhoowθóxoníhe[?] he doesn't scold you (sg.) (1012, 1031,
Vt, 1213 / hé-íhoow-θóxoníh-e[?]); héíhoowunochóbe[?] he doesn't see you
(sg.) (1012, 1031, Vt, 1213 / hé-íhoowu-noohób-e[?]); (hí)hoowunochóbee
he doesn't see him or them (1013, 1031, Vt, 1218 / [h-í]hoowu-noohób-ee);
néíhoowunochcbéibé he doesn't or they don't see us (1011, 1031, Vt,
1217, 1282 / né-íhoowu-noohob-éi-bé); héíhoowunochobéin he doesn't
or they don't see you, nor does he or nor do they see us (1012, 1031,
Vt, 1217, 1261 / hé-íhoowu-noohob-éi-n); héíhoowunochobéibé he doesn't
or they don't see you (pl.) (1012, 1031, Vt, 1217, 1282 / hé-íhoowu-
noohob-éi-bé);

héíhoowunochóbee we don't see you (sg.) (1012, 1031, Vt, 1215 /
hé-íhoowu-noohób-éé); néíhoowunochowóobe we don't see him or them
(1011, 1031, Vt, 1218, 1282 / né-íhoowu-noohow-óó-be); héíhoowunochówoon
we don't see him or them, nor do you see him or them (1012, 1031,
Vt, 1218, 1261 / hé-íhoowu-ncohów-oo-n); héíhoownoohóbeebe we don't
see you (pl.) (1012, 1031, Vt, 1215, 1282 / hé-íhoow-noohób-ee-be);

héíhoowunóóhowúbe you (pl.) don't see me (1012, 1031, Vt, 1212,
1282 / hé-íhoowu-noóhow-ú-be); héíhoow(u)noohowóobe you (pl.) don't

see him or them (1012, 1031, Vt, 1218, 1282 / hé-íhoow[u]-noohow-óó-be);
 héíhoowunóohobéí^íeebe you (pl.) don't see us (1012, 1031, Vt, 1216,
 1282 / hé-íhoowu-nóohob-éí^íee-be);

néíhoowuténeí they don't take me (1011, 1031, Vt, 1219 /
 né-íhoowu-tén-éí); héíhoowunóohobéí they don't see you (sg.) (1012,
 1031, Vt, 1219 / hé-íhoowu-nochób-éí); híhoowúute^íéineenó^í they are
not catching him or them (1013, 1031, Vt, 1218, 1282 / h-íhoow-
 úute^íéin-ee-no^í); néíhoowunóohobéíbé they don't or he doesn't see us
 (1011, 1031, V, 1217, 1282 / né-íhoowu-noohob-éí-bé); héíhoowunóohobéin
they don't or he doesn't see you, nor do they or nor does he see us
 (1012, 1031, Vt, 1217, 1261 / hé-íhoowu-noohob-éi-n); héíhoowunóohobéíbé
they don't or he doesn't see you (pl.) (1012, 1031, Vt, 1217, 1282 /
 hé-íhoowu-noohob-éi-bé); híhoowuni^ííheeno^í they don't treat them or
him well (1013, 1031, Vt, 1218, 1282 / h-íhoowu-ni^ííh-ee-no^í);
 híhoowóóxoníheeno^í they don't scold them or him (1013, 1031, Vt,
 1218, 1282 / h-íhoow-óóxoníh-ee-no^í).

3.3.4. Interrogative constructions of the nonaffirmative submode
 are characterized by the morpheme termed interrogative, assigned by
 virtue of its initial position in the interrogative morphemic sequences
 to Decade 1000 and numbered 1001: koo- ~ kóó- ~ k-.

The verb forms follow the nonaffirmative pattern of inflection,
 differing only in the employment of a special set of allomorphs for
 the prefixes of Decade 1010, viz.,

1011: -ne- (~ -né-) ~ -no- (~ -nó-) ~ -nei- (~ -néi-);

1012: -he- (~ -hé-) ~ -ho- (~ -hó-) ~ -hei- (~ -heí-) ~
~~-o-~~ (~ -ó-); and

1013: ~~-ø-~~.

The distribution of the alternants of prefixes 1011 and 1012 is contingent upon the phonemic makeup of the following morpheme, with -no- and -ho- anticipating a nonfront vowel, -ne- or -nei- and -he- or -hei- a nonback vowel. The allomorph k- of 1001 associates with the alternant shape ~~-o-~~ (~ -ó-) of 1012 to form the contraction ko- (~ kó-), which is in free variation with the longer sequence kocho- (and its prosodemic variants).

Examples are: kóóhonoohobé~~ø~~ do I see you (sg.)? (1001, 1012, Vt, 1211 / kóó-ho-noohob-é~~ø~~); konoochobe~~ø~~ébe do I see you (pl.)? (1001, 1012, Vt, 1211, 1282 / k-o-noohob-e~~ø~~é-be); koohéneyéí~~ø~~éíh do you (sg.) teach me? (1001, 1012, Vt, 1212 / koo-hé-neyéí~~ø~~éíh-~~ø~~); koohéíneyéí~~ø~~éíhoo do you (sg.) teach him? (1001, 1012, Vt, 1214 / koo-héí-neyéí~~ø~~éíh-oo); konoch~~ø~~oo do you (sg.) see him? (1001, 1012, Vt, 1214 / k-o-noohó~~ø~~-oo); koonoohóbee does he see him or them? (1001, 1013, Vt, 1218 / koo-~~ø~~-noohób-ee); koonoohóbeenó~~ø~~ do they see him or them? (1001, 1013, Vt, 1218, 1282 / koo-~~ø~~-noohób-ee-no~~ø~~); etc.

3.3.5. Negative interrogative constructions follow the non-affirmative pattern of inflection and are characterized by prefixal sequences in which any one of the three morphemes of Decade 1010 is preceded by the interrogative (1001) and followed by the negative

(1031). The alternants of morphemes occurring in these sequences are—

1001: koo- (~ koo''-) ~ kuu- (~ kuu''-) ~ k-;

1011: -ne- (~ -ne'-) ~ -nei- (~ -nei'-);

1012: -he- (~ -he'-) ~ -hei- (~ -hei'-) ~ -e- (~ -e'-);

1013: -∅-; and

1031: -čii- (~ -čii'-).

The allomorph k- of 1001 associates with the alternant shape -e- (~ -e'-) of 1012 to form the contraction ke- (~ ke'-), which is in free variation with the longer sequences koche- or kochei- (and their prosodemic variants). The allomorph kuu- (~ kuu''-) apparently occurs only before 1013; it freely alternates with koo-, which precedes all three morphemes of Decade 1010.

Examples are: kéčiiinoohobéθ don't I see you (sg.)? (1001, 1012, 1031, Vt, 1211 / k-e'-čii-noohob-eθ); kóchečiiinóhobeθébe don't I see you (pl.)? (1001, 1012, 1031, Vt, 1211, 1282 / koo'-he-čii-noohob-eθé-be); kuúciinoohóbee ~ koo'ciinoohóbee doesn't he see him or them? (1001, 1013, 1031, Vt, 1218 / kuu'-∅-čii-noohob-ee ~ koo'-∅-čii-noohob-ee); etc.

3.4.1. Transitive animate verbs mark nonpresent tenses in the affirmative submode by means of the following prefixes:

(1021) preteritive: nih- (~ nih'-) [commonly occurring before stem alternants with an initial b, ɾ, n, w, or y] ~ nix- (~ nix'-) [generally occurring elsewhere]; and

(1022) future tense: hoot- (~ hoot'-) ~ heet- (~ heet'-).

The preteritive, morpheme 1021, precedes the full morphemic sequence which by means of suffixes marks the subject-object reference in the present tense, with the stem undergoing, as a rule, a change initially.

Prefix 1022, marking the future tense, likewise precedes the morphemic sequence corresponding to the present-tense constructions, with the stem altering initially. Of the two pairs of alternants of morpheme 1022, the shape hoot- (\sim hóot-) represents the usage of older speakers, whereas heet- (\sim heét-) is a more recent variant in use by some of the older Arapahos and apparently all the younger ones.

The verb stems participating in these constructions generally undergo reduction initially to a varying extent: long vowels (i.e., identical vowel clusters) almost invariably become reduced to short ones; initial consonants and the vowels which immediately follow them are frequently truncated; in addition, stem-initial h- becomes ʔ- after 1021 and n- after 1022; etc. Morpheme sequences characteristic of these constructions are illustrated by the examples which now follow; frequent redistribution of prosodemes over the vowels of the stem alternants is in evidence.

3.4.2. Examples are: níhnoohobéθen I saw you (sg.) (1021, Vt, 1211, 1272 / níh-noohob-éθe-n [cf. nonoohóbeθen I see you (sg.)]); níhnoóhowót you (sg.) saw him (1021, Vt, 1214, 1272 / nih-noóhow-ót-∅ [cf. nonóóhowót you (sg.) see him]); níxóobóu I shot them

(1021, Vt, 1211, 1275 / níx-čcb-~~φ~~-óu); nixtóukuθóʔ I tied him up
 (1021, Vt, 1211, 1273 / nix-tóukuθ-~~φ~~-óʔ [cf. tonóukuθóʔ I tie him
up]); nihʔeeθ(i)kuúθoʔ I pushed him (1021, Vt, 1211, 1273 /
 nih-ʔeeθ[i]kuúθ-~~φ~~-oʔ [cf. henéeθ(i)kuúθoʔ I push him]); níhnoohóbeen
we saw you (sg.) (1021, Vt, 1215, 1272 / níh-noohób-ee-n); and
 nixtóʔowuθiʔ they struck me (1021, Vt, 1212, 1275 / nix-tóʔow-ú-θiʔ);

hootnéeθ(i)kuúθoʔ I will push him (1022, Vt, 1211, 1273 /
 hoot-néeθ[i]kuúθ-~~φ~~-oʔ); heétnoohóbeθénee I will see you (pl.) (1022,
 Vt, 1211, 1272, 1281 / heétnoohób-eθé-n-ee [cf. nonoohóbeθénee I
see you (pl.)]); hóótbiihéθen I will make you (sg.) cry (1022, Vt,
 1211, 1272 / hóótbiih-eθé-n [cf. béniihéθen I make you (sg.) cry]);
 hoottóukuθóʔ I will tie him up (1022, Vt, 1211, 1273 / hoot-tóukuθ-~~φ~~-óʔ);
 and heetnoóhowúnee you (pl.) will see me (1022, Vt, 1212, 1272, 1281 /
 heet-noóhow-ú-n-ee).

3.5.1. Nonaffirmative morphemic sequences of transitive animate
 verbs in nonpresent tenses are surveyed and exemplified below.

In addition to the tense-marking prefixes 1021 and 1022, there
 is also prefix 1002—narrative past: heéʔih- (~ heeʔih-) [before
 stem alternants with an initial b, n, w, or y] ~ heéʔi- (~ heeʔi-)
 [occurring in fast speech before a stem-initial ʔ] ~ heéʔix- (~ heeʔix-)
 [occurring elsewhere].

This prefix occurs exclusively in noninterrogative constructions
 referring to the combination of the third person subject and the
 third person object, both in singular and plural. Associated verb

stems become modified initially, following a zero shape of prefix 1013 which marks the third person singular; these stems are followed by suffix 1218 marking the third person object and occurring as the morpheme alternant regularly connecting with prefix 1013, viz., -ee(-). The subject of the constructions is made plural by means of suffix 1282, the pluralizer of the first, second, and third person singular, occurring in the form regularly associating with prefix 1013, viz., -noʔ (~ -noʔ').

Following 1002, verb stems typically undergo reduction or truncation initially, and stem-initial h- changes to ʔ.

Examples are: héeʔihnoohóbee he is said to have seen him or them (1002, 1013, Vt, 1218 / héeʔih-~~h~~-noohó-ee); héeʔixtoʔobeenoʔ they struck him or them (1002, 1013, Vt, 1218, 1282 / héeʔix-~~h~~-toʔob-ee-noʔ' [cf. tooʔobeanee we strike you (pl.)]); héeʔixtoyóbee he bit him (1002, 1013, Vt, 1218 / héeʔix-~~h~~-toyob-ee [cf. tooyowoʔ I bite him]); héeʔixʔiyííʔee he told him (1002, 1013, Vt, 1218 / héeʔix-~~h~~-ʔiyííʔ-ee); héeʔixʔíísíbiitónée hihéího he crawled into bed with his mother-in-law (1002, 1013, Vt, 1218 / héeʔix-~~h~~-ʔíísíbiitón-ee [cf. heniísíbiitónoot he crawls into bed with her]); héeʔihyeyíhónee he pursued him or them (1002, 1013, Vt, 1218 / héeʔih-~~h~~-yeyíhó-ee); and héeʔihnéheʔee he killed him (1002, 1013, Vt, 1218 / héeʔih-~~h~~-néheʔ-ee [cf. nonohʔoʔ I kill him]).

The shape of the negative, prefix 1031, is -cii- (~ -cii-) ~ -c̣-. The following are examples of negative constructions:

h¹¹² hee¹¹²ixciinoohobee he didn't see him (1002, 1013, 1031, Vt, 1218 / h¹¹²ix-~~φ~~-cii-noohob-ee); hee¹¹²ixciinehe¹¹²eenó¹¹² they didn't kill him or them (1002, 1013, 1031, Vt, 1218, 1282 / hee¹¹²ix-~~φ~~-cii-nehe¹¹²-ee-no¹¹²); and hee¹¹²ixcee¹¹²(i)nonée he didn't know him (1002, 1013, 1031, Vt, 1218 / hee¹¹²ix-~~φ~~-c-ee¹¹²[i]non-ee [cf. hee¹¹²inowóó I know it]).

3.5.2. The shift in the reference of the third person subject from a principal to a subsidiary referent of a narrative, corresponding to the employment of the obviative in the noun, is in the narrative past constructions marked by a morpheme assigned to Decade 1220, numbered 1228, and termed obviative actor. This morpheme, the only alternant of which has the shape of -e¹¹², occurs immediately following the verb stem in the place of suffix 1218 (which marks the third person object in the proximate forms).

Thus, hinen¹¹² hee¹¹²ix¹¹²eeneti¹¹²ee (1002, 1013, Vt, 1218 / hee¹¹²ix-~~φ~~-¹¹²eeneti¹¹²-ee) hisein (N, 211 / hisein-~~φ~~) the man talked to the woman contrasts with hinen¹¹² hee¹¹²ix¹¹²eeneti¹¹²e¹¹² (1002, 1013, Vt, 1228 / hee¹¹²ix-~~φ~~-¹¹²eeneti¹¹²-e¹¹²) hisein the man was spoken to by the woman, or literally, the woman (a less important participant in the action reported) talked to the man (the principal referent in the statement). From the traditional narrative, "The Man with the Sharpened Leg,"⁴ comes the following example: nih¹¹²oo¹¹²oo hee¹¹²ixciinehe¹¹²ee; hee¹¹²ixciicesiino¹¹²oo; hee¹¹²ix¹¹²iinitoo¹¹²ibe¹¹² hee¹¹²ixto¹¹²to¹¹²oxone¹¹² hee¹¹²ix¹¹²iintokohube¹¹² White Man [the popular Arapaho trickster] didn't kill it [the buffalo]; he [White Man] didn't get himself loose; it

[the buffalo] dragged him, kicked him, [because it] was scared of him. From "White Man and His Mother-in-Law"⁵ comes this example:
 hee'ix'isibiit'onee hihe'ih'o; hee'ix'e'e'itene' hihe'ih'o [White Man]
crawled into bed with his mother-in-law; his mother-in-law put her arms around him.

3.5.3. Negative, interrogative, and negative interrogative constructions all occur in the preterit.

Listed in order, the morphemes of the negative constructions are: a prefix of Decade 1010, viz., (1011) ne- ~ ne', (1012) he- ~ he', or (1013) hi- ~ hi'; the preteritive (1021) in the shape of -h(i)ʔ-; the negative (1031) in the shape of -ihoow(u)-; the verb stem; and the suffix or suffixes of the nonaffirmative paradigms.

Examples are: heh'ʔihoowuneyei'ʔeihe'θ I didn't teach you (sg.) (1012, 1021, 1031, Vt, 1211 / he'-h'ʔ-ihoowu-neyei'ʔeihe'-eθ [cf. neeyei'ʔeihe'θen I teach you (sg.)]); heh'(i)ʔihoowni'nisikohu'ʔebe I didn't whip you (pl.) (1012, 1021, 1031, Vt, 1211, 1282 / he'-h(i)ʔ-ihoow-ni'nisikoh-u'ʔe-be); hi'h'ʔihoowunoch'obee he didn't see them (1013, 1021, 1031, Vt, 1218 / hi'-h'ʔ-ihoowu-noch'ob-ee); nehi'ʔihoowbii'ʔi'hoobe we didn't find them (1011, 1021, 1031, Vt, 1218, 1282 / ne'-hi'ʔ-ihoow-bii'ʔi'hoobe).

Interrogative constructions consist of the interrogative (1001) koo- (~ koo') ~ k-; a prefix of Decade 1010, viz., (1011) -ne- ~ -ni- and the corresponding prosodemic variants, (1012) -he- ~ -hi- ~ -e- ~ -i- and the corresponding prosodemic variants,

or (1013) -hu- ~ -u- and the corresponding prosodemic variants; the preteritive (1021) in the shape of -h- [occurring before a stem-initial b, ɸ, n, w, or y] ~ -x- [occurring elsewhere]; the verb stem; and the suffix or suffixes of the nonaffirmative paradigms. The morpheme alternant k- of 1001 associates with the short allomorphs -e- (~ -é-) and -i- (~ -í-) of 1012 or -u- (~ -ú-) of 1013 to form contracted sequences which are apparently in free alternation with the corresponding full sequences.

Examples are: koo^hneyéi^éíh did you (sg.) teach me? (1001, 1012, 1021, Vt, 1212 / koo^h-hé^h-h^h-neyéi^éíh-~~h~~); koo^hneyéi^éíhoo did you (sg.) teach him? (1001, 1012, 1021, Vt, 1214 / koo^h-hé^h-h^h-neyéi^éíh-oo); kix^{✓✓}céci^{✓✓}bénoo séénook did you (sg.) twist the rope? (1001, 1012, 1021, Vt, 1214 / k-i-x^{✓✓}-céci^{✓✓}bénoo [cf. céci^{✓✓}bénoot séénookuu he is twisting the rope]); kuhnoohóbee did he see him? (1001, 1012, 1021, Vt, 1218 / k-u-h^h-noohób-ee); and kcohínoohówoon did we, including you, see him? (1001, 1012, 1021, Vt, 1218, 1261 / koo^h-hí^h-h^h-noohó^h-oo-n).

Negative interrogative constructions consist of the interrogative (1001) koo- (~ koo^h-) ~ k-; a prefix of Decade 1010, viz., (1011) -ne- ~ -ni- and the corresponding prosodemic variants, (1012) -he- ~ -hi- ~ -e- ~ -i- and the corresponding prosodemic variants, or (1013) -hu- ~ -u- and the corresponding prosodemic variants; the preteritive (1021) in the shape of -x-; the negative (1031) in the shape of -cii- ~ -cii^h-; the verb stem; and the suffix

or suffixes of the nonaffirmative paradigms. As is also the case in the interrogative constructions, the contracted *kix-* or *kux-*, as well as the corresponding prosodemic variants, freely alternate with the fuller sequences *koohix-* and *koohux-*, and the corresponding prosodemic variants.

Examples are: *kóohixčii'noohobéθ* didn't I see you (sg.)? (1001, 1012, 1021, 1031, Vt, 1211 / *kóó-hi-x-čii'-noohob-eθ*); *koohixčii'noohow* didn't you (sg.) see me? (1001, 1012, 1021, 1031, Vt, 1212 / *koo-hí-x-čii'-noohow-ø*); *koonéxčii'noohobéʔ* didn't he see me? (1001, 1011, 1021, 1031, Vt, 1213 / *koo-né-x-čii'-noohob-eʔ*); *kuxčii'noohóbee* didn't he see him? (1001, 1013, 1021, 1031, Vt, 1218 / *k-u-x-čii'-noohób-ee*); and *kixčii'noohóbeebe* didn't we see you (pl.)? (1001, 1012, 1021, 1031, Vt, 1215, 1282 / *k-i-x-čii'-noohób-ee-be*).

3.5.4. Negative, interrogative, and negative interrogative constructions all occur in the future tense.

Before the verb stem, the negative constructions employ discontinuous morpheme alternants of the prefixes of Decade 1010; the two parts of these alternants are separated by prefix 1022, which marks the future tense in the form of *-t-*, and they are followed by the negative (1031) in the shape of *-ihocw(u)-* (\sim *ihocw[u]-*). The verb stem is followed by the regular suffixes of the nonaffirmative inflection.

The discontinuous morpheme alternants of the prefixes of Decade 1010 are as follows—

1011: nee...ne- [occurring primarily in the usage of the younger Arapahos] ~ noo...ne- [representing the usage of older speakers] and additional prosodemic variants;

1012: hee...ne- [occurring primarily in the usage of the younger Arapahos] ~ hoo...ne- [representing the usage of older speakers] and additional prosodemic variants; and

1013: he...ne- [occurring primarily in the usage of the younger Arapahos] ~ ho...ne- [representing the usage of older speakers] as well as the corresponding prosodemic variants.⁶

Examples are: heetnéíhoowunoochobeébe I will not see you (pl.) (1012, 1022, [1012], 1031, Vt, 1211, 1282 / hee-t-né-íhoowu-noochobeé-be); hétnéíhoowunoochóbee he will not see him (1013, 1022, [1013], 1031, Vt, 1218 / hé-t-né-íhoowu-noochób-ee); hótneihoowéóxoníhee he will not talk harshly to her (1013, 1022, [1013], 1031, Vt, 1218 / hó-t-ne-ihoo-wé-óxoníh-ee); and nootnéíhoowunoochóbeí they will not see me (1011, 1022, [1011], 1031, Vt, 1219 / noo-t-né-íhoowu-noochób-eí).

Interrogative constructions consist of the interrogative (1001) koo- (~ kóo-); a prefix of Decade 1010, viz., (1011) -nee- [more recent usage] ~ -noo- [older usage] and the corresponding prosodemic variants, (1012) -hee- ~ -hoo- [with the same conditions of occurrence as 1011] and the corresponding prosodemic variants, or (1013) -he- ~ -ho- [with the same conditions of occurrence as 1011] and the corresponding prosodemic variants; morpheme 1022 in the shape of -t-, marking the future tense; the verb stem; and the suffix or

suffixes of the nonaffirmative paradigms.

Examples are: kooheétnoohobeébe will I see you (pl.)? (1001, 1012, 1022, Vt, 1211, 1282 / koo-hée-t-noohob-eé-be); koonóótnoohóbe will he see me? (1001, 1011, 1022, Vt, 1213 / koo-nóó-t-noohob-e); and kooóótnoohobéin will they see us, including you? (1001, 1012, 1022, Vt, 1217, 1261 / koo-hóó-t-noohob-éi-n).

Negative interrogative constructions consist of the interrogative (1001) koo- (~ kóó-); one of the three prefixes of Decade 1010, with their morpheme alternants the same in shape and distribution as those of the interrogative morphemic sequences; morpheme 1022 in the shape of -t-, marking the future tense; the negative (1031) in the shape of -čii- (~ -čii-) ~ -čé- (~ -čé-) ~ -č-; the verb stem; and the regular suffixes of the nonaffirmative inflection.

Examples are: kooheétčénoohobéé won't I see you (sg.)? (1001, 1012, 1022, 1031, Vt, 1211 / koo-hée-t-čé-noohob-éé); koonéetčiiitoówo won't I strike him? (1001, 1011, 1022, 1031, Vt, 1214 / koo-née-t-čii-toówo-oo); kooheétčiiiniitoneíéé won't you (sg.) hear us? (1001, 1012, 1022, 1031, Vt, 1216 / koo-hée-t-čii-niiton-éi-éé); kooheétčiiitoóbee won't he strike him or them? (1001, 1013, 1022, 1031, Vt, 1218 / koo-hé-t-čii-toóob-ee); and kooóóččooxóóxeenibe won't you (pl.) tickle me? (1001, 1012, 1022, 1031, Vt, 1212, 1282 / koo-hóó-t-č-ooxóóxeen-i-be [cf. hooxóóxeeninee you (pl.) tickle me]).

3.6.1. The reduced stems characteristic of the constructions with the nonaffirmative pattern of inflection are likewise employed

by the transitive animate verbs in the imperative mode.

The object-marking suffixes occurring in imperative constructions are—

1212: -u- (~ -ú-) [following stems terminated in -w] ~ -i- (~ -í-) [elsewhere], marking the first person singular object;

1216: -éi^ʔéé^ʔ-, marking the first person plural object (exclusive);

and

1218: -e- (~ -é-) [before the morphemic sequence 1221 + 1241] ~ -un- (~ -ún-) [before the terminal occurrence of 1221 when stems are terminated in -w] ~ -in- (~ -ín-) [before the terminal occurrence of 1221 when stems are otherwise terminated]; these allomorphs mark the third person object.

Following any one of these suffixes is morpheme 1221, which marks the imperative (singular) and occurs in the shape of - ϕ (-). The imperative morphemic sequence is made plural by means of suffix 1241, termed pluralizer of the imperative, the sole morpheme alternant of which is - $\bar{\bar{\phi}}$.

Examples are: níítoní hear (sg.) me! (Vt, 1212, 1221 / nííton- $\bar{\bar{\phi}}$); tó^ʔowú strike (sg.) me! (Vt, 1212, 1221 / tó^ʔow-ú- $\bar{\bar{\phi}}$); hesóóhowú watch (sg.) me! (Vt, 1212, 1221 / hesóóhow-ú- $\bar{\bar{\phi}}$); hówuunóni pity (sg.) me! (Vt, 1212, 1221 / hówuunón- $\bar{\bar{\phi}}$); níítoní^ʔ hear (pl.) me! (Vt, 1212, 1221, 1241 / nííton- $\bar{\bar{\phi}}$ - $\bar{\bar{\phi}}$); tóunín hold (sg.) him or them! (Vt, 1218, 1221 / tóun-ín- $\bar{\bar{\phi}}$); bíinín (be^ʔííci^ʔé^ʔ) give (sg.) him or them (money)! (Vt, 1218, 1221 / bíin-ín- $\bar{\bar{\phi}}$); níítonín hear (sg.) him

or them! (Vt, 1218, 1221 / níiton-ín-Ø); hiiníkotiihín play (sg.) with him or them (Vt, 1218, 1221 / hiiníkotiih-ín-Ø); tó'owún strike (sg.) him or them! (Vt, 1218, 1221 / tó'ow-ún-Ø); bíine[̄] (bé'ic'í[̄]é[̄]) give (pl.) him or them (money!) (Vt, 1218, 1221, 1241 / bíin-e-Ø-[̄]); níitone[̄] hear (pl.) him or them! (Vt, 1218, 1221, 1241 / níiton-e-Ø-[̄]); tó'obe[̄] strike (pl.) him or them! (Vt, 1218, 1221, 1241 / tó'ob-e-Ø-[̄]); cé'eciinene[̄] put (pl.) him or them back! (Vt, 1218, 1221, 1241 / cé'eciinén-e-Ø-[̄]); níitoneí'ée[̄] hear (sg.) us! (Vt, 1216, 1221 / níiton-eí'ée-Ø-[̄]); tó'obeí'ée[̄] hit (sg.) us! (Vt, 1216, 1221 / tó'ob-eí'ée-Ø-[̄]); noohobeí'ée[̄] see (sg.) us! (Vt, 1216, 1221 / noohob-eí'ée-Ø-[̄]); níitoneí'ée[̄] hear (pl.) us! (Vt, 1216, 1221, 1241 / níiton-eí'ée-Ø-[̄]); and hocóitooneí'ée[̄] tell (pl.) us a story! (Vt, 1216, 1221, 1241 / hocóitoon-eí'ée-Ø-[̄] [cf. hocóitoo story]).

3.6.2. Imperative constructions are changed into prohibitive by means of prefix 1032. This morpheme, termed prohibitive, appears in the following alternants: as čeebēh- freely varying with čiibēh- [commonly occurring before stem alternants with an initial b, [̄], n, w, or y] ~ čeebēx- ~ čiibēx- [generally occurring elsewhere].

Examples are: čeebēxtó'owú[̄] don't (pl.) strike me! (1032, Vt, 1212, 1221, 1241 / čeebēx-tó'ow-ú-Ø-[̄]); čeebēxtó'owún don't (sg.) strike him or them! (1032, Vt, 1218, 1221 / čeebēx-tó'ow-ún-Ø-[̄]); čeebēhníitone[̄] don't (pl.) hear him or them! (1032, Vt, 1218, 1221, 1241 / čeebēh-níiton-e-Ø-[̄]); and čiibēxteyó'ohowú don't (sg.) wait

for me! (1032, Vt, 1212, 1221 / čiiβéx-teyóóhcn-u-β).

3.7.1. All reflexive verb forms are characterized by morpheme 1205, the reflexivizer, which follows immediately the verb stem and which takes one of two shapes, -etí- ~ -et [when terminal].

In the affirmative submode of the indicative, the subject, back to which the action is referred, is marked by suffixes of Decade 1270, viz., -noo (1271, first person singular), -n ~ -n- (1272, second person singular), -t (1273, third person singular), -ǀ (1274, first person plural [exclusive]), and -θiǀ (1275, third person plural), and by morphemes 1261, -no-, and 1281, -ee, which mark respectively the inclusion of the addressee in the first person plural or the pluralization of the second person.

Examples follow: hehíisébétínoo I wash myself (Vt, 1205, 1271 / hehíiséb-etí-noo); nonochóbetínoo I see myself (Vt, 1205, 1271 / nonochób-etí-noo); héetnoochóbetínoo I will see myself (1022, Vt, 1205, 1271 / héet-noochób-etí-noo); kóuǀúciǀetín you scratch yourself (Vt, 1205, 1272 / kóuǀúciǀ-etí-n); níhnoochóbetín you saw yourself (1021, Vt, 1205, 1272 / níh-noochób-etí-n); neníitónetít he hears himself (Vt, 1205, 1273 / neníitón-etí-t); neníitónetíǀ we hear ourselves (Vt, 1205, 1274 / neníitón-etí-ǀ); tooǀóbetínoǀ we, including you, strike ourselves (Vt, 1205, 1261, 1274 / tooǀób-etí-no-ǀ); nixtóǀobetínee you struck yourselves (1021, Vt, 1205, 1272, 1281 / nix-tóǀob-etí-n-ee); and nonochóbetíθiǀ they see themselves (Vt, 1205, 1275 / nonochób-etí-θiǀ).

3.7.2. In the nonaffirmative constructions of the indicative mode of the reflexive verbs, the subject is marked by a prefix of Decade 1010. The distribution of allomorphs of these prefixes, as well as of the morphemes marking tenses, question, and negation, is identical with that of nonreflexive verbs (cf. Sections 3.3 and 3.5 for present tense forms and nonpresent tense forms). The pluralizer of the first, second, and third person singular has the shapes -no^ʔ [in association with 1013] and -be [in association with 1011 and 1012]. The inclusivizer of the first person plural, -n (morpheme 1261), occurs associated with prefix 1012. The verb stems in these constructions are reduced.

Examples are: né^ʔhoow(u)noohóbet I don't see myself (1011, 1031, Vt, 1205 / né-^ʔhoow[u]-noohóbet); koononohóbet do I see myself? (1001, 1011, Vt, 1205 / koo-no-noohóbet); kóone^ʔciinoohóbet don't I see myself? (1001, 1011, 1031, Vt, 1205 / kóo-ne-^ʔcii-noohóbet); hé^ʔihoo^ʔnoohóbet you didn't see yourself (1012, 1021, 1031, Vt, 1205 / hé-h^ʔ-ihoo^ʔ-noohóbet); koo^ʔhíxto^ʔóbet did you strike yourself? (1001, 1012, 1021, Vt, 1205 / koo-hí-x-to^ʔob-et); hé^ʔihnoohóbet he saw himself (1002, 1013, Vt, 1205 / hé^ʔih-~~o~~-noohóbet); hé^ʔix^ʔciinoohóbet he didn't see himself (1002, 1013, 1031, Vt, 1205 / hé^ʔix-~~o~~-^ʔcii-noohóbet); koo^ʔhúx^ʔciinoohóbet didn't he see himself? (1001, 1013, 1021, 1031, Vt, 1205 / koo-hú-x-^ʔcii-noohóbet); neetné^ʔhoow^ʔnoohóbetibe we will not see ourselves (1011, 1022, [1011], 1031, Vt, 1205, 1282 / nee-t-né-^ʔhoow^ʔ-noohóbet-í-be); koo^ʔhínoohóbetín

did we, you included, see ourselves? (1001, 1012, 1021, Vt, 1205, 1261 / koo-hí-h-noohób-etí-n); kooheé'tciito'obetibe will you not see yourselves? (1001, 1012, 1022, 1031, Vt, 1205, 1282 / koo-heé-t-čii-to'ob-etí-be); heé'ixto'obetíno' they struck themselves (1002, 1013, Vt, 1205, 1282 / heé'ix-~~ø~~-to'ob-etí-no'); heé'ixčiiinoohóbetíno' they didn't see themselves (1002, 1013, 1031, Vt, 1205, 1282 / heé'ix-~~ø~~-čii-noohób-etí-no'); and koohe'tnoohóbetíno' will they see themselves? (1001, 1013, 1022, Vt, 1205, 1282 / koo-he-t-noohób-etí-no').

3.7.3. In the imperative mode, reduced verb stems are followed by the reflexivizer in the shape of -etí- and by the imperative (1221) as -~~ø~~(-); the latter morpheme may be pluralized by -^ʔ (morpheme 1241).

Thus, níítónetí hear yourself! (Vt, 1205, 1221 / níítón-etí-~~ø~~); to'obetí^ʔ hit yourselves! (Vt, 1205, 1221, 1241 / to'ob-etí-~~ø~~-^ʔ); and níítónetí^ʔ hear yourselves! (Vt, 1205, 1221, 1241 / níítón-etí-~~ø~~-^ʔ).

Prohibitive reflexive constructions are generated by prefixing morpheme 1032 to the corresponding imperative construction, as in čeebéhníítónetí^ʔ don't hear yourselves! (1032, Vt, 1205, 1221, 1241 / čeebéh-níítón-etí-~~ø~~-^ʔ) or čiiibéxto'obetí^ʔ don't hit yourselves! (1032, Vt, 1205, 1221, 1241 / čiiibéx-to'ob-etí-~~ø~~-^ʔ).

3.8.1. There are a limited number of instances in my field notes of transitive verb forms marked both for the animate third person

object (singular and/or plural) and for the inanimate third person object (not distinguished as to number). Consequently, the following morphophonemic account of the transitive inanimate constructions is not to be considered exhaustive.

In what appears to be a great majority of verbs, morpheme 1206, termed inanimate (third person) object, is followed by the person-marking and associated suffixes listed below:

(1271) first person singular: -w^oo ~ -w^{oo};

(1272) second person singular: -w ~ -wun- (~ -wun-);

(1273) third person singular: -ʔ;

(1274) first person plural: -wuʔ (~ -wuʔ) ~ -wu...ʔ (~ -wu...ʔ),

the discontinuous morpheme alternants including morpheme 1261 in the first person plural inclusive constructions; and

(1275) third person plural: -ʔu ~ -ʔuu.

The second person singular is pluralized by morpheme 1281 (the pluralizer of the second person singular), occurring in the shape of -ee. The inclusivizer of the first person plural, morpheme 1261, appears as -no-.

The morpheme marking the inanimate object (1206) has in these constructions a stem-reducing effect in the first person plural (exclusive) and takes the shapes of -o- (~ -o-) elsewhere. The changes which verb stems undergo before morpheme 1206 will be briefly discussed in Section 3.9.

First, examples of transitive inanimate constructions in the

affirmative submode of the indicative are given: néniiθínowóó I have it (Vt, 1206, 1271, / néniiθín-o-wóó); tookóhowó(ó) I measure it or them (inanimate objects) (Vt, 1206, 1271 / tookóh-o-wó[ó]); tooʔóotowoo I strike it or them (Vt, 1206, 1271 / tooʔóot-o-woo); heeʔínow you (sg.) know it (Vt, 1206, 1272 / heeʔín-o-w); biixóotoʔ he likes it or them (Vt, 1206, 1273 / biixóot-o-ʔ [cf. biixóoθoot he likes him]); níitóʔ he is afraid of it (Vt, 1206, 1273 / níit-ó-ʔ [cf. níixóot he is afraid of him]); néeseinéetóʔ he hates it (Vt, 1206, 1273 / néeseinéet-ó-ʔ [cf. néeseinóoot he hates him]); béenowuʔ we (excl.) smell it (Vt, 1206, 1274 / béenoo[t-'reductive effect']-wuʔ); tóʔowuʔ we (excl.) strike it (Vt, 1206, 1274 / tóʔo[ot-'reductive effect']-wuʔ); nonóohowuʔ we (excl.) see it or them (Vt, 1206, 1274 / nonóoho[ot-'reductive effect']-wuʔ); neníitówuuhúʔ we (excl.) hear it (Vt, 1206, 1274 / neníitówuu[change of -oo- to -uu- plus {t-'reductive effect'}]-huʔ [for the regular -wúʔ by progressive dissimilation?]); beenóotowúnoʔ we, you included, smell it (Vt, 1206, [1274], 1261, 1274 / beenóot-o-wú-no-ʔ); nonóohóotowúnee you (pl.) see it or them (Vt, 1206, 1272, 1281 / nonóohóot-o-wún-ee); híítetówunee you (pl.) are coming to it (Vt, 1206, 1272, 1281 / híítet-ó-wun-ee); híítetóʔu(u) they are coming to it (Vt, 1206, 1275 / híítet-ó-ʔu[u]); níxtoʔóotowoo I struck it or them (1021, Vt, 1206, 1271 / níx-toʔóot-o-woo [cf. Section 3.4.1 concerning the modification of stems following a prefix of Decade 1020]); nihníitówootowóó I heard it or them (1021, Vt, 1206, 1271 /

nih-níit'óoot-o-wóó); nihnoo^{7''}eenowóó I turned it around (full circle) (1021, Vt, 1206, 1271 / nih-noo^{7''}een-o-wóó); nih^{7''}iineenowóó [woθonohóe] I turned it [the paper] around (1021, Vt, 1206, 1271 / nih-^{7''}iineen-o-wóó); and hootniitétowoo I will come to it (1022, Vt, 1206, 1271 / hoot-niitét-o-woo [cf. hiitétowoo I am coming to it; the change of stem-initial h- to n- after prefix 1022 is regular]).

3.8.2. A few examples of transitive inanimate constructions in the nonaffirmative submode of the indicative and in the imperative mode are given below. When occurring terminally, morpheme 1206, which marks the inanimate object, assumes the shape of -ϕ, as in ne^{7''}ihcoowtó^{7''}oot I don't strike it (1011, 1031, Vt, 1206 / ne-^{7''}ihcoow-tó^{7''}oot-ϕ); kóonotó^{7''}oot do I strike it? (1001, 1011, Vt, 1206 / kóo-no-tó^{7''}oot-ϕ); he^{7''}ihcoowniiθín you (sg.) don't have it (1012, 1031, Vt, 1206 / he-^{7''}ihcoow-niiθín-ϕ); koo^{7''}hixtó^{7''}oot did you (sg.) strike it? (1001, 1012, 1021, Vt, 1206 / koo-hi-x-tó^{7''}oot-ϕ); hóowniiθín he doesn't have it (1013, 1031, Vt, 1206 / ϕ-hóow-niiθín-ϕ [casually styled]); koo^{7''}hétciitó^{7''}oot won't he strike it? (1001, 1013, 1022, 1031, Vt, 1206 / koc-he-t-^{7''}ciitó^{7''}oot-ϕ); hee^{7''}ix^{7''}íteten he reached it (1002, 1013, Vt, 1206 / hee^{7''}ix-ϕ-^{7''}íteten-ϕ [cf. hi^{7''}tetenowoo I reach it]); and hee^{7''}ix^{7''}ciitii^{7''}én he didn't touch it (1002, 1013, 1031, Vt, 1206 / hee^{7''}ix-ϕ-^{7''}ciitii^{7''}én-ϕ [cf. teni^{7''}énowoo I am touching it]).

Two constructions are attested only once in my notes; their tentative analysis follows: he^{7''}ihcoowtó^{7''}ootow neither we nor you struck it (1012, 1021, 1031, Vt, 1206, 1261 / he-h^{7''}ihcoow-tó^{7''}oot-ó-w)

and neh^hihoowuto^{oo}teebe we didn't strike it (1011, 1021, 1031, Vt, 1206, 1282 / ne^h-i^hoowu-to^{oo}-ee-be).

The following are examples of imperative constructions; the imperative (singular), morpheme 1221, has the shape of \emptyset when terminal and -wu- when pluralized by the succeeding morpheme 1241, which has its usual shape -^h: tokh^{oo} measure (sg.) it! (Vt, 1206, 1221 / tokh-^{oo}- \emptyset); nooh^{oo}too see (sg.) it or them! (Vt, 1206, 1221 / nooh^{oo}-^{oo}- \emptyset); noohoot^{oo}wu^h see (pl.) it! (Vt, 1206, 1221, 1241 / noohoot-^{oo}-wu-^h); \check{c} e^he^hiinen^{oo}wu^h put (pl.) it back! (Vt, 1206, 1221, 1241 / \check{c} e^he^hiinen-^{oo}-wu^h); and \check{c} eeb^{eh}nei^hoo^{oo}too don't (sg.) look at it! (1032, Vt, 1206, 1221 / \check{c} eeb^{eh}-nei^hoo^{oo}-^{oo}- \emptyset).

3.8.3. There are some constructions with an inanimate object implied or expressed (by a noun) which differ from those discussed in the two preceding sections, e.g., ne^h niiben^{oo} I drink water (niiben^{en} [second person sing.], niibene^h [third person sing.], niibene^hi [third person plural], etc.) as against be^{en}i^{oo}itowoo (ne^h) I drink it (water); ton^{oo}ku^{oo}ti^{oo} I tie it or them (inanimate objects); tootku^{oo}ti^{oo} I tear it; and others.

The question as to whether these constructions are best considered as intransitive forms with implied goals or as a special subclass of transitives will be taken up on a separate occasion.⁷

3.9. Some aspects of the morphemic variation in the transitive stems of Arapaho will be briefly discussed below; a survey of affixes and affixal sequences will be the subject of Section 3.10.

As has already been pointed out at the outset of this chapter, the term "stem," as it is here employed, does not refer to a morphemic unit but to a morphemic complex which remains after all the inflectional and some of the common derivational morphemes (e.g., the reflexivizer) of a construction have been identified.

In general, stems suffer different degrees of reduction initially when prefixed: thus, besides the forms $t\acute{o}o\acute{o}b-$ strike, $t\acute{o}oyow-$ bite, $y\acute{e}neihon-$ pursue, $b\acute{e}niih-$ cause to cry, $\theta\acute{o}nookuh-$ follow, $hiite\acute{e}in-$ catch, and $neni\acute{i}ton-$ hear, representing the full morpheme alternants of the transitive stems, there are the corresponding reduced allomorphs $-to\acute{o}b-$, $-t\acute{o}yow-$, $-yeihon-$, $-biih-$, $-\theta\acute{o}okuh-$, $-uute\acute{e}in-$, and $-ni\acute{i}ton-$.

Similar reduction of stems occurs also in imperative constructions, which, however, employ suffixation rather than prefixation.

Stems frequently undergo change finally before morpheme 1206, marking the inanimate object, and before the suffixal sequence 1206 + 1274, they suffer reduction: thus, the stem $t\acute{o}o\acute{o}w-$ strike appears before 1206 as $t\acute{o}o\acute{o}ot-$ and before 1206 + 1274 as $t\acute{o}o\acute{o}-$; $been\acute{o}w-$ smell appears as $been\acute{o}ot-$ and as $b\acute{e}noo-$; $nonoch\acute{o}b-$ see appears as $nonoch\acute{o}ot-$ and as $non\acute{o}ho-$; etc. These transitive inanimate stems also become characteristically reduced initially in the imperative mode to assume the corresponding shapes $t\acute{o}o\acute{o}ot-$, $b\acute{e}noot-$, and $nooch\acute{o}ot-$.

Those verbs, the stems of which are terminated in transitive

animate constructions in -w ~ -b (cf. the table in Section 3.2.1), seem to show regularly a stem-final -t in their transitive inanimate constructions: thus, too^ʔow- ~ too^ʔob-... and too^ʔoot-... strike; nonochób- ~ nonochów-... and nonóohoot-... see; nééseinówoot he hates him, nééseinebéinoó he hates me, and nééseineéto^ʔ he hates it; nii^ʔéenowo^ʔ I like her and nii^ʔéeneéto^ʔ he likes it. For other changes of the stem-final consonant, note bíixoo^ʔ I love her and bíixóoto^ʔ he loves it as well as beníí^ʔiwóo^ʔ I cook him and beníí^ʔiwóoto^ʔ I cook it; níiseínóó he is afraid of me, níixóót he is afraid of him, and níito^ʔ he is afraid of it; héitowuuneínóó he tells me and héitowóoto^ʔ he tells it; koo^ʔuseínóó he cuts me and koo^ʔuxo^ʔ he cuts it; etc.⁸

3.10.1. All of the morpheme alternants of the Arapaho affixes discussed in Sections 3.1 through 3.8 are listed below by the decades to which they have been assigned. Primary distributional relationships among the various alternants of the individual morphemes are indicated by parentheses, brackets, and braces.

prefixes

decade 1000:

1001--interrogative: ([koo- ~ kóó-] ~ k-) ~ (koo- ~ kóó-) ~
 ~ ([koo- ~ kóó-] ~ [kuu- ~ kúú-] ~ k-)

1002--narrative past: (hee^ʔih- ~ heé^ʔih-) ~ (hee^ʔi- ~ heé^ʔi-) ~
 ~ (hee^ʔix- ~ heé^ʔix-)

decade 1010:

1011--first person singular: (ne- ~ né-) ~

~ ([-ne- ~ -né-] ~ [-nei- ~ -néi-]) ~

~ ([-ne- ~ -né-] ~ [-no- ~ -no'-] ~ [-nei- ~ -néi-]) ~

~ ([-ne- ~ -né-] ~ [-ni- ~ -ní-]) ~

~ ([-nee- ~ -néé-] ~ [-noc- ~ -noó-]) ~

~ ([{nee...ne-} ~ {nee...né-} ~ {néé...ne-} ~ {néé...né-}]) ~

~ [{noo...ne-} ~ {noo...né-} ~ {noó...ne-} ~ {noó...né-}])

1012--second person singular: (he- ~ hé-) ~

~ ([-he- ~ -hé-] ~ [-ho- ~ -hó-] ~ [-hei- ~ -héi-] ~

~ [-o- ~ -ó-]) ~

~ ([-he- ~ -hé-] ~ [-hei- ~ -héi-] ~ [-e- ~ -é-]) ~

~ ([-he- ~ -hé-] ~ [-hi- ~ -hí-] ~ [-e- ~ -é-] ~ [-i- ~ -í-]) ~

~ ([-hee- ~ -héé-] ~ [-hoo- ~ -hoó-]) ~

~ ([{hee...ne-} ~ {hee...né-} ~ {héé...ne-} ~ {héé...né-}]) ~

~ [{hoo...ne-} ~ {hoo...né-} ~ {hoó...ne-} ~ {hoó...né-}])

1013--third person singular: (h- ~ ø-) ~ ø- ~ (hi- ~ hí-) ~

~ ([-hu- ~ -hú-] ~ [-u- ~ -ú-]) ~

~ ([-he- ~ -hé-] ~ [-ho- ~ -hó-]) ~

~ ([{he...ne-} ~ {he...né-} ~ {hé...ne-} ~ {hé...né-}]) ~

~ [{ho...ne-} ~ {ho...né-} ~ {hó...ne-} ~ {hó...né-}])

decade 1020:

1021--preteritive: ([nih- ~ níh-] ~ [nix- ~ níx-]) ~

~ (-h?- ~ -hi?-) ~ (-h- ~ -x-) ~ -x-

1022--future tense: ([hoo^h- ~ hoo^h-] ~ [heet- ~ hee^h-] ~ -t-

decade 1030:

1031--negative: ([-ihoow- ~ -ihoow-] ~ [-ihoowu- ~ -ihoowu-]) ~
 ~ ([{-ihoowu- ~ -ihoowu-} ~ {-ihoow- ~ -ihoow-}] ~
 ~ [{-hoow- ~ -hoowu-} ~ {-hoow- ~ -hoowu-}]) ~
 ~ (-ihoow- ~ -ihoowu-) ~
 ~ (-čii- ~ -čii-) ~ ([-čii- ~ -čii-] ~ -č-) ~
 ~ ([-čii- ~ -čii-] ~ [-če^ř- ~ -če^ř-] ~ -č-)
 1032--prohibitive: ([čeebéh- ~ čiiibéh-] ~ [čeebéh- ~ čiiibéh-])

suffixes

decade 1200:

1205--reflexivizer: (-etí- ~ -et) ~ -etí-
 1206--inanimate (third person) object: ('reductive effect'- ~
 ~ [-o- ~ -ó-]) ~ (-ø ~ -ó- ~ -ee-) ~
 ~ ([-o- ~ -ó-] ~ [-oo- ~ -óó-])

decade 1210:

1211--first person singular subject: (-eθe' ~ -eθ) ~
 ~ ([{-eθe- ~ -eθe- ~ -eθe-} ~ {-uθe- ~ -uθe- ~ -uθe-}] ~
 ~ -ø-)
 1212--first person singular object: ([-u- ~ -ú-] ~ [-i- ~ -í-]) ~
 ~ ([-ú- ~ -í-] ~ -ø)
 1213--third person singular subject: (-ei- ~ -éi- ~ -éi-) ~ -e^ř
 1214--third person singular object: (-oo- ~ -oo) ~
 ~ ([-oo- ~ -ee-] ~ [-ot- ~ -ót-])

1215--first person plural subject (exclusive): (-ee- ~ -éé) ~
~ ([-ee- ~ -éé- ~ -éé'-] ~ -ii-)

1216--first person plural object (exclusive): -éiʔéé- ~
~ (-éiʔéé- ~ -éiʔéé-) ~ (-éiʔéé'- ~ -éiʔéé'-)

1217--third person subject: (-éi- ~ -éi'-) ~ -éi-

1218--third person object: ([-ee- ~ -ee] ~ [-oo- ~ -óó-]) ~
~ (-óó- ~ -éé-) ~ (-ee- ~ -ee) ~
~ ([-e- ~ -é-] ~ [{"-un- ~ -un-} ~ {"-in- ~ -in-}])

1219--third person plural subject: -éi

decade 1220:

1221--imperative (singular): -ϕ- ~ -ϕ ~ (-ϕ ~ -wu-)

1228--obviative actor: -e?

decade 1230:

1231--pluralizer of the third person singular subject and
object forms: (-nónii- ~ -ii-) ~ -nóʔ

decade 1240:

1241--pluralizer of the imperative: -ʔ

decade 1260:

1261--inclusivizer of the first person plural:

(-no- ~ -nó'-) ~ -no- ~ -n

decade 1270:

1271--first person singular: (-noo ~ -nóó') ~ -noo ~ (-woo ~ -wóó')

1272—second person singular: ($-\emptyset \sim [-n- \sim -n]$) \sim ($-n- \sim -n$) \sim
 \sim ($-w \sim [-wun- \sim -wun-]$)

1273—third person singular: ($[-o^? \sim -o'^?]$) \sim ($[-e^? \sim -e'^?]$) \sim ($-t$) \sim
 \sim $-t \sim -^?$

1274—first person plural (exclusive): $-^?$ \sim
 \sim ($[-\{wu^? \sim -wu'^?\} \sim -hu'^?]$) \sim ($[-wu\dots^? \sim -wu\dots'^?]$)

1275—third person plural: ($[-\{ou \sim -uu\} \sim -e^i]$) \sim ($[-\theta i^? \sim -\theta i'^?]$) \sim
 \sim $-\theta i^? \sim (-^?u \sim -^?uu)$

decade 1260:

1281—pluralizer of the second person singular: $-ee \sim$
 \sim ($-ee \sim -e'e'$)

1282—pluralizer of the first, second, and third person
 singular: ($[-no^? \sim -no'^?]$) \sim ($[-be \sim -be^i]$) \sim
 \sim ($-no^? \sim -no'^?$) \sim ($-no^? \sim -be$)

3.10.2. The morphemic sequences of the more common transitive and reflexive constructions are charted below. Many of these sequences have been documented by examples in the preceding sections of this chapter, and others have been attested in my field notes; only a few have been extrapolated on the basis of parallel morphemic constructions.

The arrangement of the charts follows that of charts in Sections 2.11.2.1 and 2.11.2.2. Briefly, any of the prefixes or suffixes marked by an "x" may occur associated with the patterns of affixation

indicated in the corresponding horizontal line on either side of the verb stem column; the use of the decade number denotes the inclusion of all morphemes assigned to that decade.

The chart below represents the inflectional morphemic sequences of reflexive verb forms (top half of table) and of transitive inanimate verb forms (bottom half of table) in the present tense, preterit, and future tense of the affirmative submode of the indicative in the independent order:

Pre- fixes	Verb stem	Suffixes of Decades					Suffixes of higher Decades		
		1200 - 1260		Suffixes of Decade 1270					
		(+)	(+)	1271	1272	1273	1274	1275	(+)
± 1020	Vt	1205	1261				x		
	Vt	1205		x		x	x	x	
	Vt	1205				x			± 1283
± 1020	Vt	1206	[1274] 1261				x		
	Vt	1206		x		x	x	x	
	Vt	1206				x			± 1281

The chart that follows represents the inflectional morphemic sequences of the present tense, preterit, and future tense of transitive animate verb forms in the affirmative submode of the indicative in the independent order:

Pre-Verb	Suffixes of Decade 1210											Suffixes of higher decades			
	fixes stem	1211	1212	1213	1214	1215	1216	1217	1218	(+)	(+)	(+)	(+)	(+)	(+)
Vt				x	x							1231		1272	
Vt										x	x		1261	1274	
Vt				x										1271	
± .1020															
Vt	x	x	x	x	x	x	x							1272	
Vt	x	x								x	x			1272	1281
Vt	x													1273	
Vt	x	x	x											1275	

Morphemic sequences of narrative past constructions of transitive animate verb forms in the indicative mode of the independent order are charted below; they follow the nonaffirmative pattern of inflection.

Prefixes			Verb	Suffixes		
(+)	(+)		stem	(+)	(+)	(+)
1002	1013	<u>±</u> 1031	Vt	1218		<u>±</u> 1282
1002	1013	<u>±</u> 1031	Vt		1228	

The corresponding morphemic sequences of reflexive narrative past constructions may be represented as follows:

$$1002 + 1013 + \underline{\pm} 1031 + Vt + 1205 + \underline{\pm} 1282.$$

The corresponding morphemic sequences of narrative past constructions of transitive inanimate verb forms are:

$$1002 + 1013 + \underline{\pm} 1031 + Vt + 1206 + \underline{\pm} 1282.$$

Of the two charts that follow, the first represents transitive animate morphemic sequences of interrogative and negative interrogative constructions in the present tense, preterit, and future tense of the indicative in the independent order; the second represents the morphemic sequences of the corresponding negative constructions.

Prefixes	Verb	Suffixes of Decade 1210										Suffixes of higher decades									
		1211	1212	1213	1214	1215	1216	1217	1218	1219	(+)	(+)	(+)								
{ 1011 } { 1011 } { 1011 } { 1012 } { 1012 } { 1012 } { 1013 }	Vt			x	x																
	Vt				x															1231	
	Vt																			1282	
	Vt																				
	Vt																				
	Vt																				
	Vt																				
{ 1020 } { 1031 }	Vt																				
	Vt																				
	Vt																				
{ 1001 }	Vt																				
	Vt																				

		Prefixes		Suffixes of Decade 1210										Suffixes of higher decades			
		(+)	(+)	Verb stem	1211	1212	1213	1214	1215	1216	1217	1218	1219	(+)	(+)	(+)	
1011	and in the + 1020 case of 1022 also	[1011]	1031	Vt			x	x					x				
1011		[1011]	1031	Vt					x						1231		
1011		[1011]	1031	Vt							x	x					1282
1012		[1012]	1031	Vt	x	x	x	x	x	x				x			
1012		[1012]	1031	Vt												1231	
1012		[1012]	1031	Vt							x	x				1261	
1012		[1012]	1031	Vt	x	x			x	x	x	x					1282
1013		[1013]	1031	Vt										x			+ 1282

The reflexive morphemic sequences of interrogative and negative interrogative constructions in the present tense, preterit, and future tense of the indicative in the independent order are shown below:

Prefix of Decade	Prefixes of Decade 1010			Prefixes of higher decades		Verb	Suffixes		
1000	1011	1012	1013	(+)	(+)	stem	(+)	(+)	(+)
1001	x	x	x	± 1020	± 1031	Vt	1205		± 1282
1001		x		± 1020	± 1031	Vt	1205	1261	

The corresponding negative constructions are charted below:

Prefixes of Decade 1010			Prefixes of higher decades		Verb	Suffixes		
1011	1012	1013	(+)	(+)	stem	(+)	(+)	(+)
x	x	x	± 1020	}*	1031	Vt	1205	± 1282
	x		± 1020		1031	Vt	1205	1261

(* and after 1022 also the corresponding morphemic fraction of 1010, i.e., [1011], [1012], or [1013])

The transitive inanimate morphemic sequences of interrogative and negative interrogative constructions in the present tense, preterit, and future tense of the indicative in the independent

order are shown in the following chart:

Prefix of Decade	Prefixes of Decade 1010			Prefixes of higher decades		Verb	Suffixes		
1000	1011	1012	1013	(+)	(+)	stem	(+)	(+)	(+)
1001	x	x	x	<u>±</u> 1020	<u>±</u> 1031	Vt	1206		<u>±</u> 1282
1001		x		<u>±</u> 1020	<u>±</u> 1031	Vt	1206	1261	

The corresponding negative constructions are charted below:

Prefixes of Decade 1010			Prefixes of higher decades		Verb	Suffixes		
1011	1012	1013	(+)	(+)	stem	(+)	(+)	(+)
x	x	x	<u>±</u> 1020	}*	1031	Vt	1206	<u>±</u> 1282
	x		<u>±</u> 1020		1031	Vt	1206	1261

(* and after 1022 also the corresponding morphemic fraction of 1010, i.e., [1011], [1012], or [1013])

The chart which follows represents the morphemic sequences of transitive (both animate and inanimate) and reflexive constructions in the imperative mode of the independent order; prohibitive constructions are included:

Prefixes	Verb stem	Suffixes of Decade 1200		Suffixes of Decade 1210			Suffixes of higher decades	
		1205	1206	1212	1216	1218	(+)	(+)
± 1032	Vt	x	x	x	x	x	1221	± 1241

3.11.1. In the affirmative submode of the indicative in the independent order animate intransitive verb constructions employ the following set of person-marking and associated suffixes:

(1271) first person singular: -noo ~ -noó;

(1272) second person singular: -n;

(1273) third person singular: -t;

(1274) first person plural (exclusive): -ʔ; and

(1275) third person plural: -θiʔ ~ -θiʔ.

The pluralizer of the second person singular, morpheme 1281, subsumes two allomorphs, -ee and its prosodemic variant -éé. The inclusivizer of the first person plural, morpheme 1261, likewise occurs in two allomorphs, -no- ~ -no-. This morpheme precedes suffix 1274 to mark the inclusion of the addressee (and perhaps others) among those referred to by the speaker as "we."

Examples are: θiʔookuunoo I am standing (Vi, 1271 / θiʔookuu-noo), hiiθibinóó I sneeze (Vi, 1271 / hiiθibi-noó), čeniixókunóó I am far away (Vi, 1271 / čeniixóku-noó), hiinteéeninóó I am well (Vi, 1271 / hiinteéeni-noó), níičóónóó I smoke (Vi, 1271 / níičóó-noó),

ʧeebiseenóó I walk (Vi, 1271 / ʧeebisee-noó), neéceenóó I am dead
 (Vi, 1271 / neéce-noó), heníneʔítii-noó I live or I am alive (Vi,
 1271 / heníneʔítii-noó), tonóehínoo I am cold (Vi, 1271 /
 tonóehí-noo), heesxúhʔunóó I am warm or I have fever (Vi, 1271 /
 heesxúhʔu-noó), beniiwóohunóó I cry (Vi, 1271 / beniiwóohu-noó),
 neníínookúnóo I am blind (Vi, 1271 / neníínookú-noo), kónoonéhinóó
I am a coward (Vi, 1271 / kónoonéhi-noó), honoowoθóowunóó I breathe
 (Vi, 1271 / honoowoθóowu-noó), nóóʔeeʧóóhun you (sg.) are arriving
at home (Vi, 1272 / nóóʔeeʧóónu-n), heésinóneen you (sg.) are mad
 (Vi, 1272 / heésinónee-n), ʧeníixókut he is far away (Vi, 1273 /
 ʧeníixóku-t), tonóehít he is cold (Vi, 1273 / tonóehí-t), heesxúhʔut
he is warm or feverish (Vi, 1273 / heesxúhʔu-t), nííʧóót he smokes
 (Vi, 1273 / nííʧóó-t), beniiwóohút he cries (Vi, 1273 / beniiwóohú-t),
 neníínookút he is blind (Vi, 1273 / neníínookú-t), kónónéhit ~
 kónoonéxt he is a coward (Vi, 1273 / kónónéhi-t ~ kónoonéx-t [the
 phonemic sequence -hʋt occurs frequently in the allegro form -xt]),
 honoowoθóowut he breathes (Vi, 1273 / honoowoθóowu-t), θóóxonéhit ~
 θóóxonéxt he is mad (Vi, 1273 / θóóxonéhi-t ~ θóóxonéx-t), tenéénéhit ~
 tenéénéxt he is sad (Vi, 1273 / tenéénéhi-t ~ tenéénéx-t), θííʔookúʔ
we (but not you) are standing (Vi, 1274 / θííʔookúʔ-ʔ), θooxóyéineetíínoʔ
we, you included, talk harshly (Vi, 1261, 1274 / θooxóyéineetíí-noʔ),
 hiiθíbinoʔ we, you included, are sneezing (Vi, 1261, 1274 / hiiθíbí-noʔ),
 hóoxowuseénee you (pl.) are taking a shortcut (Vi, 1272, 1281 /
 hóoxowuseé-n-ee), ʧeníixókúnee you (pl.) are far away (Vi, 1272, 1281 /

Y/ ceniixokú-n-ee), nootíkoníθiʔ they are on the warpath (Vi, 1275 / nootíkoní-θiʔ), θiʔiʔisóóθiʔ they urinate (Vi, 1275 / θiʔiʔisóó-θiʔ), and heesówobehíθiʔ they are sick (Vi, 1275 / heesówobehí-θiʔ).

3.11.2. There is a group of verb stems which mark their third person singular by the suffix -ʔ and their third person plural by -ʔi, while keeping the main set of morpheme alternants in all other constructions. Thus, honouθínenoó I am hanging (Vi, 1271 / honouθíne-nóó), honouθiʔ he is hanging (Vi, 1273 / honouθi-ʔ), and honouθiʔi they are hanging (Vi, 1275 / honouθiʔi); seeʔesínenoó I am lying (down) (Vi, 1271 / seeʔesíne-nóó), seeʔisiʔ he is lying (Vi, 1273 / seeʔisi-ʔ), and seíʔisiʔi they are lying (Vi, 1275 / seíʔisi-ʔi); and béneeseíθenoo I am big (Vi, 1271 / béneeseíθe-noo), béneeseíθeʔ he is big (Vi, 1273 / béneeseíθe-ʔ).

3.11.3. Among the various types of lexical innovations, the most frequently used in Arapaho are circumlocutory denominations.⁹ Typical of these is the construction honóókowuubeet elephant, meaning it (animate subject) has a bent nose [= he is "bent-nosed"] (Vi, 1273 / honóókowuubeet [cf. honóókowuubeenoo I have a bent nose, Vi + 1271]). This construction is pluralized as a verb, i.e., honóókowuubeethiʔ elephants, but for its possessive forms it follows the paradigm of possessed nouns: hotóókowuubeet your (sg.) elephant, hitóókowuubeehío his elephant (obviative), etc.

3.11.4. Special obviative forms are employed by verbs in syntactic constructions that parallel those in which nouns become

obviative in form, as, for instance, nihnei¹¹ooku¹oot he²totóukuhuní⁰
he looked where the other [person] was [or is] tied (cf. tonóukuhut
he is tied or in jail) or honóokowúbeení⁰ elephant ([he has a bent
nose] obv.), pluralized as honóokowúbeení⁰i.

3.11.5. When prefixed by either of the two morphemes of Decade
1020, which mark the preterit and future tense, stems become re-
duced initially. The morpheme alternants of prefixes 1021 and 1022
are—

(1021) preteritive: nih- (~ nih-) [commonly occurring before
stem alternants with an initial b, ʔ, n, w, or y] ~ nix- (~ nix-)
[generally occurring elsewhere]; and

(1022) future tense: hoot- (~ hoot-) [older forms] ~ heet-
(~ heet-) [more recent usage].

Examples are: nix^vcebíseenó⁰ I walked (1021, Vi, 1271 / nix-
^vcebísee-nó⁰), nix^vce¹censínénó⁰ I fell back down (1021, Vi, 1271 /
nix-^vce¹censíne-nó⁰), nix^vtóehínoo I was cold (1021, Vi, 1271 /
nix-tóehí-noo), nih^ʔesxuh^ʔunó⁰ I was warm or I had fever (1021, Vi,
1271 / nih-^ʔesxuh^ʔu-nó⁰ [the change of stem-initial h- to ʔ- after
1021 is common and has already been mentioned in Section 2.4.1]),
nihbííwoohúnó⁰ I cried (1021, Vi, 1271 / nih-bííwoohú-nó⁰),
nihneníínookúnó⁰ I was blind (1021, Vi, 1271 / nih-neníínookú-noo),
nixkoonéhinó⁰ I was a coward (1021, Vi, 1271 / nix-koonéhi-nó⁰),
nih^ʔoowc⁰óowunó⁰ I was breathing (1021, Vi, 1271 / nih-^ʔoowc⁰óowu-nó⁰),
nixkóneen you (sg.) dreamed (1021, Vi, 1272 / nix-kónee-n),
nihnonéiseet he went in the wrong direction (1021, Vi, 1273 /

nih-nonéiseé-t), nihʔesowobéxt he was sick (1021, Vi, 1273 / nih-ʔesowobéxt), nixtéenehínee you (pl.) were sad (1021, Vi, 1272, 1281 / nix-téenehí-n-ee), nihʔíineʔitííʔiʔ they lived (1021, Vi, 1275 / nih-ʔíineʔitíí-ʔiʔ), and nihbiíʔihíʔiʔ they were eating (1021, Vi, 1275 / nih-bííʔihí-ʔiʔ); also heetnóoxowúseenóó I will take a shortcut (1022, Vi, 1271 / heet-nóoxowúsee-nóó [cf. hóoxowúseenóó I am taking a shortcut; the change of stem-initial h- to n- after 1022 is common and has been referred to in Section 3.4.1), hóotníineʔitíin you (sg.) will live (1022, Vi, 1272 / hóot-níineʔitíi-n), hóotneeteeníʔ we will stay overnight (1022, Vi, 1274 / hóot-neeteení-ʔ [cf. heeteéninoo I am staying overnight]), and heetnínenteenínee you (pl.) will be well (1022, Vi, 1272, 1281 / heet-nínenteení-n-ee).

3.12.1. Nonaffirmative paradigms of the animate intransitives differ from the corresponding affirmative constructions in that the person markers and associated affixes they employ are in part prefixed and in part suffixed.

The prefix which marks the narrative past (morpheme 1002) has the following shapes: heeʔih- (~ heeʔih-) ~ heeʔi- (~ heeʔi-) ~ heeʔix- (~ heeʔix-) [for the distribution of the three sets of alternants see Section 3.5.1]. Following morpheme 1002, which associates only with the third person singular, numbered 1013 and marked by the absence of an overt feature, the verb stems suffer reduction initially, and on occasion also finally when concluding a morphemic sequence. The third person is pluralized by suffix 1282, the plu-

ralizer of the first, second, and third person singular, occurring in narrative past morphemic sequences in the shapes of $-no^{\uparrow}$ ($\sim -no^{\uparrow}$).

Examples are: $hee^{\uparrow}ihnoo^{\uparrow}usee$ he is said to have got out [of water (1002, 1013, Vi / $hee^{\uparrow}ih-\phi-noo^{\uparrow}usee$), $hee^{\uparrow}ix^{\uparrow}esxuh^{\uparrow}u$ he was warm or feverish (1002, 1013, Vi / $hee^{\uparrow}ix-\phi^{\uparrow}esxuh^{\uparrow}u$), $hee^{\uparrow}ix^{\uparrow}inenteen$ he was well (1002, 1013, Vi / $hee^{\uparrow}ix-\phi^{\uparrow}inenteen$ [stem-initial $h-\phi^{\uparrow}$, cf. Section 3.5.1]), $hee^{\uparrow}ix^{\uparrow}inenteenino^{\uparrow}$ they were well (1002, 1013, Vi, 1282 / $hee^{\uparrow}ix-\phi^{\uparrow}inenteeni-no^{\uparrow}$), $hee^{\uparrow}ix^{\uparrow}toe$ he was cold (1002, 1013, Vi / $hee^{\uparrow}ix-\phi^{\uparrow}toe$), $hee^{\uparrow}ix^{\uparrow}toehino^{\uparrow}$ they were cold (1002, 1013, Vi, 1282 / $hee^{\uparrow}ix-\phi^{\uparrow}toehi-no^{\uparrow}$), $hee^{\uparrow}ix^{\uparrow}iicoo$ he smoked (1002, 1013, Vi / $hee^{\uparrow}ix-\phi^{\uparrow}iicoo$ [stem-initial $n-\phi^{\uparrow}$]), $hee^{\uparrow}ix^{\uparrow}iicooono^{\uparrow}$ they smoked (1002, 1013, Vi, 1282 / $hee^{\uparrow}ix-\phi^{\uparrow}iicoo-no^{\uparrow}$), $hee^{\uparrow}ihbiiwoob$ he cried (1002, 1013, Vi / $hee^{\uparrow}ih-\phi^{\uparrow}biiwoob$), $hee^{\uparrow}ihbiiwoohuno^{\uparrow}$ they cried (1002, 1013, Vi, 1282 / $hee^{\uparrow}ih-\phi^{\uparrow}biiwoochu-no^{\uparrow}$), and $hee^{\uparrow}ix^{\uparrow}ce\thetaikooohuno^{\uparrow}$ $hee^{\uparrow}ihnihikooohuno^{\uparrow}$ they started off again [and] ran (both forms: 1002, 1013, Vi, 1282 / $hee^{\uparrow}ix-\phi^{\uparrow}ce\thetaikooohu-no^{\uparrow}$ $hee^{\uparrow}ih-\phi^{\uparrow}nihikooohu-no^{\uparrow}$).

Prefix 1031, $-cii-$ ($\sim -cii-$) $\sim -c-$, serves to negate narrative past constructions, e.g., $hee^{\uparrow}ix^{\uparrow}ciitoe$ he is said not to have been cold (1002, 1013, 1031, Vi / $hee^{\uparrow}ix-\phi^{\uparrow}cii-toe$), $hee^{\uparrow}ix^{\uparrow}ceesxuh^{\uparrow}u$ he was not warm or feverish (1002, 1013, 1031, Vi / $hee^{\uparrow}ix-\phi^{\uparrow}c-eesxuh^{\uparrow}u$), $hee^{\uparrow}ix^{\uparrow}ciineninook$ he was not blind (1002, 1013, 1031, Vi / $hee^{\uparrow}ix-\phi^{\uparrow}cii-neninook$), $hee^{\uparrow}ix^{\uparrow}ciibiiwoob$ he didn't cry (1002, 1013, 1031, Vi / $hee^{\uparrow}ix-\phi^{\uparrow}cii-biiwoob$), $hee^{\uparrow}ix^{\uparrow}cii\thetaib$ he didn't sneeze (1002, 1013, 1031, Vi / $hee^{\uparrow}ix-\phi^{\uparrow}cii-\thetaib$), $hee^{\uparrow}ix^{\uparrow}cii\thetaibino^{\uparrow}$ they didn't sneeze (1002,

1013, 1031, Vi, 1282 / hee¹¹⁷ix-~~phi~~-cii-¹³ibi-no¹³), and hee¹¹⁷ixciitousebi¹³no¹³
they didn't swim (1002, 1013, 1031, Vi, 1282 / hee¹¹⁷ix-~~phi~~-cii-tousebi-no¹³).

3.12.2. With the exception of a few additional alternants, the shapes and the distribution of the person markers and associated affixes employed in the nonaffirmative constructions of the present tense, preterit, and future tense of animate intransitives are identical with the corresponding constructions of the transitives. Noteworthy among the exceptions is the inclusivizer of the first person plural, which terminates morphemic sequences and associates with the second person singular marker; this morpheme employs a new set of allomorphs, -noo (~-no⁶). The associated verb stems suffer reduction initially; when terminal in a sequence, they frequently undergo reduction finally as well.

The different types of constructions will be briefly exemplified below. There follows a list of the pertinent affixes and their numerical labels: 1001—interrogative; 1011—first person singular; 1012—second person singular; 1013—third person singular; 1021—preteritive; 1022—future tense; 1031—negative; 1261—inclusivizer of the first person plural; and 1282—pluralizer of the first, second, and third person singular.

Examples of the negative constructions in the present tense are:
 neihoo¹¹wt¹¹oe I am not cold (1011, 1031, Vi / ne-¹¹ihoow-¹¹toe), neihoo¹¹eesxuh¹³u¹³
 ne / I am not warm or feverish (1011, 1031, Vi / ne-¹¹ihoow-¹¹eesxuh¹³u¹³),
 neihoo¹¹wt¹¹oe I am not cold (1011, 1031, Vi / ne-¹¹ihoow-¹¹toe), neihoo¹¹eesxuh¹³u¹³
I am not warm or feverish (1011, 1031, Vi / ne-¹¹ihoow-¹¹eesxuh¹³u¹³),

héihoowníh̄ōōoun̄ you (sg.) are not a white man (1012, 1031, Vi / hé-íhoow-níh̄ōōoun̄), hihoowuúcoō he doesn't smoke (1013, 1031, Vi / h-íhoow-uúcoō [the change of -íi to -úu after -w̄ is common]), hihoowtóē he isn't cold (1013, 1031, Vi / h-íhoow-tóē) ~ hoowtóē (1013, 1031, Vi / ø-hoow-tóē), néihoowéīōookuubē we don't stand (1011, 1031, Vi, 1282 / né-íhoow-éīōookuubē), héihoowéesōōonoō we, you included, don't run fast (1012, 1031, Vi, 1261 / hé-íhoow-éesōōonoō), héihoowbí̄īh̄ibē you (pl.) don't eat (1012, 1031, Vi, 1282 / hé-íhoow-bí̄īh̄ibē), and hihoowuútoohuunōō they are not dragging (1013, 1031, Vi, 1282 / h-íhoow-uútoohuunōō).

Examples of the interrogative and negative interrogative constructions in the present tense are: koonotóē am I cold? (1001, 1011, Vi / koo-no-tóē), koonebíiwóō do I cry? (1001, 1011, Vi / koo-néi-bíiwóō), kotóē ~ koohotóē are you cold? (1001, 1012, Vi / k-o-tóē ~ koo-ho-tóē), and koohéíbiwóobē do you (pl.) cry? (1001, 1012, Vi, 1282 / koo-héí-bíiwóobē); koohéíitóē aren't you (sg.) cold (1001, 1012, 1031, Vi / koo-he-íi-tóē), kooéesxuh̄ū isn't he warm? (1001, 1013, 1031, Vi / koo-é-esxuh̄ū), and kooéíībinōō don't they sneeze? (1001, 1013, 1031, Vi, 1282 / koo-é-íī-binōō).

Examples of nonaffirmative constructions in the preterit are: neh̄īhoowtóē I wasn't cold (1011, 1021, 1031, Vi / ne-h̄īhoow-tóē), hih̄īhoowtóēsébinōō they didn't swim (1013, 1021, 1031, Vi, 1282 / hi-h̄īhoow-tóēsébinōō), kixtóē ~ koohixtóē were you (sg.) cold? (1001, 1012, 1021, Vi / k-i-x-tóē ~ koo-hi-x-tóē), kuh̄uúcoō ~

koohh^ʔuucoo^v did he smoke? (1001, 1013, 1021, Vi / k-u-h-ʔ^vuucoo^v ~ koo-hu-h-ʔ^vuucoo^v), and kixčeeshʔu weren't you (sg.) warm? (1001, 1012, 1021, 1031, Vi / k-i-x-č^v-eeshʔu).

Examples of nonaffirmative constructions in the future tense are: heetneihooben you (sg.) will not drink (1012, 1022, [1012], 1031, Vi / hee-t-ne^v-ihooben), heetneihooune ʔitiibe you (pl.) will not live (1012, 1022, [1012], 1031, Vi, 1282 / hee-t-ne^v-ihooune ʔitiibe), koohettoe will you (sg.) be cold? (1001, 1012, 1022, Vi / koo-hee-tttoe), and koohetčičo^v(^v) will he not smoke? (1001, 1013, 1022, 1031, Vi / koo-he-t-č^v-ičo^v(^v)).

3.13. Imperative constructions of animate intransitives consist of stem alternants reduced initially and suffixed by the imperative (1221) in the shape of - \emptyset (-); the sequence Vi + 1221 may be pluralized by morpheme 1241, -ʔ, the pluralizer of the imperative. These sequences are changed into prohibitive constructions by means of prefix 1032, occurring as čeebeh- or čiibeh- before b, ʔ, n, w, or y and as čeebex- or čiibex- elsewhere.

In the examples which follow, the first person singular form is supplied for reference: bene drink! (sg.) (Vi, 1221 / bene- \emptyset [cf. beeneno]), beneʔ drink! (pl.) (Vi, 1221, 1241 / bene-ʔ-ʔ), čiibehbeneʔ don't drink! (pl.) (1032, Vi, 1221, 1241 / čiibeh-bene- \emptyset -ʔ); hiθibi sneeze! (sg.) (Vi, 1221 / hiθibi- \emptyset [cf. hiiθibino]), čeebehʔiθibiʔ don't you (fellows) sneeze! (1032, Vi, 1221, 1241 / čeebeh-ʔiθibi- \emptyset -ʔ [stem initial h- regularly changes into ʔ- after -h]); biθih*ʔ*

eat! (pl.) (Vi, 1221, 1241 / biθíhi-θ-ʔ [cf. beniiθíhnoo]); neečisee go! (sg.)—cf. neečiseenóó; heečkóóhu go home! (sg.)—cf. heečkóóhunoo; čenoʔóó jump! (sg.), čeebexčenoʔóó don't jump (pl.)—cf. čeenóʔóonoo; ciibehʔíicó(ó) don't smoke! (sg.); etc.

3.14. Inanimate intransitives are characterized by suffix 1223, marking the inanimate subject (singular), and by suffix 1243, the pluralizer of the inanimate subject, which may follow it. The commonly occurring alternants of these two morphemes are:

1223: -ooʔ (~ -óóʔ) ~ -ouʔ- and -eʔ(-) (~ -eʔ[-]) ~ -eeʔ ~ -eíʔ-; and

1243: -u [associating with the former set of the alternants of 1223] ~ -i [elsewhere].

Suffix 1223 follows reshaped intransitive stems; the relationship between the inanimate intransitive and animate intransitive stem alternants is not clear at the present time.

Examples are: nónoočóóʔ it is white (Vi, 1223 / nónooč-óóʔ [cf. nonookéxt he is white]), nónoočouʔu they (inanimate subjects) are white (Vi, 1223, 1243 / nónooč-ouʔ-u); čeeṭeyóóʔ it is round (cf. čeeṭeyéxt he is round), čeeṭeyouʔu they (inanimate objects) are round; benéesóóʔ it is big (cf. benéeséiθeʔ he is big), benéesouʔu they are big; čeeníseʔ it falls (Vi, 1223 / čeenís-eʔ [cf. čeenísíʔ he falls]), čeeníseʔi they (inanimate objects) fall (Vi, 1223, 1243 / čeenís-eʔ-i [cf. čeenísíʔi they fall]), nixčéníseʔ it fell (1021, Vi, 1223 / nix-čénís-eʔ), neetčéníseʔi they (inanimate objects) will fall (1022, Vi, 1223, 1243 /

neet-cenis-e^ʔ-i), and koohe't-cenis will it fall? (1001, 1013, 1022, Vi, 1223 / koo-he't-cenis- \emptyset [cf. koohe't-cenis will he fall?]). In the example given last, the zero alternant of 1223 is postulated in order to differentiate such pairs as koohe'tnookéh will he be white? (1001, 1013, 1022, Vi / koo-he't-nookéh) and koohe'tnoocoo^ʔ (1001, 1013, 1022, Vi, 1223 / koo-he't-nooc-oo^ʔ).

3.15. Verb forms occur in the conjunct order when they are used in subordinate clauses. In contrast with the independent order, inflectional morphemes marking the subject-object reference in conjunct transitive constructions are suffixed to a reduced stem whether they are affirmative or negative. The morphemes marking negation and tenses are prefixed as in the sequences of the independent order. Thus, to^ʔobe^ʔeninéxk (if) I strike you (sg.) ..., hixto^ʔobe^ʔeninéxk (if) I struck you (sg.)..., and cíi^ʔoowótonotexkóni^ʔ (if) you (sg.) don't believe them....

The conjunct forms are characterized by several special alternants of morphemes of Decades 1210 and 1270 and by the morpheme numbered 1291 and termed conjunctive; the alternants of this morpheme are -k(-) [when the subject-object reference consists of two third persons] ~ -xk(-) [elsewhere, following a vowel] or -exk(-) ~ -oxk(-) [elsewhere, following a consonant preceded by a nonback or nonfront vowel, respectively] ~ -inexk(-) [in certain specific sequences] as well as several prosodemic variants of the allomorphs listed. The third person (singular) subject and object forms are

pluralized by the sequence-terminal suffix occurring as the single allomorph ¹oniʔ (morpheme 1301).

Examples are: toʔobetinooxk (if) I strike myself... (Vt, 1205, 1271, 1291 / toʔob-eti-noo-xk), čiinóóhowoohók (if) he doesn't see him or them... (1031, Vt, 1214, 1273, 1291 / čii-nóóhow-oo-hó-k), ʰoxonihooxkóniʔ (if) I mistreat them... (Vt, 1211, 1273, 1291, 1301 / ʰoxonih-~~o~~-oo-xk-óniʔ), and čiinóóhowónoʔoxk (if) we, you included, don't see them... (1031, Vt, 1218, 1261, 1274, 1291 / čii-nóóhow-ó-no-ʔ-oxk).

Such pairs of forms in the independent order as neníʔtónéit he [B] hears him [A] (Vt, 1213, 1273) and neníʔtonoot he [A] hears him [B] (Vt, 1214, 1273) are paralleled in the conjunct order by the following forms taken from a traditional narrative--néhéʔnóokuhéheʔ nihnohóʔoʔ heeʰoohók (Vt, 1214, 1273, 1291 / heeʰ-oo-hó-k) woxuu (obv.) "I killed this little rabbit," she [the girl] tells the bear and hixtous nóhóʔoo heeʰéihók (Vt, 1213, 1273, 1291 / heeʰ-éi-hó-k) woxuu (obv.) "How did you kill it?" says the bear to her.

A detailed analysis of the conjunct sequences will have to be preceded by additional checking in the field.

4. Particles

4.1. Some particles occur absolutely, but they also serve as stem-generating roots in certain syntactic constructions. Worth mentioning are the number words: as particles they appear in the shapes $\check{c}éésey \sim \check{c}eésey$ one, $níis(o)$ two, $néésó \sim néésó' \sim néésó$ three, $yéin$ four, $yoo\thetaón \sim yó\thetaón$ five, $níito$ six, $níiso$ seven, $néésó(otox)$ eight, $\thetaió? \sim \thetaío?tox \sim \thetaío?tóx$ nine, and $bét(eetóx)$ ten. Numbers from eleven through nineteen are expressed by means of these forms suffixed by $-(i)ini? \sim -uuni?$ in addition to ten, as in $\thetaío?tóxuuni?$ nineteen, $néésiini?$ thirteen, etc., but pleonastic constructions such as $beteetóx yeiniini?$ fourteen also exist. Decades are marked by the suffix $-oo? \sim -óó?$, meaning ten times; thus $níisóó?$ twenty, $beteetósoo?$ hundred, etc.

The number words may underlie verb constructions which are conjugated as animate or inanimate intransitive stems, depending on the gender of the nouns counted, e.g., $hehniisext wóókeč$ one cow, $hehnehe?i?i? wóókecií$ three cows, $hehniisootoxu\thetai?$ heneečenó?

seven buffaloes, yeneini^ʔowoot wox the fourth bear, and yonoo^ʔoni^ʔowoot wookec the fifth cow (with animate nouns) and hehyoo^ʔone^ʔi hoo^ʔii five arrows, yonoo^ʔoni^ʔowoonoo^ʔ hoo^ʔ (~ yonoo^ʔoni^ʔowoonoo^ʔoo^ʔ) the fifth arrow, and hee^ʔihniiseno niyiinoo^ʔ there were two tepees (with inanimate nouns).

4.2. The two commonly used demonstrative particles, nehe^ʔ this and nuhu^ʔ this, these, which partially share in noun morphology, have been already mentioned in Section 2.2.

Among the other particles are hiit here, too^ʔ where?, too^ʔuuh^ʔu when?, henee^ʔ who?, noxtouh why?, hee^ʔ yes (man speaking), ʔoo^ʔ yes (woman speaking), hiiko no, kos no (woman speaking; old usage), hinee that or there, wow now, etc. Some of them, in addition to their absolute occurrence, also act as prefixes, e.g., in tooteihoo where are you (sg.) going? (by contraction from toot and *theihoo [interrogative verb form without the interrogative prefix, morpheme 1001]; cf. tootneihoo where am I going? and tootiihoo where is he going?).

The forms serving the function of the personal pronouns are full-fledged animate intransitive verb constructions: neneeninoo^ʔ I, neneenin you (sg.), neneenit he or she, neneenino^ʔ we, nenee^ʔoi^ʔ (besides neneeni^ʔoi^ʔ), they, etc.

NOTES

0. I n t r o d u c t i o n

1. The reference is to my papers "Arapaho I: Phonology," International Journal of American Linguistics 22.49-56 (1956); "Arapaho IV: Interphonemic Specification," International Journal of American Linguistics 27.151-155 (1961); and "Two Brief Contributions Toward Arapaho Linguistic History," Anthropological Linguistics 2.7.39-48 (1960). The remaining publications of mine which are concerned with the Arapaho language are "Arapaho II: Texts," International Journal of American Linguistics 22.151-158 (1956); "Arapaho III: Additional Texts," International Journal of American Linguistics 22.266-272 (1956); "Contrastive Field Experience with Language and Values of the Arapaho," International Journal of American Linguistics 17.98-101 (1951); "Arapaho Kinship Terms and Two Related Ethnolinguistic Observations," Anthropological Linguistics 1.9.6-10 (1959); and "Concerning the Assumed L-Sound in Arapaho," Plains Anthropologist 6.14.270-271 (1961). Still other papers which resulted from my fieldwork with the Arapaho are either in manuscript form or in preparation.

2. Cf. Hoijer's "Introduction" in Harry Hoijer and others, Linguistic Structures of Native America (Viking Fund Publications

in Anthropology 6 [New York, 1946]); in it Hoijer quotes Bloomfield, who in turn follows Michelson ("Preliminary Report on the Linguistic Classification of Algonquian Tribes," Twenty-eighth Annual Report of the Bureau of American Ethnology, pp. 221-290b [Washington, 1912]).

A hypothesis that Yurok and Wiyot are genetically related to Algonquian was set forth by Edward Sapir in 1913. The ensuing controversy over the suggested relationship was only recently resolved in favor of Sapir's hypothesis by Mary R. Haas ("Algonkian-Ritwan: The End of a Controversy," International Journal of American Linguistics 24.159-173 [1958]). Elsewhere, Haas submitted initial evidence for relating Algonquian to the Gulf languages (Muskogean family plus Natchez, Tunica, Chitimacha, and Atakapa) and to Tonkawa.

3. A. L. Kroeber, "Arapaho Dialects," University of California Publications in American Archaeology and Ethnology 12.71-138 (Berkeley, 1916).

4. The names of the last two dialects (4 and 5) have been orthographically simplified to conform with the now current spelling of the term Nawathinehena.

5. A. L. Kroeber, "The Arapaho," Bulletin of the American Museum of Natural History 18.1-150 (New York, 1902), p. 7.

6. Ibid., p. 6.

7. Truman Michelson, "Phonetic Shifts in Algonquian Languages," International Journal of American Linguistics 8.131-171 (1935), p. 131.

8. James Mooney, "The Ghost-Dance Religion and the Sioux Outbreak

of 1890," Fourteenth Annual Report of the Bureau of American Ethnology, Part 2, pp. 641-1136 (Washington, 1896), p. 955.

9. James Mooney, "Arapaho" in Handbook of American Indians North of Mexico (Bulletin 30 of the Bureau of American Ethnology [ed. F. W. Hodge], Part I [Washington, 1907]), p. 73.

10. Sister M. Inez Hilger, Arapaho Child Life and Its Cultural Background (Bulletin 148 of the Bureau of American Ethnology [Washington, 1952]), p. 187.

11. "The Arapaho," p. 7.

12. "Arapaho Dialects," pp. 75f.

13. Ibid., p. 6; also in "Arapaho Dialects," pp. 74 and 80.

14. "The Arapaho," p. 6.

15. A. L. Kroeber, "Ethnology of the Gros Ventre," Anthropological Papers of the American Museum of Natural History 1.141-281 (New York, 1908), p. 145.

16. Another of my informants, John Goggles, volunteered the following true anecdote:

A Gros Ventre man married to an Arapaho woman killed a porcupine, [h⁰w¹⁻¹ʔ⁴], one day when he was out hunting. When he came home he told his wife he was bringing a [h⁰w⁵w²ʔ⁴], which in Arapaho means bed. His wife asked him, "How in the world did you bring it? on horseback?" The man said, "No, I mean [h⁰w⁵w²ʔ⁴]." "That's what I mean--did you drag it?" "No, I tied it to the saddle." "How did you do it?" asked the woman. Not until she went out of her

tepee and saw the dead porcupine did she know what her husband meant.

Cf. also Regina Flannery, "Men's and Women's Speech in Gros Ventre," International Journal of American Linguistics 12.133-135 (1946).

17. In his well-known paper "Algonquian" (in Hoijer and others, Linguistic Structures of Native America), the late Leonard Bloomfield gives l as the Arapaho reflex and n as the Atsina (Gros Ventre) reflex of Proto-Algonquian l (p. 87). H. A. Gleason, Jr. (An Introduction to Descriptive Linguistics [New York, 1955], p. 341), in his exemplification of the comparative method by the reconstruction of some Proto-Central-Algonquian consonants follows Bloomfield and goes one step further: "One reason for choosing the symbols [$*\theta$] and [$*l$] is that Arapaho has these correspondences as / θ / and / l /, and that many other languages have / l / for [$*l$]."

The two assertions quoted above are in serious error--there is no l in Arapaho. The fact of the matter is that Gros Ventre and Arapaho do not distinguish in the treatment of Proto-Algonquian l, both changing it to n. Examples: $*w\bar{e}lenwi$ (Michelson), Ar. $niin\acute{e}n$ fat; $*elenyiwa$ (Bloomfield), Ar. $hin\acute{e}n$, Gros Ventre $hineni$ (Kroeber) man; $*nalaka\check{c}kwi$ (Bloomfield), Ar. $non\acute{o}uo\check{c}$ my palate; and $*nemel\bar{a}mekwa$ (Michelson) he smells me, Ar. $been\acute{o}woot$ he smells him.

It is reasonably certain that none of the dialects of the Arapaho division possessed an l. Kroeber ("Arapaho Dialects," p. 76) recorded

two instances of l in Nawathinehena words, but felt it necessary to comment on it as follows: "An l was recorded, but seems doubtful, as the Arapaho ordinarily are unable to pronounce this sound. The word for 'rain' in the same dialect [i.e., Nawathinehena] was, however, recorded both as háⁿsivaxta and háⁿsilaxta." From the limited material that Kroeber collected on Nawathinehena it appears that this dialect departs from all other dialects of the Arapaho division, for where they have n for Proto-Algonquian l, it shows t. One of my informants commented in this connection that old Arapaho speakers who have few or no teeth left frequently produce an l-like sound in certain sequences in which the uncorrupted Arapaho has an n, as in holóh^ʔe for honóh^ʔe man. This fact may very well account for the two aberrant forms recorded and mentioned by Kroeber.

No allophone of any of the phonemes discussed subsequently bears even remote phonetic resemblance to an l-sound.

18. "Arapaho Dialects."

19. "The Arapaho," p. 7.

1. P h o n o l o g y

1. The reasons for the symbol b (rather than p which some would undoubtedly prefer in view of the choice of symbols for the remainder of the stop series) are practical: b is the only stop which is performed initially and intervocally with voice, thus phonetically

approximating in the majority of its occurrences the English b. Inasmuch as the choice of phonemic notation is arbitrary, the employment of a symbol which reflects an unexpected phonetic trait of the phoneme for which it stands should require no more justification than the use of a symbol conforming to the conventionalized graphemic patterning.

2. Both x and h participate as first members in numerous clusters. In certain clusters of this type the allophone of h phonetically approaches that of x. Since a portion of my field notes is not backed up by recordings, I may occasionally be guilty of confusing the two phonemes.

3. I consider it pertinent to make explicit mention of orality in view of Kroeber's remark ("Arapaho Dialects," p. 79) that the Arapaho vowels "...evince fairly regular correspondences with those of other [Algonquian] dialects, though the cause of their most marked peculiarity, the frequent nasalization of ä and a, is not clear to the writer." Michelson remarks ("Phonetic Shifts in Algonquian Languages," p. 133) that "nasal vowels are purely rhetorical save after a nasal consonant." Hilger (in Arapaho Child Life and Its Cultural Background, p. 95) quotes Michelson as having told her in 1936 that scarcely any nasalities occur in Arapaho. My phonetic record is quite free of nasalized vowels except in a few cases where a vowel is immediately followed by n. Since there is no reason to doubt Kroeber's ear in this matter, we might well be dealing here

with the loss of a stylistic feature during the last fifty years or so. Some of Kroeber's final nasalized vowels, however, may be accounted for in my analysis by the sequences vowel + n (whose contour-final allophone is largely voiceless).

4. There may be occasional errors in the marking of pitch in instances where I draw on those of my field notes which are not supported by recordings.

5. "Arapaho Dialects," pp. 78f.

6. Ibid., p. 79.

2. N o u n m o r p h o l o g y

1. A dependent noun, prefixed by the indefinite personal possessor morpheme (15); see section on dependency (2.6).

2. A noun stem prefixed by the morpheme marking the third person possessive (13); see section on possession (2.7).

3. A fairly complete listing of the kinship terms of address (vocatives) may be found in my article "Arapaho Kinship Terms and Two Related Ethnolinguistic Observations," Anthropological Linguistics 1.9.6-10 (1959).

4. Cf. Section 3.2, No. 76 of my "Arapaho III: Additional Texts," International Journal of American Linguistics 22.266-272 (1956).

5. In the secondary obviative construction, which occurs rather rarely, the first of the consecutive occurrences of 211 is penultimate

within the morphemic sequence.

3. V e r b m o r p h o l o g y

1. The correspondence between my forms and the table of suffixes of the transitive conjugation given and discussed by Kroeber in his "Arapaho Dialects" (pp. 110ff.) is quite remarkable considering the fact that he recorded Arapaho usage of about 1900. Of the three discrepancies between my set and his, two of Kroeber's forms I believe to be in error: his $-ei\ddot{a}n\ddot{a}^n$, referring to both you (pl.) ...us and you (pl.) ...me, does not now extend to you (pl.) ...me and, judging from the overall patterning of the set, it is unlikely that it ever did; his $-\ddot{a}t^i$, referring to we...them, also appears to be without support. Kroeber's $-a^{nt}i$ for he...them is apparently a usage by extension from $-a^{nt}i$ meaning he...him, which he also recorded; today, one may hear both $n\acute{o}noohob\acute{e}i\theta i^{\prime} w\acute{o}o\acute{k}e\check{c}ii$ and $n\acute{o}nooh\acute{o}woot w\acute{o}o\acute{k}e\check{c}ii$ he sees [them] cows (the $-oo-$ of $n\acute{o}nooh\acute{o}woot$ corresponds to Kroeber's $-a^{nt}i$).

Even though Kroeber considered some of the transitive constructions unanalyzable, many of his observations concerning the Arapaho grammar in general and the verb morphology in particular are very penetrating.

2. For a similar approach applied to Algonquian languages see Charles F. Hockett, "Potawatomi III: The Verb Complex," International Journal of American Linguistics 14, 139-149 (1948); H. A. Gleason, Jr.,

An Introduction to Descriptive Linguistics (New York, 1955), pp. 116ff. [a description of a part of the verb system of Cree, largely following Hockett's unpublished notes]; and A. E. Meeussen, "Tabulation of the Independent Indicative in Algonquian," Studies in Linguistics 15.19-23 (1960) and "The Independent Order in Cheyenne," Orbis 11.260-288 (1962).

3. Verbs discussed in Section 3.2.5 predictably make use of their special allomorphs also in negative constructions, as in heíhoo^hwní^hnisikohú^h I don't whip you (sg.) (1012, 1031, Vt, 1211 / heí-hoo^h-ní^hnisikoh-u^h).

4. Cf. Section 2.1 of my "Arapaho II: Texts," International Journal of American Linguistics 22.151-158 (1956).

5. Cf. Section 3.3 of my "Arapaho III: Additional Texts," International Journal of American Linguistics 22.266-272 (1956).

6. There is an alternative analysis of the prefixal sequences of Section 3.5.3. Taking into account the alternant shapes of morpheme 1022 (future tense) in affirmative constructions, viz., hoot- ~ heet- and the corresponding prosodemic variants, one might wish to consider morpheme 1022 as having in nonaffirmative constructions the shapes -ot- ~ -et- and the corresponding prosodemic variants. These vocalized allomorphs would then follow prefixes of Decade 1010 in the reduced forms of -ne- ~ -no- ~ ne...ne- ~ no...ne-, -he- ~ -ho- ~ he...ne- ~ ho...ne-, or -h- ~ h...ne-, as well as the corresponding prosodemic variants. The analysis I

an employing in the main body of the sketch has the virtue of greater simplicity.

7. For similar constructions in other Algonquian languages, cf. especially Bloomfield's "Algonquian," § 27 on pp. 94f., and Voegelin's "Delaware, and Eastern Algonquian Language," § 3:10 on p. 144, both in Hoijer and others, Linguistic Structures of Native America.

8. Cf. Kroeber's discussion of connective suffixes and his classified list of stems in "Arapaho Dialects," pp. 112ff.

9. Cf. my article "The Problem of Lexical Acculturation," International Journal of American Linguistics 20.137-139 (1954).

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Plains Anthropologist, and The Independent School Bulletin

Reviews in Language, American Anthropologist, International Journal of
American Linguistics, and Word

Those articles concerned with the Arapaho Indians are listed below:

- "An Arapaho Version of the Star Husband Tale," HF 9.50-8 (1950)
- "Arapaho Tales I," HF 9.80-96 (1950)
- "Contrastive Field Experience with Language and Values of the Arapaho,"
IJAL 17.98-101 (1951)
- "Arapaho Tales II," MF 2.21-42 (1952)
- "Arapaho I: Phonology," IJAL 22.49-56 (1956)
- "Arapaho II: Texts," IJAL 22.151-8 (1956)
- "Arapaho III: Additional Texts," IJAL 22.266-72 (1956)
- "Arapaho Tales III," MF 7.27-37 (1957)

[continued on next page]

- "Arapaho Kinship Terms and Two Related Ethnolinguistic Observations, AL 1.9.6-10 (1959)
- "Two Brief Contributions Toward Arapaho Linguistic History," AL, 2.7.39-48 (1960)
- "Arapaho IV: Interphonemic Specification, IJAL, 27.151-5 (1961)
- "Bibliography of Works on the Arapaho Division of Algonquian," IJAL 27.183-7 (1961)
- "Concerning the Assumed L-Sound in Arapaho," PA 6.270-1 (1961)

Memberships in Professional Associations

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