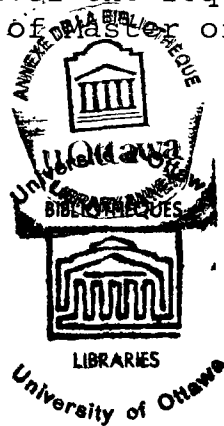


SOME PHONOLOGICAL PROBLEMS OF AN ESKIMO
DIALECT OF THE UNGAVA REGION

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Linguistics and Modern Languages of
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ABSTRACT

A generative model has been used to investigate some problems of the phonology and morphophonology of the Eskimo dialect spoken at Fort Chimo in the Ungava district of Arctic Quebec. The two major aspects treated are consonant clusters and affixation. For these, a rapid investigation of the sounds and systematic phonemes is presented but a detailed treatment of the phonology is not presented as other workers have previously dealt with this aspect. More emphasis is put on finding a general pattern which describes the behavior of the initial and final segments of affixes and roots.

The systematic phonemes pattern along the lax versus tense major opposition. These are found in vowels and consonants. Alveolars, palato-alveolars and palatals behave in a way which is not thoroughly understood. A hypothesis is that they are derived from two series, one lateral and the other palatal, which no longer exist as such in the dialect.

The study of the morpheme structure shows that the basic syllable structure is (c)V(c). Initial, medial and final syllables of roots, affixes and words have certain

restrictions specific to each. Morpheme structure rules are derived together with rules applying across word boundaries. It appears that morphemes are generally composed of one, two or a maximum of three syllables. These cannot consist of three consonants nor three vowels sequentially. Two syllables become one through loss of syllabicity of the second vowel. Specific to Ungava, a rule called the dbl. rule forbids a sequence of two consonant clusters. When this occurs the second, fourth, sixth, etc. clusters lose their first consonant.

Affixation is treated in four parts: vowel initial affixes; consonant initial affixes; nominal declension endings; and verbal flexion endings. We reach the following conclusions:

1. Vowel initial morphemes always delete root or stem final consonants.
2. Tense initial morphemes always delete root or stem final consonants.
3. Nasal initial morphemes nasalize preceding root or stem final consonants. However, they can be divided into two categories: a) anterior nasals which only nasalize; b) back nasals which

nasalize and delete.

4. Back stops always delete preceding consonants.
5. The bilabial stop ,/p/, affixes without affecting the preceding segment.
6. In a general manner, continuant initials delete stem and root final consonants. However, only hypotheses could be advanced as to the behavior of alveolars, alveo-palatals, palatals liquid and, to a certain extent, velars. A basic hypothesis is that affixes are of two major types:-
 - a) satellite affixes where initial segment deletes the preceding consonant.
 - b) dominant affixes. These are separated from the stem by a strong type of morpheme boundary which causes them to behave in two main different fashions: i) if they are stop initial, they become a continuant intervocally, or become tense; ii) if they are continuant initial, they either become stops when the stem ends in a consonant, or this stem final consonant becomes a continuant. Sufficient data was lacking to check the validity of this hypothesis.

VIII

The problem of affixation is made much more difficult due to dialectal interferences, developing trends towards assimilation, analogic regularization and syncretism which have grossly distorted the system. Major problems have been classified to facilitate further research.

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INTRODUCTION

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0 INTRODUCTION

0.1 It is the aim of this thesis to deal with some of the problems of the phonology of an Eskimo dialect. The dialect is that spoken in the Ungava region, east of Hudson's Bay, in Arctic Quebec. The corpus for the study was drawn from the dialect spoken at Fort Chimo, a settlement situated at the southern tip of Ungava Bay. The study is not sufficiently specific, however, to be restricted only to the dialect of this settlement but applies generally to the dialect of the whole Ungava region. Apart from data obtained from two male informants, Mark Gordon and Willy Watt, natives of Fort Chimo, much material has also been drawn from Lucien Schneider's grammar and dictionaries [22] and from Raymond Gagne's corpus for Port Harrison and Pond Inlet [5]. These other sources were checked for changes and variations by the informants.

The thesis contains six chapters. Chapters one and two present the sounds of the language, group the functional sounds and draw a morpheme structure of Eskimo. Chapters three to six deal with affixation and study the nominal and verbal paradigms in more detail. Phonological rules are derived.

0.2 THEORETICAL MODEL OF ANALYSIS

0.2.1 Before presenting the linguistic description of the Eskimo dialect of Fort Chimo, I shall briefly describe the theoretical approach chosen for the analysis.

The present study uses the generative approach developed by Chomsky and Halle [48]. A generative grammar contains a system of rules which assign structural descriptions to the sentences of a particular language. The phonological component of a generative grammar relates the phonetic representation of an utterance to its syntactic structure. Applying the rules of the phonological component to a syntactic structure in a fixed and predetermined order enables us to derive the phonetic representation corresponding to this structure. In studying the organization and functioning of this system of rules, they isolate two levels of representation corresponding to what Sapir called phonological and phonetic representation [93]. Chomsky and Halle call these two levels of representation systematic phonemics and systematic phonetics respectively.

The systematic phonemic representation includes, in addition to purely phonological elements, information about the morphological and syntactic structure of the utterance.

The systematic phonetic representation utilizes a universal phonetic alphabet based on a theory of distinctive features. For this purpose they adopt, with some modifications, Jakobson's theory of distinctive features [65]. They show that for a wide range of linguistic data, which otherwise would have to be treated as isolated facts without systematic import, they are able to offer partial explanations by consistently formulating all rules and representations (both systematic phonemic and systematic phonetic) strictly in terms of features. In this fashion, a small set of important features, which are sufficient to describe everything except superficial details of the phonological behaviour, can be separated. Therefore the phonological component of a language is divided into two parts:

- 1). the phonological rules, expressed only in a small set of features;
- 2). the feature interpretation rules, which add superficial details to the systematic phonetic representations which form the output of the phonological rules.

This system produces outputs of the phonological component as matrices of binary feature specifications. In this, utterances must be represented as a set of + or - values for the

Jakobsonian features.

As already mentioned, the phonological component rules operate on the surface syntactic structure. Their input is the lexicon and I shall make the assumption that the representation of each morpheme in a surface structure is identical to that of the entry for the morpheme in the lexicon.

All morphemes are represented as a classificatory matrix of feature specifications together with information relating to each morpheme as a whole. The rules which convert the syntactic representations of the utterances into phonetic representations are expressed in terms of two kinds of features: segment and morpheme features, and syntactic categories and junctures. The effect of a rule must be to add or change feature specifications. It can also add, delete or re-arrange entire segments. In a rule which performs these types of operations, both the output and the input is a matrix of feature specifications.

The structuralist approach [74] is to treat the items involved (phones, phonemes and morphophonemes) as indivisible entities. A description of this type involves several levels of representation and sets of rules to go from one level to

another. Therefore the input and output of each rule, or sets of rules, will not be of the same class. Rules apply simultaneously as sequential application would violate the prohibition of mixing levels. If a segment is treated as a set of features rather than as indivisible items, rules can apply sequentially. Here "mixing of levels" does not occur since the input and output of any rules are of the same type. Sequential application of rules results in a great decrease in the complexity of the rules and a great increase in the insight which they provide into the working of a language [48], [88].

0.2.2 Relation between feature specifications in the lexicon and those in the phonemic representation.

It is often the case that the correct underlying form of a morpheme not only does not correspond to one of its alternants but involves feature specifications which are not manifested phonetically in any of the alternants. This can be made clearer by the following example from Eskimo. The suffix -kuma- 'want' is -guma- intervocalically and after deletion of stem final consonants, t and k, and is -ruma- after uvulars. Superficially it is never -kuma-.

e.g.	taku	} + -kuma →	takuguma	- 'want to see'
	tikit		tikiguma	- 'want to arrive'
	malik		maliguma	- 'want to follow'
	imiq		imiruma	- 'want to drink'

The proper goal for a linguistic theory is not to provide a procedure for converting data into the grammar of a language. Its purpose is to provide a formal characterization of the notion of a grammar together with a way of evaluating grammars which allows a choice to be made between different descriptions. For the moment I shall accept, as a "candidate" for the grammar of the Eskimo language, any set of representations of morphemes together with a set of rules for converting underlying representations into phonetic forms, which is of the form discussed above. Each morpheme will be represented as a set of morpheme features plus a matrix of classificatory phonological feature specifications. The rules will apply in a fixed order and will have the effect of adding or changing feature specifications and/or of deleting, inserting or permuting segments.

0.2.3 The shape of phonological rules

The phonological features to which I shall refer are given in the table below. These features are binary. In the systematic phonetic matrix, each segment will be specified with a value of either + or - for each feature. The features are also relative. They specify an opposition along a dimension rather than an absolute value on that dimension. For example, in Eskimo the vowels [i], [ɛ] are [+front] and

Table I

Classificatory Features I

Class feature	feature	mode of production	limitations	Application to Eskimo
Major class features	sonorant [+son]	vocal tract cavity configura- tion in which spontaneous voicing is possible	vowels glides nasal con- sonants liquids	[a] [i] [u] [j] [m] [n] [ŋ] [N] [l]
	obstruent [-son]	spontaneous voicing is impos- sible	stops fricatives affricates	[p] [t] [k] [q] [λ] [β] [s] [ʃ] [r] [ts] [dʒ]
	vocalic [+voc]	oral cavity in which the most radical constriction does not exceed that found in the high vowels [i] [u], with vocal cords that are positioned so as to allow spontaneous voic- ing.	vowels glides	[a] [i] [u] [j]
	non-vocalic	one or both of the above con- ditions are not satisfied	stops fricatives nasal cons. affricates liquids	[p] [t] [k] [q] [λ] [β] [s] [ʃ] [r] [m] [n] [ŋ] [N] [ts] [dʒ] [l]
	consonan- tal [+cons]	radical obstruction in the mid- sagittal region of the vocal tract. The obstruction must be at least as narrow as that found in the fricatives	liquids consonants (nas., frics., stops affri- cates)	[l]
	non-conso- nantal [-cons]	without such an obstruction	glides vowels	[j] [a] [i] [u]

Table I (Cont'd)

Class features	features	mode of production	limitations	Application to Eskimo
Cavity features 1) primary strictures	coronal	with the blade of the tongue	dental	[t] [n] [l]
	[+cor]	raised from its neutral position	alveolar	
			palato-alveolar	[s] [λ]
			affricate	[ts] [dʒ]
	non-coronal	blade of tongue in neutral position	palatals	[j]
	[-cor]		velars	[k] [γ] [ŋ]
			uvulars	[q] [r] [N]
			labials	[p] [β] [m]
	anterior	obstruction located in front of the palato - alveolar region of mouth	labials	[p] [m] [β]
	[+ ant]		dentals	[t] [n] [l]
tongue body features	non-anterior	sounds produced without such an obstruction (note: vowels are formed without constriction in the oral cavity are always non-anterior)	palato-alveolar	[s] [λ]
	[-ant]		palatals	[j]
			velars	[k] [γ] [ŋ]
			uvulars	[q] [r] [N]
	high	raising the body of the tongue above the level of neutral position	velars	[k] [γ] [ŋ]
	[+high]		high-vowels	[i] [u]
			palatals	
			glides	[j]
	non-high	produced without such a raising of the tongue body	uvulars	[q] [r] [N]
	[-high]		lowered vowels	[ɛ] [ɜ]
	low	lowering the body of the tongue below the level of neutral position	low vowel	[a]
	[+low]			
	non-low	no such lowering	centralized	[ɤ]
	[-low]		low vowel	
			palatals, velars	uvulars, glides

Table I (Cont'd)

Class features	features	mode of production	limitations	Application to Eskimo
Secondary aperture	back	retracting the body of the tongue from the neutral position	velars	[k] [ɣ] [ŋ]
	[+back]		uvulars	[q] [r] [N]
			back vowel	[u]
	non-back	without such a retraction	palatals	
	[-back]		glides	[j]
	nasal	lowered velum which allows the air to escape through the nose	nasal cons.	[m] [n] [ɳ] [N]
	[+nas]			
	non-nasal	with a raised velum		
	[-nas]			
	lateral	lowering the mid-section of the tongue at both sides or at only one side	liquid	[l]
manner of articulation	[+lat]		fricative	[ʃ]
			stop	[ɭ]
	non-lateral	no such side passage		
	[-lat]			
	continuant	primary constriction not narrowed to the point where the air flow past the constriction is blocked	liquid	[l]
	[+cnt]		lateral	[ɭ]
			fricatives	[ʃ] [ʃʲ] [ɣ] [r]
			glide	[j]
			vowels (redundantly)	
			back nasals	[ŋ] [N]
	stop	air flow effectively blocked (through the mouth)	stops	[p] [t] [k] [q]
	[-cnt]		nasals	[m] [n]
			affricate	[dʒ] [ts]
	instantaneous release	normally accompanied by no turbulence		
	[+inst.]			
	delayed release	turbulence generated in vocal tract so that release phase of affricates is acoustically similar to fricatives	affricates	[ts]
	[-inst.]			

Table I (Cont'd)

Class feature	feature	mode of production	limitations	Application to Eskimo
	tense [+tense]	deliberate, accurate gesture that involves considerable muscular effort (long) tense stops will not slow voicing during the closing phase	tense vowels diphthongs tense cons.	[ǎ] [ǐ] [ǔ] [ǎi] [ǎu] [ďj] [λ] [N] [pp] ..etc
	non-tense lax [-tense]	produced rapidly (short)		
	voiced [+voi]	vocal chords not as widely apart as they are in breathing, air flow in sufficient magni- tude	voiced vowels liquid glide nasals	[a] [i] [u] [l] [j] [m] [n] [ŋ] [N] continuant except [s] and [ʃ]
	unvoiced [-voi]	previous conditions lacking	unvoiced stops unvoiced lat fricative	[p] [t] [k] [q] [l̥]

[u], [o], [ɤ], are [-front]. Within the first group, [ɪ] is less front than [i] and within the second, [ɤ] is less back than [o] which is in turn less back than [u]. However, the only relevant opposition is between the first and second group, [±front].

0.2.4 How rules apply

A rule is represented by two symbols, or strings of symbols, with an arrow between them, possibly with some subsidiary conditions limiting the application of the rule. The expression to the left of the arrow denotes the types of item which the rule affects. The expression to the right of the arrow denotes the effect the rule has on the items of an utterance which match the expression. In phonological rules, the symbols involved are complexes of feature specifications rather than the simple indivisible symbols found in transformations and phrase structure rules. A symbol like $\begin{bmatrix} +\text{obs} \\ -\text{ant} \\ +\text{cnt} \end{bmatrix}$ could be matched by any segment whose obstruence, anteriority and continuancy specifications are +, -, + respectively. A segment containing those features would match the above symbols regardless of what other feature specifications the segment contained. The effect of most phonological rules is to insert or modify feature specifications.

Parentheses, $()$, are used to mark an optional item, that is something which can be matched by the expression within the parentheses. When a rule has this type of bracket it must apply first with brackets. Curly brackets, $\{ \}$, are used to abbreviate a set or sequence of rules which differ at one point. Two pairs of curly brackets within the same subscript are used to abbreviate a set or sequence of rules which are identical except on two points. Angle brackets, $< >$, come in pairs and mean: if $<1>$ then $<2>$. Greek letters are used to denote variables which range over values of phonological features. These devices are normally used to state rules such as assimilation and dissimilation.

0.2.5 Blank feature specifications

Redundant information in a dictionary would be omitted from the dictionary entries of the relevant morphemes and then filled in by the rules. Thus the dictionary representations would involve matrices of feature specifications which contain blanks instead of + or - . Information is redundant whenever the behaviour of the morpheme in question is independent of that information [79]. I interpret this as meaning that the feature specifications left blank in dictionary entries are those which play no role in the operation of the rules in the sense that the rules would yield the same results no matter

what information was entered in those feature specifications.

A blank is not a feature specification containing neither + nor - but a feature specification slot which contains either + or - .

0.2.6 The structure of the phonological component

Halle [55] treats the phonological component of a transformational grammar as consisting of two systems of rules, morpheme structure rules and phonological rules. Morpheme structure rules fill in feature specifications left blank in dictionary entries to give the full feature specifications matrix. These rules are either context free redundancy rules or sequential constraint rules. The morpheme structure rules act upon the dictionary entry. A phonological rule operates on an utterance and may involve segments belonging to different morphemes.

0.2.7 Junctural elements

I shall follow Chomsky and Halle's conception of the place of the juncture in phonological description:

- 1). junctures are introduced at various syntactic boundaries by rules. This implies that a juncture cannot occur within a morpheme but only at morpheme boundaries.

2). phonological rules may refer to these
 junctures.

3). junctures are segmental.

Several juncture symbols will be introduced when needed.

CHAPTER I

Isolated Sounds and Systematic Phonemes

CHAPTER I Isolated Sounds and Systematic Phonemes

1.1 Isolated sounds of Fort Chimo

1.1.1 Vowels sounds

1.1.1.1 Minimal oppositions

1.1.1.2 Combination variability

1.1.1.3 Summary

1.1.1.4 Lax / tense / double vowels

1.1.2 Consonantal sounds

1.1.2.1 Stops

1.1.2.2 Continuants

1.1.2.3 Nasals

1.1.2.4 Lax / tense / consonant cluster (stops)

1.1.2.5 Lax / tense / consonant cluster (nasals)

1.1.2.6 Lax / tense / consonant cluster (continuan

1.1.2.7 Lax / tense / consonant cluster (liquid and glide

1.2 Systematic Phonemes

1.2.1 Vowels

1.2.2 Consonants

1.2.2.1

1.2.2.2

1.2.2.3

1.2.3 Tables of systematic phonemes

1.2.4 Redundancy rules

CHAPTER I

1.1 Isolated sounds of Fort Chimo

1.1.1 Vowels sounds

1.1.1.1 Minimal oppositions

<u>A</u>		<u>B</u>		<u>C</u>	
<u>a</u> la	"boot oversole"	ma <u>s</u> ak	"wet snow"	ad <u>a</u>	"indian"
<u>i</u> la	"relative"	ma <u>s</u> ik	"fish gill"	ag <u>l</u>	"breathing
<u>i</u> lu	"inside frost"	ka <u>k</u> kɛq	"snot"		hole (seal)"
<u>u</u> lu	"woman's knife"	ku <u>k</u> kɛq	"bits of food	ak <u>i</u>	"lamp platform"
ak <u>ɛ</u> q	"taboo fish"		between teeth"	ak <u>u</u>	"between"
uk <u>ɛ</u> q	"tent entrance"	ki <u>k</u> kɛq	"notch on blade"	ak <u>a</u>	"paternal uncle"

The above table shows minimal pairs for vocalic sounds.

In A, the initial sounds differ; in B, the medial ones; in C, the final ones. The series are composed of roots.

Consider the series A. The first sound of [ala] and [ila] differs inasmuch as [a] is low and [i] is high; [i] in [ilu] is front and [u] in [ulu] is back. [a] in [akɛq] is low while [u] in [ukɛq] is high. All of these segments are [+vocalic], [-consonantal], [-tense], [+voiced], [+continuant].

The same oppositions are found in both B and C series.

1.1.1.2 Combination variability³

Phonetically, /i/ can be:

1) [i], lax¹, high, front

- under stress in open syllables: ['isɪq] "mist"
- in unstressed open syllables
- except in open final : [i'laanɪ] "sometimes"

2) [ɪ], lax¹, $\begin{bmatrix} -\text{high} \\ -\text{low} \end{bmatrix}$, front

- in stressed or unstressed
- closed syllables : ['nɪtsɪq] "seal hook"
- : [u'umatɪk] "heart"

3) [ɘ], lax¹, $\begin{bmatrix} -\text{high} \\ -\text{low} \end{bmatrix}$, $\begin{bmatrix} -\text{front} \\ -\text{back} \end{bmatrix}$

- before uvular consonants in
- closed syllables² : ['imɪq] "water"
- after a velar nasal : [χun'ɪsɪq] "neck"
- before uvular consonants in
- open syllables² : [nɪʁɪɪɪq] "he eats"

Phonetically, [a] can be:

1) [ɛ], lax¹, lower-mid, front, unrounded

- after dentals, between nasals : ['tɛsɪq] "lake"
- : ['nɛtsɪq] "seal"
- : ['mɛnnɪq] "egg"

2) [ʊ], lax¹, higher-low, front, rounded

- in closed syllables : ['pʊttʊq] "ball"

3) [a], lax¹, low, front, unrounded

- in open syllable, stressed or
- unstressed : ['panɪk] "daughter"
- : [a'tɪvɪk] "parka"

4) [ɤ], lax¹, lower-mid, central rounded

- before uvulars in closed syllables: ['imɤq] "salt water"

5) [ɑ], lax, low, central; rounded

- in final position, before uvulars

in open syllables

: [pisʋk'pʋŋɑ] "I walk"

[tusa'ɤɑmɑ] "because
I hear"

Phonetically, [u] can be:

1) [u], lax¹, back, rounded, high

- under stress in open syllables : ['umɪk] "bend"

- in unaccented open syllables,

except open final [a'tilʋ]'again' [u'kalɛq] "artic hare"

2) [ʋ], lax¹, higher-mid, back, unrounded

- in stressed or unstressed : [pi'sʋkpɛq] "he walks"

closed syllables

: [aʋ'maalʋk] "coal"

3) [ɜ], lax¹, mean-mid, central rounded

- before uvulars in closed syllables: ['Immɜq] "milk"

4) [o], lax¹, higher-mid, back, rounded

- before uvulars in open syllables: [toʋɑqpɛq] "he aims"

- if the final uvular is unreleased : ['χano] "how"

Both [ʋ] and [ɜ] move towards [o] when the final k is unreleased³.

[ʋano] "dog harness".

1.1.1.3 Summary

Functionally, there are only three lax vocalic segment types:

- 1) /i/ is a lax, front, high vowel
- 2) /a/ is a lax, low, front vowel.
- 3) /u/ is a lax, back, high vowel.

1.1.1.4 Lax / tense / double vowels¹

<u>A</u>		<u>B</u>	
<u>a</u> ktupa:	"he touches it"	k <u>i</u> na	"who"
<u>a</u> :ktupa:	"he skins it"	k <u>i</u> in <u>ə</u> q	"face"
kig <u>l</u> a:p <u>ə</u> q	"willow flower"	k <u>i</u> :ta	"a little"
kigla <u>a</u> p <u>ə</u> q	"he arrives just on time"		
am <u>ə</u> q	"baby carried in hood"		
am <u>ə</u> :q	"hard, non-edible root"		
<u>C</u>		<u>D</u>	
igg <u>u</u> t	"meat left over on whale"	aiv <u>ɛ</u> q	"walrus"
igu:t	"insect sting"	<u>a</u> iv <u>ə</u> q	"he goes home"
iku <u>u</u> t <u>ə</u> q	"drill"	tāima	"thus, the end"
		it <u>i</u> gait	"feet"
		aggai <u>t</u>	"hands"
<u>E</u>		<u>F</u>	
a <u>u</u> k	"blood"	gaujimavi <u>ŋ</u> a	do you know me?
<u>a</u> ukka	"no"	gaujimavi <u>ŋ</u> a:	you do know me?
<u>a</u> uma	"charcoal"		
na <u>u</u> j <u>ə</u> q	"gull"	inu <u>k</u>	"eskimo"
<u>a</u> udlap <u>ə</u> q	"he goes on a journey"	inu:k	"two eskimos"

The vocalic oppositions, front, high, low, previously encountered are found in the above series but here, the important factor is the length of the vocalic segment. The underlined [a] in aktupa: is short and lax while [a:] in [a:ktupa:] is long and tense; The minimal pair [kigla:pəq]/[kiglaapə:] exemplifies the opposition between a long vowel and a sequence of two vowels (see also B & C).

According to Schneider, [ai] in [aivɛq] is a diphthong and one vocalic segment while [ai] in [aivəq] is distinctly made of two vocalic segments (also in E). I was unable to find a systematic difference. The question of the origin of this opposition will be taken up later.

Finally, in the series F, the two utterances differ in the length of the final vocalic segment, and the lengthening, or tensing of the [u] in [inu:k] is the mark of the dual form. Obviously, we need an extra feature to explain this functional difference. We shall use the feature [tense]. We shall encounter the same differences with consonants, where the difference is a matter of tension. This will be treated in more detail in Appendix I. It suffices to note at the present time that there is an opposition tense/lax. The alternance tense versus double vowel or vocalic cluster, as witnessed in [âi] / [ai] where no oppositions are found, suggests that the same process is involved as to the formation of a diphthong or a tense vowel⁴. Both come from a previous vocalic cluster. The difference between a vocalic cluster, say [a.a], and a tense vowel [a:] is perceptible in a change of pitch level between the two segments of a cluster [a.a] while for [a:] the intonation remains the same throughout the emission. Finally, we may note that diphthongization and tensing of a vowel usually occurs at word boundary, in initial position mainly for diphthongs and at word final position for the tense vowel. The only two potential diphthongs are [âi] and [âu].

1.1.2 Consonantal sounds

1.1.2.1 Stops

	<u>A initial</u>	<u>B medical</u>
<u>pu</u> ʔqpa:	"he bags it"	ip <u>ʔ</u> q "dirt"
<u>tu</u> ʔqpa:	"he hits it head on"	it <u>ʔ</u> q "worm"
<u>ta</u> attʔq	"he removes outer garment"	is <u>ʔ</u> q "mist"
<u>sa</u> attʔq	"he turns to face"	ik <u>ʔ</u> q "strait"
<u>ka</u> attʔq	"ice moving out"	aki "harpoon point barb"
		ʔqi "football"
	<u>C final</u>	
udluk	"nest" *iglu <u>ʔ</u>	iʂik "grass"
udl <u>ʔ</u> q	"day" *iglu:k	iʂit "dirt from handling food when eating"

* endings

Consider the data given A, B, C. The underlined segments in these series of minimal pairs are all consonants. Of the five different segments, four are stops and one is a fricative, [s]. They differ mainly in their points of articulation.

[p] in [ipʔq] and [t] in [itʔq] are anteriors. [p] is non-coronal (bilabial); [t] is coronal, dento-alveolar. [k] in [ikʔq] and [q] in [aqi] are $\begin{bmatrix} -\text{ant} \\ +\text{back} \end{bmatrix}$, but while [k] is [+high]⁵, [q] is non-high [-high]⁶. [t] and [s] differ in manner and point of articulation. [s] is an alveo-palatal⁷ unvoiced fricative, $\begin{bmatrix} -\text{ant} \\ +\text{cor} \\ -\text{back} \\ +\text{cnt} \end{bmatrix}$ ⁸. These five consonants are all unvoiced and lax^{9,10}.

1.1.2.2 Continuants

iβik	"grass"	a _j a	"maternal aunt"	i _l a	"relative"
i _l ik	"partner"	a _l a	"over sole"	i _y a	"cook-stove"
isɤq	"mist"			nirivɤq	"eats"
aɤu	"well!"				

This is the second class of Eskimo consonants, the fricatives, liquid and glide, all [+cnt]. They are the voiced correspondents of the unvoiced stops and all are lax, [-tense].

[β] of [iβik] contrasts with [s] of [isɤq] and [l] of [i_lik] mainly on point of articulation. [β] is a voiced bilabial fricative $\begin{bmatrix} +\text{ant} \\ +\text{cnt} \\ -\text{cor} \end{bmatrix}$ while [l] is a voiced dental liquid

$\begin{bmatrix} +\text{voc} \\ +\text{cons} \\ +\text{cnt} \\ +\text{cor} \\ +\text{ant} \end{bmatrix}$; [s] an unvoiced alveo-palatal fricative. [j] is

a palatal glide $\begin{bmatrix} -\text{voc} \\ -\text{cons} \\ -\text{cor} \\ +\text{cnt} \\ +\text{high} \end{bmatrix}$ ¹¹ and contrasts with [ɣ] which is a

voiced velar fricative $\begin{bmatrix} -\text{ant} \\ +\text{back} \\ +\text{cnt} \\ +\text{voi} \\ +\text{high} \end{bmatrix}$ ^C. [r] in [niri] is a voiced

uvular fricative contrasting with [ɣ] which is high;

[r] is non-high $\begin{bmatrix} -\text{ant} \\ +\text{back} \\ +\text{cnt} \\ +\text{voi} \\ -\text{high} \end{bmatrix}$ ^C.

[s], with its variant [ʃ] is the only unvoiced lax continuant.

1.1.2.3 Nasals

<u>A</u>		<u>B</u>	
<u>mau</u> ɲq	"soft snow"	amaamak	"woman's breast"
<u>nau</u> ɲq	"sea gull"	anaana	"mother"
inutɲq	"mixture of flour and water"	amɲq	"baby in hood"
iNnɲq	"son"	anɲq	"excrement"
ɛNnɲutɲq	"grandchild"	anɲak	"mother's brother"

These minimal pairs exemplify the occurrence of nasals.

The nasals can occur as word initial in the case of [m] or [n]; they are voiced and articulated in the four major areas of articulation, bilabial [m], alveo-dental [n], velar [ŋ] and uvular [N]. They are all lax [-tense]¹.

[m] in [amɲq] is bilabial, anterior, non coronal. [-cor], $\begin{bmatrix} +\text{ant}^C \\ -\text{cor} \\ +\text{nas} \end{bmatrix}$.

[n] in [anɲq] is dental [+cor], anterior [+ant], $\begin{bmatrix} +\text{ant}^C \\ +\text{cor} \\ +\text{nas} \end{bmatrix}$.

[ŋ] in [anɲak] is velar, high, back, $\begin{bmatrix} -\text{ant}^C \\ +\text{back} \\ +\text{high} \\ -\text{cor} \\ +\text{nas} \end{bmatrix}$.

[N] in [iNnɲq] is uvular, non-anterior, non-high $\begin{bmatrix} -\text{ant}^C \\ +\text{back} \\ -\text{high} \\ -\text{cor} \\ +\text{nas} \end{bmatrix}$.

1.1.2.4 Lax / tense / consonant cluster (stops)

A

a:pa "wee-wee"
 a:kpa: "he skinned it"
 a:ppa: "he grabs forcefully"
 apa:kpa: "his blanket is getting undone"
 aqpa:pa: "he hurries to get help"

B

itɬq "anus"
 ittɬq "lamp oil running"
 makɬq "beluga skin"
 matu "utensil lid"
 ma:ktu(juq) "he doesn't show pain"
 mattu(juq) "thick"
 takɬq "fog"
 taqtɬq "kidney fat"

C

ikɬq "straits"
 ikkɬq "gums"

D

ɬqɬq "corner of mouth"
 ɬqɬq "louse egg"

Consonants, like vowels in Eskimo, can be lax or tense.

Lax consonants may form consonant clusters. Tense ones do not appear to be allowed to cluster. The above series show some oppositions between lax, tense and consonant clusters. This problem will be treated in more detail in Appendix I. However, we shall give here an insight into a hypothesis of the processes involved.

In series A, there are oppositions between

- 1) lax consonant
- 2) tense consonant, written here [pp]
- 3) velar-bilabial stop cluster
- 4) uvular-bilabial cluster.

Note that the first consonant of the cluster is another stop, velar or uvular, that is a non-anterior stop followed by a bilabial stop.

In series B, there are the same oppositions, lax consonant, tense consonant, velar or uvular stop followed by an alveolar stop. In series C and D however, we are left with only the lax/tense oppositions, although there always seems to be a difference in obstruence between the two segments of a [qq] cluster. We shall see that a tense consonant is either the result of assimilation of two consonantal segments of a cluster, or the second segment becomes tense and eliminates the first one. However, the second segment is then sometimes realized as a glottal stop followed by the consonant, or, in Ungava, as a velar in the case of stops, a velar or an alveolar in the case of a tense continuant. Note that a uvular in initial position is never assimilated and most of the clusters found in the language are those containing a uvular as its first member.

The absence of a velar-uvular, or of a uvular-velar cluster is to be noted and this will be explained tentatively in Appendix I.

1.1.2.5 Lax / tense / clusters (nasals)

<u>i</u> mɛq	"water"	qanɛq	"mouth"
<u>i</u> mmɛq	"myself"	qa:nnɛq	"water running under ice"
a <u>m</u> a:q	"hard, non edible root"	i <u>n</u> nɛq	"flintstone spark"
a <u>n</u> ma:q	"hard black stone"	ɛ <u>r</u> nɛq	"son"
<u>i</u> mmipa:	"he filled it with water"	ma <u>n</u> ɛq	"moss"
ɛ <u>r</u> mipa:	"he washes his face"	ma <u>r</u> nɛq	"pus"
a <u>n</u> ak	"maternal uncle"	tupɛ <u>N</u> mi	"in the tent"
a <u>n</u> nak	"nephew of paternal aunt"	ɛ <u>NN</u> utaq	"grandchild"

In these series, the oppositions are between lax, tense, and clusters of nasals. The uvular preceding a nasal is nasalized. In [tupɛrmi], [ɛrmipa:] and [marɛq], the uvular is nasalized, but lax. In [ɛNNutaq], the uvular does sound tense and may be postulated to result from underlying /rɛ/ (See Appendix I). Note that there can be a velar and uvular nasal as the first member of clusters with [m] and [n]. However, the back nasals do not cluster with one another.

1.1.2.6 Lax / tense / clusters (continuants)

i β ik	"dirt on finger"	is u q	"bird molt"
iy β it	"you"	iks u q	"tent skins"
a β q:q	"weak point of body"	kus u q	"water drop"
ay β a	"caribou skin"	ku:ts u q	"hip bone"
ab β q	"one who has the same name"	ɛgs u q	"temple"
ay β ik	"board for taking fat off"	aksat u q	"rolls on himself"
aq β iq	"white atlantic whale"	aqsat u q	"it is windy"
iya	"stove"	niri	"food"
iyYa:k	"snow glasses"	mar u q	"clay"
iyu:t	"sting of insect"	mar u :k	"two"
iy y ut	"cloth to wipe dirt of hands"		

In this series, two points are to be noted.

1) The clusters allowed with the bilabial continuant as second member take as a first member a velar, or a bilabial voiced stop which does not exist in isolation in the language. This might be considered as the tense correspondant to the lax [β]. The velar is a voiced stop, while the uvular-bilabial continuant cluster takes an unvoiced stop as its first member.

2) The clusters allowed with the alveo-palatal continuant as a second member take as first member a velar or alveolar stop. The latter might be considered as the tense correspondant to the lax [s]. The velar and uvular-alveo-palatal cluster take on a stop as an initial member. The velar lax

continuant has a tense correspondent, but does not cluster with anything. The same is true of the uvular tense continuant.

1.1.2.7 Lax / tense / clusters (liquid and glide)

<u>A</u>		<u>B</u>	
ala	"over-sole"	iji	"eye"
adla	"indian, stranger"	idji	"dirt in eye. it is cold"
adlaq	"dirt"	ajakpa:	"he pushes it away"
aylaq	"letter"	ayzapa:	"he carries it on his back"
ilu	"inside frost"	udjuk	"square flipper"
iylu	"house"	urdjuk	"moss"
irlu	"bowel"		

In this last series, we note that for both the glide and the liquid, there is a tense segment formed of a dental voiced stop which does not exist in isolation in the language and a tense lateral fricative in examples A, a tense alveo-palatal voiced affricate in examples B. The first segment of clusters in both cases can be a velar voiced continuant or a voiced uvular continuant, while the second member is a voiced tense fricative.

1.2 Systematic phonemes

An Eskimo utterance is composed of sounds, which are
 a) vocalic or non-vocalic, b) consonantal or non-consonantal,
 c) lax or tense, and three types of junctures a) morpheme
 boundaries b) strong morpheme boundaries c) word boundaries.
 I shall now, perhaps at the expense of some repetition, formalize the observations in terms of rules and matrices representing the systematic phonemes of Eskimo.

1.2.1 Vowels

1.2.1.1 We have encountered several phonetic characteristics for the vowels. Some were distinctive, some could be explained by the environment and some were free variants.

A vowel may be lax [-tense] or tense [+tense]. Writing v for $[\pm_{\text{VOC}}^{\text{CONS}}]$, $v \longrightarrow [\pm \text{ tense}]$

The vowels are: $\begin{bmatrix} +\text{high} \\ +\text{front} \\ -\text{low} \end{bmatrix}$, /i/; $\begin{bmatrix} +\text{high} \\ -\text{front} \\ -\text{low} \\ +\text{back} \end{bmatrix}$, /u/; $\begin{bmatrix} -\text{high} \\ -\text{back} \\ +\text{low} \end{bmatrix}$, /a/.

Some of this information is redundant. Redundancy will be treated in Section 1.2.3.2.

1.2.1.2 Before a uvular, the three vowels are centralized. /i/ becomes $\begin{bmatrix} -\text{high} \\ +\text{front} \end{bmatrix}$, /u/ becomes $\begin{bmatrix} -\text{high} \\ +\text{back} \end{bmatrix}$, /a/ becomes $\begin{bmatrix} -\text{low} \\ -\text{front} \end{bmatrix}$.

This can be formalized by the rule:

$$\begin{array}{ccc} \text{V} & & \text{V} \\ \left\{ \begin{array}{l} [+high] \\ [+low] \end{array} \right\} & \longrightarrow & \left\{ \begin{array}{l} [-high] \\ [-low] \end{array} \right\} \end{array} \Bigg/ \begin{array}{c} \text{C} \\ \text{---} \left[\begin{array}{l} +back \\ -high \end{array} \right] \end{array}$$

1.2.1.3 We need only three features to describe the vowels as the oppositions are front /a/, /i/ versus non-front /u/, and high /i/, /u/, versus low /a/. We could use non-high but we might then have to differentiate between the centralized vowels and the low one. /a/ needs only to be described as [+low]. Rounding is not distinctive for vowels in Eskimo. I shall use the alphabetical symbols a, i, u, for the vowels, in the writing of the examples.

1.2.2 Consonants

1.2.2.1 Any segment which is not a vowel will generally be called a consonant and symbolized by C unless there is a need to distinguish between the true consonants $\begin{bmatrix} +\text{cons} \\ -\text{voc} \end{bmatrix}$ and the liquid /l/ and the glide /j/.

1.2.2.2 A consonant can be lax or tense. A tense consonant is sometimes the result of complete assimilation of two consonantal segments, otherwise it is the result of the tensing of the second segment of a cluster, with deletion of the first one. It is roughly twice as long as a lax segment and for that reason will be written as two similar consonants, e.g. /pp/, in a:ppa:. The assimilation is in a very advanced stage within a morpheme in the dialect of Fort Chimo. However, there are sequences made of uvular and any other usually lax consonant^{1,13}.

1.2.2.3 A consonant is a stop [-cnt], a fricative or a liquid or glide [+cnt], or a nasal [+nas]. In going from the lax unvoiced stops to the tense voiced nasals, the following series are found.

- | | | | | |
|--------------------------------|------|------|------|---------|
| a) the lax, unvoiced stops | /p/ | /t/ | /k/ | /q/ |
| | | /s/ | | |
| b) the tense, unvoiced stops | /pp/ | /tt/ | /kk/ | /qq/ |
| | | /ts/ | | |
| c) the lax, voiced continuants | /β/ | /l/ | /j/ | /ɣ/ /r/ |

- d) the tense, voiced continuants /ββ/ /dl/ /dj/ /γγ/ /rr/
- e) the lax, voiced nasals /m/ /n/ /ŋ/ /N/
- f) the tense, voiced nasals /mm/ /nn/ /ηη/ /NN/

/s/ is put half-way between the stops and the continuants because it behaves sometimes like a stop, sometimes like a continuant. It may be necessary to postulate several origins for the surface /s/¹.

The tense liquid is a lateral fricative. The tense glide is a palatalized dental stop.

The only distinctive stops are /p/ /t/ /k/ /q/. In certain conditions uvular stops are realized as unvoiced fricatives. We shall see that all uvulars are redundantly continuants.

The four fricatives will be written /v/ for the bilabial as there is no labio-dental fricative; /l/ for the voiced liquid; /g/ for the velar fricative /r/ for the voiced or unvoiced uvular fricative. The alphabetical symbol /L/ or, closer to Schneider's orthography /dl/, will be used for a tense lateral fricative, /ts/ for a tense alveo-palatal fricative, /dj/ for a tense palatal fricative

(equivalent of the lax glide /j/). Nasals will be /m/, /n/ /ŋ/ /N/. On the following page, all the features which enter in the composition of each systematic phoneme are tabulated, together with the pertinent features after redundancy rules have been applied. Only lax segments are presented.

Table II

Distinctive features of Eskimo (Fort Chimo)

	p	v	m	t	n	s	k	g	ŋ	q	r	N	l	j	a	i	u	
voc	-	-	-	-	-	-	-	-	-	-	-	-	+	-	+	+	+	vocalic
cons	+	+	+	+	+	+	+	+	+	+	+	+	+	-	-	-	-	consonantal
ant	+	+	+	+	+	-	-	-	-	-	-	-	+	-				anterior*
cor	-	-	-	+	+	+	-	-	-	-	-	-	+	-				coronal
cnt	-	+	-	-	-	+	-	+	+	-	+	+	+	+	+	+	+	continuant
nas	-	-	+	-	+	-	-	-	+	-	-	+	-	-	-	-	-	nasal
high	-	-	-	-	-	+	+	+	+	-	-	-	-	+	-	+	+	high
back	-	-	-	-	-	-	+	+	+	+	+	+	-	-	-	-	+	back
del.rel																		delayed release
tns																		tense
low	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	low
lat													+					lateral
son	-	-	+	-	+	-	-	-	+	-	-	+	+	+	+	+	+	sonorant

* Cases left blank in this table indicate that the feature is not relevant for the phonemes involved.

Table III

Non-redundant distinctive features of Eskimo (Fort Chimo)

	p	v	m	t	n	s	k	g	ŋ	q	r	N	l	j	a	i	u	
voc	-	-	-	-	-	-	-	-	-	-	-	-	+	-	+	+	+	vocalic
cons													-	-				consonantal**
ant	+	+	+	+	+	-												anterior
cor	-	-	-	+	+	+												coronal
cnt	-	+		-			-	+	+	-	+	+						continuant
high							+	+	+	-	-	-				+	+	high
back							+	+	+	+	+	+				-	+	back
low															+			low
nas	-		+	-	+		-		+	-		+						nasal
lat													+					lateral
son																		sonorant
del																		delayed release
tns																		tense

** Cases left blank in this table indicate the features which have been replaced by redundancy rules.

1.2.4 Consider table II, the phonological matrices and the values assigned to each phonemes. The phonemes are defined by more features than necessary to identify each of them correctly. The features that are not essential are called redundant. They will be replaced by redundancy rules and eliminated from the matrices in the dictionary. Table III presents the minimal features required to identify the phonemes.

If a segment is sonorant, then it is voiced

$$[+son] \longrightarrow [+voi]$$

If a segment is vocalic, then it is continuant, sonorant and non-nasal

$$[+voc] \longrightarrow \begin{bmatrix} +cnt \\ +son \\ -nas \end{bmatrix}$$

If a segment is nasal, then it is consonantal and sonorant

$$[+nas] \longrightarrow \begin{bmatrix} +cons \\ +son \end{bmatrix}$$

If a segment is consonantal, then it is non-low

$$[+cons] \longrightarrow [-low]$$

If a segment is anterior, then it is consonantal and non-back

$$[+ant] \longrightarrow \begin{bmatrix} +cons \\ -back \end{bmatrix}$$

If a segment is anterior and non-coronal, then it is non-high

$$\begin{bmatrix} +ant \\ -cor \end{bmatrix} \longrightarrow [-high]$$

If a segment is anterior and nasal, then it is non-continuant
and non-high

$$\begin{bmatrix} +\text{ant} \\ +\text{nas} \end{bmatrix} \longrightarrow \begin{bmatrix} -\text{cnt} \\ -\text{high} \end{bmatrix}$$

If a segment is coronal, then it is consonantal

$$[+\text{cor}] \longrightarrow [+ \text{cons}]$$

If a segment is anterior, non-vocalic, non-nasal, it is
non sonorant

$$\begin{bmatrix} +\text{ant} \\ -\text{voc} \\ -\text{nas} \end{bmatrix} \longrightarrow [-\text{son}]$$

If a segment is non-anterior and coronal, then it is a con-
tinuant, non-nasal, high, non-back, non-vocalic

$$\begin{bmatrix} -\text{ant} \\ +\text{cor} \end{bmatrix} \longrightarrow \begin{bmatrix} -\text{voc} \\ +\text{cnt} \\ -\text{nas} \\ +\text{high} \\ -\text{back} \end{bmatrix}$$

If a segment is high, then it is non-low

$$[+\text{high}] \longrightarrow [-\text{low}]$$

If a segment is low, then it is non-back and non-high

$$[+\text{low}] \longrightarrow \begin{bmatrix} -\text{back} \\ -\text{high} \end{bmatrix}$$

If a segment is back, then it is non-anterior and non-coronal

$$[+\text{back}] \longrightarrow \begin{bmatrix} -\text{ant} \\ -\text{cor} \end{bmatrix}$$

If a segment is back, consonantal and non-nasal, then it is non-sonorant

$$\begin{bmatrix} +\text{cons} \\ +\text{back} \\ -\text{nas} \end{bmatrix} \longrightarrow [-\text{son}]$$

If a segment is lateral, then it is non-back, non-nasal, coronal, anterior, consonantal

$$[+\text{lat}] \longrightarrow \begin{bmatrix} +\text{cons} \\ +\text{ant} \\ +\text{cor} \\ -\text{nas} \\ -\text{back} \end{bmatrix}$$

If a segment is vocalic and lateral, then it is non-high, continuant

$$\begin{bmatrix} +\text{voc} \\ +\text{lat} \end{bmatrix} \longrightarrow \begin{bmatrix} -\text{high} \\ +\text{cnt} \end{bmatrix}$$

If a segment is vocalic and high, then it is non-consonantal

$$\begin{bmatrix} +\text{voc} \\ +\text{high} \end{bmatrix} \longrightarrow [-\text{cons}]$$

If a segment is non-vocalic, non consonantal, then it is non-anterior, non-coronal, high, non-back

$$\begin{bmatrix} -\text{voc} \\ -\text{cons} \end{bmatrix} \longrightarrow \begin{bmatrix} -\text{ant} \\ -\text{cor} \\ +\text{high} \\ -\text{back} \end{bmatrix}$$

If a segment has a delayed release, then it is tense, anterior, coronal, non-nasal.

$$[-\text{inst}] \longrightarrow \begin{bmatrix} +\text{tense} \\ +\text{ant} \\ +\text{cor} \\ -\text{nas} \end{bmatrix}$$

If a segment is low, then it is non-consonantal

[+low] $\longrightarrow$ [-cons]

If a segment is non-vocalic and back, then it is non-consonantal

Footnotes to Chapter I

¹ See Appendix I

² Centralized vowels

aməq "baby in hood"

alɛq "harpoon"

amɛq "caribou hide"

alɔq "caribou fat delicacy"

[ə] in [aməq] is [-low], [-front]

[ɛ] in [amɛq] is [-high],

[ɔ] in [alɔq] is [-high]

The three vowels are centralized in comparison to their [a], [i], [u] counterparts. This is due to the following uvular segment and will be discussed in section 1.2.1.2.

³ See Gagne [5].

⁴ Gagne does not recognize a difference between tense and double vowels. Schneider, among others, distinguishes them. In his writing, tense vowels are represented as [â] while double ones are represented as [aa].

⁵ [k] is palatal before [i] and velar elsewhere. As there are no oppositions, [k] will be considered [+back] unless otherwise stated.

⁶ This uvular stop is phonetically more frequently a continuant than a plosive (See Gagne 1958 [5]); This is particularly so as an initial segment, [χ], intervocally and as the second segment of a uvular cluster. It is a stop as the first segment of a uvular cluster (apart from rm, rn, rr) or finally. Sometimes, as an initial, it is a voiceless pharyngeal [ħ]: [hannitualuk] "it is snowing hard". In final position, it is often unreleased: [mannɁq].

⁷ Alveopalatal fricative [s] is alveopalatal before [a] and [i], palatal [ʃ] before [u].

⁸ [s] appears in this group with the stops because it behaves sometimes as a continuant, but most of the time as a stop. See p. 47, and Appendix I.

⁹ Consonants can be lax or tense. See pp. 24, and Appendix I.

¹⁰ For more phonetic details, see Gagne 1958 [5].

¹¹ [j] and [l] are placed in this series although they are not consonants in the real sense of the word $\begin{bmatrix} +\text{cons} \\ -\text{voc} \end{bmatrix}$ because they are continuants and behave like the continuant consonants.

¹² This does not seem always to be true. Uvulars followed by liquid or glide appear to be followed by a tense segment.

CHAPTER II

Morpheme Structure

CHAPTER II Morpheme structure

2. Morpheme structure

2.1 Syllable structure

2.1.1 Initial syllable of root

2.1.1.1 Syllable in V

2.1.1.2 Syllable in $V:$ or $\hat{V}V$

2.1.1.3 Syllable in VC_2

2.1.1.4 Syllable in $V:C_2$ or $\hat{V}VC_2$

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2.1.2.3 Syllable in C_3V , $C_3V:$ or $C_3\hat{V}V$

2.1.2.4 Syllable in C_3VC_2

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2.1.2.6 Medial syllable following a medial syllable

2.1.3 Final syllable

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2.1.3.3 Final syllable in C₃V, C₃V: or C₃ $\hat{V}V$

2.1.3.4 Final syllable in CVC

2.1.3.5 Summary of word final syllable

2.2 Word structure

2.3 Behavior of segments across word boundaries

2.3.1 C[#]V

2.3.2 C[#]C

2.3.3 The dbl. rule

2.4 Summary of Chapter II

2.5 Summary of rules

2. Morpheme structure

An Eskimo sentence is composed of one or several words. A word is composed of a root in initial position, one or several suffixes and an ending. Certain endings can take on following suffixes, in which case the whole form, up to the ending, has become a stem to which suffixes can be added. The word always has an ending. Enclitics are sometimes found after a word. These are a kind of independent morphemes and seldom take an ending. Special phonological rules are applicable at morpheme boundary and at word boundary.

In this chapter, the structure of the Eskimo syllable, then the structure of morphemes, will be considered. The morpheme structure will be divided into the structure of roots (main roots and enclitics) and the structure of suffixes. Morpheme structure rules (M.S. rules) will be derived. Finally, an attempt will be made to draw a structure of the word.

2.1 Syllable structure

2.1.1 Initial syllable of roots

The initial syllable of a root has one of the following structures:

- a) - a lax vowel, V .
- b) - a tense vowel or a diphthong, $V:$ or $\hat{V}\hat{V}$
- c) - a lax vowel and a lax consonant, VC_2
- d) - a tense vowel (or a diphthong) followed by
a lax consonant, $V:C_2$ or $\hat{V}\hat{V}C_2$.
- e) - a lax consonant and a lax vowel, C_1V
- f) - a lax consonant followed by a tense vowel
or a diphthong, $C_1V:$ or $C_1\hat{V}\hat{V}$
- g) - a lax consonant, a lax vowel and a lax con-
sonant, C_1VC_2 .
- h) - a lax consonant, a tense vowel (or a diph-
thong) and a lax consonant, $C_1V:C_2$ or $C_1\hat{V}\hat{V}C_2$

These different possibilities will be studied in turn.

Note that roots are always at word initial position. If a root is monosyllabic, then it will have one of the structures listed above. Examples of monosyllabic roots will be incorporated in the text of each one of the possible structures listed above. Enclitics will be studied after the structure of the final syllable because some phonological rules apply only in the linking of enclitics to the preceding word.

2.1.1.1 syllables in V

The initial vowel of a word has no restriction.

It can be /a/, /i/, /u/; e.g.,

<u>General examples</u> ¹		<u>roots</u>
<u>a</u> nniturtuq	"he no longer is a beggar"	<u>a</u> "yes"
<u>a</u> annituq	"he bruises himself"	
<u>i</u> valu	"sinew"	
<u>i</u> iva:	"he swallows it"	
<u>u</u> ddzuk	"bearded seal"	
<u>u</u> ujuq	"boiled food"	

2.1.1.2 syllable in V: or $\hat{V}\hat{V}$

At word initial position and also at root- or word-final position, two vowels belonging to different syllables sometimes become one syllable, the second losing its syllabicity². This allows a syllable to be made of one tense vowel or, less frequently, a diphthong. See corresponding rules in 2.1.1.6. That is, after a word boundary, a group of two vowels, the first one being a low vowel and the second one a high one, becomes a diphthong through loss of syllabicity of the second one.

Examples of Tense Vowels and Diphthongs:

<u>a</u> :na	"paternal grandmother"	<u>a</u> : "ouch"
<u>i</u> :rqatarpait	"he rejects them"	<u>i</u> : "yes"
<u>u</u> :gi	"suffering"	
$\hat{a}$ ipajuq	"half-cooked"	$\hat{a}$ i "hello"
<u>a</u> uka	"no"	

Note that this process of tense vowel (or diphthong) formation is not yet universal in the language and one finds words

beginning in two vowels, that is two different syllables, as encountered in section 2.1.1.1. This occurs in words having a low frequency of usage.

2.1.1.3 Syllable in VC_2

This structure occurs rarely in the Fort Chimo dialect but must have been more common at a time when assimilation was not at such an advanced stage. Most of the syllable final consonants have undergone a process of assimilation to the following consonant, then, through the tensing of the second consonant, have been deleted. When a tense consonant is realized, phonetically, as what sounds like two segments, it is very difficult to decide whether it is a consonant cluster or a tense consonant that is present. However, uvulars have not been assimilated and have not gone through the process explained in more detail in Appendix I. They belong to the first syllable when followed by a consonant. The consonant following a uvular is usually lax, although /l/ and /j/ have started the tensing according to the pattern postulated. If this syllable final consonant, which will be called C_2 , is a uvular preceding another consonant, C_2 is an unvoiced stop or fricative before a stop or a fricative, a voiced continuant before a nasal, a liquid and a glide. The liquid has become a lateral fricative and the glide a palatal fricative. Before a nasal, C_2 is nasalized. C_2 can sometimes be a velar but this is very difficult

to detect and no examples will be proposed. Its existence depends on tensing and deleting rules. See Appendix I.

<u>aq</u> quti	"path"	<u>iq</u>	"stop"
<u>arra</u> :gu	"next year"	<u>uk</u> (pa:)	"he tastes it"
<u>agsaniq</u>	"paternal aunt"		
<u>aq</u> vik	"whale"		
<u>aqdzaq</u>	"ashes"		
<u>iq</u> lituq	"resists"		
<u>iq</u> patuq	"open on all sides"		
<u>iNmipa</u> :	"he washes him"		
<u>iNnira</u>	"my son"		

2.1.1.4 Syllable in $V:C_2$ or $\overset{\circ}{V}VC_2$

In this structure, the vocalic segment is a tense vowel or a diphthong, the consonantal segment is C_2 . There are no restrictions as to the nature of the first segment.

<u>a:qqaq</u>	"bad"	<u>a:g</u>	"it's dirty, bad"
<u>i:qqa</u> (pa:)	"he swallows it several times"	<u>a:p</u> (pa:)	"he offers"
		<u>a:k</u> (pa:)	"he skins it"

I have been unable to find examples with diphthong initial. This may be due to the fact that the second part of a diphthong is a semi-consonant and no consonant could follow.

2.1.1.5 Syllable in C_1V

A root initial consonant C_1 can be:

a stop	:	/p/ /t/ /k/ /q/
an unvoiced continuant ⁵	:	/s/
an anterior nasal ⁶	:	/m/ /n/

It must be a lax consonant. It cannot be a voiced continuant

Here, the tense vowel or diphthong is not at word boundary but it follows a consonant. Syllabicity being carried by the vowel, the consonant at this position is an optional item. The rule of tensing or diphthongization would have to include an optional item, the consonant. It has to apply with this item first, and if it is not applicable, without it.

tensing rule:

$$\begin{array}{c} \text{V} \\ \left[\begin{array}{l} \alpha \text{ high} \\ \beta \text{ back} \end{array} \right] \longrightarrow [-\text{syll}] \quad \# \quad (C) \quad \begin{array}{c} \text{V} \\ \left[\begin{array}{l} \alpha \text{ high} \\ \beta \text{ back} \end{array} \right] \longrightarrow \end{array}$$

diphthong formation rule⁷:

$$\begin{array}{c} \text{V} \\ [+ \text{ high}] \longrightarrow [-\text{syll}] \quad \# \quad (C) \quad \begin{array}{c} \text{V} \\ [-\text{high}] \longrightarrow \end{array}$$

2.1.1.7 Syllable in C_1VC_2

This structure is the same as the one in 2.1.1.5 with the addition of a consonant of the form C_2 .

Examples :

<u>parqaapuq</u>	"it is hot"	<u>kik</u>	"sea off the shore"
<u>mirquq</u>	"hair, feather"	<u>tak</u> (tuq)	"it is foggy"
<u>narnipa</u> :	"he pushes with his hand"	<u>tup</u> (puq)	"he touches the bottom"
<u>survatartuq</u>	"he knocks on the door"	<u>gut</u> (tuq)	"he is mad"

Note that in one syllable roots, the structure of the syllable has to comply with the rules of both the initial syllable and the final syllable of a root. See section 2.1.3.

2.1.1.8 Syllables in $C_1V:C_2$ or C_1VVC_2

This structure is again the same as above but the vowel is tense or a diphthong. The same restrictions, if any, apply.

<u>ma:q</u>	"tender part of walrus' tusk"
<u>pu:q</u>	"bag"
<u>ta:q</u>	"obscurity"
<u>ku:k</u>	"river"
<u>qi:q</u>	"white hair"
<u>su:q</u>	"why?"
<u>na:q</u>	"lower belly"

2.1.1.9 Summary of initial syllable structure

The initial syllable structure gives us an insight into the general structure of an Eskimo syllable. By considering the possibilities of a one syllable root in isolation, it can be observed that the shape of the syllable is:-

an optional lax stop, a vowel, tense or lax, or a diphthong, and an optional lax consonant, that is (C) $\left\{ \begin{matrix} V \\ V: \\ \widehat{VV} \end{matrix} \right\}$ (C).

There are some restrictions on the last consonant of the initial syllable: in present Eskimo, it is a uvular, sometimes a velar, unless it occurs at morpheme boundary. in which case it conforms to rules about the final consonant of the last syllable.

2.1.2 Medial syllable

Word (or root or affix) medial syllables are not as restricted as initial syllables regarding the nature of their initial segment if that segment is a consonant. They have the same basic structure as initial syllables. Only the differences from the restrictions found in section 2.1.1 will be presented here.

The medial syllable can have the following structure:

- a)- a vowel, (lax), optionally followed by a consonant C_2
- b)- a consonant C_3 and a vowel, lax, tense, or a diphthong.

2.1.2.1 Syllable in V_2

The single lax vowel medial syllable exists only in roots whose first syllable is made of a lax vowel. A tense vowel cannot be followed by a lax vowel, nor can a lax vowel be followed by a tense vowel or by a diphthong. This can be expressed by a tri-vocalic deletion rule which forbids not only the above occurrences but morphemes with three lax vowel syllables. As a tense vowel and a diphthong originate from two distinct lax vowels, the tri-vocalic rule

can be used whenever two segments originating from more than two vowels occur in a row⁹.

$$[+voc] \longrightarrow [+cons] / VV \text{ ____}$$

Another restriction exists as to the nature of this vowel when it is preceded by a lax vowel. When a second syllable is made of a single vowel, this vowel cannot be [+back] after a high front vowel /i/.

$$V_2 \longrightarrow [-back] / \overset{V}{\# \begin{bmatrix} + \text{ high} \\ - \text{ back} \end{bmatrix}} \text{ ____ } C_2$$

Examples. As suffixes usually occur between the root and the ending, the structure of the medial syllable applies to all of their syllables, apart from the final one in suffixes which can be found at the end of a word.

Examples of affixes will be given on the right hand side and examples of roots on the left hand side of the page.

1.) Medial syllable in V_2

<u>a</u> iraq	"comestible root"	- <u>a</u> (tuq)	"who does for a long time"
a <u>a</u> riak	"top of shoulders"		
au <u>d</u> lapuq	"he goes on a journey"	- <u>i</u> (va:)	"who does unwillingly"
a <u>a</u> nnituq	"he bruises himself"	- <u>u</u> (vuq)	"he is"
i <u>i</u> gaq	"pill"	-a <u>a</u> luk	"small"
ua <u>r</u> ittuq	"he is untidy"		
ui <u>r</u> ittuq	"he is getting used"		

2.1.2.2 Syllable in V_2C_2

This structure has the restrictions previously put on V_2 and C_2 .

2.) Medial syllable in V_2C_2

in <u>i</u> arpa:	"he walks at his side"	-a <u>a</u> rdjuk	"nice, pretty"
		- <u>a</u> r(pa:)	"so many times"
		- <u>i</u> t(tuq)	"who is in"
		- <u>u</u> t-	"tool for"
		- <u>s</u> iur(puq)	"he looks for"
		- <u>m</u> ait(tuq)	"not in the state of"
		- <u>m</u> uar(puq)	"carries forward"
		- <u>g</u> uit(tuq)	"often"
		- <u>n</u> air(tuq)	"he says it"
		- <u>l</u> uar(puq)	"above all"

There are many occurrences of such a middle syllable structure. It would be tedious to present one of each category. In polysyllabic roots and affixes, the middle syllable follows any possible structure for an initial syllable or another middle one. I shall limit myself to bisyllabic morphemes whenever possible as it appears that it is the basic structure of an Eskimo morpheme. Most stems of more than two syllables are the result of affixation.

2.1.2.3 Syllables of the type C_3V , $C_3V:$ and $C_3\overset{\wedge}{VV}$

If the preceding segment is a vowel, this consonant C_3 can be any consonant, liquid or glide, tense or lax.

If the preceding consonant is a velar or a uvular, the consonant can only be lax, apart from /l/ and /j/ which are in the process of tensing. Some continuants, i.e., /v/ and a nasal, /N/ are affected in the same way by tensing. (see Appendix I.) The uvular or velar C_2 preceding a nasal have been nasalized according to the rule:

$C \longrightarrow [+nas] / \text{ ______ } [+nas]$

Examples:

3.) Medial syllable in C_3V

$V - C_3V$ or VC_2-C_3V

<u>a</u> qiaq	"file"
a <u>ŋ</u> ajakpug	"he is very drunk"
aiv <u>i</u> qiaq	"black bellied bird"
ar <u>l</u> ipuq	"he leaves some"
a <u>m</u> aamak	"human's breast"
a <u>n</u> aana	"mother"
a <u>t</u> aata	"father"
a <u>p</u> iriva:	"he asks someone"
a <u>q</u> ajaq	"small soft grass"
a <u>q</u> saapa:	"he grabs forcefully"
a <u>j</u> akuluk	"maternal aunt"

V-CV

- <u>m</u> a(vuq)	"
- <u>s</u> i(vuq)	"contact, perception"
- <u>n</u> i(vuq)	
- <u>k</u> u(juq)	"he says to him"
- <u>g</u> i(va:)	"he has for..."
- <u>ŋ</u> u(juq)	"he has a bad"
- <u>q</u> i(juq)	"acts on his own"
- <u>l</u> a(juq)	"he says to him"
- <u>a</u> ŋa(juq)	"he is nearly"
- <u>i</u> ri(vuq)	"he takes care of"
- <u>u</u> mi(juq)	"a little more"
- <u>a</u> la(juq)	"who works fast"
- <u>a</u> qi(vuq)	"suddenly"

Other suffixes examples

CV-CV

-tiqi(juq) "he is made like"
 -sima(vuq) "finished action"
 -guti(va:)
 -laŋa(juq) "at once"
 -laqi(vuq) "in correspondence"
 -liri(vuq) "takes care of"

CVC-CV

-garni(tuq) "it is pleasant"
 -lirqi(puq) "he tells again"
 -sirtu(puq) "he pretends"^{1 2}

4.) Examples of middle syllable in C:V

<u>agqi</u> uppiniq	"ice stuck to cliff"	- <u>kka</u> (pa:) "he goes willingl
<u>aŋ</u> asaq	"blue fox"	- <u>ŋŋa</u> (puq) "he begins to be"
a <u>NN</u> iliq	"stomach pit"	- <u>NNa</u> (puq) "he does for the
<u>adla</u> kita:rpuq	"hesitates between two actions"	first time"
<u>ammu</u> umajuq	"clams showing their neck"	- <u>dli</u> (vuq)
<u>ann</u> iriva:	"like smth. very much"	
<u>ats</u> ira:rpuq	"he names himself"	
<u>att</u> atuaq	"borrowed object"	
<u>abv</u> airpa:	"avoids someone"	
<u>ikkar</u> ilik	"grey blackbird"	
<u>iddj</u> uriva:	"he is disgusted"	

5.) Examples of middle syllable in C:V:

<u>kakidla</u> :(puq)	"he shivers with fear"	- <u>tsai</u> (tuq) "who never does"
		- <u>ŋŋa</u> :
		- <u>djai</u> (puq) "strong impossibility"
		- <u>dla</u> :(pa:) "does it several time"
		- <u>iŋŋa</u> :(pa:) "who is without cloth"
		- <u>idja</u> :(pa:) "takes off his clothes"

2.1.2.4 Syllable in C_3VC_2

This structure has the restrictions imposed previously.

6.) Medial syllable in CVC

<u>anirraq</u>	"home"	- <u>pak</u> (puq)	"has the habit of"
<u>akippa:</u>	"helps to climb"	- <u>sak</u> (puq)	"no longer does"
<u>anirniq</u>	"breath"	- <u>qir</u> (puq)	
		- <u>gar</u> (puq)	"he has"
		- <u>rar</u> (puq)	"frequentative"

7.) Medial syllable in CV:C

- <u>ma:r</u> (puq)	"not in the state of"
- <u>sa:r</u> (puq)	"he does work"
- <u>ra:r</u> (puq)	"he gets"
- <u>na:r</u> (puq)	"makes it be"
- <u>mu:r</u> (puq)	"puts on..."

8.) Medial syllable in C:VC

- <u>tsar</u> (puq)	
- <u>dlak</u> (puq)	"once"

9.) Medial syllable in C:V:C

- <u>tsa:t</u> (tuq)	
- <u>rqu:t</u> (puq)	"seems"

10.) Other distribution of syllables in CVC (suffixes only).

V-CVC

- <u>apik</u> (puq)	".. a little"
- <u>anik</u> (puq)	"finishes...."
- <u>itur</u> (puq)	"goes and gets"
<u>isir</u> (puq)	"who has lost"
- <u>ijar</u> (pa:)	"takes off his own"

V-C:VC

- <u>mmir</u> (tuq)	"starts wishing"
- <u>unqar</u> (tuq)	"he goes..."

V-CV:C

- <u>ala:r</u> (puq)	"rains, snows a little"
- <u>ia:r</u> (puq)	"who is rather without"
- <u>uja:r</u> (puq)	"seems to be"

CV-CV:C

- <u>sarait</u> (puq)	"does quickly"
- <u>kuta:r</u> (puq)	"a long time"

V:-CV:C

- <u>una:r</u> (puq)	"gets through there"
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2.1.2.5 Summary of medial syllable

A medial syllable has the same general structure as an initial one. Some restrictions are imposed by the nature of the preceding syllable within a root or an affix.

a)- root, or middle syllable of affix.

The structure can be V_2 , or $(C_3)V(C_2)$, where V can be any vowel, lax or tense or diphthong. V_2 can only be a lax vowel, and cannot be /u/ if the word initial syllable is /i/. Three vowels cannot be in sequence. C_3 can be any consonant if the initial syllable ends in a vowel, and it must be lax after a velar. After a uvular, C_3 shows signs of tensing if it is a liquid, glide, or continuant. C_2 nasalizes if C_3 is a nasal. There cannot be a sequence of three consonants (or their equivalent).

b)- Initial syllables of affixes are less restricted inasmuch as they are a word medial syllable but there is a morpheme boundary between them and the preceding syllable. There are no restrictions as to their initial consonant, which may be tense or lax, nor as to their initial vowel. Their behavior at word boundary is the main object of this study.

2.1.2.6 Medial syllable following a medial syllable

Two or more medial syllables may be found in a root,

an affix or a word. In this event, the second, third, fourth... . . .
etc. syllable has the restrictions imposed by the structure of
the preceding one. It is worth noting, however, that the
structure of the Eskimo root or affix seldom comprises more
than two or three syllables. The creation of tense vowels is
fairly new in the language and tends towards the shortening
of the root or affix. As noted previously, it seems that
sequences of more than three syllables are the result of
affixation.¹³

2.1.3 Final syllable of root, suffixes and endings, words.

The final syllable, before word boundary, may be the following:

- a) - a lax vowel
- b) - a vowel (see a) - and a lax stop, VC_4 or $V:C_4$ (monosyllabic roots).
- c) - a consonant, lax or tense, and a vowel, lax or tense, often followed by a lax consonant:
 C_3VC_4 , $C_3:VC_4$, $C_3V:C_4$, $C_3:V:C_4$.

2.1.3.1 Final syllable in V.

This occurs only when the preceding segment is a lax vowel. This vowel cannot be tense because this is not allowed by the tri-vocalic rule. On the other hand, if the preceding segment is a consonant, then there cannot be a vowel because a lax consonant would form a syllable with that isolated vowel. It must be added that a single vowel following a preceding vowel in this position is a rare occurrence due to the tensing rule which applies before word boundary as well as after. The tensing rule has to be modified to accommodate this new fact⁷. (See the table of rules at the end of this chapter).

Examples of final syllable structure V

tia <u>u</u>	"it is like that"	-nui <u>i</u> (juq)	"works at his"
tui <u>i</u>	"shoulder"	-rai <u>i</u> (juq)	"treats him"
kiu(vuq)	"he answers"	-lai <u>i</u> (vuq)	"who notices"
kii(vuq)	"he bites"		
niu <u>u</u>	"leg"		

2.1.3.2 Final syllable in a lax vowel followed by a lax stop: VC₄.

The initial vowel of this syllable may be any vowel subjected to the restrictions previously encountered; that is, it cannot be a tense vowel. Following this vowel there can be a consonant. The consonant must be a non-nasal stop, that is /t/, /k/, /q/. Affixes can end in a bilabial /p/. This consonant C₄ cannot be tense.

$$C_4 \longrightarrow \begin{bmatrix} -\text{cnt} \\ -\text{nas} \end{bmatrix} / \begin{matrix} \text{---} \\ [-\text{tense}] \end{matrix} \quad \#$$

An alveolar ending nominal root is always followed by a high front vowel when isolated and most of the time at morpheme boundary. We shall postulate that there is not such a thing as an alveolar ending nominal root. In certain circumstances, the vowel following the alveolar is deleted. (See chapters IV and V).

$$\begin{array}{l}
 C_4 \longrightarrow \left[\begin{array}{c} +\text{back} \\ -\text{cnt} \end{array} \right] / \frac{+}{(\text{n.r.})} \\
 C_4 \longrightarrow \left\{ \begin{array}{c} \left[\begin{array}{c} +\text{back} \\ -\text{cnt} \end{array} \right] \\ \left[\begin{array}{c} -\text{cnt} \\ +\text{cor} \end{array} \right] \end{array} \right\} / \frac{+}{(\text{v.r.})}
 \end{array}$$

where n.r. stands for nominal root.

where v.r. stands for verbal root.

Examples of VC final syllable

see section 2.1.1.3 for monosyllabic roots

CV-VC

<u>paug</u>	"soot"	- <u>tiag</u>	"the one I have for"
<u>siak</u>	"loose hair"	- <u>tuag</u>	"unique"
<u>siut(i)</u>	"ear"	- <u>siaq</u>	"he finds, buys"
<u>kauk</u>	"walrus skin"		
<u>kiak</u>	"heat"	- <u>miag</u>	"repetition of action"
<u>nauk</u>	"where"	- <u>miug</u>	"inhabitant of"
<u>qiaq</u>	"peritoneum"	- <u>kiag</u>	"how do I know?"
<u>quaq</u>	"frozen hard"	- <u>giaq</u>	"a little"
		- <u>qauti</u>	"means to have..."
		- <u>quat</u>	
		- <u>riag</u>	"one who goes"
		- <u>liag</u>	"one who is made"

C:V-VC (affixes only)

- <u>ttaug</u>	"also"
- <u>tsiaq</u>	"beautiful"
- <u>kkuaq</u>	
- <u>dluaq</u>	"exactly as"

V:C See section 2.1.1.4 for monosyllabic roots.

2.1.3.3 Final syllable in a consonant and a vowel. C_3V C_3V : or $C_3\hat{V}V$.

C_3 follows the restrictions already mentioned. V can be any vowel.

CV see section 2.1.1.5 and 2.1.2.3., (3) for affixes.

CV: see section 2.1.2.3

<u>pa</u> :	"entrance of igloo"	<u>-mi</u> :	"how"
<u>tai</u>	"names himself"	<u>-gai</u>	"probably"
<u>ti</u> :	"tea" (borrowing)		
<u>sa</u> :	"table"		
<u>sau</u>	"covered with snow"		
<u>qa</u> :	"left"		
<u>mai</u>	"very good"		

C:V See section 2.1.2.3

C:V: See section 2.1.2.3

V-CV

<u>ava</u>	"there it is"	<u>-uma</u>	"make him do for a long time"
<u>ati</u>	"go!"		
<u>asi</u>	"another one"		
<u>anu</u>	"dog harness"		See section 2.1.2.3
<u>ipa</u>	"wood grain"		
<u>ima</u>	"okay"		
<u>iki</u>	"bad wound"		
<u>iga</u>	"stove"		
<u>iqi</u>	"pubis"		
<u>iqi(juq)</u>	"shrinks"		
<u>ilu</u>	"window frost"		
<u>iji</u>	"eye"		

V-CV: (roots only)

amai "I don't know"
ata: "underneath"
atai "ready? go!"
ajai "hey you"
ila: "that is to say"

V-C:V (roots only)

amma "furthermore"
anna "one we are about to talk ab
akka "paternal uncle"
aggi(tuq) "approaches"
aŋŋi(tuq) "sews a sole"
adla "Indian"
aglu "breathing hole"

CV-CV (roots only)

<u>pana</u> "snow knife"	<u>tuqu</u> "death"
<u>piji</u> "the doer"	<u>saki</u> "father-in-law"
<u>putu</u> "hole made willingly"	<u>suva</u> "why"
<u>manu</u> "clothing under chin"	<u>nala</u> "in front of me"
<u>timi</u> "body"	<u>kaŋi</u> "land"(versus sea)"
	<u>qilu</u> "handle of"

CV-C:V

padlu "handle of pot"
pinna "can't remember the name of"
mitsi "very near ahead"
tagva "here"
timmi(vuq) "flies"
nakka "no"
qinŋu "bottom of long hollow thing:"

CV-CV:

-luga: "once upon a ti

CV:-CV

tai~~ma~~ "thus, the end"
tau~~ga~~ "it is true"
ma:~~ni~~ "here"
sa:~~la~~ "vanquished"
qa:~~ni~~ "out there"
pa:~~ni~~ "up there"

-ki:ta "a little"

CVC-CV:

qirga: "next to"

C:V-CV

-dlaka "bad smell"

CVC-C:V

par <u>La</u> (vuq)	"he hurries to eat"	-lir <u>Nu</u> (juq)	"does not
mar <u>Lu</u>	"dirt on lamp"		allow"
sur <u>Lu</u>	"nostrils"		

2.1.3.4 Final syllable in CVC

The restrictions on these syllables are identical to those on C_3 and C_4 .

Examples

CVC (affixes only)

- <u>mik</u>	"	- <u>gaq</u>	"which is made that way"
- <u>sit</u>	"instrument for"	- <u>gut</u>	"means for"
- <u>suk</u>	"lover"	- <u>gut</u>	"
- <u>naq</u>	"wonderful"	- <u>ruq</u>	"small"
- <u>kak</u>	"small"	- <u>laq</u>	"the most"
- <u>kut</u>	"instrument"	- <u>lik</u>	"who has"

CV:C (affixes only)

- <u>pa:q</u>	"superlative"	- <u>gu:q</u>	"says he"
- <u>su:q</u>	"likes to"	- <u>a:q</u>	"preferably"
- <u>gi:k</u>	"relation X to Y"	- <u>la:q</u>	"very small"

C:VC (affixes only)

- <u>ksaq</u>	"material for"
- <u>kkut</u>	"collective term"
- <u>dliq</u>	

C:V:C (affixes only)

- <u>tsa:q</u>	"another of the kind"
- <u>nna:q</u>	"he has it for his"

C-C:VC (affixes only)

- <u>rtsiq</u>	"the one situated"
- <u>rLak</u>	"a big"

C-C:V:C (affixes only)-rLa:t "lots of small"V-CVC (roots)

(affixes)

akuq "hind tail of coat"
aṇak "maternal uncle"
aṇut "male"
aluq "instep"
ipiq "dog rope"
iviq "dirt on hands from food"
imag "sea"
itig "anus"
isiq "fog"
inuk "human"
iqiq "corner of mouth"
ugak "cod"
ujak "shoulders"

-ataq "pleasant surprise"
-agag "a long time"
-alag "a baby"(animal)
-aluk "big"
-ilag "who is without"
-iluk "who has no longer"
-uvit "see igvit, you"
-usiq
-ugag "a long time"

V-CV:Cata:g "deposit in liquid"V-C:VC

appak "small penguin"
agvik "carving board"
attuk "adult"
atsaq "bear"
anniq "flat surface"
aggig "small duck"
aṇṇag "nephew of paternal uncle"
adlag "dirt on object"

-aggi "smell of"
-innaq "only such as"
-unnit "does not matter"
udjaq

V-C:V:C

aggait "hand"
amma:g "soap-stone"
adla:g "bird meat"

V-CVCV:-CV:C

aiviq "walrus"
a:sit "again"

-u:na:r(puq) "he goes through her"

V:-C:VC

aippaq "companion"
a:rqaq "is bad!"
u:mmat(i) "heat"
u:dzaq "skin left to rot"

VC-C:VC

arLuk "killer whale"
aqdjak "gun powder"

CV-CVC(roots)

panik "daughter"
pujuq "smoke"
malik "wave"
samak "friend"
nakak "stem of plant"
kaṇuq "white goose"
kiluk "sewing stitch"
kinit(tuq) "soaked in water"
qipik "blanket"

(affixes)

-marat "dubitative"
kuluk "miserable"
-galak "few"
-gijaq "my"
-guluk "affectionate term"
-liniq "who is used to"

CV-CV:C

kana:q "leg up to knee"

-tita:q "smth. has been done"
-kuta:q "who has a long"
-rata:q "who just did"
-raja:q "lots of small"
-lima:q "all of it"

CV-C:VC

kippaq "part of object"
kukkiq "food in teeth"
kutsug "chewing gum"
kiṇmik "heel"
kigvaq "messenger"

-vadlak "noise of shot"
-jaksaq "one who must be"
-tannaq "small and fat"
-taksaq "may be done"
-sunṇiq "smell or taste of"
-lidzar "sound"

CV:-CVC

taimak "in that fashion"
 saiguq "fence"
 ku:ruq "narrow valley"
 qa:tiq "ivory"

-lu:nit "or, too"¹⁴

CV:-C:VC

ku:tsiq "hip bone"

C:V-CVC (affixes only)

-mmarik "entirely"
 -kkiniq "handy at"
 -kkuvik "place for"

-kkumiq "you dirty ..."
 -rqamiq "one who just"
 -dlarik "really, one who is"
 -djaqut "under pad for" tr

C:V-CV:C (affixes only)

-ttuka:q "oblong"
 -rqapait "he does with severa

C:V-C:VQ (affixes only)

-vadluk "does now, having fo
 gotten"
 -gi:kkut "means to prevent "

C:V:-CVC (affixes only)

-tsaikut "something to preven
 -djaikut "something to preven

2.1.3.5 Summary of word final syllable

The final syllable has the same basic structure as other syllables. Some restrictions are put on the final consonant which has to be a non-nasal stop. Roots end in /t/, /k/, /q/, but nominal roots are seldom found ending in an alveolar, never in isolation. Endings may end in alveolar stop and bilabial stop /p/, e.g., -up 'transitive nominal declension'¹⁵.

2.1.4 Summary of the structure of the Eskimo syllable

The structure of the Eskimo syllable appears to be composed of an optional consonant, a vowel and an optional consonant, (C)V(C).

2.1.5 Morpheme structure

This was covered mostly in the preceding main section 2.1. It is sufficient to emphasize that morphemes appear to be composed of one, two or three syllables. A longer sequence is usually the result of affixation. One finds concatenations of up to three different suffixes which complete one another and yield a somewhat autonomous new affix, semantically different in some cases.

Enclitics have the same structure as roots.

Examples of enclitics

--lu "and, too"
 --li "but"
 --lu:nit "even, either...or"
 --tauq "too"
 --guuq "it is said"
 --kiaq "I don't know"
 --a:sit "again"
 --tu:q "if only"
 --ai "hey, well!"

Enclitics beginning with a vowel, e.g. ai, are linked to the word final syllable. If the last segment of the syllable is a vowel, nothing occurs. If it is a long vowel, a velar nasal is sometimes heard. This however is very rare. If the final segment of the preceding word is a consonant, it nasalizes.

C opt → [+nas] / — V_(enclitic)

The enclitic -a:sit "I don't know" usually deletes a stem final consonant.

-tu:q and ta:q, (that is anterior stop initial enclitics) are not linked.

-kiaq and -gu:q, (that is back initial consonants) delete the stem final consonant.

-liquid initial ones voice the stem final consonant.

The rules involved are the following:

$$C \longrightarrow \emptyset \quad / \quad _____\# \left\{ \begin{array}{l} VV \\ C \\ [+back] \end{array} \right\} \\ \text{(enclitic)}$$

$$C \longrightarrow [+nas] \quad / \quad _____\# V$$

$$C \longrightarrow [+cont] \quad / \quad _____\# \left[\begin{array}{l} +voc \\ +cons \end{array} \right] \\ \text{(enclitic)}$$

2.2. Word structure

Roots, suffixes and endings are put together according to the phonological rules, derived from the study of affixation found in the following chapters, to form words. The Eskimo word can be extremely complex and long. The restrictions as to the structure of the word are those encountered for initial, medial and final syllables, and their combinations. Special phonological rules apply at word boundary.

2.3 Behaviour of segments across word boundaries

2.3.1 C V

At word boundary, before a word beginning with a vowel, consonants generally are unreleased. They can be optionally nasalized.

C OPT → [+nas] / ____[#]V

1. /p/ is either unreleased or nasalized.

e.g., inu:p Irniŋa → /inu:mirniŋa/ "of the Eskimo's son"
/inu:irniŋa/

2. /t/ is unreleased, very seldom nasalized.

e.g., inuit t irniŋata → /inuiirniŋata/ "of the Eskimos' sons"

3. /k/ is either unreleased or nasalized.

e.g., inuk au Latirpuq → /inuauLatirpuq/ "an Eskimo goes away"
/inuŋauLatirpuq/

4. /q/ is either nasalized or becomes a continuant.

e.g., aivig au Latirpuq → /aiviNauLatirpuq/ "a walrus goes away"
/aivirauLatirpuq/

From this data it can be noted that intervocally across word boundary, a stop becomes unreleased or nasal versus continuant.

$$\begin{array}{c} \text{C} \\ \left[\begin{array}{c} +\text{back} \\ -\text{high} \end{array} \right] \end{array} \longrightarrow [+cnt] / \text{V} \text{ ____ } \text{V}^{\#}$$

$$\text{C} \text{ OPT} \longrightarrow [+nas] / \text{V} \text{ ____ } \text{V}^{\#}$$

2.3.2 C[#]C

At word boundary, before a word beginning with a consonant, consonants behave in the following fashion:

1. /p/ is unreleased before all word-initial consonants except /m/, in which case it assimilates and nasalizes.

$$\begin{array}{c} \text{C} \\ \left[\begin{array}{c} +\text{ant} \\ -\text{cor} \end{array} \right] \longrightarrow \left[+\text{nas} \right] / \text{---} \# \left[\begin{array}{c} +\text{ant} \\ -\text{cor} \\ +\text{nas} \end{array} \right] \end{array}$$

e.g., inu:p kamiŋa → /inu:kamiŋa/ "of the Eskimo's boot"
marraŋa → /inummarraŋa/ "of the Eskimo's dishes"

2. /t/ is always unreleased:

e.g., inuit kaminni → /inuikaminni/ "the Eskimos' boots"
 inuit nalavut → /inuinnalavut/ "the Eskimos" lie down"

3. /k/ is deleted before back consonants, that is, /g/, /k/, /q/. It assimilates in nasality to anterior nasals and becomes a continuant before continuants (words of foreign origins). It is unchanged before non-back stops, that is, /p/, /s/, /t/.

$$\begin{array}{c} \text{C} \\ \left[\begin{array}{c} +\text{back} \\ +\text{high} \end{array} \right] \longrightarrow \left\{ \begin{array}{l} \emptyset / \text{---} \# \left[\begin{array}{c} +\text{back} \end{array} \right] \\ \left[+\text{nas} \right] / \text{---} \# \left[\begin{array}{c} +\text{ant} \\ +\text{nas} \end{array} \right] \\ \left[+\text{cnt} \right] / \text{---} \# \left[+\text{cnt} \right] \end{array} \right\}$$

e.g., inuk kisitsivuq → /inukisitsivuq/ "the Eskimo counts"
 " gaivuq → /inugaivuq/ " " " comes"
 " malikpuq → /inunmalikpuq/ " " " follows"
 " nalavuq → /inunnalavuq/ " " " lies down"
 " jamaŋŋittuq → /inugjamaŋŋittuq/ " " "is not German"
 " pisukpuq → /inukpisukpuq/ " " " walks"
 " sinikpuq → /inuksinikpuq/ " " " sleeps"
 " takuvuq → /inuktakuvuq/ " " " sees"

2.4 Summary of this chapter

The Eskimo syllable has the structure (C)V(C).

The smallest morpheme is monosyllabic, V. Morphemes (roots suffixes, endings and enclitics) are rarely composed of more than three syllables. When this occurs, the morpheme appears to have resulted from the fusion of a former root and an affix, or of two or more affixes. The word is usually polysyllabic and made of a root, optional affixes and an ending. These agglutinate according to specific phonological rules. There are never three vowels in a sequence, nor three consonants. Two or more sequential groups of two consonants are not allowed in the Ungava dialect. The first consonant of group 2, 4, 6, etc, is deleted. A consonant preceding a nasal becomes nasalized.

2.5 Summary of rules encountered in this chapter

rule of tense vowel formation

$$\begin{array}{c} \text{V} \\ \left[\begin{array}{cc} \alpha & \text{high} \\ \beta & \text{back} \end{array} \right] \end{array} \longrightarrow [-\text{syll}] / \cancel{\#} (\text{C}) \quad \begin{array}{c} \text{V} \\ \left[\begin{array}{cc} \alpha & \text{high} \\ \beta & \text{back} \end{array} \right] \end{array} \longrightarrow$$

When two identical vowels (preceded or followed by an optional consonant) occur either before or after a word boundary (or a morpheme boundary), the second one loses syllabicity and the first one becomes tense.

rule of diphthong formation

$$\begin{array}{c} \text{V} \\ [+high] \end{array} \longrightarrow [-\text{syll}] / \cancel{\#} (\text{C}) \quad \begin{array}{c} \text{V} \\ [-high] \end{array} \longrightarrow$$

When two vowels, the second one being higher than the first one, (preceded or followed by an optional consonant) occur either before or after a word boundary (or a morpheme boundary), the second one becomes non-vocalic, that is, a glide.

M.S. rule: initial consonantal segment

$$C \longrightarrow \left[\begin{array}{c} -\text{cnt} \\ -\text{tense} \end{array} \right] / \# \text{ ______ }$$

An initial root consonant has to be a stop.

tri-vocalic rule

$$[+\text{voc}] \longrightarrow [+cns] / VV \text{ ______ }$$

There cannot be more than two vowels in a sequence. When this occurs, one of them is deleted.

M.S. rule: nature of a second syllable after word boundary

$$V \longrightarrow [-\text{back}] / \# \overset{V}{\left[\begin{array}{c} +\text{high} \\ -\text{back} \end{array} \right]} \text{ ______ } C$$

If, after word boundary, the initial vowel is /i/, the following vowel cannot be /u/.

Nasalization rule

$$C \longrightarrow [+nas] / \text{ ______ } [+nas]$$

A consonant preceding a nasal is nasalized.

M.S. rule: nature of final consonant

$$C_4 \longrightarrow \left[\begin{array}{c} -\text{cnt} \\ -\text{tense} \\ -\text{nas} \end{array} \right] / \text{ ______ } \#$$

Before word boundary, a consonant cannot be a continuant nor a nasal, and it must be lax.

$$C_4 \longrightarrow [+back] / \text{---} \\ \text{n.r.*} \\ \left\{ \begin{array}{l} [+back] \\ [+cor] \\ [+ant] \end{array} \right\} / \text{---} \\ \text{v.r.}$$

★ n.r., stands for nominal root, v.r. for verbal root.

Footnotes to Chapter II

- ¹ For the remainder of this chapter, examples in general will be given in the left-hand column while examples of roots will be given in the right-hand one. When examples of suffixes are introduced, general examples if necessary will be given in a separate table, and will be followed by root examples in the left-hand side and suffix examples in the right-hand side. Only the relevant syllable will be underlined in each example.
- ² See chapter one section 1.1.1.4, and appendix I.
- ³ See Chomsky and Halle [48] p. 360.
- ⁴ this root is a:kka in Western dialects.
- ⁵ /s/ represents a stop, sometimes a continuant of the underlying structure. This one represents a stop (see Appendix I). It is of some interest to note that one of my informants gave me both tuqusiq and sugusiq "boy" while the other was consistent in giving me the /s/ form. As pointed out by Gagne [5], p. 62, /t/ as a plosive is breaking down

under the force of assibilation of its release and is sometimes replaced by an /s/, especially before /i/. We shall see that the stop form of /s/ might have originated from a /t/ while the continuant might have originated from a palatal fricative.

- ⁶ /m/ and /n/ are the only nasal stops. /ŋ/ and /N/ are redundantly continuants.

- ⁷ There are several cases of what seems to be the same process. The vowel tensing and diphthong formation rules have not been generalized for lack of notational devices.

- ⁸ Monosyllabic roots have to conform to the structure of both the initial syllable and the final syllable. However, no root ends in a /p/. Here, as in the preceding example, the root final consonant has assimilated to the initial consonant of the following morpheme.

- ⁹ This rule is a phonological rule which works independently from other M.S. rules. In this case if it were ordered, it would have to be ordered before the tensing rule, or the diphthongization rule. However, we shall encounter occurrences of affixation of a tense initial of affix to a root ending in a tense or lax vowel where that rule

applies. The rule could be formulated to account for the three cases, that is, three lax vowels in a sequence, or sequences of a lax (or tense or diphthong) vowel and a tense, or diphthong (or lax) vowel. This makes the rule heavy and not economical. It might be better to have another rule preceding the tri-vocalic rule which annihilates the tensing across morpheme boundaries. This however is not more economical. The only solution is to restrict rules of tensing to morphemes in isolation. Tensing rules apply at two levels: in the morpheme structure and as late rules in the composition of an autonomous word.

¹⁰ In the event that examples exist in monosyllabic, bisyllabic and polysyllabic roots or suffixes, they will be given in that order: a blank in a column indicates that no example has been found for that category.

¹¹ Affixes with no gloss are impossible to translate when in isolation. The space for the gloss will be left blank. Glosses for all affixes are approximations.

¹² When an affix or a root apparently ending in a vowel is followed by an ending in /t/ as in /tuq/ or in /p/ as in /puq/ or /pa:/ the morpheme was not really in a final vowel but a

consonant followed it. This consonant has been deleted by the dbl,rule which states that in the Ungava dialects, there cannot be a sequence of two consonant clusters (or two tense consonants). When this occurs, through affixation mainly, the first consonant of the second, (fourth, sixth etc), cluster is deleted. A tense consonant being the result of assimilation, gemination and complete fusion of two lax segments, the initial segment regains its nature as a full independent segment and is deleted.

Rule of double consonant

$$C \longrightarrow \emptyset / CC(V)V_C$$

- ¹³ See Osahito Miyaoka [20]. In this article, Miyaoka shows that roots ending in -quq, -ruq, -lu, -suk, -aq, are in fact more primary roots to which those suffixes have been added and more or less incorporated. Another one of these is -ut(i) "instrument for". We shall encounter occasions when during affixation, these suffixes completely disappear from the surface phonological structure.

- ¹⁴ -a:sit is in fact an enclitic which, like most vowel initial enclitics, is affixed to the word with special affixation rules.

- ¹⁵ See Chapter V

CHAPTER III

Affixation: Vowel Initial Affixes

CHAPTER III Affixation: vowel initial affixes

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- 3.2 Affix - root relationship
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 - 3.2.2 Dominant suffixes
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3.4.4 vowel initial affixes: Summary

CHAPTER III

3.1 Introduction to affixes

Transformational grammar considers all morphemes as equal in importance. Phonology conditions or explains the systematic harmonization of the union of morphemes. Here occurs the integration of phonology to the higher level, morphology and even sometimes syntax; there is no difference of level between explaining or conditioning the systematic reunion of morphemes (through rules) and describing their sound composition. These are two parts of generative phonology. It is in this spirit that we shall approach affixation⁶.

Affixation will be dealt with in a general manner in Chapters III and IV; in subsequent chapters, affixation of terminal suffixes (or endings) will be studied.

3.2 Affix - root relationships

3.2.1 General classification of suffixes

An Eskimo sentence is made of one or several words. A word is comprised of a stem which can be nominal or verbal, one or several suffixes and a terminal suffix. The latter may be followed by enclitics. In Eskimo, there is only one prefix, ta-, which is found with demonstratives exclusively.

e.g. una "this visible one"
 tanna "this visible one already spoken of"

Suffixes are of two types:

1. dominant suffixes, which form the head of the constitute and determine its syntactic behavior;
2. satellite suffixes, which do not determine the syntactic behavior of the constitute to which they belong¹.

As from this point, all Eskimo words given as examples will be written in a simplified version of Schneider's orthography [22]².

3.2.2 Dominant Suffixes

a) nominal suffixes: -uti, -giaq, -tuq, -lik,
-vik, etc.

- e.g. (i) aittupaa "he gives it to him"
aittuuti "gift"
- (ii) uqaqpuq "he speaks"
ugariaq "speech"
- (iii) pisukpuq "he walks"
pisuktug "the walker, him who walks"
- (iv) atiq "name"
atilik "who has name"
- (v) tuksiapug "he prays"
tuksiavik "church"

b) verbal suffixes: -qaq-, -rpuq-, -puq (-vuq),
-u-, -it-

- (i) atiq "name"
atigapug "he has a name"
- (ii) nuna "land"
nunarpug "he goes to the land"
- (iii) tuktuk "caribou"
tuktupug "he catches a caribou"
- (iv) Pita "Peter"
Pitauvuna "I am Peter"

(v) iglumi "in the house"

iglumiippuq "he is in the house"

3.2.3 Satellite Suffixes

a) nominal suffixes -tsiaq ,

e.g. arnaq "woman"

arnatsiaq "pretty woman"

b) verbal suffixes -guma (-kuma)

e.g. pisukpuq "he walks"

pisugumavug "he wants to walk"

3.2.4 Example of affix - root relationship

nuna tsia qa ruma niar tu kuluk

-tsiaq, satellite suffix, takes on the nominal class of nuna.

-gar-, imposes its verbal class on the group composed of

nuna 'land', and tsiaq, 'pretty'.

-niar-, 'future' and -guma- 'want', are satellites of gar,

'have', which is a verbal suffix.

-tuq-, nominal dominant suffix, has a satellite kuluk, 'small',

and imposes its syntactic class on the complex pre-

ceding it, that is, -gar- becomes a satellite of

-tuq-.

The full stem is then: nunatsiaqarumaniartukuluk 'the small one who will want to have a pretty country'.

87.

The above explained relationship of root and suffixes can be shown in a block diagram³.

[illegible]

3.3.1 Roots

To determine the underlying form of roots, it is productive to make a comparison of paradigms. I shall take the forms isolated by Schneider in his dictionary [23] and his infix-dictionary [21] and then try to discover the underlying forms in the case of several phonetic representations of supposedly the same affix. The following roots will be used:

A Nominal roots

- (i) vowel final a) 1 vowel final: nuna 'land'
anaana 'mother'
- b) 2 vowels final: saa 'table'
(or tense vowel)
iu 'husband'
- (ii) alveolar final a) with vowel: siuti 'snow'
b) without vowel: siut 'snow'
- (iii) velar final a) 1 vowel + C inuk 'man, Eskimo'
b) 2 vowels + C kuuk 'river'
(or a tense vowel) + C auk 'blood'
- c) 1 long vowel + C inu:k '2 men'
- d) 2 vowels + C kikiäk 'nail'
(polysyllabic root)

- (iv) uvular final a) 1 vowel + C tupiq 'tent'
- b) 2 vowels + C gaag 'skin as mat-
tress'
 umiag 'boat'
- (or a tense one) + C
 aig 'sleeve'

B Verbal roots

- (i) vowel ending takuvuq 'see'
- (ii) alveolar ending tikitpuq 'arrive'
- (iii) velar ending malikpuq 'follow'
- (iv) uvular ending tusagpuq 'hear'

3.3 Initial segments of affixes

The initial segment of an affix can be:

- (i) a vowel e.g. -aaluk 'big'; -uvuq 'is'; -ippuq 'is' (place) ..
- (ii)' a nasal e.g. -ṇṇituq 'not..'; -mmarik- 'a lot';
-niar- 'future'.
- (iii) a stop e.g. -puq 'mark of 3rd person'; -tit 'make someone
do something'; -kuluk 'small'; -qar- 'have'.
- (iv) a fricative, unvoiced e.g. -Luṇa 'gerund 1st person';
-siur- 'look for, hunt'.
- (v) a fricative, voiced e.g. -vinuq 'old, wrecked';
-guma (-kuma) 'want'.
- (vi) a glide e.g. -juq nominalizing affix
- (vii) a lateral e.g. -laur- 'general past'
- (viii) a palatalized, stop e.g. -djaṇittuq 'forceful negation'

A few examples of each will be considered in order to study their effect on the root or the preceding affix.

3.4 Vowel initial affixes

Affix initials can be /a/, /i/, /u/. Schneider gives one occurrence of a tense vowel initial affix, -a:sit, which appears to be an enclitic and follows the rules applicable across word boundaries.

3.4.1 /a/ initial segment of suffix

Consider the following examples:*

<u>-anajuq</u>	"he is nearly, almost like.."	<u>-araq</u>	"baby of"
<u>-alaarpug</u>	"it rains, snows..a little"	<u>-ajuk</u>	"kill a lot of."
<u>-adlurikpug</u>	"quickly"	<u>-ardjuk</u>	"nice"
<u>-aluk</u>	"big"	<u>-aqivug</u>	"suddenly"
<u>-apik</u>	"small, nice"		

*c.f. Schneider, Dictionary of affixes [21 1

We shall take one example of this series and study it in more detail.

3.4.1.1 -aluk, nunaaluk 'big land'

1. nunaaluk
2. inualuk
tupialuk
3. kikiaraaluk
kuuraaluk
kuugaaluk
4. umiaraaluk
qaaraaluk
5. uiraaluk
saaraaluk

In all the above examples an affix with the common meaning 'big' can be identified. In 1, the form of the affix is -aluk. In 2, the deletion of the final consonant of the root has to be explained. In 3 and 4, there seems to be either a voicing of the root final consonant or its deletion altogether with -aaluk or -raaluk as the affix.

In 5, there is no root final consonant: ui 'husband', saa 'table', but the affix is introduced by a consonant and the affix form seems to be -aaluk. This variation in the data suggests the following question: is the underlying form of the affix -aluk or -aaluk?

If we postulate -aluk, we should have to explain:

- a) consonant deletion in 2,
- b) consonant deletion and insertion of two segments -ra- in 3 and 4,
- c) insertion of two segments in 5.

If we postulate -aaluk as the underlying form, we should have to explain:

- a) consonant deletion 2, 3, 4, consonant insertion in 5, vowel deletion in 1, 2.

3.4.1.2 Underlying affix: -aluk? -aaluk?

Whether -aluk or -aaluk is chosen, there is a stem final consonant deletion. We have to state that vowel /a/ deletes preceding consonants at morpheme boundary. What feature in the vowel deletes is not known, nor whether all vowels do so.

Why is there an insertion of two segments? This phenomenon occurs at morpheme boundary when the root ends

in two vowels and the affix initial is a vowel. However, there is a form kuugaaluk, kikiagaaluk, that is, the segment inserted would be -ga instead of -ra, for roots ending in a velar. This form is compulsory west of Hudson Bay and optional for Fort Chimo. As Fort Chimo's dialect is in an advanced stage of assimilation, it seems necessary to take this second form into consideration to understand the process involved.

Accepting the western dialects' version, it appears that in roots ending in a velar preceded by two vowels, the velar becomes a continuant instead of being deleted. The same thing would occur in the case of a uvular preceded by two vowels.

Why is that consonant protected when preceded by two vowels and deleted when preceded by a single vowel? Why is there an insertion of a new consonant if the root ends in two vowels? In discussing morpheme-structure and word structure it was noted that there is no case of three vowel clusters. To prevent such an occurrence, the consonant would be spared in roots ending in two vowels and a consonant. On the other hand, a consonant would be inserted between two groups of two vowels. This does not explain the reduplication of the vowel found in 3, 4, 5. In this context it should be

noted that we shall encounter in section 3.4.2.1 umianuvuq for what appears to be an underlying umiaq + uvuq 'it is a boat'.

This difference cannot be explained and it is therefore easier to postulate -aaluk as the underlying affix. The absence of consonant, at morpheme boundary in inualuk, and the absence of a velar in kikiaraaluk can be explained by a deleting power of the vowel /a/. The absence of a three vowel cluster in inualuk proves that one of the vowels of the affix is deleted. At this stage we do not know whether the first or second vowel is deleted. That same vowel is spared in the case of uiraaluk and saaraaluk by the insertion of a consonant, apparently a uvular, thus preventing the mutilation of the affix. If all vowels were deleted until only two were left, we would end with -luk, which is a form totally different in meaning.

3.4.1.3 The set of rules which apply here are the following:

Pre-vowel /a/ consonant deletion:

$$c \longrightarrow \emptyset \quad / \quad v ______ \overset{V}{+} \quad [+ \text{ low}]$$

that is, a root final consonant is deleted at morpheme boundary by a low vowel affix initial.

e.g.

inuk + -aaluk	kikiak + -aaluk	umiaq + -aaluk	→
nasaq + "	kuuk + "	qaaq + "	
tupiq + "			
inu	kikia	umia	
nasa	kuu	qaa	
tupi			

Epenthesis rule:

$$\emptyset \longrightarrow \left[\begin{array}{c} -\text{voc} \\ +\text{back} \\ -\text{high} \\ +\text{cnt} \end{array} \right] / \text{VV} __\text{VV}$$

that is, when two groups of two vowels (or two tense vowels, or a group of two vowels and a tense vowel, or a tense vowel and a group of two vowels) are in contact, at morpheme boundary, a voiced uvular is inserted.

e.g.

saa + -aaluk	kikia + aaluk	umia + -aaluk	→
ui + "	kuu + "	qaa + "	
saaraaluk	kikiaraaluk	umiaraaluk	
uiraaluk	kuuraaluk	qaaraaluk	

Tri-vocalic rule:

From the data above, we do not know which vowel is deleted.

A quick glance through other forms allows one to postulate that *i'* is the third vowel which disappears, so the following rule can be proposed:

$$v \longrightarrow \emptyset / \text{VV} ___$$

that is, a vowel is deleted after a group of two vowels, or a

tense vowel..

e.g.

inu + -aaluk	→	inualuk
nasa + "	→	nasaaluk
tupi + "	→	tupialuk

3.4.1.4 Why do we find the kikiagaaluk form? Two explanations are possible.

First hypothesis As previously mentioned, the final consonant might be spared by turning it into a continuant. Another rule has then to be added to our set.

Continuizing of root final consonant at morpheme boundary between two groups of two vowels, i.e., continuizing rule:

$$C \longrightarrow [+cnt] / VV_ +VV$$

e.g.

kikiak + -aaluk	umiag + -aaluk	→
kuuk + "	qaaq + "	
<u>kikiagaaluk</u>	<u>umiaraaluk</u>	
<u>kuugaaluk</u>	<u>qaaraaluk</u>	

This rule should be ordered before the pre-vowel /a/ consonant deletion to prevent deletion of this set of consonants.

Second hypothesis The -r- inserted is a velar in its underlying form, and has been lowered. (See section 3.4.4.2). The velar would be optionally lowered before the vowel /a/ which is low.

Tentative lowering rule

$$\begin{bmatrix} c \\ +back \\ +high \end{bmatrix} \xrightarrow{\text{opt}} [-high] / VV \text{ ______ } \overset{V}{[+ low] V}$$

that is, an inserted consonant (velar) is lowered by a following low vowel. This rule would work only for Ungava where all of the root final segments are deleted and replaced by a consonant. It would not work for dialects which always have a velar continuant in place of the velars and a uvular continuant elsewhere. To postulate that all the root final consonants are deleted and then replaced by a velar continuant where there was a velar and a uvular continuant where there was a uvular seems a rather complicated and improbable exercise. This matter will be dealt with in more depth in section 3.4.2.2 .

3.4.1.5 Final ordering of rules

The continuizing rule, if used, is to be ordered first so as not to allow deletion of the root final consonant.

The consonant deletion follows. The epenthesis rule and the tri-vocalic rule can be in any order. However, there might be a preference for ordering the epenthesis rule first so as to avoid any unwanted deletions.

3.4.1.6 SUMMARY OF RULES

nuna + -aaluk	inuk + -aaluk	kikiak + -aaluk	saa + -aaluk
	tupiq	umiaq	ui →
		kuuk	

continuizing rule and lowering of high cons. (OPT)

kikiagaaluk	(kikiaraaluk)
kuugaaluk	(kuuraaluk)
umiaraaluk	

pre-vowel /a/ deletion of cons.

inu	kikia
tupi	umia
	kuu

epenthesis rule

kikia + -r-	saa + -r-
umia + -r-	ui + -r-
kuu + -r-	

tri-vocalic deletion

-aluk	-aluk
-------	-------

Results

nunaaluk	inualuk	kikiaraaluk	saaraaluk
	tupialuk	umiaraaluk	uiraaluk
		kuuraaluk	

3.4.1.7 The underlying form -aaluk entices us to check whether all the infixes given by Schneider [21] as one vowel initial, do in fact begin with two vowels (or a tense one). If such were the case, the same set of rules would apply.

(i) -alaq "baby of"

udjuk "seal" udjualaq "baby seal"

qupanuaq "sparrow" qupanuaraalaq "baby sparrow"

By similar reasoning to that applied in the case of -aaluk, the underlying form of the affix here is -aalaq.

(ii) -apik "small, nice"

kuuk "river" kuuraapik "small stream"

The underlying form of the affix is -aapik

(iii) -ardjuk "kind, beautiful"

irniq "son" irniardjuk "very kind son"

ui "husband" uiraardjuk "very kind husband"

The underlying form of the affix is -aardjuk

(iv) -adlurikpuq : quickly.

pisuk "walk" pisuadlurikpuq "fast walking"

I have been unable to check the behavior of the affix with a root ending in two vowels. However, the final consonant of the root is deleted so it can be said that the vowel /a/, lax or tense, deletes root final consonants.

3.4.1.8 Summary of affix initial /a/

Affixes beginning with a low vowel (either lax or tense) delete the root final consonant. However, this is modified in certain instances:

- 1) if the affix begins with a lax vowel, it deletes all final consonants.
- 2) if the affix begins with a tense (or double) vowel, the behavior of the root is determined by its structure.
 - a) if the root ends in two vowels (or a tense vowel) followed by a consonant, there are two hypotheses as to what occurs:- (i) the root final consonant becomes continuant
 (ii) the root final consonant is deleted in all environments, then a consonant (uvular) is inserted.
 - b) if the root ends in two vowels (or a tense vowel) a uvular continuant is inserted. In this case, the contact of two groups of two vowels is equivalent to the contact in a) (ii) after the deletion of a consonant. In all cases, if after the application of the rules previously cited there are three vowels in contact (or any combination of a lax vowel and a tense one) the third vowel is deleted. It should

be remembered that a tense segment behaves as two segments
and for that reason is written as such.

3.4.2 Vowel initial /u/ affix

3.4.2.1 -u- morpheme of identification, "to be"

- | | |
|--|-------------------------------------|
| 1. <u>anaanauvuq</u> "she is a mother" | 2. <u>inuuvuq</u> "he is an Eskimo" |
| <u>igluuvuq</u> "it is an igloo" | <u>tupiuvuq</u> "it is a tent" |
| 3. <u>kikianuvuq</u> "it is a nail" | 4. <u>umianuvuq</u> "it is a boat" |
| <u>kuunuvuq</u> "it is a river" | <u>qaanuvuq</u> "it is a mattress" |
| 5. <u>uinuvuq</u> "he is a husband" | |
| <u>saanuvuq</u> "it is a table" | |

*Schneider's orthography for double consonants or tense ones.

In light of the conclusions drawn in the previous section, the underlying form of the affix, which we gloss as "to be", seems to be -u-vuq. Nowhere do we find a reduplication of the affix initial vowel. The pattern of rules devised in the previous section seems to be followed but this time, we have the insertion of a nasal velar. The following changes require explanation at this point 1) the deletion of the root final consonant 2) the insertion of the nasal velar.

In this problem, the vowel /u/ is the deleter of the root final consonant. This allows us to generalize on the previous deletion rule as /a/ and /u/ have in common only their general class features, that is $\begin{bmatrix} +\text{voc} \\ -\text{cons} \end{bmatrix}$: V. The new consonant deletion rule states that at morpheme boundary, the root final consonant is deleted by a following vowel.

$$C \longrightarrow \emptyset / __ + V$$

Note that this affix deletes all consonants in all environments. This gives credibility to the hypothesis of the deletion of all similar cases by the affix -aaluk. The hypothesis of the continuizing of consonants in some restricted environments is less probable.

3.4.2.2 Velar/uvular insertion

The epenthesis is that of a nasal velar. Why did we have a uvular before /a/? The velar nasal is redundantly continuant; the uvular was a continuant, but not a nasal. Thalbitzer [32], p. 985-86 notes that there seems to be a free variation as to the use of the velar continuant /g/ and the nasal continuant /ŋ/. This can be found in our data in the [ga] versus [ŋa] ending for the possessive form, first person singular. The pronoun uvaŋa: "me" appears to be uvap + ga (possessive ending, first person). -ga is found in nunaga etc. Another example is the alternation between qusukpuq and ŋusukpuq "he fancies". It might explain the nasalization. The segment inserted would be a velar continuant which is lowered before a low vowel to a uvular.

The epenthesis rule would be:

$$\emptyset \rightarrow \left[\begin{array}{c} +\text{back} \\ +\text{cont} \\ +\text{high} \end{array} \right] / \text{VV} \text{ ______ } \text{V(V)}$$

$$\begin{array}{c} C \\ \left[\begin{array}{l} +\text{back} \\ +\text{high} \\ +\text{cont} \end{array} \right] \longrightarrow [-\text{high}] / \text{VV} \text{---} \begin{array}{c} V \\ [+low] \end{array} (V) \end{array}$$

Note that the insertion in this case is between a group of two vowels and a single vowel followed by a continuant, V . It is not compulsory to have an affix beginning with two vowels.

3.4.2.3 Applying the set of rules already formulated, we have:

iglu + uvuq	inuk + uvuq	kikiak + uvuq	umiaq + uvuq	saa + uvuq
	tupiq + "	kuuk + "	qaaq	ui + "

Pre-vocalic consonant deletion

inu	kikia	umia
tupi	kuu	qaa

Epenthesis rule

kikianuvuq	umianuvuq	saaηuvuq
kuuηuvuq	qaaηuvuq	uiηuvuq

Tri-vocalic deletion

final forms

igluuvuq	inuuvuq	kikianuvuq	umianuvuq	saaηuvuq
	tupiuuvuq	kuuηuvuq	qaaηuvuq	uiηuvuq

Note that tri-vocalic deletion does not apply here as there are no three vowel clusters. We have to order the epenthesis rule before the tri-vocalic deletion rule to prevent the deletion of the affix -u-. We do not need the continuizing rule for either /a/ nor a /u/ affix initial.

3.4.2.4 Other affixes in /u/

1) -uijuq⁴ qamutiñuijuq "he works at his sled"

This form of the affix is never found for the following reasons:

- a) if the root ends in a vowel, the third vowel, that is /i/, would be deleted to give qamutiujuq "it is a sled".
- b) if the root ends in two vowels, the first vowel of the affix might be deleted, giving qamutiijjuq "it is in the sled".
- c) if the root ends in a consonant, the consonant would be deleted by a vowel initial affix, then a) or b) apply. There is always an insertion of a velar, giving the affix the phonetic form -ñuijuq. The deletion of the third vowel, which occurred in the case of nunaaluk, does not occur here because the meaning of the affix would be changed. From these remarks, we note:

- 1) that epenthesis occurs only to prevent the affix from mutilation leading to ambiguity;
 - 2) that epenthesis is not obligatorily applied after two vowels and before one or two vowels. It can occur after one single vowel and before two vowels to prevent ambiguity.
- Thus, we revise the epenthesis rule as follows:

$$\emptyset \rightarrow \begin{bmatrix} +\text{back} \\ +\text{high} \\ +\text{cnt} \end{bmatrix} \quad / \quad (V) \ V \ ___\ V \ (V)$$

$$\begin{bmatrix} +\text{back} \\ +\text{high} \\ +\text{cnt} \end{bmatrix} \rightarrow [-\text{high}] \quad / \quad VV \ ___\ \overset{V}{[+\text{low}]} \ V$$

Those two rules have to apply in this order as the second one works only on the output of the first one.

- 2) ujuq "turned over, capsized"
 qajaujuq "he capsized in his "kayak"
 umiujuq "his boat was turned over"

In the second example, we do not have the form *umianujuq.

Instead of this, the -aq of umiaq has disappeared from the phonetic form of the root. There are other examples of deleting -aq:

-tuaq + uvuq	-tuuvuq	(affixes, not translatable when
-djuaq + "	-djuuvuq	isolated)
-giaq + irpuq	-giirpuq	
nuliaq + ittug	nuliittug	<u>nuliaq</u> "wife"

This contraction is quite common in Eskimo, and is optional.

It seems that -aq is an affix which no longer functions as such but which is incorporated in the root or preceding affix.

In the examples above, it might be necessary to postulate a form $\emptyset$ for this affix which would optionally replace the form -aq. Further study of the matter might shed some light as to what is the nature of -aq and the processes involved.

3) -udzaq taken by (flood, thaw, river etc....)

<u>siku</u>	<u>sikuudzaq</u>	"taken by the ice"
<u>kuuk</u>	<u>kuuṇudzaq</u>	"taken by the river" (kuugudzaq)
<u>aup<u>u</u>q</u>	<u>aun<u>u</u>dzaq</u>	"taken by the flood"
<u>surujuli</u>	<u>surujulidzaq</u>	"taken by the rain water"

4) -ujaq "something like"

<u>niaquq</u>	<u>niaqu<u>u</u>jaq</u>	"something like a head"
<u>uqaq</u>	<u>uqa<u>u</u>jaq</u>	"something like a tongue"
<u>un<u>i</u>aq</u>	<u>umi<u>u</u>jaq</u>	(umiaṇujaq is rare)
		"something like a boat"

3.4.2.5 Summary: affix initial /u/ delete the root final consonant. A velar continuant is inserted between any combination of a vowel and a group of two vowels (or a tense vowel) when it is necessary to protect the affix from mutilation which would change the meaning. The velar continuant inserted is usually a nasal but can be a non-nasal continuant (i.e. kuuṇudzaq versus kuugudzaq)

3.4.3 Vowel initial /i/. The rules applicable in the case of affix initial /u/ work in the case of affix initial /i/.

e.g., -it : iglumiippuq "he is in the house"

-irpaa⁵ "stealing"

ui uiŋirpaa "someone stole her husband"

savik saviirpaa "someone stole his knife"

arnaq arnaipaa "someone stole his woman"

umiaq umiaŋirpaa "someone stole his boat"

-irpaa "taken off his...."

annuraaq annurairpaa "he took off his clothes"

annuraanirpaa "he took off his clothes"

Here again, in this last example, two forms are possible:

one with a final -aq which has an insertion of /ŋ/ to

separate three vowels, one without -aq. See p. 103

3.4.4 Vowel initial affixes: Summary

- Vowel initial affixes delete the root final consonant.
- If three vowels are in contact at morpheme boundary, the third one of the cluster formed is deleted. However, if this deletion amounts to the mutilation of the affix in such a way that it annihilates the affix or allows an ambiguity of meaning, a velar continuant is introduced at morpheme boundary. This velar continuant nasal or not, is lowered to a uvular before a low vowel.

Footnotes to Chapter III

¹ Communication from J.P. Paillet

² Tense vowels will be written a:, i:, u:. Diphthongs will be written âi, âu.

Consonants will be represented in the following manner:

lax stops	:	p	t	k	q
lax liquid			l		
lax glide			j		
lax nasal		m	n	ŋ	N
lax continuant		v	s	g	r

tense stop		pp	tt	kk	rq
tense continuant		vv	ts	gg	rr
tense nasal		mm	nn	ηη	NN
tense liquid			L		
tense glide		dj or dz (depending on the origin, See Appendix 1).			

The difference between a tense stop (e.g. tt) and a cluster not thoroughly assimilated (or already differentiated, see Appendix 1) will be represented by tt kt

ts (tense s) and ks.

³ See Hockett [62]

⁴ This affix is given by Schneider [21].

⁵ Consider the form ulimauti + irpaa ulimautairpaa

The vowel of ulimauti changes to /a/ before /i/. As we shall see in section 5.1.1.3, that vowel can be optionally deleted in certain cases, leaving an alveolar /t/ as a stem final. In other dialects, this vowel is a low vowel /a/. It appears that /a/ and /i/ in this position replace the /ə/ which used to be the fourth vowel of the Eskimo language. It has now disappeared everywhere but in some dialects of Alaska.

⁶ See Bibeau [41].

CHAPTER IV

Affixation: Consonant initial affixes

CHAPTER IV Consonant Initial Affixes

4.1 General comments

4.2 Bilabial initial affixes

4.2.1 Stop initial affixes

4.2.2 Continuant initial affixes, satellite affixes

4.2.3 Continuant initial affixes, dominant affixes

4.2.4 Continuant versus stop initial, dominant affixes

4.2.5 Summary

4.3 Velar initial affixes

4.3.1 Velar stop initial

4.3.1.1 Satellite affixes

4.3.1.2 Dominant affixes

4.3.2 Tense velar initial

4.3.3 Initial velar continuant

4.3.3.1 Always in a continuant velar

4.3.3.2 Assimilating velar continuant

4.3.4 Velar continuant affix initial

4.3.5 Summary of velar initial affixes

4.4 Uvular initial affixes

4.4.1 Uvular stop initial

4.4.2 Lax uvular continuant initial

4.4.3 Tense uvular initial

4.5 Affixes initial alveolar, palatal and lateral

4.5.1 Alveolar stop initial /t/

4.5.1.1 Alveolar stop, non-deleting

4.5.1.2 Alveolar stop, deleting

4.5.1.3 Alveolar stops, assimilating or with secondary forms

4.5.1.4 Affixes in a tense initial stop /t/

4.5.2 Alveo-palatal initial, /s/

4.5.2.1 Non-deleter, lax /s/ initial

4.5.2.2 Deleter, lax /s/ initial

4.5.2.3 Affixes in /s/ versus /j/ (deleters)

4.5.2.4 Tense initial, /ts/ or /ks/

4.5.2.5 Summary of the section 4.5.2

4.5.3 Palatal initial affixes

4.5.3.1 Palatal glide /j/

4.5.3.2 Tense palatal initial

4.5.4 Lateral initial affixes

4.5.4.1 Liquid /l/ initial affixes

4.5.4.1.1 Deleters

4.5.4.1.2 Tense lateral initial, deleters and non-deleters

4.5.4.1.3 Dominant affix -liurpuq

4.5.4.2 Summary of lateral initial affixes

4.5.5 Summary of affixation of initial /t/, /s/, /j/, /l/

4.6 Anterior nasal initial

4.6.1 Bilabial nasal initial

4.6.2 Alveolar nasal

4.7 Back nasal initial

4.7.1 Velar nasal initial

4.7.2 Uvular nasal initial

4.8 General summary of consonant initial affixes

4. Consonant initial affixes

4.1 General comments

In the previous chapter, one type of deleting affixes was encountered, the vowel initial one. In this chapter, affixes will have consonants as initial segment.

Four types of affixes can be isolated:

- a) - those which do not affect the root or stem in any way.
- b) - those which modify the stem final consonant without deleting it.
- c) - those which delete the stem final consonant.
- d) - those which are modified by the final segment of the root.

The first three create no major problems. However, the fourth class is by far the most difficult to deal with as it appears to involve either segments which no longer exist in the structure of roots, or are influenced heavily by morphology and syntax¹.

Affixes in a form isolated by Schneider in his dictionary of affixes [21] will be taken as the base of the study. Examples will be given in his orthography for consonants and consonant clusters. The forms thus given as examples are not always the underlying forms of the affixes; these will be derived from the study of their phonological behavior.

The problem of affixation with consonant initial affixes is extremely complex as it is not only phonological but requires a good knowledge of morphology and syntax. Much depends on the nature of the affix and the nature of the root. A superficial solution to the problem can be arrived at and is presented in this work. Detailed examination of the presentation would reveal it to be incomplete. This applies also to certain problems involved in the affixation of endings with continuant initials in the possessive declension and certain moods in the conjugation. A complete explanation of consonant initial affix behavior is beyond the scope of this thesis. It would require a long and thorough examination of many examples of affixation of each unit. In examining the trends through interdialectal differences, a solution might be possible. This problem is closely linked to another, that of consonant clusters and tense consonants. An attempt at studying the latter is found in Appendix 1.

4.2 Bilabial initial affixes

4.2.1 Stop initial affixes

- (i) -paq "a big..."
- | | | |
|-------------------|----------------------|-------------------------------------|
| qupan <u>u</u> aq | qupanuar <u>p</u> aq | "a big sparrow" |
| inuk <u>u</u> | inuk <u>p</u> aq | "a big man" |
| kinuk <u>u</u> | kinuk <u>p</u> aq | "a big crawfish" |
| kigla <u>k</u> | kigla(k) <u>p</u> aq | "a big mountain" "en dents de scie" |
- (ii) -pa:g "the most...."
- | | | |
|------------------|------------|-----------------------------|
| igl <u>u</u> | iglupa:g | "the biggest igloo" |
| aṇini <u>q</u> | aṇinirpa:g | "the tallest" |
| isuks <u>i</u> q | isuksipa:g | "the most at the extremity" |

These affixes in /p/ are just added to the root without changing anything. Note that the initial /p/ remains between vowels.

4.2.2 Continuant initial. Satellite affixes

- (i) -vak "big"
- | | | |
|----------------|-------------------|----------------------|
| tuk <u>t</u> u | tuktuv <u>a</u> k | "a big caribou(cow)" |
| natsi <u>q</u> | natsiv <u>a</u> k | "a big seal" |
- (ii) -vik "big"
- | | | |
|-----------------|--------------------|-----------------------------|
| atani <u>q</u> | ataniv <u>i</u> k | "a big king" |
| aqiggi <u>q</u> | aqiggiv <u>i</u> k | "a big partridge" |
| ima <u>q</u> | imav <u>i</u> k | "an ocean (big salt water)" |
| atigi <u>i</u> | atigiv <u>i</u> k | "a big atigi" |
- (iii) -viniq "a piece of, one no longer useful"
- | | | |
|----------------|--------------------|----------------------|
| iglu <u>u</u> | igluvin <u>i</u> q | "ramshackle igloo" |
| kami <u>k</u> | kamivin <u>i</u> q | "beaten up old boot" |
| umi <u>a</u> q | umiav <u>i</u> q | "ship wreck" |
| natsi <u>q</u> | natsiv <u>i</u> q | "cadaver of a seal" |

The above affixes in /v/ initial all delete the stem final consonant. They are always in /v/, whether intervocally or after a consonant. Note that all of the above forms are nominal satellites, that is they are always after a nominal root and just modify it. What feature is common to a vowel and a /v/? Both delete root final consonants and they are both continuant. The deleting feature in the vowel must have been [+cnt]. The pre-vocalic deletion rule may be modified to the following:

$$C \longrightarrow \emptyset / \text{ — } + [+cnt]$$

that is, a consonant (root final) is deleted across weak morpheme boundary by a continuant (cf section 3.2.1).

4.2.3 Continuant, initial: dominant affix

niri (vuq)	nirivik	"place to eat"
ivuji (juq)	ivujivik	"place where are ice floes"
sinik (puq)	sinigvik	"sleeping bag"
niuvir (puq)	niuvirvik	"trading post"
mit (puq)	mipvik	"place to land"

In this series, the affix initial is a continuant but it does not delete root final consonant. It voices it, making a continuant. Obviously, the difference between this affix -vik and the previous one encountered is not phonological. Here, -vik is a dominant nominal affix which always follows a verb.

It appears that a verbal root cannot phonologically be modified by a continuant belonging to a dominant affix. A boundary which prevents interaction between the two units might be posited. The fact that the last root consonant becomes a continuant belongs in the sequential constraint rules of Eskimo: there are no occurrences of clusters made of a stop and a continuant; there is assimilation of the first segment to the second one.

-vadlak, vadlaivuq, vadlapuq, valuk, valukpuq: "sound of, it sounds, smells, looks like, perceive, it seems".

- | | | | |
|----|----------------------|---------------------|---|
| 1. | sirqu(<u>puq</u>) | sirqu <u>vadlak</u> | "noise of whip" |
| 2. | sigumik(pa:) | siqur <u>bvalak</u> | "noise of smth. which breaks" |
| 3. | pui(<u>yuq</u>) | puir <u>bvalak</u> | "noise of white whale coming up to |
| 4. | ii(<u>va:</u>) | iir <u>bvalak</u> | "noise of swallowing" breath |
| 5. | qukir(pa:) | qukir <u>bvalak</u> | "noise of gun" |
| 6. | siggii(<u>puq</u>) | siggii <u>valuk</u> | "noise of hard object cracking" |
| 7. | pirpaluktuq | pir <u>bvaluk</u> | "noise in general" |
| 8. | surb <u>valuk</u> | surb <u>valuk</u> | "noise in general" |

Here again, the affix is dominant nominal, in a /v/ initial.

However, note that in examples 3 and 4, the root was in a vowel ending and in the course of affixation, there is a q before the so-called /v/ initial. This indicates that the form of the affix is in -qv... . In examples 1 and 6, the initial uvular is deleted by the rule of double consonants; note however that the affix in -rbvaluk does not have a tense /dl/ which should reappear in example 6. Let us consider what happens

when these are affixed to a verb or to a dominant verbal affix.

4.2.4 Continuant versus stop initial, dominant affixes

inu-u-vuq	inu <u>u</u> vadlaivuq	"it seems to be an Eskimo"
arna-u-vuq	arna <u>u</u> vadlaivuq	"it seems to be a woman"
aṇuta-u-vuq	aṇuta <u>u</u> vadlaivuq	"it seems to be a man"
taku(vuq)	taku <u>v</u> adlapuq	"it seems that he sees"
tikit(puq)	tiki <u>p</u> alakpuq	"it seems that he comes"(tikibvalukpuq)
tusaq(puq)	tusa <u>r</u> bvalaktuq	"he thinks that he hears"(tusarpalukpuq)
pisuk(puq)	pisuk <u>v</u> alaktuq	"it seems that he walks"(pisukpalukpuq)

In these series, the affix has a form in /v/ intervocally and either a form in /p/ or in non-deleting /v/ after a consonant. It thus appears that a dominant affix never deletes stem final consonants. Of the two forms, the /v/ form seems to be the underlying one, and it becomes a stop (non-continuant) or remains a /v/ which does not delete after a consonant.

- Dominant verbal affix

-vadlapuq

kiak	kiak <u>p</u> alakpuq	kiakpaluk(atmospheric heat)"the atmosphere is	
imiḡ	imi <u>r</u> palakpuq	"it is wet"	hot'
imaḡ	ima <u>r</u> palaḡuq	"it is watery" (for soup)	

-vadlipuq, vadliayuq Verbal satellite

-su <u>v</u> adlituq	"he progresses, he gets better"
-pi <u>v</u> adlituq	"it does more and more..."
quviasu <u>v</u> adlituq	"he is happier" (quviasukpuq)
iti <u>v</u> adliayuq	"he goes out more and more" (itirpuq)

Of these two affixes, the first is a dominant verbal affix and takes on nominal roots. It does not delete and is in /v/ intervocally and in /p/ after a consonant. Again there is the alternance where the /v/ changes into a stop after a consonant. Compare with the second affix which is a verbal satellite and deletes the root final consonant.

4.2.5 To summarize

Affixes whose initial segment is a bilabial behave according to their syntactic class.

If they are dominant affixes, they do not delete the root or stem final consonant. Two forms are accepted for which no regularity has yet been found: either the stem final consonant becomes a continuant or the affix /v/ becomes a stop. This depends on dialectal preferences and on the nature of the affix. However, sometimes in the same dialect, the two possibilities are found. If they are satellite affixes, a continuant initial will delete a stem final consonant. Stop initial will not.

4.3 Velar initial affixes

4.3.1 velar stop initial

4.3.1.1 Satellite affixes

(a) -kainnapuq "he just....." (satellite verbal)

taku-vuq takukkainnapuq "he just saw"
 tikitpuq tikikkainnapuq "he just arrived"
 malikpuq malikkainnapuq "he just followed"
 tusarpuq tusakkainnapuq "he just heard"

(b) -kasak "nearly..." (kasakpuq, nearly...) (satellite verbal or
"merely..." nominal)

surusiq surusikkasak "nearly a boy (not quite adult, nearly
 anijuq anijukkasak "nearly tall (not quite)" child)
 pisukpuq pisukkasakpuq "he nearly walks"

(c) -kitarpuq "often" (satellite verbal)

niri-vuq nirikitarpuq "he eats often"
 sinik-puq sinikitarpuq "he sleeps often"
 tupak-puq tupakitarpuq "he wakes up often"
 imiqpuq imikitarpuq "he drinks often"

These affixes are all satellite affixes. They all delete the root final consonant. /k/ is not a continuant. It has to be postulated that satellite affixes in an initial velar stop delete the stem final consonant.

4.3.1.2 Dominant affixes

(a) -kuta:q "who has a long..."

niuk niukkuta:q "who has long legs"
 iglu iglukkuta:q "who has a long igloo"
 umiaq umiakkuta:q "who has a long boat"

This in turn can be verbalized

(tuksianittuq tuksianikkuta:rpuq "he does not pray for a long time"

(b) kittuq "who has a small..."

<u>siuti</u>	siutik <u>kittuq</u>	"who has small ears"
<u>uṇaniq</u>	uṇanik <u>kittuq</u>	"who has little attachment to..."
<u>pijariaq</u>	pijariak <u>kittuq</u>	"which requires little work"

The two affixes are dominant and can be found after nouns or verbs. However, when kittuq is found after a verbal root which has not been nominalized by another affix, some changes are to be found in the body of the root, e.g.,

niri(vuq)	nirrikippuq	"he eats little"
sinik(puq)	sinna:kippuq	"he sleeps little"

(These somewhat altered roots are perhaps nominal stems which occur independently).

To summarize

Velar initial stop affixes are mostly satellite affixes which delete the stem final consonant. However, some dominant affixes are in a velar stop and they also delete the stem final consonant.

$$c \longrightarrow \emptyset \quad \text{if} \quad \left\{ \begin{array}{c} \# \\ + \end{array} \right\} \left[\begin{array}{c} c \\ +back \\ +high \end{array} \right]$$

that is, affixes initial velar delete the stem final consonant, no matter what the boundary. It can be a morpheme boundary, +, or a strong morpheme boundary^{#2}.

Tense velar initial consonant

Dominant:

- (a)
- kkapa:
- (dbl karpa:) make someone...(dominant verbal)

<u>niri</u> -vuq	nirikkapa:	"he makes him eat"
<u>gia</u> -juq	qiakkapa:	"he makes him cry"
<u>imir</u> -puq	imikkapa:	"he makes him drink"
<u>pudli</u> -tuq	pudlikarpa:	"he makes him swell"

- (b)
- kkapuq
- "carry on oneself" (dominant verbal)

<u>qukiuti</u>	qukiutikkapuq	"he carries his gun, has his gun"
<u>ulu</u>	ulukkapuq	"she carries her knife, has her..."
<u>savik</u>	savikkapuq	"he carries his knife..."

- (c)
- kkinig
- "handy at, who is handy at"(dominant)

<u>sana</u> -vuq	sanakkinig	"good worker"
<u>pisuk</u> puq	pisukkinig	"good walker"

- (d)
- kkuvik
- "place for, recipient for"

<u>umiaq</u>	umiakkuvik	"mooring jetty"
<u>niri</u>	nirikkuvik	"place to keep food"
<u>qanima</u>	qanimakkuvik	"place for sick (hospital)"
<u>sanik</u>	sanikkuvik	"dust bin" (sanikurvik)

- (e) -kkumava: "he wants to have a..." -kkuminarpug "it is desirable to have"
- | | | |
|-----------------|------------------|--|
| <u>ikajurti</u> | ikajurtikumava: | "he wants him as a help" |
| <u>ila</u> | ilakkuminarputit | "it is desirable to have you as a frier" |

Note that these affixes are all dominant ones. In the case of -kkuma- and kkuminar-, these forms are used with nominal roots.

pi pikkumava: "it is desirable to have that thing"

ilakkuminarpug "see above gloss"

(see guma p. 129)

To summarize

Affixes whose initial segment is a tense velar stop are all dominant affixes. They all delete stem- or root- final consonants.

4.3.3 Initial velar continuant

These belong to two different categories: those which are always in a velar continuant and those which adapt themselves to the stem final segment.

4.3.3.1 Always in a continuant velar

-gaq "object (of an action)"

<u>tusa</u> :rpa:	tusa:gaq	"thing heard"
<u>ajappa</u> :	ajappa:gaq	"thing on which one pushes hand against"
<u>kalikpa</u> :	kaligaq	"object pulled or dragged for a long time"
<u>tamuattuag</u>	tamuattuagaq	"thing chewed for a long time"
<u>najurpa</u> :	najugaq	"usual home"

This is a dominant nominal affix always found after verbal roots. It deletes the stem final consonant.

Consider the following example:

<u>ikajurpuq</u>	ikajuqalak	"one who helps a little"
<u>ammalu</u>	ammaluqalak	"again a little"
<u>akuni</u>	akuniqalak	"a short time"
<u>aukpuq</u>	auqalakpuq	"he bleeds a little"
<u>qaivuq</u>	qaiqalakpuq	"he comes rarely"
<u>sinikpuq</u>	siniqalakpuq	"he goes to sleep easily"
<u>tuquvuq</u>	tuquqalakpuq	"he dies easily (of epidemy)"

This affix is used with verbal roots in this form but another affix, -kadlak "small" appears to be the affix form used with

with nominal roots.

qupanuag qupanuakadlak "a small sparrow"

It could be thought that some affixes have a different form according to whether they are affixed to nouns or verbal roots.

An affix would be in a continuant when it follows a verbal root and a stop when it follows a nominal root. This hypothesis has not been thoroughly checked in this work.

4.3.3.2 Assimilating velar continuant

Most of the velar initial affixes have an initial segment which assimilates to the stem final segment. These again belong to two different categories: those which have a uvular initial segment after roots ending in a uvular and an initial segment in a velar continuant after everything else;

those which appear to assimilate to every single different root final segment.

(i) G/R initial segments

(a) -gi:k "they are....reciprocity"

panik panigi:k "daughter and mother"
irniq irniri:k "father and son"
nuliaq nuliari:k "husband and wife"

(b) -gikpuq "he has a good..."

kiinnag kiinnarikpuq "it has a sharp edge"
tipi tipigikpuq "it has a strong smell"
isuma isumagikpuq "he has a good heart, good thoughts"
annura:q annura:rikpuq "he has good clothes"

Most of the dominant affixes whose initial segment undergo this type of change are dominant verbal affixes found after nominal roots. It appears that the underlying form of the affix is in a continuant velar initial and that these delete stem final velar but assimilate to stem final uvulars. If all velar initial affixes delete, it seems that only continuant ones assimilate to the uvular. They all belong to dominant affixes. What is the main feature that differentiates a velar continuant from a uvular one? A velar continuant is

$$\begin{bmatrix} +\text{high}^{\text{C}} \\ +\text{back} \\ +\text{cnt} \end{bmatrix}$$

while the preceding segment in the above examples are vowels, that is continuants, velar stops and uvular stops. Uvular stops are $\begin{bmatrix} +\text{back}^{\text{C}} \\ -\text{high} \end{bmatrix}$. It can be postulated that non-high (uvulars) either delete the affix initial continuant velar segment, or that the velar continuant is lowered by the proximity of the uvular. There has been no case of deletion of the affix initial segment up to now so it seems more plausible that the initial velar continuant is lowered.

$$\begin{bmatrix} \text{C} \\ +\text{back} \\ +\text{high} \\ +\text{cnt} \end{bmatrix} \longrightarrow [-\text{high}] / \begin{bmatrix} \text{C} \\ -\text{high} \\ +\text{back} \end{bmatrix} + \text{---}$$

that is, a velar continuant is lowered at morpheme boundary by a preceding uvular.

In chapter III, the continuant velar was lowered by contact with a following low vowel. These two rules can be collapsed into one more general one:

$$\begin{bmatrix} \text{C} \\ +\text{back} \\ +\text{high} \\ +\text{cnt} \end{bmatrix} \longrightarrow [-\text{high}] / \left\{ \begin{bmatrix} \text{C} \\ -\text{high} \\ +\text{back} \end{bmatrix} + \text{---} \right. \\ \left. \text{---} + \begin{bmatrix} \text{V} \\ +\text{low} \end{bmatrix} \right\}$$

that is, a velar continuant becomes a uvular if it precedes a low vowel or follows a uvular. One note of caution is in order: nasal velars are continuants. Consider the following data:

niaquq niaqunujuq "he has a headache"
na:q na:nujuq "he has a bellyache" (affix -nujuq)

This affix has a nasal velar initial and deletes all preceding consonants. It has to be postulated that only continuant velar /g/ is affected by the lowering rule and put a restriction on the nasal velar. One feature shall be added, that

$$\begin{bmatrix} \text{C} \\ +\text{back} \\ +\text{high} \\ +\text{cnt} \\ -\text{nas} \end{bmatrix} \longrightarrow, \dots$$

To summarize

Dominant verbal affixes, adjoined to a nominal root, and beginning with a continuant velar, non-nasal, delete the root final consonant. However, prior to deletion, the velar continuant is lowered if the preceding segment is a uvular.

panik + gi:k nuliaq + gi:k

lowering of velar continuant, (called uvularization of initial velar continuant)

nuliaq + ri:k

pre-back consonant deletion or pre-continuant deletion

pani gi:k nulia ri:k

results

panigi:k nuliari:k

Velar nasal initials delete all preceding segments.

(ii) The following affixes are mostly satellite affixes and they all have a different initial segment according to the nature of the preceding one, that is the stem final one.

galuaq³ "it is true, without a doubt, but, however"

<u>tikittuq</u>	tikittu <u>galuaq</u>	"the one who has certainly arrived"
<u>tanna</u>	tanna <u>galuaq</u>	"that one we are certainly going to talk about"

<u>taku-</u>	taku <u>galuarpuq</u>	"he certainly sees"
<u>tikit-</u>	tiki <u>galuarpuq</u> or tiki <u>kku</u> luarpuq	"he certainly arrives"
<u>malik</u>	malig <u>aluarpuq</u> or malik <u>kku</u> luarpuq	"he certainly follows"
<u>imir-</u>	imira <u>luarpuq</u>	"he certainly drinks"

This affix is usually in /g/ after vowels, alveolars and velars; always in /r/ after uvulars. There are optional forms after alveolars and velars in /k/ which appear not to delete the stem final consonants; these forms however are not used in Chimo. In the dialects where these forms exist, they are compulsory after the negation,

e.g.,	taku <u>ṇik</u> aluarpuq	"he certainly does not see"
	tuksia <u>ṇikk</u> aluarpuq	"he certainly does not pray"

Note that these forms do not exist after the independent forms of the conjugation but must be preceded by tuu- or a particle expressing the future or negation. In Chimo, it implies more doubt than anything else.

(iii) The following affixes seem to be the result of fusion of two basic affixes.

(a) -garnituq = passive participle gaq + nirpuq "which one likes to

"it is pleasant to, it is easy to....."

<u>ilinniatippa:</u>	<u>ilinniatigarnipug</u>	"it is easy to teach him"
<u>ugarpug</u>	<u>ugautigarnituq</u>	"it is easy to speak"
	<u>uqaudjanirpuq</u>	
<u>tuksiavigijug</u>	<u>tuksiavigijarnituq</u>	"it is easy to understand"
<u>naalakpug</u>	<u>naalagarnipug</u>	"it is easy to obey him"
<u>malikpug</u>	<u>maligarnituq</u>	"it is easy to follow"
<u>tikitpug</u>	<u>tikitarnipug</u>	"it is easy to arrive"
<u>pivug</u>	<u>pijarnituq</u>	"it is easy to do"
<u>imirpug</u>	<u>imirarnituq</u>	"it is easy to drink"

This affix appears to be in /g/ initial with root final vowels, alveolar and velars, with a second form for each of them in /j/, /t/. It appears to be formed of two affixes whose initial one is a passive participle which assimilates to the stem final consonant when that one is a verbal root.

(b) -gasukpug "he tries hard to....; works at...."

taku-	<u>takugasukpug</u> or <u>takunasukpug</u>	"he tries hard to see"
titit-	<u>tikigasukpug</u> or <u>tikinnasukpug</u>	"he tries hard to arrive"
malik-	<u>maligasukpug</u>	"he tries hard to follow"
tusar-	<u>tusarasukpug</u>	"he tries hard to hear"

This affix is in a velar continuant which is lowered by a uvular to -rasukpug. However, there are some alternate forms

in /n/, non-deleting, intervocally and after an alveolar initial.

(c) -gajarpug "conditional"

This affix might give some information as to the behaviour of the other affixes which are in a /g/ initial and have optional forms.

taku-	takugajarpug	"if you had seen"
tikit-	tikigajarpug or tikinnajarpug	"if you had arrived"
malik-	maligajarpug	"if you had followed"
tusar-	tusarajarpug	"if you had heard"

(d) -gumavug "he wants..."

takugumavug or takujumavug	"he wants to see"
tikigumavug or tikitsumavug	"he wants to arrive"
maligumavug	"he wants to follow"
tusarumavug	"he wants to hear"

(e) -guminartug "it is desirable to"

This affix seems to be composed of guma "want" and nartug "time for"; guma- is a satellite affix⁴.

All the affixes beginning with a velar continuant which have alternate forms appear to be linked in some way to the dependent forms of the conjugation. This cannot be explained here as it seems to involve a good knowledge of syntax.

(iv) affixes in a tense velar continuant initial

(a) -gga:pug "with great difficulty"

tikit-	tikigga:pa:	"it was very difficult to arrive"
ulippa:	uligga:pug	"it was very difficult to turn it inside out (the boot)"

(b) -ggituq "he takes with him..."

ulimautiggipuq "he takes his axe with him"

qukiutiggipuq "he takes his gun with him"

arnagirpuq (form arnaggirpuq, arnag, "woman")
 "he takes his woman with him"

These affixes in a tense velar continuant initial delete the stem final consonant whatever it may be. The first one is affixed to a verbal root while the second one is affixed to a nominal and is a dominant affix.

4.3.5 Summary of velar initial consonant affixes

Velar initial affixes appear to delete the stem final consonant. They can be classified into the following categories:

a) - initial lax stop deletes all roots final consonants.

They usually belong to satellite affixes.

b) - initial tense stops delete all root final consonants.

They usually belong to dominant affixes.

c) - some continuant velar initial segments remain as velar continuant. They are very rare and usually dominant nominal.

d) - most velar continuant initial assimilate to the preceding uvular. This is done through a uvularizing rule which is ordered before the pre-continuant deletion rule and the pre-back consonant deletion rule. It should be ordered after tri-consonantal rule (otherwise

called pre-tense segment deletion) to prevent this kind of uvularization of the tense consonant or should have a restriction about its application to tense consonants.

- e) - affixes whose initial segment seems to assimilate in point or manner of articulation to the preceding segment appear somehow connected with the dependent forms of the conjugation.
- f) - nasal velars delete all preceding segments and are not uvularized. This means that the uvularization rule is restricted to continuant velars only.

4.4 Uvular initial affixes

4.4.1 Uvular stop initial

a) - garpuq, e.g., inugarpuq "there is someone"

<u>nuna</u>	nunag <u>arpuq</u>	"he has a land"
<u>panik</u>	panig <u>arpuq</u>	"he has a daughter"
<u>umiag</u>	umiag <u>arpuq</u>	"he has a boat"

This affix appears to be a dominant affix which deletes the stem final consonant.

b) - gatta(puq), e.g., siqumiggattapuq "he breaks it several times"

<u>pi</u> (vuq)	pi <u>gattatuq</u>	"he regularly gets it"
<u>katak</u> (puq)	kata <u>gattapuq</u>	"he regularly drops it, drops it several
<u>pi:r</u> (pa:)	pi: <u>gattatuq</u>	"it comes off several times" times"

This is a satellite affix which deletes all stem final consonants.

c) - gati, e.g., nunagati "compatriot, fellow citizen"

<u>nuna</u>	nunag <u>ati</u>	"one who has the same land"
<u>qinmiq</u>	qinmi <u>gati</u>	"one who shares dogs with"
<u>niṇauk</u>	niṇau <u>gati</u>	"who has the same son-in-law, brother-in-law"
<u>kiggaq</u>	kigga <u>ugati</u>	"who is the one who has the same servants as"
<u>innig</u>	innig <u>ati</u>	"who has the same lighter"
<u>kipalu</u>	kipalu <u>ugati</u>	"who has the same man working for"

This affix appears to be dominant. The stem final consonant is deleted. All affixes whose initial segment is a lax uvular stop delete the stem final consonant.

4.4.2 Lax uvular continuant initial

-ralikpuq, e.g., tuquralikpuq "he often loses consciousness,
he often faints"

audlar(puq) audlaralikpuq "he often goes on a journey"
tikit(puq) tikiralikpuq "he often arrives"
malik(puq) maliralikpuq "he often follows"
itir(puq) itiralikpuq "he often comes in"

This is a satellite affix which deletes stem final
consonants. All initial uvular continuant affixes delete
stem final consonant.

4.4.3 Tense uvular initial of affixes

-rqauvuq, e.g., tunisirqaujuq "he just now gave smth. to someone"
niuvir(pa:) niuvirqauva: "he just bought something"
taku(vuq) takurgauva: "he just saw something"
malik(pa:) malirqauva: "he just followed something or someone"

This is a satellite verbal affix which always is
in a tense consonant initial and always delete the stem final
consonant.

-rqammig, e.g., inuulirqammig "one who was just born"

panik panikpa:puq panikta:gammig "the daughter whom she just
had"

-rqupa: "he reaches him in the...."

iji ijirqupa: "he shot him in the eye"
niuk niurqupa: "he got him in the leg"
niaquq niaqurqupa: "he shot him in the leg"

This is a dominant verbal affix which appears to delete the stem final consonant.

To summarize:

All affixes whose initial segment is a uvular, whether a stop, a continuant or a tense uvular delete stem final consonants.

$$C \longrightarrow \emptyset / \text{---} \left\{ \begin{array}{c} \# \\ + \end{array} \right\} \left[\begin{array}{c} +\text{back}^C \\ -\text{high} \end{array} \right]$$

4.5 Affix initial alveolar, palatal and lateral .

General comments.

This section deals with the affixes whose initial segments are articulated in the alveolar, alveo-palatal and palatal sections. Their behavior is not as clearly understood as that of the bilabial, velar and uvular series. This problem is closely linked to that of consonant cluster of Appendix 1. It appears that the affixation problems involved are due to the fact that the language has lost some distinctions so that, for example, /s/ behaves sometimes like a continuant and sometimes like an anterior stop.

These affixes will be tentatively classified into alveolars, palatals and liquids.

4.5.1 Alveolar stop initial /t/

These are of three types and will be studied in turn.

4.5.1.1 Alveolar stop, non-deleting

(i) tar(puq) "go and get", (dominant affix, verbal)

<u>imiq</u>	<u>imirtatuq</u>	"he goes and gets water"
<u>nilak</u>	<u>nilaktatuq</u>	"he goes and gets ice for water"
<u>iglu</u>	<u>iglutartuq</u>	"he has had his igloo for a long time"

(ii) turpuq "he drinks, eats...." (dominant verbal) "consume"

<u>niqi</u>	<u>niqiturpuq</u>	"he consumes meat" (eat)
<u>imiq</u>	<u>imirtupuq</u>	"he consumes water" (drink)
<u>aumaaluk</u>	<u>aumaaluktupuq</u>	"it consumes coal" (burn coal, for stove)
<u>aṇuti</u>	<u>aṇutiturpuq</u>	"she commits fornication"

These dominant verbal affixes follow a nominal root and do not delete stem final consonants.

(iii) tag "the one which belongs to him..."

<u>igimaq</u>	(from <u>igippa</u> :	"he throws it" + <u>aq</u> nominalizing)
<u>igimartaq</u>	<u>igimartara</u>	"my mobile part of harpoon"
<u>qijuk</u> (wood)	<u>qijuktaq</u>	"harpoon handle" <u>qijuktara</u> "his harpoon's handle"

This dominant nominal affix most of the time is found with another affix or with a verbal root which has been nominalized. It is often followed by a possessive ending. It does not delete the stem final consonant⁵.

(iv) ta:q "something received"

<u>niqi</u>	<u>niqita</u> :q	"food received"
<u>savik</u>	<u>savikta</u> :q	"knife received"
<u>panik</u>	<u>panikta</u> :q	"daughter received (born to)"
<u>nasag</u>	<u>nasarta</u> :q	"hat received"

Again this is a dominant nominal affix found after nominal roots. It does not delete stem final consonants.

To summarize :

Dominant affixes whose initial is a lax alveolar /t/ do not delete stem final consonants. They do not change into a continuant intervocally as bilabials did.

4.5.1.2 Alveolar stops, deleting

(i) tuag "the unique one, the only..."

<u>iglu</u>	<u>iglutualik</u>	"who has only one igloo"
<u>qamuti</u>	<u>qamutitualik</u>	"who has only one sled"
<u>niuliq</u>	<u>niulitualik</u>	"the one who has only one vertebra in the neck (nickname)"
<u>ikajurti</u>	<u>ikajurtituaṇuvuq</u>	"he is the only helper"
<u>maliktag</u>	<u>maliktatuara</u>	"my only follower"
<u>maligaksag</u>	<u>maligaksatuara</u>	"my one who follows me often"
<u>inuk</u>	<u>inutuaq</u>	"a mere person (not a chief)"
<u>umiag</u>	<u>umiatuaq</u>	"the only boat"

This is a satellite affix which appears to delete stem final consonants.

inuk inutuinnag "merely a man"
niqi niqituinnag "merely food (not a grand meal)"
arnaq arnatuinnqa "merely a woman (depreciative)"

(ii) tugag "old"

inuk inutugag "old man"
pi pitugag "old thing"
pu:q putugag "old bag"
kamik kamitugag "old boot"

This is a satellite affix and it deletes the stem final consonant. It appears that satellite affixes whose initial is an alveolar stop delete the stem final consonant. /t/ is not a continuant nor a back consonant. It was postulated earlier that to delete the stem final consonant, two conditions had to be met: the nature of the affix initial consonant had to be phonetically able to delete and the right syntactic classes had to be met. Unless alveolars are postulated to delete only if the syntactic conditions are met, I do not understand what the processes are involved. It would seem that there is not much difference phonologically between a /p/ and a /t/. Both are stops, anterior. The only difference is that /t/ is coronal while /p/ is not. On the other hand, /t/ and /k/ seem farther apart in as much as one is anterior and coronal while the other is non-anterior and non-coronal. Not being able to explain why /t/ deletes sometimes, I shall have to leave the problem unresolved.⁵

4.5.1.3 Alveolar stops, assimilating or with secondary forms

(i) -taksaq "which has to be done"

This affix is composed of two affixes, -taq "passive" and -ksaq "designed for..."

pi-vuq	pijaksaq	"which must be done"
taimait-tuq	taimataksaq	"which is to be done"
malik-tuq	maligaksaq	"which must be followed"
ikajur-tuq	ikajuraksaq	"who must be helped"

(ii) -tiaq "the one I made to be so" "the one I have as"

This affix is similar to -jiaq. However, while -jiaq has a meaning of "unwillingly" and can be found after all root final segments, -tiaq sometimes means "willingly".

qimuksitiavut	qimuksijiavut	"your companion of sled travel"
umiartutiavut	umiartujiavut	"your companion of boat travel"
maṇuktiara	maṇujiara	"the one I drove into the ground"
sinitiara	sinijiara	"the one I made sleep"

-tiaq is found only after consonants which it deletes while

-jiaq may be found after vowels or consonants. These affixes behave in the same fashion as their initial component, passive or active participles. The /t/ initial form assimilates to the preceding segment.

4.5.1.4 Affixes in a tense initial /t/

These are all affixed to verbal roots

(i) -ttajuq "who usually does, behaves..."

This has an initial which appears to be in /t/ non deleting but when the root ends in a vowel, the form is -ttajuq.

idlir <u>i</u> va:	idliritt <u>a</u> juq	"who is strongly attached to his
quinak <u>p</u> uq	quinakt <u>a</u> juq (-atta)	"who is ticklish" belongings"
ijur <u>p</u> uq	ijurt <u>a</u> juq	"who laughs easily"

One may postulate that the affix is in /t/ and does not delete. The /tt/ intervocally would be a case of assimilation of a vowel ending form to a consonant ending one (analogic regularization).

4.5.1.5 To summarize :

Affix initial /t/ does not delete the stem final consonant when it belongs to dominant affixes, it deletes when it belongs to satellite affixes. When an affix is composed of a participle and another affix, the initial segment is /t/ after consonants and /j/ after vowel-ending roots. Some affixes appear to be in a tense-initial /tt/ but it can be suspected that they are non-deleting affixes with a tense alveolar intervocally as a result of assimilation to the other forms. (See Appendix 1).

4.5.2 Alveopalatal initial, /s/

These again belong to several categories which will be studied in turn.

4.5.2.1 Non deleter, lax /s/ initial

(i) -sarpuq "goes and get..." (dominant verbal, nominal root)

iputi	iputisarpuq	"he goes and gets the oars"
iqaluk	iqaluksapuq	"he goes and gets the fish"
nuluag	nuluagsapuq	"he goes and gets the nets"

(ii) -siurpuq "look for, hunt..." (dominant verbal, nominal root)

tuktu	tuktusiurpuq	"he hunts caribou"
aiviq	aivirsiutuq	"he hunts walrus"
iqaluk	iqaluksiurtuq	"he looks for fish"

(iii) -siuti "thing used for..." (dominant nominal, nominal root)

surusiq	surusirsiuti	"boy's clothes"
a uti	a utisiutit	"men's clothes"
qilak	qilaksiuti	"string to tie mattresses"

These affixes are all dominant and attached to nominal roots. They do not delete the root final consonant.

(iv) simavuq "action is achieved"

taku-vuq	takusimavuq	"he saw"
avip-pa:	avisimajuq	"it has been divided in two"
avik-pa:	aviksima <u>j</u> uq	"he was separated (from his wife)"
tikit-puq	tikisimajuq	"he has arrived"
itir-puq	itirsimajuq	"he came in"

This affix does not delete the stem final consonant in general but alveolars are deleted. There should be the

form tikitsimajuq and I cannot explain why this is not so.

Another non-deleter affix, -si(vuq) which makes the transition between transitive and intransitive forms of certain verbs does not delete the /t/, e.g., avippa: avitsivuq "is divided in two".

(v) -sujuq "who has the habit of, cannot stop doing, always does"

anivuq anisukuq "who always goes out"
pisukpuq pisuksujuq "who always walks"
itirpuq itirsujuq "who always comes in"

pisusuittuq "he never walks"

This affix is dominant and does not delete stem final consonants but when it is found in the negative form, it deletes. In the same fashion suirpuq "no longer" deletes all stem final consonants, e.g., sinikpuq "he sleeps" sinisuirpuq "he does not sleep any more".

To summarize :

Dominant affixes whose initial segment is /s/ do not delete the stem final consonant. However, two points remain unexplained at this time: -sima seems to delete root final /t/; sujuq, suirpuq delete all final consonants: they both are negations.

4.5.2.2 Deleters, lax /s/ initial

Note first that all deleting dominant affixes following a nominal root are special cases of /l/ initial affixes. They will be studied in section 4.5.4.1 .

(i) e.g., sirpa: -ut + lirpa:, -it + lirpa :

matuirsit matuirsitilirpa: "he opens it with a can opener"
naggati naggasirpa: "he finishes it by adding something"
 (naggatilirpa:) to it"

In the same fashion, words ending in -tag give -tsipa:, words ending in -aq give -dzipa:

(ii) sa:ɲilitaq sa:ɲilitsipa: "he puts an apron on himself"
iluppiarutag iluppiarutsipa: "she puts on a slip"
ipiutag ipiutsipa: "he ties him, dog sled"
igalag igaladzipa: "he puts a window on it"

Words with identical endings react in the same way
 with lirtupa: "he gives it (him) a..."

(iii) taluaq taluasiturpa: "he puts, gives a curtain to it"
 -siaq or tsiaq "the....he made"

iksivautag iksivautsiara "the chair he made for me"

However, one affix deletes nominal root final consonants:

-suk "one who replaces, does for"

nuliaq nuliasuk "female lover"

aɲajurag aɲajurasuk "employee of H.B.C. (the one who
 replaces the boss"

It appears to be a dominant affix and I cannot explain why the deletion occurs. However, the only examples

I have are in -aq endings and it is known that, in these cases, the final consonant is a very unstable element.

- (iv) sa:rpuq "quickly, hurrying" (satellite, affixed to verbal roots)

inittuq inisa:rpuq "sits down only for an instant"
 itirpuq itisa:puq "comes in only for an instant"
 malikput malisa:puq "follows only for an instant"
 anivuq anisa:rpuq "goes out to come in again quickly"

The satellite affixes whose initial is a /s/ deletes final consonants.

4.5.2.3 affixes in /s/ versus /j/. (deleters)

Some affixes have different initial according to the syntactic value of the morpheme involved, or the phonetic environment. A quick attempt at classification will be made.

- a) -siq "nominalizer, used instead of -niq"

-niq seems to be used after a verbal root directly, while -siq is used after a verbal stem, nominal + -u- or verbal root -ut. It deletes the final /t/.

tuksiarut tuksiarsiq "the act of praying"
 unikka unikkasiq "legend"
 ajuqirtu ajuqirtusiq "the teaching"

- b) sirtupug "he pretends to be"

tuquvuq tuqusirtupug "he pretends to be dead"
 tikittuq tikisirtupug "he pretends to arrive"
 malikpuq malisirtupug "he pretends to follow"

This affix deletes all root final consonants but does not delete final /t/.

c) su:q "who has the habit of"

qia <u>v</u> uq	qia <u>s</u> u:q	qia <u>s</u> u <u>ŋ</u> uvuq	"he cries often"
inn <u>i</u> tuq	inn <u>i</u> ju:q		"record player"
qa <u>ŋ</u> att <u>a</u> rp <u>u</u> q	qa <u>ŋ</u> att <u>a</u> ju:q		"plane (which has the habit of flying)"

It appears that the form -su:q is more verbal while the form -ju:k is usually found with nominalized verbs. The form in /s/ does not delete root final /t/ e.g., taimaitsu:q.

c) -suittuq / juittuq "who cannot do any longer"

tusa:va:	tusa:juittuq	/ .tusa:suittuq	"who cannot hear"
tiki <u>t</u> puq	tiki <u>s</u> uittuq		"who cannot arrive (too late)"
malik <u>p</u> uq	malis <u>i</u> uittuq		"who cannot follow"
nurq <u>a</u> puq	nurq <u>a</u> s <u>i</u> uittuq		"who cannot stop"
uq <u>a</u> rp <u>u</u> q	uq <u>a</u> s <u>i</u> uittuq		"who cannot speak"
taku <u>v</u> uq	taku <u>s</u> uittuq		"who cannot see"

These forms are indifferently in /s/ or /j/ initial. This might give some indication as to the nature of /s/ deleter: it might come from a palatal fricative.

e) compare the following affixes:

<u>-sarp</u> uq	"he goes and gets"	/	<u>-tarp</u> uq	"go and get"
i <u>p</u> utis <u>a</u> rp <u>u</u> q			niq <u>i</u> t <u>a</u> rp <u>u</u> q	
i <u>q</u> aluk <u>s</u> ap <u>u</u> q			ni <u>l</u> akt <u>a</u> t <u>u</u> q	
nulu <u>a</u> q <u>s</u> ap <u>u</u> q			im <u>i</u> rt <u>a</u> t <u>u</u> q	

The only difference is that in the first series, one thinks more of gathering the content while in the second series, the idea is more of what is carried. Note that in this instance, the /s/ initial does not delete any more than the /t/, alveolar stop.

To summarize :

Affixes whose initial is a /s/:

- do not delete the stem final consonant if they are dominant affixes.
- delete the stem final consonant if they are satellite affixes.
- alveolar final sometimes do not follow the general pattern.
- most of the dominant affixes in -si- which are given by Schneider as deleting are special forms of a liquid initial affix after certain endings in -ti, -uti, -aq, -uag, -taq.
- certain affixes have the same general meaning as that of affixes in /j/ initial, in which case they are deleters, or /t/ initial, in which case they are non-deleters.

4.5.2.4 Tense initial, /ts/ or /ks/

(i) -ksaq "material for"

usi	usik <u>saq</u>	"material to be carried in..."
gamuti	gamutik <u>saq</u>	"something to make a sled"
qijuk	qijuk <u>saq</u>	"heating wood"
silapaq	silapak <u>saq</u>	"material for under-atigi"

(ii) ksauvuq "which may be..."

taku-	takuk <u>sa</u> uvuq	"something visible"
kisik-	kisik <u>sa</u> unittuq	"impossible to number"
tusar-	tusark <u>sa</u> uvuq	"audible"
qatur-	qaturk <u>sa</u> uvuq	"usable"

In series (i), it appears that all final consonants are deleted. In series (ii), however, the form given by

Schneider for uvular final roots are in -rks-. In his orthography, the normal forms would be -ks- if the affix deleted. The presence of the uvular may be interpreted in two ways:

- a) the affix is in a non-deleting /s/ initial and the presence of -ks- intervocally might again be a case of assimilation to the consonant ending forms.
- b) the affix is in -ks initial and the initial /k/ is not due to the tension of the /s/ but an independent segment. In this case, it becomes uvularized and the root final consonant is deleted through the tri-consonantal rule.

No solution is offered at this time.

(iii) satellite affix, tense initial

<u>-tsiaq</u>	"beautiful"
nuna nunat <u>tsiaq</u>	"beautiful land"
panik panit <u>tsiaq</u>	"beautiful daughter"
umiaq umiat <u>tsiaq</u>	"beautiful boat"

This affix simply deletes the root final consonant through the rule of tri-consonantal deletion.

(iv) -tsapug

This affix does not add anything to the meaning. e.g.,

tikit <u>puq</u>	=	tikits <u>apug</u>	"he arrives"
nakur <u>puq</u>	=	nakuts <u>apug</u>	"he is thankful"

However, in the negative gerund, although there is -tsa- for the first and second person, e.g., giatsanak, it is

replaced by -dza- in the third person, e.g., niridzagani
 "while not eating"

The form is usually -japuq after vowels although this is not compulsory e.g., nirijapuq "he eats"

To summarize: Tense /ks/ or /ts/ initial affixes delete the stem final consonant according to the tri-consonantal deletion rule.

4.5.2.5 Summary of this section

It appears that although /s/ initial affixes follow a regular pattern of deleting when they belong to satellite affixes and of not deleting when they belong to dominant affixes, some similarities with /t/ or /j/ initial affixes can be found which should give some indication as to the nature of the segment /s/.

4.5.3 Palatal initial affixes

4.5.3.1 Palatal glide, /j/

(i) jaq "skin or part of skin of animal" "material"

tuk <u>tu</u>	tuk <u>tu</u> jaq	"caribou hide"
uqali <u>q</u>	uqali <u>q</u> jaq	"hare hide"
tuga <u>q</u>	tuga <u>q</u> jaq	"ivory of walrus tusk"
amirta <u>q</u>	amirta <u>q</u> jaq	"piece of tin"

(ii) ja:q "small"

qarqa <u>q</u>	qarqa <u>q</u> ja:q	"small hill"
piara <u>q</u>	piara <u>q</u> ja:q	"small child"

These affixes always delete the stem final consonant. All /j/ initial affixes delete. Most of those given by Schneider under that initial are formed on the participles. They will not be studied in detail here but those in /dz/ or /dj/ initial should be considered.

4.5.3.2 Tense palatal initial

(i) djaŋittuq (dza.. with negative gerund) "reinforcement of negation"This is identical to the -tša.. considered in section 4.5.2.4.However, it occurs only with negation while -tša occurred

in non-negative contexts.

takud <u>ja</u> ŋittuq	"he does not see at all"
tikid <u>ja</u> ŋittuq	"he does not arrive at all"
malid <u>ja</u> ŋittuq	"he does not follow at all"
tusad <u>ja</u> ŋittuq	"he does not hear at all"
takud <u>z</u> agani	"while not seeing"

(ii) dzariktug "who has lots of, who has a big..."

inuk	inud <u>z</u> ariktug	"which has lots of men"
qinmik	qinmijariktug	"who has lots of dogs"
aṇut	aṇud <u>z</u> ariktug	"numerous males"
kiguti	kigud <u>z</u> ariktug	"who has big teeth"

(iii) djuag "big"

atigi	atigidjuag	"large atigi"
iglu	igludjuag	"large igloo" (igludjuag: not from Chimo.
aṇijuḡ	aṇijurdjuag	"very tall" Chimo: iglujuag)
umiag	umiardjuag	"big boat"
savik	savigdjuag	"big knife"

Note that while the first two examples show deletion of the stem final consonant, example (iii) appears to have three consonants in a row. This is not allowed in the language so one must look for the reason of such an occurrence. It could be postulated that the initial of this affix is a palatal stop which does not delete stem final consonants. Looking into the form of the affix in other dialects might give an insight about the initial segment. Bourquin [in 21] who studied a Labrador dialect, gives -ssuaq. West of Hudson's Bay the orthography given is -djup. This palatal occlusive would become tense and the preceding consonant would become a continuant. This will be treated in Appendix 1. Note that when the rule of double consonant applies, the form is -juag. The tensing cannot be attributed to the presence of a preceding consonant in the case of atigidjuag.

To summarize :

Affixes whose initial is a palatal continuant all delete the stem final consonant apart from -djuag which seems to be a tense palatal occlusive which does not delete for reasons which are not understood at this stage. The palatals delete either because they are continuant or tense.

4.5.4 Lateral initial affixes

4.5.4.1 Liquid /l/ initial affixes

4.5.4.1.1 Deleters (satellite affixes in /l/)

Affixes in lateral initial are of several types ;

again these will be studied in turn:

(i) -la:q "very small" (satellite affix , nominal root)

agia <u>q</u>	agiala:q	"very small file"
kiki <u>ak</u>	kikiala:q	"very small nail"
qinmiara <u>q</u>	qinmiarala:q	"tiny puppy"

(ii) -laur (puq) "he did it 'in the past" (satellite affix, verbal root)

taku-	takula <u>puq</u>	"he saw"
tikit-	tikila <u>puq</u>	"he arrived"
malik-	malila <u>urpuq</u>	"he followed"
imir-	imila <u>urpuq</u>	"he drank"

In these two series, the affixes are satellites.

The first one is found only after a noun, the second one after a verb. They both delete the stem final consonant. /l/ is a continuant so the rules already applied work in these cases.

4.5.4.1.2 Tense lateral initial, deleters and non-deleters

(i) -dlapuq "he holds in his hand", "he uses" (dominant verbal)

quki <u>uti</u>	qukiud <u>lapuq</u>	"he holds his gun"
savi <u>uti</u>	saviud <u>lapuq</u>	"he holds his wood plane"
ulima <u>uti</u>	ulimaud <u>lapuq</u>	"he holds his axe"
qamuti <u>iik</u>	qamud <u>lapuq</u>	"he has his sled"

This affix is attached to nominal ending in -uti.

The whole -ti segment is deleted by the tense lateral fricative. Note the difference with -ut + liri which gives

-usi. It could be thought that /dl/ is a contraction of /t/ and /l/ but such contractions shall be encountered in the next section, and this form is never found in those cases.

(ii) -dlutug "he has a bad..." (dominant verbal)

<u>iji</u>	<u>ijidlupug</u>	or	<u>ijilukpug</u>	"he has bad eyes"
<u>niuk</u>	<u>niurdlupug</u>	or	<u>niulukpug</u>	"he has a bad leg"
<u>kamik</u>	<u>kamigglupug</u>			"he has a bad boot"
<u>siuti</u>	<u>siutirdlupug</u>			"he has a bad ear"
<u>siut</u>	<u>siudlupug</u>			"he has a bad ear"
<u>qaniq</u>	<u>qanirdlupug</u>			"he has a bad mouth"
<u>na:g</u>	<u>na:rdlupug</u>			"he has a bad belly"

This affix appears to be a dominant verbal affix.

It seems to have a tense lateral stop as an initial which does not delete the stem final consonant. However, the fact that there is a form in ijilukpug shows that this is considered as a tense consonant because the -k- reappears when the form is in a lax /l/. The only explanation I can offer is that this is a non-deleting dominant affix which makes the preceding consonant a continuant and is in the process of tensing (see Appendix 1), after a continuant. Forms like ijidlupug and niurdlupug would be cases of syncretism. The forms of this series suggest that in series (i), there was no deletion of the /t/ but it assimilated to the /l/.

(iii) -dlurikpuq "well, nicely, magnificently"

isum <u>av</u> uq	isuma <u>d</u> lurikpuq	"he thinks nicely"
uqar <u>p</u> uq	uqad <u>l</u> urikpuq	"he speaks well"
arqigas <u>u</u> kpuq	arqigasud <u>l</u> urikpuq	"he repairs things well"

This appears to be a satellite affix whose initial is a tense lateral fricative. It deletes all root final consonants.

(iv) -rdlak "a big"

put <u>u</u>	putur <u>d</u> lak	"a big hole"
kiki <u>a</u> k	kikiar <u>d</u> lak	"a big nail"
inu <u>k</u>	inur <u>d</u> lak	"a big man"
agi <u>a</u> q	agiard <u>l</u> ak	"a big file"
iglu	iglul <u>a</u> k	"a big igloo"

This affix appears to be in -rl- where the /l/ has become tense after the /r/. It deletes all stem final consonants.

4.5.4.1.3 Dominant verbal affix -liurpuq (liuriva:) "he works at, builds"

This dominant affix is found under several different phonetic shapes according to its environment.

1.

iglu	iglul <u>i</u> urpuq	"he builds an igloo"
ti:	ti: <u>l</u> iurpuq	"she makes tea"
adzi	adzil <u>i</u> urpuq	"he makes a picture"
kamik	kamil <u>i</u> urpuq	"she saws a boot"
tupiq	tupil <u>i</u> urpuq	"he makes a tent"

2.

gam <u>u</u> ti	gamut <u>i</u> liurpuq	"he makes a sled"
	gamus <u>i</u> urpuq	

When the stem is in -uti there are two possible forms, as seen above.

-liur form

This form occurs when the root is really in -ut. This needs some explanation. In Schneider's dictionary [21], I have counted about forty occurrences of roots ending in either -ut or -uti. Most of them are semantically an object, a tool to make something with. On the other hand, practically every action verb can become the name of an object to do this action with by adding the nominal affix -uti. In composition with other suffixes or as an isolated form, the most common form is -uti. However, the optional form -ut is found, mainly before nasal initial suffixes, in which cases /t/ nasalizes to /n/. The form -uti will be postulated as the underlying form for Fort Chimo's dialect. An optional rule would delete the /i/ in certain environments.

Returning to our present problem, the form of the root is -uti in a few words where it is difficult to isolate what verbal root it came from. In these cases, there are two forms allowed when the suffix -liur- is added. One takes -ut- as a consonant ending root and in this case, the result is -siur-. Two hypotheses are possible as to what happens:

First hypothesis

/s/ is the result of the blending of /t/ and /l/, two consonants having the same point of articulation and whose differences are that one is continuant, /l/, while the other is not. The blending of these two segments would have as an end result a segment which is a continuant at times and a stop at other. In this case, the rules involved would be:

Optional deletion of the final /i/ of -uti

$$\begin{array}{c} \text{V} \\ \left[\begin{array}{c} +\text{high} \\ -\text{back} \end{array} \right] \end{array} \xrightarrow{\text{OPT}} \emptyset \text{ / } + \begin{array}{c} \text{V} \\ \left[\begin{array}{c} +\text{high} \\ +\text{back} \end{array} \right] \end{array} \begin{array}{c} \text{C} \\ \left[\begin{array}{c} +\text{ant} \\ +\text{cor} \end{array} \right] \end{array} \# \text{ —}$$

that is, the vowel /i/ is optionally deleted when it belongs to the affix -uti at strong morpheme boundary.

Assimilation of the liquid to the stop /t/

$$\begin{array}{ccccccccc} + & & \text{V} & & \text{C} & & \# & & \text{V} \\ & & \left[\begin{array}{c} +\text{high} \\ +\text{back} \end{array} \right] & & \left[\begin{array}{c} +\text{ant} \\ +\text{cor} \end{array} \right] & & & & \left[\begin{array}{c} +\text{voc} \\ +\text{cons} \end{array} \right] & & \left[\begin{array}{c} +\text{high} \\ -\text{back} \end{array} \right] \\ 1 & & 2 & & 3 & & 4 & & 5 & & 6 \\ & & & & & & & & & & \Rightarrow \\ 1 & & 2 & & & & & & 3+5 & & 6 \\ & & & & & & & & \left[\begin{array}{c} -\text{ant} \\ +\text{cor} \\ +\text{cnt} \end{array} \right] & & \end{array}$$

that is, the consonant /t/ and the liquid /l/ merge into one unit /s/ in the environment of ⁺u — i....

Second hypothesis

The liquid is a lateral which is realized as a lateral fricative in the environment of an alveolar stop.

This lateral fricative is unvoiced and deletes the preceding alveolar. This is taken as being /s/. The problem is much too complex to be treated in depth in this work so we shall not choose among the hypotheses nor offer a solution.

This already fairly complex problem is not restricted to affixation to roots ending in -uti. Other roots are affected:

- roots ending in -utag compose with the affix to give -utsiurpuq. Here, it would appear that -aq disappears leaving in contact /t/ and /l/ which combine to give /ts/, e.g., iksivautag iksivautsiurpuq "he makes a chair"
- roots ending in -uag compose with the affix to give -udziurpuq. Here, there is no ground to postulate that /dz/ is the blending of two consonants. The only hypothesis possible is that /l/ becomes tense. However, it is known that /l/ tenses in /dl/ and /j/ into /dz/, which we write /dj/. (dz is Schneider's orthography)
nuluag nuluadziurpuq "he makes nets"

Other roots have modification in their structure:

<u>iqaluk</u>	<u>iqadliurpuq</u>	<u>iqaluliurpuq</u>	"she cooks a fish"
<u>kamik</u>	<u>kammiurpuq</u>	<u>kamiliurpuq</u>	"she makes a boot"
<u>niaquq</u>	<u>niarquuppuq</u>		"she cooks a head"
<u>adjuk</u>	<u>uddjuuppuq</u>		"he cooks a seal"
<u>qatsiugaq</u>	<u>qatsiukiurtuq</u>	<u>qatsigaliurpuq</u>	"she cooks barley"
<u>natsiviniq</u>	<u>natsivinniutuq</u>		"she cooks seal"

An understanding of the processes involved probably requires the compilation of a large number of examples of the form taken by the complex root + affixes in -li... . Other affixes in -li.. initial behave in the same fashion.

These are: -liaq, liariva: "one which is done...", e.g.,

savik	saviliara	"the knife I made"
arquti	argusiara or argutiliara	"the path I made"
iksivautaq	iksivautaliara or iksivausiara	"the chair I made"

Note that there is an affix in jiaq, jiariva:, jiaqarpuq, which is affixed to verbal roots instead of nominal ones and which means "one which I made to be such". It has an equivalent found only after consonant ending roots, -tiaq., e.g.,

aanittuq	aanit <i>ti</i> ara	or aanij <i>ji</i> ara	"the one I made suffer"
ka:kpuq	ka:k <i>ti</i> ara	or ka:j <i>ji</i> ara	"the one I made be hungry"

There is no proof that these are the same affixes but if it were the case, there could be a pattern of /l/ versus /s/ for nominal roots and /t/ versus /j/ for verbal ones. It could explain forms such as /dz/ and /ts/ where it seems to be a lateral or /l/ in the first place.

Other affixes behaving in the same way are:

<u>lirpa</u> :	<u>liiv<u>uq</u></u>	"he put on him, gave him..."
<u>kiriv<u>uq</u></u>		"he takes care of, his job is..."
<u>kip<u>pa</u></u> :		"he gives him, bring him"
<u>lip<u>puq</u></u>		"he goes to do..."
<u>litt<u>a</u>:puq</u>		"he is annoyed because..."
<u>liutiva</u> :	<u>liudzivuq</u>	"he put it in..."
<u>lijar<u>puq</u></u>		"he has on himself, uses..."

To summarize :

Dominant verbal affixes following nominal roots either delete the root final consonant or combine with them in the case of -li.. initial affixes. Roots ending in -uti blend to give -usi.. roots ending in -tag blend to give -tsi, roots ending in -uag blend to give -udzi... . Other modifications in the internal structure of the root are found in some instances.

4.5.4.2 Summary of lateral initial affixes

It was found that these affixes belong to different categories:

- satellite affixes in /l/ initial delete all stem final consonants.
- most dominant affixes are in a tense /l/ initial,; two hypotheses were put forward: 1) the affixes are in a lateral occlusive and do not delete the preceding segment which assimilates and becomes continuant. 2) the affixes are in a tense initial lateral fricative which delete all final segments.
- some affixes have /rl/ as an initial; in this case, the /l/ is tensing (see Appendix 1).
- dominant affixes whose initial is -li- are joined to the root or stem according to the nature of the stem final segments.

Most of them have two possible forms. There seems to be blending of segments in some cases.

4.5.5 Summary of affixation of initial /t/, /s/, /j/, /l/.

The results of this study are by no means satisfactory in as much as it seems difficult to have a real classification of affixes. It appears that surface forms vary for all of them. The only conclusions one might draw are:

- continuants such as /l/, /j/, and tense initial segments always delete. Some initial segments which appear tense and deleting may be thought to be non-continuants.
- satellite affixes generally delete the stem final consonant if the phonetic conditions are met.
- dominant affixes seem to follow a general rule of non-deleting.
- /s/ behaves sometimes as a stop, non-back, and does not delete. In other cases, it behaves like a continuant and deletes.
- /t/, as an anterior stop should not delete but occasionally does when it belongs to satellite affixes.

4.6 Anterior nasal initial

4.6.1 Bilabial nasal initial

(i) lax bilabial nasal

mavuq "is in the state of"

This affix is used only with verbs in the passive form.

<u>kipiva:</u>	kipimajuq	"he is dying (mentally)"
<u>tuquppa:</u>	tuqusimajuq	"he is dying physically"
<u>avikpa:</u>	aviks <u>im</u> ajuq	<u>avippa:</u> avimajuq "he is separated from"
<u>gaujiva:</u>	gaujimava:	"he knows, has learnt"

miuq "who is in, inhabitant of" miutaq "what is for..."

<u>Ottawa</u>	Ottawamiutaq	"inhabitant of Ottawa"
<u>Aivilik</u>	Aivilim <u>mi</u> uq	"inhabitant of Aivilik"
<u>siuti</u>	sium <u>mi</u> utaq	"earring"
<u>taliq</u>		"something on the arm"
<u>masaq</u>		"something to decorate the hat"

These affixes in /m/ initial are taken by nominal roots or

names of place. The root final consonant is nasalized.

(ii) tense bilabial nasal

<u>inuk</u>	inum <u>mar</u> ik	"completely Eskimo"
<u>qadlunaq</u>	qadlunam <u>mar</u> ik	"totally white"
<u>tusarpuq</u>	tusam <u>mar</u> ituq	"he really heard"
<u>qai<u>vu</u>q</u>	qaim <u>mar</u> ituq	"he really came"
<u>tikittuq</u>	tikim <u>mar</u> ittuq	"he really arrived"
<u>malik<u>pu</u>t</u>	malim <u>mar</u> ittuq	"he really followed"

This affix in a tense initial bilabial deletes stem final

consonants

To summarize:

Bilabial initial affixes nasalize the stem final consonant if the bilabial is lax and delete it if it is tense.

4.6.2 Alveolar nasal

-nasa:rpuq "slow, not soon"

taku-	takun <u>n</u> asa:rpuq	"he was slow at seeing"
tikit-	tikin <u>n</u> asa:rpuq	"he was late arriving"
malik	malin <u>n</u> asa:rpuq	"he is slow at following"
tusar-	tusa <u>N</u> nasa:rpuq	"he is slow at hearing (the news)"

niq "result of action"

<u>uigga</u> p <u>uq</u>	"she loses her husband"	<u>uigga</u> <u>n</u> i <u>q</u>	"widow"
<u>nuliir</u> p <u>uq</u>	"he loses his wife"	<u>nulii</u> <u>N</u> n <u>i</u> q	"widower"
<u>puvitt</u> <u>uq</u>	"he swells"	<u>puvinn</u> i <u>q</u>	"swelling"
<u>aukp</u> <u>uq</u>	"he bleeds"	<u>aun</u> n <u>i</u> q	"bleeding"

-nnipuq "past, indeterminate"

taku	takun <u>n</u> ip <u>uq</u>	"he saw"
tikit	tikin <u>n</u> ip <u>uq</u>	"he arrived"
malik	malin <u>n</u> ip <u>uq</u>	"he followed"
tusar-	tusa <u>N</u> nip <u>uq</u>	"he heard"

This affix appears to be in a lax initial nasal which nasalizes the stem final consonant. However, it is found with a tense nasal after a vowel. This may be thought to be the result of assimilation to consonant ending roots.

-niarpuq "he does by affinity, liking"

nuna	nunann <u>i</u> ap <u>uq</u> or nunan <u>i</u> ar <u>puq</u>	"he works the land"
qamuti	qamutin <u>n</u> iap <u>uq</u>	"he works on sleds"
umiag	umia <u>N</u> n <u>i</u> ap <u>uq</u>	"he works on boats"

All affixes in an alveolar nasal initial assimilate the root final consonant which becomes nasalized.

To summarize:

Affixes whose initial segment is an anterior nasal nasalize the stem final consonant. When the affix initial segment is tense, it deletes according to the

tri-consonant rule.

4.7 Back nasal initial

4.7.1 Velar nasal initial

(i) -ŋujuq "he has a bad..., he is hurt in..."

<u>niaquq</u>	<u>niaquŋujuq</u>	"he has a headache"
<u>na:g</u>	<u>na:ŋujuq</u>	"he has a belly ache"
<u>nuik</u>	<u>niunŋujuq</u>	"his leg hurts"
<u>siuti</u>	<u>siutiŋujuq</u>	"he has an earache"
<u>qisik</u>	<u>qisiŋujuq</u>	"he has a skin disease"
<u>itigait</u>	<u>itigaŋujuq</u>	"he has bad feet"

This and all satellite initial velar nasal delete the root final consonant. Note that -ŋ- is a back continuant nasal.

(ii) -ŋŋutug "he becomes something he was not"

<u>inuk</u>	<u>iniŋŋutug</u>	"he becomes human"
<u>pi</u>	<u>piŋŋutug</u>	"he becomes something else"

(ŋŋitug "negation" see chapter VI)

Tense velar nasal initial belong to dominant affixes. They delete the stem final consonant.

4.7.2 Uvular nasal initial

-Nŋitug (Schneider's rngretug) "which is no longer drinkable, edible..., does not live any more"

<u>silā</u>	<u>silauNŋitug</u>	"end of the world"
<u>qarqujaq</u>	<u>qarqujauNŋitug</u>	"biscuit no longer edible"
<u>tuvag</u>	<u>tuvauNŋitug</u>	"rotten ice"
<u>ikag</u>	<u>ikaqsaunŋirtug</u>	"no longer possible to cross"

This affix is in a tense uvular nasal and deletes stem final consonants.

To summarize:

Back nasal initials are a rare occurrence and all delete stem final consonants.

4.6 General summary of consonant initial affixes.

These affixes were classified according to their general point of articulation. Bilabials, velars and uvulars appeared to follow a general pattern:

1. Anterior stops are generally non-deleters while back ones delete independently of the nature of the affix.
2. Continuants delete if the syntactic conditions are in favour of deletion. Liquids and glides appear to delete in any environment. Some deletions or contractions are unexplained at this stage.
3. Velar continuants assimilate to the preceding segment, especially uvulars.
4. Nasals, if anterior, nasalize the preceding consonant and delete if they are back nasals, redundantly continuant.

It appears to be necessary to distinguish at least two kinds of internal junctures: simple morpheme boundaries are found between roots (or affixes) and a following satellite affix. Strong morpheme boundaries are found between stems and a dominant affix. The rule of tri-consonantal deletion appears to apply across strong morpheme boundaries, along with assimilation. Deletion is not possible.

Many problems remain unresolved. The aim of this chapter was to offer some type of initial classification in the hope that a subsequent extensive study might shed some light into the numerous problems involved.

FOOTNOTES TO CHAPTER IV

- ¹ If needed, several types of morpheme boundaries will be distinguished according to the syntactic properties of neighbouring morphemes.
- ² Note that an element deletes only if, phonetically and syntactically, the conditions required are met. It appears that continuants and velars phonetically can delete if the syntactic conditions are met. Tense consonants and vowels delete no matter what the syntactic conditions are like.
- ³ Galuar is usually added to a verbal stem. An unexplained exception is that -ksaq, -taq are inserted between the root and the affix. e.g., piksaraluat, piy mayaraluara...
- ⁴ Note that most of the affixes which have different initial segment according to the nature of the stem last segment are those which we would translate by "want to do something, needs to do something, would find desirable to do something", that is verbs which require an infinitive verb following them in English.
- ⁵ This affix is found in other forms. -jaq means object, material in general. -ksaq indicates a specific material to do some work with. -taq would indicate a material which goes into the making of something which will do an action

such as flying for igimaq. Note that all these affixes have in common the form -aq, and that their initial segment is either an alveolar /t/ or a tense alveopalatal fricative /ts/ or a palatal glide /j/. -jaq is used for terms of materials, skins, etc., e.g.,

tuktuk	tuktu <u>jaq</u>	"caribou hide"
uqaliq	uqali <u>jaq</u>	"hare hide"
qisik	qisi <u>jaq</u>	"piece of skin"
nanuq	nanu <u>jaq</u>	"bear skin"

- ⁶ One could postulate that this /t/ has its origins in a continuant. Alveolars, and palatals are very unstable elements in Eskimo and some of them seem to stem from a series of lateral and palatal fricatives no longer existing in the language. Some /t/, /s/ would stem from an occlusive and behave as such, others from a continuant.

CHAPTER V

Nominal declension

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CHAPTER V Nominal declension

5 Nominal declension

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CHAPTER V Nominal declension

5. Nominal declension

In previous chapters, a phonological classification of the sounds of Eskimo and some basic affixation rules have been presented. These will be used in chapter V and VI to develop some aspects of the nominal and verbal flections. I shall use the term declension when working on nominal endings, the term conjugation when working on verbal endings. The nominal declension not only applies to nominal roots but to any stem that is nominalized through nominal dominant suffixes. An Eskimo nominal is made of:

- 1)- a nominal root optionally modified by satellite suffixes
- 2)- a verbal root modified by dominant suffixes.

Recall that the last segment of a nominal root or stem can be a vowel, lax or tense (or a diphthong), optionally followed by a lax non-nasal stop, /k/ or /q/. The first segment of the ending can be a vowel, usually lax, or any consonant, lax or tense, liquid or glide.

5.1 Basic nominal declension

There are eight cases in the nominal declension: intransitive (or absolute), transitive (or genitive), modalis (accusative), localis, ablative, terminalis, vialis and aequalis (comparative) . A complete table as given by Schneider [22] is presented in Appendix III.

5.1.1 Singular declensions

5.1.1.1 Intransitive

<u>nuna</u>	"land"	<u>siuti</u>	"ear"	<u>inuk</u>	"person"	<u>tupiq</u>	"tent"
<u>ilu</u>	"house"			<u>panik</u>	"daughter"	<u>nasag</u>	"hat"

It can be observed in the examples that the intransitive form can be taken as the dictionary entry for the nominal root.

5.1.1.2 Transitive, e.g., nunaup "of the land"

<u>nunaup</u>	<u>siutiup</u>	<u>inu:p</u>	<u>tupiup</u>
		<u>paniup</u>	<u>nasaup</u>

The ending seems to be -up, therefore deletion of the stem final consonant is normal (3.4.1.3). However, there are other forms such as:

<u>sa:</u>	"table"	<u>ku:k</u>	"river"	<u>qa:g</u>	"skin mattress"
<u>sa:p</u>		<u>ku:p</u>		<u>qa:p</u>	

<u>kikiak</u>	"nail"	<u>umiag</u>	"boat"
<u>kikiap</u>		<u>umiap</u>	

If the ending is -up, deletion of the ending vowel has to be explained in the examples of the second series.

The root final consonant is deleted. This is the sign of the presence of a continuant. The underlying form of the ending therefore has to be -up. The ordered rules already determined can be applied. The first rule applicable is Pre-continuant consonant deletion. The epenthesis rule does not apply because the ending vowel does not have to be protected against deletion leading to ambiguity. The Tri-vocalic deletion rule follows. Other rules do not apply. Any other ordering of these rules would yield the wrong result.

Summary:

nuna + up sa: + up inuk + up tupiq + up ku:k + up qa:q + up

Pre-continuant deletion

inu tupi ku: qa:

Results

nunaup sa:p inuup tupiup ku:p qa:p

The M.S. rule of formation of tense vowels gives inu:p.

5.1.1.3 Modalis, e.g., nunamik "the land"

For our purpose, a quick glance through the table, Appendix 3, allows the modalis to be considered as the phonological representative of the localis, ablative and terminalis case endings as all have a bilabial nasal as an initial segment, /m/, and thus behave in the same fashion at morpheme boundary.

nun <u>a</u> mi <u>k</u>	siutu <u>i</u> mi <u>k</u>	inu <u>m</u> mi <u>k</u>	nasa <u>N</u> mi <u>k</u>	ku: <u>m</u> mi <u>k</u>
	siu <u>m</u> mi <u>k</u>			qa: <u>N</u> mi <u>k</u>

There are no problems of affixation. The final consonant of the root is nasalized according to the nasalization rule, then the velar nasal assimilates to the bilabial, according to consonant assimilation. No other rules apply. However, there are two possibilities for stems ending in -ti. The first form behaves as a vowel ending, the second as an alveolar stop ending which nasalizes then assimilates according to the consonant assimilation rule. On page 152, these roots in -ti or -uti were encountered and it was observed that sometimes they are in -t. Before nasals and liquid /l/, an optional rule can delete the final vowel.

At this point, a note should be made about the nature of this vowel. In certain other dialects, it is a low vowel, /a/. On the other hand, in Alaska, some dialects have a

vocalic system which contains another vowel, /as/. It occurs in this position. It is postulated that this central vowel is realized as either /i/ or /a/, or disappears altogether according to dialectal differences and preferences.

We have postulated that a nominal stem cannot have an alveolar as a final segment if isolated and in composition with most affixes and endings. However, an additional optional second form, where the alveolar is at morpheme boundary, is possible.

$$\begin{array}{c} \text{V} \xrightarrow{\text{OPT}} \emptyset \\ \left[\begin{array}{c} +\text{high} \\ -\text{back} \end{array} \right] \end{array} \quad / \quad \begin{array}{c} \text{C} \\ \left[\begin{array}{c} +\text{ant} \\ +\text{cor} \end{array} \right] \end{array} \quad \xrightarrow[\text{n.r.}]{+}$$

5.1.1.4 Vialis, e.g., nunakkut "through, by the land"

nunakkut inukkkut tupikkkut ku:kkut qa:kkut

The underlying form of the ending appears to be -kkut. The ending initial consonant is tense. It deletes all lax consonants preceding it according to the Pre-tense consonant deletion. Recall that High consonant uvularization occurs on verbal suffixes only. If this were not so and the Pre-tense consonant deletion rule were to be ordered after the High consonant uvularization rule, forms such as *nasarut would be found in the language, which is not the case .

5.1.1.5 Comparative, e.g., nunatut "like the land"

nunatut inuktut nasartut ku:ktut qa:rtut

The initial segment of the ending is an alveolar stop which does not delete final consonants.

5.1.1.6 Optional forms: modalis (and likes), and comparative.

Consider the following data:

kikiak	1.	<u>kikiammik</u>	<u>kikiaktut</u>
	2.	<u>kikia:mik</u>	<u>kikia:tut</u>
umiaq	1.	<u>umiaNmik</u>	<u>umiartut</u>
	2.	<u>umia:mik</u>	<u>umia:tut</u>

In the second forms, there is what appears to be a deletion of the root final consonant and a lengthening of the root last vowel. This is an optional form and occurs in polysyllabic roots ending in -iak or -iaq, that is V-VC. -aq is a particle which often disappears from the surface structure of roots or even suffixes when another suffix is brought forth. Here, however, only the final consonant disappears from the surface structure, and it can be a velar as well as a uvular.

On the other hand, no group of a lax and tense vowel has been found up to this point. Such an occurrence is forbidden and, should it occur, Tri-vocalic rule deletes the third vowel. The lengthening can be thought to take place

optionally after Tri-vocalic rule has applied. This lengthening can be hypothesized to be the result of a transfer of all the distinctive features of the vowel /a/ to the final consonantal segment; this would be done in the following fashion:

$$\begin{array}{c} \text{C} \\ [+back] \end{array} \xrightarrow{\text{OPT}} \begin{array}{c} \text{V} \\ [+low] \end{array} / -\text{VCV} \begin{array}{c} \text{V} \\ [+low] \end{array} \text{ ____ } + \begin{array}{c} \text{C} \\ \left[\begin{array}{l} -\text{tense} \\ -\text{cnt} \\ +\text{ant} \end{array} \right] \\ \text{n.e.} \end{array}$$

where n.e. stands for nominal ending.

that is, a back stop optionally takes on the features of the preceding vowel, before a nominal ending initial anterior stop, in polysyllabic words ending in -iaC. Note that in the forms of the basic nominal declension, the rule of double consonant applies whenever necessary.

arnaNmik $\xrightarrow{\quad}$ arnamik "the woman"
 irniNmik $\xrightarrow{\quad}$ irnimik "the son"

There is no lengthening of the root last vowel in this case. The optional rule will be ordered after the Tri-vocalic rule otherwise the lengthening would not appear in the surface structure.

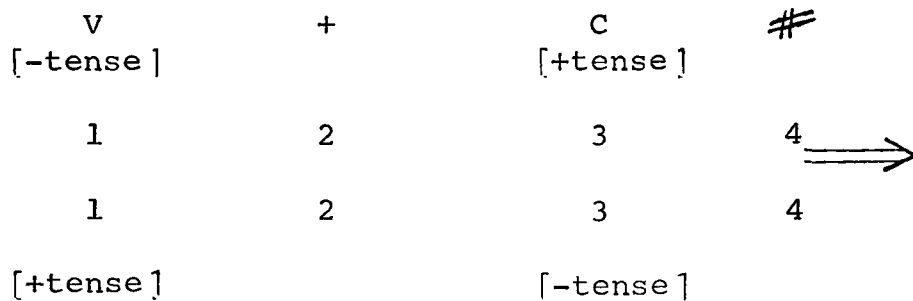
5.1.2 Dual declensions

5.1.2.1 Intransitive, e.g., nuna:k "two lands"

nuna:k inu:k siuti:k nasa:k

In the above data, all root final consonants are deleted. The last vowel of the root is tense and a velar stop, /k/, is added.

One hypothesis is that the mark of the dual is a velar and that the root final consonant does not appear in the surface structure but instead, a lengthening of the last vowel of the root would occur. Unfortunately, the lengthening occurs with the last vowel of roots not ending in a consonant, e.g., nuna. This tensing of the last vowel seems rather difficult to explain. The velar is often unreleased and the only perceptible mark of the dual is the tensing. The velar mark of the dual might be thought of as a tense velar. The language bears no trace of a tense consonant before a boundary of any kind. However, it has several stems ending in a tense vowel and a consonant. This tensing of the last vowel in the case of the dual might be an actualization of a word final tense consonant. This would be expressed in the following transformation:



that is, before a word boundary, a tense consonant becomes lax. The preceding vowel communicates its features to the initial part of the tense consonant and becomes tense.

If such an hypothesis were correct, this transformation would have to be ordered before all other phonological rules as nominal endings can be found after the dual ending and are affixed according to the phonological rules already encountered.

The dual form is affixed to the root through deletion of the root final consonant by a back consonant, tense, then this consonant becomes lax and the preceding vowel becomes tense .

5.1.2.1 dual: transitive, e.g., inu:k "two men"

From the data I possess, the transitive form of the dual (and of the plural) appear to be the same as their intransitive equivalents.

The modalis, vialis and aequalis dual are obtained by adding the case endings to the basic dual form, according to the phonological rules already established. The modalis affix in this case is in -nik. The lengthening of the last vowel remains, e.g.,

nuna:k + nik $\rightarrow$ nuna:nnik (nasalization rule).
 nuna:k + kkut $\rightarrow$ nuna:kkut (pre-tense cons. deletion)
 nuna:k + tut $\rightarrow$ nuna:ktut no rule applies

5.1.3 Plural declensions

5.1.3.1 Intransitive plural, e.g., nunait "lands"

<u>nunait</u>	<u>siuti:t</u>	<u>nasait</u>	<u>sa:t</u>	<u>ku:t</u>	<u>ait</u>
.	<u>siutit</u>				

The underlying form of the plural ending seems to be -it. However, in forms like sa:t, ku:t, etc., that is tense vowel ending roots with or without a final consonant, the ending is a single segment, /t/. There is a process of pre-continuant deletion of the root final consonant in every case, so we have to postulate -it as the plural ending. Tri-vocalic deletion applies in tense or double vowel ending cases.

Two forms are possible in the case siuti. The more common one is formed on a vowel ending root while the other one is formed on an alveolar ending one. The morpheme structure rule of vowel tensing or formation of diphthong applies last.

Summary :

nuna + it inuk + it nasag + it sa: + it ku:k + it aig + it

Continuant consonant deletion

inu nasa ku: ai

Tri-vocalic rule

sa : + t ku : + t ai + t

Tensing M.S. rule

nunait inuit nasait sa:t ku:t ait

The transitive form of the plural is the same as the intransitive.

5.1.3.2 Modalis plural, e.g., nunanik "the lands"

nunannik siutinnik inunnik nasaNnik kikia:nik umiaNnik
kikiannik umia:nik

Here, the mark of the plural is still an alveolar, this time a nasal, /n/. This nasalizes the root final consonant. Again, there is an optional form for polysyllabic words following the pattern established in section 5.1.1.6.

The plural forms of the *vialis* and *aequalis* declensions are obtained by the affixation of, respectively, -tigut and -tutut. The alveolar /t/ does not delete the root final consonants. Examples

kikiak + tigut $\longrightarrow$ kikiaktigut or kikia:tigut
umiaq + " $\longrightarrow$ umiartigut or umia:tigut

Note that there are optional forms for polysyllabic words.

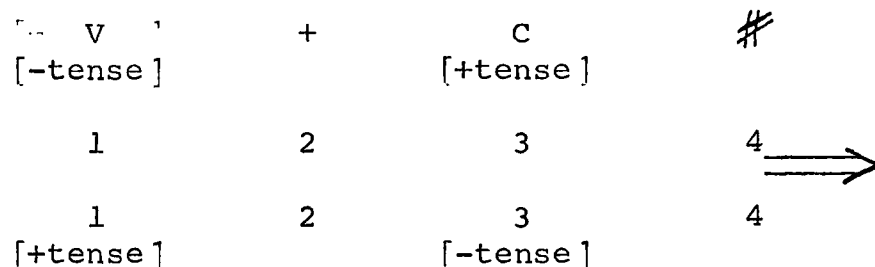
5.1.4 Summary of basic nominal declension

5.1.4.1 The basic nominal declension requires no new rules. However, the formation of the dual is a complex problem which has not been satisfactorily solved in this chapter. A hypothesis has been proposed but within the framework of this thesis, no deep research has been made as to what really happens. Polysyllabic roots ending in -iaC have an optional form for the declension of the modalis, localis, ablative and comparative declensions. Roots ending in -uti have an optional form for affixation of endings beginning with a nasal, and two forms for the plural.

5.1.4.2 Summary of basic nominal declension rules

Rules needed and applicable, in their respective order:

Dual formation rule



That is, before a morpheme or word boundary, a tense consonant becomes lax. The preceding vowel communicates its features to the initial part of the tense consonant and becomes tense.

e.g., $\text{inuk} \rightarrow \text{inu:k}$
 $\text{tupiq} \rightarrow \text{tupi:k}$

Nasalization

$C \rightarrow [+nas] / __ + [+nas]$

that is, a consonant becomes a nasal at morpheme boundary if the following consonant is a nasal.

e.g., $\text{tupiq} + \text{mik} \rightarrow \text{tupiNmik}$
 $\text{tupi:k} + \text{nik} \rightarrow \text{tupi:\eta nik}$
 $\text{tupi:t} + \text{nik} \rightarrow \text{tupi:\eta nik}$
 $\text{siut} + \text{mik} \rightarrow \text{siunmik}$

Assimilation to following consonant

$\left[\begin{array}{c} C \\ \langle +ant \\ +cor \rangle \end{array} \right] \rightarrow \left[\begin{array}{c} \alpha cor \\ \langle +back \\ +high \\ -cnt \rangle \end{array} \right] / __ + \left[\begin{array}{c} \alpha cor \\ \langle +back \\ -cnt \\ +high \\ OPT \rangle \end{array} \right]$

that is, a consonant assimilates to a following consonant.

If that consonant is an alveolar stop, it optionally assimilates to a following high back stop instead of being deleted.

e.g., $\text{tupi:\eta nik} \rightarrow \text{tupi:\eta nik}$
 $\text{siunmik} \rightarrow \text{siunmik}$

Pre-tense consonant deletion (or pre-back consonant deletion)

$C \rightarrow \emptyset / __ + [+tense]$

that is, a consonant is deleted across morpheme boundary by a tense consonant.

e.g., $\text{tupiq} + \text{kkut} \rightarrow \text{tupikkut}$
 $\text{tupi:k} + \text{"} \rightarrow \text{tupi:kkut}$

Pre-continuant consonant deletion.

$$C \longrightarrow \emptyset / _ + [+cnt]$$

that is, a consonant is deleted across morpheme boundary by a following continuant.

e.g., ku:k + it $\longrightarrow$ ku: -
 umiag + it $\longrightarrow$ umia -
 arnag + it $\longrightarrow$ arna -

Tri-vocalic deletion

$$V \longrightarrow \emptyset / VV _$$

that is, in a sequence of three vowels, the last one is deleted.

e.g., umia + it $\longrightarrow$ umiat
 ku: + it $\longrightarrow$ ku:t

Rule of double consonant

$$C \longrightarrow \emptyset / CC V (V) _ C$$

that is, when sequences of consonant clusters occur, the first consonant of the second cluster is deleted.

e.g., arnaNmik $\longrightarrow$ arnamik

Optional rule of tensing of a second vowel in polysyllabic roots

$$\begin{array}{c} C \\ [+back] \end{array} \xrightarrow{\text{OPT}} \begin{array}{c} V \\ [+low] \end{array} / -VCV \quad \neq \quad \begin{array}{c} V \\ [+low] \end{array} _ + \begin{array}{c} C \\ \left[\begin{array}{l} -tense \\ -cnt \\ +ant \\ n.e. \end{array} \right] \end{array}$$

that is, in polysyllabic words ending in -Vaq or Vak, when the ending following is an anterior consonant, the last vowel gives its features to the back consonant.

vowel tensing or creation of diphthongs

$$\begin{matrix} \text{V} \\ [+high] \end{matrix} \longrightarrow [-syll] / \quad (C) \begin{matrix} \text{V} \\ [-high]^- \end{matrix}$$

$$\begin{matrix} \text{V} \\ \begin{bmatrix} \alpha high \\ \beta back \end{bmatrix} \end{matrix} \longrightarrow [-syll] / \quad (C) \begin{matrix} \text{V} \\ \begin{bmatrix} \alpha high \\ \beta back \end{bmatrix}^- \end{matrix}$$

5.2 Other nominal declensions

As pointed out a long time ago by Thalbitzer [32], words are better classified as to whether they have full or defective inflections. The class of words about to be encountered are what is commonly called adjectives and noun-phrases of the type "the one who does...".

In this section, roots taking the nominal declension might not be pure nominals but the stem to which the ending is added has become nominalized by the addition of a dominant nominal suffix (see chapter III). The nominal affixes which are going to be considered in this section are: -juq (-tuq), -jaq (-taq), and -ji (-ti). Nominal declension endings will be added to them, e.g.,

tikit	+ tuq	+ mik	→ tikittumik	takuvuq	"he sees the one who arrives"
siqumik	+ taq	+ "	→ siqumiktamik	"	"he sees the broken one"
iga	+ ji	+ "	→ igajimik	pijumavuq	"he wants to cook"
qirni-	+ taq	+ "	→ qirnitamik	takuvuq	"he sees the black one"
aŋi-	+ juq	+ "	→ aŋijumik	"	"he sees the tall one"

The affixation of case endings to these stems is done with some irregularities which will be studied in this section.

5.2.1 Noun phrase and adjective declensions

The stems encountered in this section are:

<u>anijug</u>	"big"	<u>qakurtaq</u>	"white"	<u>takujug</u>	"who sees"
<u>naittug</u>	"short"			<u>takujag</u>	"who is seen"

5.2.1.1 Singular, transitive and plural, transitive or
or intransitive e.g., takujaup "of the one who is seen"

anijup naittup takujup takujaup qakurtaup

The deletions of 1. - the stem final consonant

. and 2. - a -u- in the case of -jug,

-tug endings, have to be explained. If an indication of what occurs is taken from Schneider's orthography, p. 78, [22], it is the whole -ug segment which is deleted as he writes a ijup, not a ijop. According to his rules, when a uvular is deleted and the previously lowered vowel is in contact with a non-high consonant, anterior, it remains low. Here, we have, according to his own orthography, a high vowel. On the other hand, several cases of deletion of the two segments -aq have already been encountered, but none of -ug. Note that here, the /a/ remains in jaq, while the /q/ is deleted. Before choosing a solution, let us consider the plural of the intransitive form.

anijut naittut takujut takujait qakurtait

The plural ending behaves like the transitive ending -up. The high vowel /i/ is deleted after -uq. The entire problem is complicated in the case of the adjectives in -uq by the fact that when these are taken as full nominals, that is when they indicate a class of....., they behave in a perfectly regular fashion in case declension, e.g., anijuit "the big(s)", naittuit "the short(s)", qakurtuit "the white(s)" etc. It seems that there is something before the morpheme boundary which prevents the deletion of -i or -u when the whole stem is a nominal and disappears when it is a noun-phrase. Schneider notes that -juq (tuq) are "active participles" and have the meaning of a relative clause, "the one who..., that which...". However, it can be conjugated as an indicative mood in a direct fashion, meaning, "you who..., him who..., me who..". Adjectives formed in that way can be conjugated too. However, what Schneider calls "passive participles" in -jaq (-tag) cannot be conjugated directly but need to be verbalized first by the addition of the dominant verbal suffix -u. One can easily see the difference between -tag ending adjectives which take on case endings in a normal fashion, like a nominal, and -tuq which is more verbal in its nature.

Calling X the last segment of an adjective or a nominalized root, note:

X is the marker of the non-participant, that is other than the speaker or the listener, in the conjugation. In the underlying structure, it is:

a) - a uvular $\begin{matrix} C \\ [+back] \\ [-high] \end{matrix}$ at word boundary, intransitive conjugation

$$X \longrightarrow \begin{matrix} C \\ [+back] \\ [-high] \end{matrix} / \# \text{ (i.c.)}$$

where i.c. stands for intransitive conjugation.

b) - in the interrogative form or the special negative form in -la- of the intransitive conjugation, it is a morpheme $\emptyset$, before word boundary.

c) - in the transitive form, as non-participant referred to, it distinguishes itself in the following manner: participants as subjects of the verb do not have to be marked: if it is not you, then it is me, and vice-versa. The non-participant has to be marked. This is done by X, and in this, X is a low vowel which is the -q- previously seen having taken the features of the preceding vowel, /a/. That vowel is tense.

Coming back to our present problem, stems ending in -tuq before a case ending, not being real nominals, have X as a final segment. Its underlying form might be a morpheme

Ø which acts as a vowel because the third vowel in a row, -u- or -i-, is deleted. In the case of -taq, real nominal, or -tuq, when it is taken as a real nominal, the marker of the third person no longer acts as such and the uvular is taken as an ordinary consonant belonging to a nominal. In this case, it is deleted by the following continuant in a perfectly regular fashion, e.g., adjectives or N.P.

aŋijuX + it	naittuX + it	takujuX + it	takujaq + it
up	up	up	up

pre-continuant consonant deletion

takuja

Tri-vocalic deletion

t	t	t
p	p	p

results

aŋijut	naittut	takujut	takujait
aŋijup	naittup	takujup	takujaup

5.2.1.2 Modalis, vialis and aequalis, e.g., naittumik "the short...

aŋijumik	naittumik	takujumik	takujamik
aŋijukkut	naittukut	takujukkut	takujakkut
aŋijutut	naittutut	takujutut	takujatut

In the above series, all the stem final /q/ are deleted. However, we believe that the deletion of this segment is not due to the same process in -uq words and in -aq words. In the -uq series, the morpheme representing the

non-participant has the $\emptyset$ shape (not to be mistaken for 0 which would mean that it just is not there). The underlying structure of the stem ending is -uX. In the second series, there is a parallel with the nominal declension of most roots in -jaq or -ksaq endings. These, e.g., naujaq "sea gull", always lose the final /q/ without a lengthening of the preceding vowel when case endings in a nasal initial are affixed. It appears that in nominal roots ending in -aq, the uvular is an unstable element which may or may not appear in the surface structure. When it does not appear as such, it is realised either as a lengthening of the preceding vocalic segment or just does not have a marked surface realization.

The plural and dual declension of this type of words, adjectives or noun-phrases, all follow the basic nominal declension with the absence of the /q/ in the plural series.

Note that in naittukut, the initial segment of -kkut is deleted through the rule of double consonants.

5.3 Possessive declension

5.3.1 General comments

The possessive paradigm is a very complex part of the Eskimo language as to the number of possible combinations involved. It is subject to analogic regularization and syncretism. This leads to the situation that one is never quite sure of the underlying form of an ending for a specific dialect.

The possessive is declined along eight "cases" according to Schneider, in the same fashion as the basic nominal declension. For each case, there is a different form of the ending according to the following factors:

1. The person of the possessor. These are roughly translated as "my", "your" and "his" (or hers).
2. The number of the possessor. There is a form of the ending for two, and for two or more than two when the exact number does not need to be specified, that is singular, dual or plural possessor.
3. The number of the possessed. The ending will vary in a similar manner to that described above, that is there is a singular, dual and plural form.

A reflexive form is used either to specify when the possessor otherwise would not be given explicitly, e.g.,

Pita iglunani nirivug "Peter eats in his house (Paul's)"
 Pita iglumini nirivug "Peter eats in his own house"

It is also used to emphasize any other form. This apparently is an innovation which is found in the Fort Chimo dialect. In Ivujivik the problem is solved in a different manner (see the table at the end of this chapter).

Instead of going through the paradigm whose listing is in table, initial segments of the endings will be grouped whenever possible. Note, however, that the only forms I am really sure of are those which concern one object and a singular or plural possessor. Both my informants and I got thoroughly confused every time we approached the possessive declension. When this disaster occurs, it will be mentioned with restrictions as to the validity of the data.

A quick look through the paradigm as given by Schneider [22] allows us to think that the possessive endings generally delete stem final consonants. A noticeable exception is the endings affixed to the dual marker which usually do not delete the /k/. However, new forms are being created to prevent ambiguities due to assimilation and each dialect

has its own forms. The original forms will usually be considered first, then the different ways adopted by each dialect to prevent ambiguities will be classified in an attempt to find regularities. Interdialectal differences will be noted whenever possible.

5.3.2 Intransitive forms

5.3.2.1 Singular possessor, first person, one, two, two or more objects

SING. OBJ.

nunaga "my one land"
 paniga "my daughter"
 nasara "my hat"
 irnira "my son"

DUAL OBJ.

nuna:kka "my two lands"
 pani:kka "my two daughters"
 nasa:kka "my two hats"
 irni:ka "my two sons"

PLUR. OBJ.

nunakka "my lands"
 panikka "my daughters"
 nasakka "my hats"
 irnika "my sons"

Consider the singular object form. The ending would be thought to be -ga, which undergoes some modifications when the root ends in a uvular. However, the dual forms are in -:kka and the plural ones are in -kka. Several hypotheses are possible:

1. first hypothesis

The underlying form of the ending is -ka. This is added to the plural marker :k without deletion, although velar stops are known to delete the preceding consonant. A strong type of morpheme boundary which would prevent the deletion has to be postulated. It is added to the plural marker /t/ in the same fashion and the alveolar assimilates to the velar. The rule of assimilation has to come very late in the series of ordered rules. At some stage the strong morpheme boundaries might also be erased. The affixation would then be of the form:

nuna + t[#]ka
 nuna + :k[#]ka

where [#] is not a word boundary but a strong type of boundary introduced by syntax.

In the affixation to a root, the possessive ending is attached to a stem or root which does not have such a strong type of morpheme boundary following it. Deletion of the stem final consonant is possible. However, this ending behaves like all dominant verbal affixes and the initial velar becomes a continuant intervocally. Previous lowering of the velar at the contact of the uvular has occurred. The pattern is

the following:

nuna	+ka	panik	+ka	nasaq	+ka
nuna:k	ka	pani:k	ka	nasa:k	ka
nunat	ka	panit	ka	nasat	ka

Uvularization

$$\begin{array}{c} \text{C} \\ [+high] \\ [+back] \end{array} \longrightarrow [-high] / \begin{array}{c} \text{C} \\ [+back] \\ [-high] \end{array} + \text{ (d.v.a.)}$$

nasdaq + qa

Pre-back consonant deletion (across weak morpheme boundary)

pani	+	ka	nasa	+	qa
------	---	----	------	---	----

Continuizing of dominant affix initial

nuna	+	ga	pani	+	ga	nasa	+	ra
------	---	----	------	---	----	------	---	----

Final forms (assimilation of alveolar to following velar)

nunaga	paniga	nasara
nuna:kka	pani:kka	nasa:kka
nunakka	panikka	nasakka

Dbl. rule

irni:kka	→	irni:ka
irnikka		irnika

2. second hypothesis

The underlying form of the affix is -ga. This uvularizes directly into -ra after a uvular ending root. When -ga, continuant initial which always deletes, follows a plural or dual marker, the continuant turns into a stop to prevent deletion. This would mean that deletion by a continuant is

general and compulsory in the language while deletion by back consonants is not so general nor compulsory. It could be argued that the plural and dual markers have become continuants to prevent deletion. However, if sequences of two velar continuants do occur in the language, it is difficult to find which continuants could have replaced the /t/. There are alternances of /t/ versus /j/ or /l/, but sequences such as -lq- and -jq- are impossible in the structure of the Eskimo word. This hypothesis is less satisfactory than the first as it follows a pattern not yet encountered in the language.

3. third hypothesis

The possessive ending is -kka. As such, it deletes all preceding consonants, dual and plural included. It is easy to differentiate the plural from the dual as there still is lengthening of the root last vowel. However, the singular possessor would have been identical to the plural. This is a common occurrence and it is not known why in this case it does not occur. Intervocally, when only a weak morpheme boundary is involved, the -kk- is weakened into a -q-. There might be two realizations of the tense velar, one in a continuant and the other in a stop. Here, the continuant form would be found which becomes uvularized after a uvular ending root.

None of the hypotheses are completely satisfactory. However, short of postulating a different ending for the singular object and the plural ones, no other alternative has been found at this stage. Note that throughout the declension, the dual and plural markers are found either before the ending or the /k/ or /t/, or after the ending.

5.3.2.2 Plural possessor, first person, one, two, two or more objects

SING. OBJ.	DUAL OBJ.	PLURAL OBJ.
nunavut "our one land"	(nuna:kput) ₁	nunavut
panivut "	nuna:vut	panivut
nasavut	pani:vut	nasavut
	(panivu:tta) ₂	

The underlying form of the affix appears to be -vut for all three series. As a continuant, it deletes stem final consonants. The singular and plural object forms are identical. However, the dual object forms seems to be the problem: the old form is pani:kput. Here, the continuant might change into a non-deleting stop after the dual marker because of a strong morpheme boundary. The modern forms given by my informants were nuna:vut or nunavu:t for one informant who was by no means sure of the 'proper form' to put it in his own words. The other informant seemed certain of the panivu:tta form. No hypothesis will be made as to the

processes involved.

5.3.2.3 Dual possessor, first person, one, two, two or more objects

SING. OBJ.	DUAL OBJ.	PLURAL OBJ.
nunav <u>uk</u> "two of us, our land"	nuna: <u>kpuk</u>	nunav <u>uk</u>
paniv <u>uk</u>		paniv <u>uk</u>
nasav <u>uk</u>		nasav <u>uk</u>

The only difference from the plural possessor is the final segment of the ending which is a /k/, mark of the dual, rather than a /t/.

5.3.2.4 Singular possessor, second person, one, two, two or more objects

SING. OBJ.	DUAL OBJ.	PLURAL OBJ.
nunai <u>t</u> "your land"		nunati <u>t</u>
pani <u>it</u> "your daughter"	pani: <u>kkik</u>	paniti <u>t</u>
nasai <u>t</u> "your hat"		nasati <u>t</u>

These endings are identical to those of the plural formation for the basic declension. The vowel initial ending deletes all preceding consonants. If the root is in two final vowels, or a tense one, the initial segment of the possessive is deleted by the tri-vocalic rule.

Note a difference with the plural formation: the rule of vowel tensing or of diphthong formation does not apply here. This might be due to the difference in the nature of

the boundaries involved: while the plural was separated from the root by a weak morpheme boundary, the boundary involved here is a strong one. However, tensing of final vowels through loss of syllabicity of the second one is not always applied and the non-occurrence of such a phenomenon in the affixation of the possessive might be purely accidental.

The affixation of the endings for dual object is done in a tensing of the dual marker /k/. The plural object ending is marked by a /t/ initial. Two hypotheses are possible:

1. first hypothesis

The dual marker can be deleted by a vocalic segment and the result of such a deletion would be nuna:it. Tri-vocalic deletion would delete the ending -i- yielding nuna:t which is similar to the basic dual form. To prevent this, there is tensing of the velar marker.

2. second hypothesis

One of my informants gave pani:kik as the dual form. In this case, the dual marker is the lengthening while the /k/ is not deleted, but the ending is in :kik where the final /k/ is another indication of the dual. The other informant gave :ktik. The endings would be similar for the dual and the plural with the :k present but with the addition of the

plural ending form, -tit. Again, there is no way to allow us to be sure of the forms short of inspecting all the inter-dialectal differences.

The plural form is given by Schneider as tit deleting the stem final consonant. I should like to postulate that it is -it added to the plural marker without deleting it because of strong morpheme boundary.

5.3.2.5 Plural possessor, second person, one, two, two or more objects.

nunasi	"your land"	nuna: <u>ksi</u>	nunasi
panisi			panisi
nasasi			

As with the plural possessor first person, the ending is in a continuant initial. It deletes stem final consonants.

The plural object is identical to the singular object form.

However, the dual :k is not deleted by the continuant. This might give some credibility to hypothesis one of section

5.3.2.1.

5.3.2.6 Dual possessor, second person, one, two, two or more objects (you two, your...)

SING. OBJ.

DUAL OBJ.

PLURAL OBJ.

nunatik
panitik
nasatik

nuna:ktik

nunatik

These forms were given by Schneider as my informants did not use them, although they had "heard them". The dual forms do have the final /k/ but their initial appears to be a reduplication of the forms for singular possessor, plural object. These forms delete the stem final consonants, but the dual marker, :k is left untouched. By comparison with the data given in 5.3.2.4, one might accept that the ending for plural object was in fact in -tit without any form of plural of the root.

5.3.2.7 Singular and plural poss., third person, one, two,
many objects

A
"his one"

nunaṇa
paniṇa
nasaṇa

B
"his, their 2"

nuna:gik
pani:gik
nasa:gik

C
"his, their many"

nunaṇit
paniṇit
nasaṇit

D
"their one"

nunaṇat
paniṇat
nasaṇat

E
"their (2) one"

nunaṇak
paniṇak
nasaṇak

F
"their (2) two"

nuna:ṇik
pani:ṇik
nasa:ṇik

G

"their (2) many"

nunaŋit
 paniŋit
 nasaŋit

Consider all the series. They are all built on the same pattern apart from the dual object ones. They are in -ŋ- for single or plural possessor and in :g for the dual object. Consider these other forms found after -aaluk-, -u-, -uk-, -a-, -ti-. In these cases, the velar nasal disappears to leave vowels in contact

nasaaluk	nasaalua	"his big hat"
	nasaaluit	"his big hats"
nuvuk	nuvua	"his tip"
irniruluk	irnirulua	"his nice son"
aŋajuk	aŋajua	"his eldest"
piŋasut	piŋajuat	"their third"
irniapik	irniapia	"his small son"
aippaq	aippaa	"his companion"
ati	atia	"his below" (below him)
	ataa	

The series are all formed on the same pattern:

-ŋ	+	a	=	his one
-ŋ	+	a	+	t = their one
-ŋ	+	a	+	k = their (2 of them) one
-ŋ	+	i	+	t = his, their, their (2 of them) many
:g	+	i	+	t = his, their two objects
:g	+	i	+	k = their (2 of them) two objects
:ŋ				

By comparison with the special forms where no velar is to be found, it can be postulated that the ending

is in a vowel initial, -a- for singular object and -i- for dual or plural ones. The ending final consonant is the mark of the object when more than one object is involved. The optional velar nasal initial would be an inserted segment with no specific aim. The stem final consonant would be deleted either by the vowel or by the velar. Note that the mark of the dual is a continuant intervocally in this. Again, two hypotheses are possible:

1. - the :g versus -:ŋ- is continuizing of the dual /k/ intervocally
2. - the :g versus -:ŋ- is inserted after deletion of the dual /k/ according to the pattern followed by the other forms. This is a less likely hypothesis as the dual marker has not been deleted in any previous cases, apart maybe for the new forms in -vut.

Note that at Wakeham Bay, :ŋik or :gik are found indifferently for the same underlying ending. The forms without a velar initial are compulsory west of Hudson Bay for affixation to stems ending in past participle.

The transitive, modalis and all other "case" declensions are made by adding to the -a, -it.. etc. forms.

5.3.2.8. "Reflexive" forms, singular possessor, one, two,
two or more objects

SING. AND PLURAL OBJ.				DUAL OBJ.	
A		B		C	
nun <u>ani</u>	or	nun <u>anni</u>	or	nun <u>anni</u>	nuna: <u>nni</u>
pan <u>ini</u>		pan <u>inni</u>		pan <u>inni</u>	pani: <u>nni</u>
nas <u>ani</u>		nas <u>anni</u>		nas <u>anni</u>	nasa: <u>nni</u>
(his own)	land,	lands			(his own two..)

These forms are given by Schneider as a lax /n/ initial for singular possessor and tense /nn/ initial for plural possessor. He notes that they all delete stem final consonants. It sounded to me as if the /n/ initial ones assimilated rather than deleted. On the other hand, my informants were again not sure of the forms as they use them only after the endings for the first, second and third person possessor, e.g., nunagani, paninani, panivunni or panivuttini. The rule of double consonant and the assimilation rule deprive us of some precious ways of checking. Note that the forms are identical for the singular and plural object. The dual marker is nasalized. No postulation can be made as to the nature of these endings because they are subject more than any other forms to analogic regularization.

5.3.2.9 Summary

The affixation of the possessive endings, absolute form, is done in the following manner:

- velars are uvularized after uvulars, and become continuants intervocally. The marks of the dual and of the plural are not deleted but assimilate. The existence of a strong type of morpheme boundary was postulated without further evidence. Continuant or stop velars delete stem or root final consonants across weak morpheme boundaries.
- bilabials are usually continuant after roots and delete the stem final consonant. There does not seem to be a special form for the plural object, first person plural possessor. The dual object keeps its marker /k/ and the ending becomes a stop bilabial after this. However, new forms are created where the dual forms are not of such importance and are marked only by a lengthening of the root last vowel.
- alveolar stop /t/ seems to delete root final consonants. No explanation could be offered for this. They do not delete the dual marker /k/.
- alveopalatal /s/ behaves here as a continuant and deletes. It does not delete the dual marker.
- vowel initial endings delete root final consonants. However, the forms for the plural and dual are in /t/ initial. It is

not known whether the /t/ is the mark of the plural, in which case the plural marker would not be deleted, or if it belongs to the ending. It is found after the dual marker and assimilates to it.

- third person possessor endings are formed with a vowel initial followed by a marker of the object or the possessor. It is usually found preceded by a nasal velar which does not seem to play any role.

- reflexive forms are in a nasal alveolar initial; it is not known whether this deletes or assimilates the stem final consonant as extensive analogic regularization is found and inter-dialectal differences play a great role.

5.3.3 Relative (intransitive) forms

5.3.3.1 Singular possessor, first person

SINGULAR OR PLURAL OBJ.			DUAL OBJ.		
A		B		C	
nu <u>Namma</u>	or	nun <u>ama</u>	or	nun <u>amma</u>	nuna:η <u>ma</u>
pani <u>ηma</u>		pani <u>ma</u>		pani <u>mma</u>	pani:η <u>ma</u>
nasa <u>Nma</u>		nas <u>ama</u>		nasa <u>Nma</u>	nasa:η <u>ma</u>
"of my land"			"of my two.."		

The above data presents three forms. Form C is the result of assimilation of the first nasal to the /m/. Note that uvular nasals do not assimilate. Schneider [22] notes that in the same Ungava dialect forms A, B or C are equally possible. Anterior nasals are not known to be deleters so forms of the series B appear suspicious. It is more likely that the underlying form of the ending is -ma which assimilates the root final consonant. These become nasals, then the velar nasal assimilates to the anterior nasal. The forms of the plural object are identical to those of a single object. The dual marker is nasalized, not deleted. The tense /m/ of the vowel ending root again appears to be a case of analogic regularization. The whole series B would have undergone the same process, this time assimilating all the forms to the vowel ending ones.

The optional rule which allows -ḡma to go to

-mma is:

$$\begin{array}{c} \text{C} \\ [+ant] \\ [+back] \\ [+high] \end{array} \xrightarrow{\text{OPT}} \begin{array}{c} [\alpha cor] \\ [+ant] \end{array} / \text{ ______ } + \begin{array}{c} [\alpha cor] \\ [+ant] \end{array}$$

that is, a consonant, anterior or velar will optionally assimilate to the following anterior non-deleting consonant.

The modalis, vialis, aequalis are declined on the -ga form of the absolute in Chimo, e.g.,

nunaganik	takuvuq	"he sees my land"
nuna:kkanik	takuvuq	"he sees my two lands"
nunakkanik	takuvuq	"he sees my lands"

This is done in Chimo to prevent ambiguities caused by assimilation and rule of double consonant. The ancient forms are

nunamnik which would give in our dialect nunannik through
 panimnik
 nasamnik

assimilation. The same results are found in section 5.3.3.3

where nunanik gives nunannik. Bourquin is , quoted by

Schneider on p. 37 [22] to decline the dual on the same pattern

as the singular one but with tensing of the root vowel, that

is:

nuna:mnik. The declension is as follows interdialectally:

FIRST POSS, SING. OBJ.

Chimo	Labrador (Bq)	Rankin (M.M.)	Greenland (Th.)
<u>nunaga</u>	<u>nunaga</u>	<u>nunaga</u>	<u>nunaṇa</u>
<u>nasara</u>	<u>nasara</u>	<u>nasara</u>	<u>nasara</u>
<u>nunamma</u>	<u>nunama</u>	<u>nunama</u>	<u>nunama</u>
<u>nasaNma</u>	<u>nasaNma</u>	<u>nasaNma</u>	<u>nasarma</u>
<u>nunaganik</u>	<u>nunamnik</u>	<u>nunamnik</u>	
<u>nunagagut</u>	<u>nunapkut</u>	<u>nunapkut</u>	
<u>nunagatut</u>	<u>nunaptut</u>	<u>nunaptut</u>	

MODALIS, VIAL, AEQ. DUAL OBJECT

Chimo	Labrador	Rankin	
nuna:kkanik	nuna:mnik	?	"(I see) my two lands"
nuna:kkakut	nuna:pkut		"(I see) through my two
nuna:kkatut	nuna:ptut		"(I see) like my lands
			two lands"

To summarize;

It appears that for the transitive, the possessive marker is a bilabial nasal. It is a bilabial stop which is nasalized at the contact of the modalis -nik and which remains such for the vialis and aequalis. The nominal declension endings are added to this bilabial. To prevent ambiguity which would be caused by assimilation, new forms have been created in Chimo and most of the Ungava region which decline on the absolute possessive ending rather than on the relative one.

5.3.3.2 Plural possessor, first person

Chimo	West	Ungava	
<u>nunavutta</u>	<u>nunapta</u>	<u>nunatta</u>	"(of our land (s))"
<u>panivutta</u>	<u>panipta</u>	<u>panitta</u>	
<u>nasavutta</u>	<u>nasapta</u>	<u>nasatta</u>	

Here again, the singular and plural object are the same. Chimo declines on the ending for the absolute forms which delete the stem final consonant. West of Hudson Bay has a special form in -pta which deletes. Ungava has the same forms assimilated, that is the /p/ assimilates to the /t/.

The dual possessor forms are identical but the final segment is the /k/ marker. However, in the Ungava and West, the old forms are in -mnuk, assimilating to -nnuk in Ungava. My informants give me -vukta or -vunnuk.

The modalis, vialis, aequalis are declined as follows:

Chimo	Ungava	West
<u>nunavuttinik</u> or <u>nunavunnik</u>	<u>nunattinik</u>	<u>nunaptinnik</u>
	<u>panittinik</u>	<u>paniptinnik</u>
<u>panivuttigut</u> or <u>panivugut</u>	<u>panittigut</u>	<u>paniptigut</u>
<u>nasavuttitut</u> <u>panivuttut</u>	<u>panittitut</u>	<u>paniptitut</u>

They are declined on -vut for Chimo, with the possessive endings in -tti. However, these are forms where the -tti ending is missing altogether. The more ancient form found elsewhere is in -ptik- with a velar nasal inserted when the modalis is added. In Ungava, the /p/ has assimilated to the

/t/ and the rule of double consonant deletes the velar.

Dual objects have not been mentioned as we are not sure of the data. It seems to be either nuna:kta or nunavu:kta. If such were the case, the lengthening would be done on the last vowel of -vut.

5.3.3.3 Singular possessor, second person

Chimo	Ungava	West
nunavit panivit	nunakpit panikpit nasarpit	(see Ungava) "of your hat or hats"
nunaṇnik nasaṇnik nasaNnik	(see Chimo)	(see Chimo) "(I see) your land(s)"
nunakkut nunaktut nasaktut (nasartut)		"through your land(s)" "like your land(s)"

Note first that the endings for the West and the old forms for the Ungava region appear to follow the same pattern for the relative forms as that found in the previous section. (k) - /p/ and the ending of the absolute forms, -it. Chimo has a new form in a bilabial continuant. It could be postulated that the underlying form is /p/-it which becomes a continuant. The velar added seems to play no role other than making the initial segment a deleting one. However, it has been found that velar, which should allow the cluster

formed to be deleting, sometimes is uvularized, e.g., nasakpit or nasarpit. It might be necessary to postulate that the initial of the possessive ending is in -kp where the /k/ behaves as all velar do, that is becomes uvularized, then the root final consonant is deleted through the tri-consonantal rule. The same velar is found in the other case declensions with no other mark of the possessive. It nasalizes at the contact of the modalis initial nasal and the group formed deletes the stem final consonant. The occurrences of /k/ being uvularized might again be a case of analogic regularization.

To summarize:

The mark of the possessive appears to delete stem final consonant in any case. This is done either by a continuant in the case of Chimo's dialect, or by a velar-bilabial cluster elsewhere. For the three other cases (mod. vial. aeq.), the velar is the only mark of the possessive. In the Ungava region, there is assimilation of this velar to the following nasal yielding forms like nunannik. This assimilation would cause ambiguity with the first person possessor singular, nunamnik which becomes nunannik. That is why, in Ungava, the declension is done on -ga.... .

The dual object forms are obtained by affixation of -pit to the dual marker, for the relative case, while the other cases are declined on the pattern of the absolute forms.

5.3.3.4 Plural possessor, second person

PLURAL AND SINGULAR OBJECT		DUAL OBJECT
Ungava	Elsewhere	
nunats <u>i</u>	nunap <u>si</u>	nuna:t <u>si</u>
panit <u>si</u>	panip <u>si</u>	
nasat <u>si</u>	nasap <u>si</u>	
nunatsinik		
nunatsigut		
nunatsitut		

The ending appears to be identical to that of the absolute forms with either the /p/ marker of the relative or a simple tensing of the /s/. These endings delete stem final consonants. The dual appears to be identical to the other forms only in the lengthening of the stem last vowel. It would appear that the dual marker is deleted. The dual possessor forms will not be studied as I am not sure of the validity of the data.

5.3.3.5 Singular, dual and plural possessor, third person

These forms decline on the pattern of the intransitive. No new problem of affixation is encountered.

5.3.3.6 Reflexive, singular, dual, plural possessor

nunam <u>ik</u>	nuna: <u>ŋm</u> ik	nunam <u>ik</u>
pani <u>ŋm</u> ik		
nasa <u>Nm</u> ik		
(of his own)	(of his own 2)	(of his own many)

The forms are identical whatever the number of the possessor.

The ending for all the forms is in -mik and assimilates the preceding consonant. No new problem is involved.

5.3.4 General summary of the possessive declension

The possessive endings have been classified but in some of the cases it appears impossible to decide what the underlying form is. This is due to several factors: because of the developing trend towards assimilation, many originally different forms have come to be phonetically identical. Analogic regularization and syncretism have distorted the system to such an extent that it seems impossible to choose the basic form. Interdialectal differences, originally made in a pattern, can now be found in a young Eskimo's idiolect after attending schools, (Churchill for instance) where Eskimos having different dialects were put together. Their language reflects these "mixing dialects" occurrences. Last but not least, the dual forms, still used in the basic nominal declension, tend to disappear or not to be used any more. The following regularities were found, and certain underlying forms were derived:

Possible underlying forms

- absolute forms

- first person possessor, singular

Chimo, Labrador, Rankin, Greenland

underlying forms

rules applied

a) -ka

-Uvularization

-Pre-back consonant deletion (weak boundary)

- continuizing of ending initial (weak boundary)
- dbl. rule
- b) -ga
 - uvularization
 - pre-continuant deletion (or pre-back cons. deletion) (weak boundary).
 - continuant becomes stop (strong boundary)
- c) -kka
 - pre-tense consonant deletion (all boundaries)
 - change of stop (initial of dominant affix) to cnt, (weak boundary)
 - dbl. rule

- first person possessor, dual or plural (all dialects)

- vut - pre-continuant deletion (optional in the case of strong boundary, dual)
- vuk - continuant becomes optionally stop (strong boundary)
- dbl. rule

- second person possessor, singular (all dialects)

- it - pre-continuant deletion (across weak morpheme boundary)
- - tensing of velar (marker of dual) (strong morpheme boundary) or non deletion across strong morpheme boundary.

- second person possessor, plural (all dialects)

- si - pre-continuant deletion (weak boundary)
- second person possessor, dual (all dialects)
- tik - deletion by a dominant affix initial (weak boundary)

- third person possessor, singular and plural object, singular, plural possessive (all dialects)

- (ŋ)a - deletion by continuant (all boundaries)
 - (ŋ)it - insertion of velar nasal
 - (ŋ)at
 - (ŋ)ak
 - (ŋ)it
 - (ŋ)ik?
-

- third person possessor, dual objects

- ik - continuizing of dual marker /k/
-

- reflexive form, singular possessor

- ni? - nasalization of dual marker
 - nni? - deletion across weak boundary
 - nni? - protection of dual marker (strong boundary)
-

- reflexive form, Chimo and Ungava, plural possessor

- nni - nasalization of final consonant
 - nni - tri-consonantal deletion (weak boundary)
 - nni - protection of dual marker (strong boundary)
-

Elsewhere

- tik - deletion of final consonant (weak boundary)
 - tik - protection of dual marker
-

RELATIVE FORMS (TRANSITIVE)

- first person singular possessor, all dialects

- a) -ma - nasalization of stem final consonant
 - Chimo: analogic regularization
 intervocally
- b) -ŋma - pre-tense consonant deletion
 (Chimo only) - assimilation of velar to bilabial
 - dbl. rule

- first person possessor, plural, dual Chimo

- vutta - declension on the pattern of the
 absolute with ending -tta added.
 (see the rules)

Ungava

- tta(pta) - tri-consonantal deletion
 - assimilation of the alveolar to the
 bilabial

Elsewhere

- pta - dual object deletion of the dual marker:
 tri-consonant del. rule

- second person possessor, singular

. Chimo

Ungava and elsewhere

- vit? - analogic regularization: uvularization
 of -k- (OPT)
- kpit? - pre-continuant deletion (sing. plur.
 obj.)
 - non deletion of dual marker, change into
 stop OR
 - tri-consonantal deletion (all objects)

Chimo

- vit (sing. plur. obj. - pre-continuant deletion
 - change of continuant to stop (dual)

- second person possessor, plural

Elsewhere

- psi - tri-consonantal deletion (dual included?)

Ungava and Chimo

- tsi a) tensing of the absolute form /s/, tri-cons. del.
 b) assimilation of bilabial to /s/, tri-cons. deletion
- deletion of the dual marker

- second person possessor, dual

same process involved as in above form

Elsewhere: -ptik

Chimo : -ttik (assimilation or tensing)

- third person possessor: declension done on absolute form

- reflexive, singular -mi, plural, -mik, dual -mik?

- nasalization of preceding consonant

OTHER "CASES" DECLENSION

- first person possessor, singular

elsewhere(1)	Ungava	Chimo(2)
-mnik	-ganik	-ganik
-pkut	-gagut	-gagut
-ptut	-gatut	-gatut

- (1) -tri-consonantal deletion (built on the pattern of the relative)
- (2) -pre-continuant deletion (built on the pattern of the absolute)
(This done to prevent ambiguity due to assimilation and dbl.)
-

- first person possessor, plural and dual
(singular object)

elsewhere(1)	Ungava(2)	Chimo(3)
-ptiṇnik	-ttinik	-vuttinik
-ptigut	-ttigut	-vuttigut
-ptitut	-ttitut	-vuttitut

- (1) -tri-consonantal deletion (built on the pattern of the relative)
- (2) -tri-consonantal deletion (built on the pattern of the relative)
- assimilation of bilabial
- dbl. rule
- (3) -pre-continuant deletion (built on the pattern of the absolute)
- dbl. rule
(New forms in the process of creation)
- first person possessor, plural and dual, plural objects (data for Chimo only)
- vunnik -pre-continuant deletion, nasalization of
-vutigut the last segment of -vut, declension on
-vutitut the absolute pattern

- dual object

elsewhere(1)	Ungava(2)	Chimo(3)
-:ptinnik	-:ttinik	-:vuttinik (vu:ttinik)
-:ptigut	-:ttigut	-:vuttigut
-:ptitut	-:ttitut	-:vuttitut

(1) -tri-consonantal deletion of dual marker

(2) -tri-consonantal deletion of dual marker plus

-assimilation of bilabial to alveolar

-dbl. rule

(3) -id as (2) but declension on absolute form possible
and lengthening on root or ending -vut?

- second person possessor singular, singular or
plural object, all dialects

-knik - nasalisation of the /k/ before nasal

- tri-consonantal deletion

- assimilation of velar to alveolar

East of Ungava creation of new form to prevent ambiguity

·igluni ibvit (addition of ibvit) "you, your igloo"

Ivuyivik creation of new form:

igluniuvit "it is your igloo"

ataatanniuvit "he is your father"

These new forms emphasize the need felt to prevent ambiguity and explain to some extent the problem involved in finding the form. In fact, there is no such a thing any more and until one system prevails over the others, no clear study will be possible

- second person possessor, singular, dual object

elsewhere(1)	Ungava and Chimo(2)
-:ɲnik	:-kkinik
-:kkut	:-kkikut
-:ktut	:-kkitut

- (1) nasalization of the dual or deletion (tri-consonantal) of the dual? more likely, deletion (declension done on the relative)
- (2) declension done on the absolute

-dbl. rule

- second person possessor, plural or dual.

The declension is done on the relative form.

- third person, singular, dual or plural possessor

The declensions are done on the absolute.

- reflexive forms: the declensions are done on the relative.

Sample of interdialectal differences

Western D.	Ivujivik	Chimo	Expected
iglumni	iglu(n)ni	igligani	iglu(n)ni
igluŋni	iglu(N)niuvit	iglu(n)ni	iglu(n)ni
iglu(ŋ)ani	"	"	iglu(ŋ)ani
iglumini	"	"	iglumini
nunapkut	nunakku(n)uvaŋa	nunagagut	nunakkut
nunakkut	nunakku(n)uvit	nunakkut	nunakkut

Summary of chapter V

The nominal declension was studied. The same set of rules applied to the basic nominal declension. Extra rules had to be formulated to take into account the declension of the nominalized stems and the possessive affixation. The hypothesis of the existence of at least two different types of morpheme boundaries was reinforced. However, the language appears to be in a phase of massive changes as to the possessive declension. An attempt to classify was made, with no certainty as to the validity of the data. The rules, ordered for the nominal declension (basic) will not be ordered at the end of this chapter to include those derived in the second and third major sections of this chapter as only hypotheses were put forward.

Affixation of these endings, especially in the case of the possessive declension, appears to follow the rules of dominant affix affixation.

CHAPTER VI

Verbal Flection

CHAPTER VI Verbal Flection

6.1 General Comments

6.2 Indicative mood

6.2.1 Affirmative

6.2.2 Affixation of person endings to the indicative and participial forms

6.2.3 Negation

6.3 Dependent moods

6.3.1 Causative

6.3.1.1 Affixation of person endings

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6.3.2 Conditional

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6.4 Conjunct moods (gerunds)

6.4.1 Mood marks

6.4.1.1 Known conjunct (gerund I)

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6.4.2 Person marks

6.5 Summary of Chapter VI

5. Verbal flection

6.1 General comments

The last point to be considered in this work is the verbal paradigm. There are two conjugations. The intransitive endings indicate the mood and the subject. The transitive ones indicate the mood, the subject and the object. I shall present only the intransitive forms of verbal roots which can take both the transitive and intransitive. They exemplify all the phonological processes involved at morpheme boundaries between the root and the verbal ending. The peculiarities involved in the internal phonological structure of transitive desinences will receive some rapid comments afterwards. A complete summary of the intransitive conjugation is given in Appendix 4.

Eskimo has one independent mood with affirmative and interrogative forms. Each mood has a special negative form. The standard interrogative form is seldom used, often being replaced by a special interrogative intonation with tensing of certain vowels.

The moods in Eskimo are: indicative, imperative, causative, conditional, gerund and dubitative. The dubitative will not be treated for lack of information and clear data.

The formal marks of the moods are an indication as to their correlation with other forms already studied. In the following table, the third person singular is found for different "moods". The verb is takuvuq "see".

NAME	FORM	FORMAL MARK	Suggested name*
indicative	takuvuq	p / v u	known
interrogative	takuva:	p / v a/i	unknown
causative	takugami	g a	known
conditional	takuguni	g u	unknown
gerund I	takutsuni	ts (λ) u	known
gerund II	takuluni (takudluni)	l u	unknown

Thus, only suffixes in p(v), g , λ(ts) l have to be studied for the marks of the different moods.

In this chapter the phonological behavior of the affixation of the verbal desinence to the root and stem will be studied.

6.2 Indicative mood

6.2.1 Affirmative

takuvuq	tikippuq	malikpuq	tusaqpuq A
	tikikkuq	malikkuq	tusarquq B

The above forms are those of the indicative, affirmative, third person singular. They are taken as the dictionary entry for the intransitive form of verbs. The general table in Appendix 4 shows that the initial segment of the ending is a continuant intervocally and a stop when the root ends in a consonant. The usual form of the ending is with a /p/ initial in most of the Eskimo's dialects. However, the Ungava region has some different forms according to the root final consonantal segment. In the A series shown above, the alternance /v/ versus /p/ can be noticed. In the case of tikit + puq, the alveolar has assimilated to the following consonant. In series B, the ending initial consonant has assimilated to the preceding consonant. An interesting point is the form tikikkuq. Several cases of assimilation of an alveolar stop to the following consonant have been encountered, but there does not seem to be any

justification for the form in -kk- in this example. No attempt will be made at explaining this. It might be a form of simple copy of what is expected to be there, namely a k, as there are numerous cases of assimilation of the alveolar to a velar in the general phonological behavior.

In the light of the discussion about the alternance [+cnt] [-cnt] given in chapter IV, note that: -puq / -vuq are dominant verbal endings which can be affixed to both nominal or verbal roots. Examples:

nanu <u>q</u>	nanur <u>puq</u>	"he catches a polar bear"
iqaluk	iqaluk <u>puq</u>	"he catches a fish"
atigi	atigiv <u>uq</u>	"he puts on his atigi"
nas <u>aq</u>	nasar <u>puq</u>	"he puts on his hat"

The behavior of the ending is the same whether it is affixed to a nominal or a verbal root. The same continuant versus non-continuant is found in the participial forms. Examples:

nanu <u>q</u>	nanur <u>taq</u>	"the bear he killed"
taku-	taku <u>juq</u>	"the one who sees"
iga-	igaj <u>i</u>	"the cook"

What is the underlying form of the ending? One hypothesis is the following: It is known that stops are deleted between continuants. If it is postulated that the affix is -puq, -tuq, etc., the ending initial segment will be deleted intervocally at morpheme boundary. This cannot be for syntactic reasons, otherwise -puq and -tuq would become the same -uq.

The stop is then changed to a continuant /v/ for /p/ and /j/ for /t/

Although the relation of the two bilabials is clear, it is a more difficult process to understand the relation of the palatal glide to the alveolar stop. The liquid /l/ is alveolar and would have seemed a more likely candidate. However, /j/ is non-vocalic while /l/ is vocalic. It appears that the initial segment has to be non-vocalic. Taking into account Chomsky and Halle's marking convention for glides [48], p. 407,

$$\text{XXXV} \quad \begin{bmatrix} -\text{voc} \\ -\text{cons} \end{bmatrix} \longrightarrow \begin{bmatrix} +\text{son} \\ -\text{ant} \\ -\text{cor} \\ -\text{nas} \end{bmatrix}$$

the above convention gives the redundant features for all glides. The rule changing /t/ to /j/ would have to be:

$$\begin{array}{c} \text{C} \\ \begin{bmatrix} +\text{cor} \\ +\text{ant} \end{bmatrix} \end{array} \longrightarrow \begin{array}{c} \begin{bmatrix} -\text{cons} \\ +\text{cnt} \\ +\text{high} \end{bmatrix} \end{array} / \quad \text{V} + \frac{\text{V}}{(\text{v.e.})}$$

where v.e. stands for verbal ending. The underlying form of the indicative mood and of its participial form endings would be -puq and -tuq. The initial consonant would become a continuant intervocally. /p/ turns into /v/ while /t/

alternates with /j/. Note that this alternance glide-alveolar stop is a current occurrence in the language. (See Appendix 1). The rules of alternance /p/-/v/ and /t/-/j/ can be collapsed into a single more general rule.

$$\left[\begin{array}{c} \text{C} \\ \langle +\text{ant} \\ +\text{cor} \rangle \end{array} \right] \rightarrow \left[\begin{array}{c} +\text{cont} \\ -\text{cons} \\ +\text{high} \end{array} \right] / \quad \text{V} + \frac{\text{V}}{(\text{v.e.})}$$

that is, a consonant, as initial of a verbal ending, becomes a continuant intervocally; if that consonant is an alveolar it becomes a palatal glide.

Summary

taku + puq	tikit + puq	malik + puq	tusaq + puq
tuq	tuq	tuq	tuq

change of stop to continuant

vuq
juq

assimilation of ending consonant to preceding one

tikippuq	malikkuq	tusarquq
tikittuq	maliktuq	tusartuq

If it is postulated that the continuant is the underlying form, which would parallel the cases of continuant /v/ changing optionally to /p/ in affixation of bilabial initial dominant affixes, then /j/ has to be changed into /t/. /j/ is a palatal glide but before a /u/, it is more often a voiced palatal fricative which will be written /j/ as there

is no case of the glide and the fricative found in opposition. The occlusive corresponding would be a palatal stop, /c/ which sometimes exists in the language but most of the time is replaced by either /s/ or /t/. (e.g., turusiq or surusiq which is in fact curusiq). The rule would then be that a dominant affix or ending is a continuant, /v/ or /j/ which becomes a stop after a root final consonant.

$$\left[\begin{array}{c} \text{C} \\ \langle -\text{cons} \rangle \\ +\text{cnt} \end{array} \right] \rightarrow \left[\begin{array}{c} \langle +\text{cons} \rangle \\ -\text{back} \\ -\text{cnt} \end{array} \right] / \text{C} + \text{---} \text{ (d.a.)}$$

where d.a. stands for dominant affix. That is, the dominant affix initial consonant becomes a plosive after a root ending in a consonant; if that continuant is non-consonantal, it becomes consonantal and non-back.

It is not as easy to decide which is the real underlying form in this case, as it was for the affix because there is no case to my knowledge where the continuant is found without deleting, after a consonant as was the case in the /v/ versus /p/ affixes. For this reason only, and in a somewhat arbitrary way, I shall postulate that in the case of endings, the basic form is the stop form and that it becomes a continuant intervocally to prevent deletion. Note that if there is assimilation of the ending's initial

consonant to the last consonant of the root in the case of the indicative forms in -puq, such an assimilation does not take place with the participial forms. This assimilation is always optional and in the case of the participial endings does not apply.

6.2.2 Affixation of person endings to the indicative and participial forms

The indicative endings are composed of the basic conjugation affix, -vuq, plus the endings of the personal pronouns. These are listed in Table Appendix III

(i) first person:

	singular	dual	plural
	-ŋa	guk	gut
vuq +	-ŋa	vuq + guk	vuq + gut

The endings are not subject to uvularization. Remember that it was postulated that /q/ was the surface representation of the non-participant marker X, before a word boundary. Here, the person subject is a participant, I, and this /q/ has no reason to be. The subject marker is just added without any other modification.

(ii) second person:

singular	dual	plural
-tit	-tik	-si

Here the singular subject marker is not the ending for the personal pronoun; this one was -it for the intransitive and -vit for the transitive. -tit was the plural ending for the possessive second person possessor singular, several possessed, e.g., nunatit "your lands". -tik was the possessive ending dual possessor and -si was the ending of the

possessive, plural possessor. Affixation is done without deletion of the initial consonant of the person marker.

(iii) third person:

There is no mark of the subject marker other than the absolute mark of the plural and the dual, :k and -t. The non-participant marker singular is the morpheme X which is in the surface structure /q/. It will be postulated that this is an unmarked segment which is realized in different ways according to its place in the word. Using Chomsky and Halle [48] marking convention for unmarked segments

$$\begin{array}{l}
 \text{I } [\text{u seg}] \quad \rightarrow \quad [\text{-seg}] \\
 \text{II} \\
 \begin{array}{l}
 [\text{u cons}] \rightarrow \begin{array}{l} \text{, } [\text{+cons}] \quad / \quad \left\{ \begin{array}{c} + \\ v \end{array} \right\} \text{---} \end{array} \\
 [\text{u voc}] \rightarrow \begin{array}{l} [\text{-voc}] \quad / \quad \left\{ \begin{array}{c} + \\ v \end{array} \right\} \text{---} \end{array}
 \end{array}
 \end{array}$$

that is, it will be a consonant or a vowel after a vowel or a morpheme boundary. In the present case, it is a non-high back consonant before word boundary and a low vowel when followed by another morpheme.

6.2.3 Negation

Each mood has its own negation form but the most common one is that found for the indicative mood, e.g., takunṇilana or takunṇituna or takunṇipuna "I do not see". The two aspects to be considered are affixation of the negation to the stem and affixation of the following affix or the verbal ending.

(i) affixation of negation, underlying form

Consider the forms: takunṇituq
takunṇipuq
tusanṇituq
tutsia(r)tuq tutsiaṇittuq "he does not pray"
tutsiaṇippuq

The underlying form of the affix appears to be -ṇiC. Consider now the other and more preferred form:

takunṇila
tutsiaṇilla

The final segment of the affix assimilated to the following consonant when this was /t/, /p/ or /l/. This last segment must be a consonant, stop, but the nature of it is unknown.

Consider the following forms:

tutsiaṇinivit "haven't you yet prayed this time?"
tutsiaṇiqualaurqit "haven't you however prayed?"

This consonant nasalizes to n even in dialects which do not have a rule of assimilation of a consonant to the following one. It must be a /t/. The underlying form of the affix is -it-.

(ii) affixation of the negation to the stem

This affix has an initial back nasal tense consonant. It deletes the preceding segment according to one of the rules of deletion, supposedly the first one in the order.

(iii) affixation of the following affix or of the ending to the negation

tutsian <u>ill</u> aq	"he does not pray"
tutsian <u>itt</u> uq	"he does not pray"
tutsian <u>ipp</u> uq	"he does not pray"
tutsian <u>ikk</u> aluarpuq	"he certainly didn't pray"
tutsian <u>isirt</u> tutuq	"he pretends not to be praying"
tutsian <u>idja</u> ipuq	"it is impossible that he pray, he forbids himself to pray"
.	
tiki <u>nik</u> aluarpuq	
taku <u>nija</u> ippuq	"he forbids himself to see"
(sirtupuq delete final consonants apart from /t/)	

In the series of examples above, the following affix or ending is either a stop, bilabial, alveolar or velar, or palatal fricative /ll/ or a tense alveopalatal /ts/ or a palatal plosive, tense /dj/. Anterior stops and nasals do not delete the negation final consonant. There are two hypotheses as to the nature of the other segments involved.

-k(k)aluar is -galuar intervocally, -galuar after a root final consonant and -raluar after a uvular. It can be

-kkaluar after an alveolar or a velar, but never intervocally nor after a uvular. -laq is a special form found only after the negation. When the rule of double consonants is applied, it gives - illag where the /ll/ is a lateral fricative voiced, different from /dl/ of adla which is unvoiced and more similar to the /gl/ of iglu. It is tense. Its lax equivalent is a liquid /l/. -sirtupug "he pretends to..." is a deleter in /s/ initial but does not delete /t/. The rule of double consonants give - isirtupug and not - itsiturpug. This means that it behaves in this case like a continuant and deletes the stem final consonant. - djaipug initial is a tense palatal occlusive which becomes - ijaittug after the rule of double consonants has applied.

tikiŋ ijaittug "he cannot go out"
 audlaŋ idjaittug "he cannot go on a journey"

However, the form is -djaipug when the negation is not used.

auladjaittug "which does not shake"
 audlajaittug "who cannot go"

It will be accepted that the affix is in a tense initial consonant and always deletes the negation final consonant.

To summarize

The negation underlying form is -ŋit-. It deletes stem final consonants as a tense consonant. All of the affixes which can be found after it delete its final

consonant, be it a tense lateral voiced fricative, a lax /s/ which is a continuant, a tense velar which is the special form of a continuant /g/ after alveolars, or a tense voiced palatal occlusive. The rule of double consonant applying at the end deletes the initial segment of the second group of consonants making the task to find the nature of the initial segment harder as one never knows whether there is a case of non-deletion of the negation final consonant or whether this has been done at a later stage by the rule of double consonants. A special ending -la- is found after the negation replacing the common -pu-. The nature of the initial consonant of this ending is rather difficult to find as it always occurs after the negation. By comparing with the normal indicative or participial endings, one can postulate that it is an occlusive which would not delete stem final consonants but is tense, that is an unvoiced lateral fricative. Its lax equivalent is a liquid according to Schneider, /l/.

- 6.3 Dependent moods
- 6.3.1 Causative
- 6.3.1.1 Affixation of person endings

<u>takugama</u>	<u>Chimo</u>	<u>takugatta</u>	<u>Elsewhere</u>
<u>takugavit</u>		<u>takugatsi</u>	<u>takugapta</u>
<u>takunmat</u>		<u>takunmata</u>	<u>takugapsi</u>

The formal mark of the causative is -ga... .
To this are added endings which look very much like the
relative endings of the possessive declension, that is:

-ma first person singular possessor, one object

-vit second person possessor, one object

-tta first person possessor, plural

-tsi second person plural possessor

The third person endings are somewhat different. There was
-nata for both singular and plural possessor.

Now, a look at the indicative (or independent)
mood shows that the absolute forms of the possessive were
found after the formal mark vu- that is:

-ga (versus -na) first person possessor, singular, singular

-tit second person possessor, plural object

-vut (not--gut) first person plural possessor (-gut personal
pronoun)

-si second person plural possessor

Note that in both cases, one cannot equate the third person possessor to the endings. They will be considered as special forms. There appears to be a correlation between the absolute possessive declension and the independent mood conjugation, and between the relative possessive declension and the dependent moods. It is an interesting question, probably pertaining to syntax, to ask why some moods carry endings which also appear in the absolutive form of the pronouns whereas other moods carry endings similar to those of the relative form of the pronoun. Related to this question is the problem of third person and fourth person endings.

reflexive endings (fourth person)

takugami takugamik

where the endings are those of the relative forms of the reflexive possessive endings, singular and plural possessor respectively.

6.3.1.2 Affixation of the -ga to the stem

<u>takugama</u>		"because or when I saw"
<u>maligama</u>	or	<u>malikkama</u>
<u>tikigama</u>	or	<u>tikikkama</u>
<u>tusarama</u>		

Here again, for alveolar and velar stems, there are two forms, one in a continuant while the other is in a tense consonant.

Two hypotheses are possible:

first hypothesis

The underlying form is -kama. It does not delete stem final consonants but is uvularized after a uvular and becomes a continuant intervocally. The uvular deletes all preceding consonants and the following pattern is followed:

uvularization

tusaq + gama

pre-back consonant deletion (optional in the case of alveolar and velar ending)

tiki + kama	mali + kama	tusa + gama
tikit + kama	malik + kama	

continuizing of ending initial, intervocally

taku + gama	tiki + gama	mali + gama	tusa + rama
-------------	-------------	-------------	-------------

final forms

takugama	tikigama	maligama	tusarama
	tikikkama	malikkama	

second hypothesis

The underlying form is -gama versus -kkama.

There is uvularization after a uvular, and pre-continuant deletion. The continuant changes optionally into a tense velar, after a velar or alveolar.

Of the two hypotheses, the first is more plausible as it follows a pattern already encountered both in general affixation and in affixation of possessive ending, first person singular possessor.

To summarize :

The underlying form of the causative mood mark appears to

be -ka- which - uvularizes after a uvular

- deletes (back consonant) preceding consonant
(optionally t,k)

- continuizes intervocally

The person endings are those of the relative case of the possessive declension. No hypothesis was offered for the underlying form of the third person as there is not enough syntactic knowledge to allow even a partial explanation to be offered.

6.3.2 Conditional

<u>takuguma</u>	<u>takugutta</u> (if I, we saw, had seen)
<u>takuguvit</u>	<u>takugutsi</u>
<u>takukpat</u>	<u>takukpata</u>
<u>takuguni</u>	<u>takugutik</u>

The only difference between the causative (known dependent) and the conditional (unknown dependent) is in the first vowel, /a/ in the first case and /u/ in the second. The treatment of the initial segment is the same. Note, however, that where there was -ɲmat in the known dependent

mood, -kpat is found for the unknown dependent mood. No explanation will be offered at this stage.

6.3.3 Negation of the dependent moods

CAUSATIVE	CONDITIONAL	dbl. rule	
takun ^h nama	takun ^h ikuma	- ^h innama	- ^h ikkuma
takun ^h navit	takun ^h ikuvit	- ^h innavit	- ^h ikkuvit
takun ^h imat	takun ^h ipat	- ^h inmat	- ^h ikpat
takun ^h inami	takun ^h ikuni	- ^h innami	- ^h ikkuni

The negation of the dependent moods offers some interesting peculiarities. Taking as the negation -^hit', there is a big difference between the causative forms and the conditional ones after the negation:

Causative The mood marker, -g- versus -kk and -r- assimilates to the negation /t/ and does not delete it, nor does the /t/ assimilate to it or the marker assimilate to /t/ but to a nasal. If the ending were -k-, the form taken after the negative should be -^hikkama. Whatever the segment, it cannot be a continuant in the underlying form because the /t/ would be deleted. It cannot be a tense segment because tri-consonantal deletion would occur yielding -^hikkama. The segment is nasalized and nasalizes the /t/, then assimilates to it. It appears impossible to postulate the real nature of the causative initial segment. The only known facts about it are:

- uvularizes like a velar
- deletes optionally alveolar and velar
- continuizes intervocally
- becomes a nasal after an alveolar in the negation.

Conditional The conditional marker seems on the surface to be identical to the causative, both in form and in behavior. However, after the negation, it behaves like a dominant velar initial affix in as much as it causes the /t/ to assimilate to it, yielding -kkuma. The underlying form appears to be -kuma which

- uvularizes after a uvular
- deletes optionally alveolar and velar (with restricted for the negative)
- continuizes intervocally

Note that, for the third person, the /t/ of the negation is deleted through tri-consonantal deletion. Note that one of my informants gave me takunṇiruni and takunṇiguni as the negative form for the conditional. The /g/ form would sound very logical. It might be again a case of analogy.

6.4 Conjunct moods (gerunds)

6.4.1 Mood marks

6.4.1.1 Known conjunct (gerund I)

present forms	other possible forms	old forms (repetitive)
nirit <u>s</u> uni		nirid <u>l</u> ami "while eating
tikit <u>s</u> uni	tikit(t) <u>s</u> uni	tikid <u>l</u> ami
pisuk <u>s</u> uni	pisuk(t) <u>s</u> uni	pisud <u>l</u> ami
imig <u>s</u> uni	imiq(t) <u>s</u> uni	imid <u>l</u> ami

The old forms were in -dl- initial followed by a /a/. The new forms are in a tense /s/, -ts- followed by a /u/. Schneider gives both forms, noting a difference in the behavior. I was unable to get these old forms so it will just be noted that the old forms endings are supposed to delete the stem final consonant. Note that these forms look like those of the causative. (nirigama "when I eat")

The new forms do not delete the stem final consonant. By studying oscilograms and spectrograms, it was noted that the length of the segment between vowels was the same whether the stem ended in a vowel or a consonant. There is a very tense /s/ preceded by a pause. However, one definitively hears pisuktsuni and imigtsuni. This might be a case of tensing of the consonant /s/ after a non-deleted consonant and the -ts- intervocally would be a case of analogy. On the other hand, this -ts-, behaving like a

stop and not like a continuant, might have its origins in a lateral occlusive /λ/ while /dl/ would have its origins in a lateral fricative.

6.4.1.2 Unknown conjunct (gerund II)

niridluni "while he is going to eat"
 tikitluni
 pisugluni (pisukluni?)
 imigluni

The unknown conjunct differs in meaning in as much as the action is uncertain. The known one was used for actions which had already occurred.

It does not delete the stem final consonant. Intervocally, the oscilograms show a voiced stop followed by a liquid: takudluni. After an alveolar, it shows a double l, tikilluni with no difference between the first and second segment. After a velar, it shows the same assimilation, malilluni, pisulluni although the ear tends to detect a voiced continuant velar. After a uvular, there is a voiceless lateral fricative while the uvular is a stop. One hypothesis might be that the initial segment of the unknown gerund ending comes from an unvoiced lateral fricative which remains as such after a uvular. After an alveolar, a velar, these segments assimilate to the lateral creating a liquid and the combination is a tense, voiced, continuant, /ll/. Intervocally, the

unvoiced fricative behaving as a stop would be deleted and it tenses into a tense liquid. The alveolar and velar ending might have been deleted after the tensing of the lateral fricative (see Appendix 1) while the process has not yet begun with the uvular.

6.4.2 Person marks

It was noted earlier that the old forms for the known conjunct mood were similar to those of the causative, first and second person. Those of the unknown conjunct are similar to those of the indicative, e.g., takuvutit, takutsutit, takudlutit. The new forms of the known conjunct are now similar to those of the reflexive, causative (takugami/takudlami) and conditional (takuguni, tajutsuni, tajudluni).

6.5 Summary of this chapter

The verbal flexion was not studied in detail, the object was to give a general idea of a classification. The most important moods were studied and the following conclusions were drawn:

- affixation of verbal endings is generally done without deletion of the stem final consonant. Instead, the initial consonant of the ending assimilates to the final consonant and then deletes it when this initial segment is of a nature to do so. The initial segment of the ending was found to take different surface realization according to whether it occurs intervocally or after a consonant.
- the modal formal marks were found to be the following:
 - indicative (independent): -pug which becomes -vug intervocally. It can assimilate to the stem ending, e.g., malikkuq and imigguq; alveolar ending stems usually assimilate to the ending initial segment, e.g., tikippuq.
 - participles: -tug which becomes -juq intervocally. It never assimilated to the stem final consonant but this latter can assimilate to it, e.g., malittuq.
 - the interrogative form of the independent mood is identical in its initial segment. It is not often

used in its real form and is replaced by the indicative affirmative form with a difference in the intonation and a lengthening of the last vowel of the stem (see table, Appendix 3).

-- dependent moods. The formal mark is -k- followed by /a/ for the causative and /u/ for the conditional. It assimilates to the preceding consonant (q) and optionally deletes it if the latter is an alveolar (which assimilates to the velar) or a velar. It continuizes intervocally to a /g/ or a /r/.

-- conjunct moods The formal mark is an alveolar, either a dental-alveolar lateral or an alveo-palatal /s/. Both are tense. It seems to stem from an unvoiced lateral fricative. The alveo-palatal is tense intervocally and has begun a process of tensing after a consonant; it appears that the initial part of the consonant assimilated to the preceding consonant, then began to delete it. The old form was in a tense liquid which deleted the preceding consonant.

The unknown conjunct is in a voiced liquid intervocally, tense and assimilated, then deleted the preceding velar and alveolar. The cluster formed

with the uvular is of a stop and an unvoiced lateral fricative.

Some forms, for instance the third person causative or conditional were unexplained because of a lack of knowledge of syntax in Eskimo.

CONCLUSION

CONCLUSION

It is hoped that this study has fulfilled its goal which was a classification and an attempt at finding a solution to the many problems involved both in Eskimo phonology and in affixation.

Problems were:

- finding the origins of the alveopalatal /s/ and of tense liquid.
- finding the origins of several consonant clusters.
- explaining the tensing of both consonants and vowels, and the creation of diphthongs.
- finding a correlation, and what is the correlation, between the nominal declension, mainly the possessive declension, and the verbal flection.
- finding why some apparently identical segments behaved in utterly different fashions in the same phonological surrounding during affixation.
- finding a general pattern of rules applicable to all of the problems of affixation, to the stem of both suffixes and endings.

Results

An insight into the patterns and solutions of some problems were attained but several unresolved problems remain. It is hoped that their classification will be of some help for further studies.

APPENDIX I

CONSONANT CLUSTERS

The most difficult problem the beginning linguist encounters on approaching a language is that of consonant clusters. The existing orthographies found in several works and dictionaries are sometimes not phonetic or rather inconsistent. Syllabics do not represent all the subtilities of the sound combinations of the language and the ear, even after several months of training, does not distinguish some of the slight differences between two very similar sounds. On the other hand, interdialectal differences are sometimes quite extensive.

A few spectrograms and a large number of oscillograms were made in the course of this study. Unfortunately, I could not convince my two otherwise very willing and helpfull informants to allow us to make palatograms and the equipment was still incomplete to take radiographs; this would have helped a great deal in the study of palatals and laterals.

In this Appendix, an attempt is made at classification of consonant clusters through interdialectal

differences. Useful information can often be gained as to the origin of a cluster or a tense consonant from comparisons with western dialects and Greenlandic Eskimo (as written in Schultz Lorentzen dictionary and grammar of the West Greenland Eskimo language). However, the most important source of information is the study of morphophonemic processes at morpheme boundaries.

Detailed analysis of every possible combination is not complete but some cases will be taken up as examples.

(i) - P as the second member of the cluster.

Supposed origins.	West of H.B.	Chimo	Greenland	Translation
PP	aiPPaq iPPaktuq kiPPaq	aiPPaq iPPatuq kiPPaq	aiPPaq iPPagpuq kiPPaq	companion he soils it one half of a cut obj.
	kaPPiasukpuq	kaPPiasukpuq	kaPiasugpuq	he is anxious
TP?	tikiTPuq	tikiPPuq	tikiPPuq	he arrives
KP	naKPaq naKPaq iKPaksaq uKPik iKPik	naPPaq naPPa: iKPasaq uKPik iKPik	naPPaq naGPaq iGPagssaq uGPik iGPik	half of.. he stumbled on.. yesterday artic owl sand dune
QP	aQPa:tuq Uqpik	aQPa:tuq uQPik	aRPapuq uRPik	he hurries to get help artic willow

COMMENTS

- anterior stops assimilate to the following /p/ in both Chimo and Greenland.
- velars assimilate across morpheme boundaries for verbal endings, and, like uvulars, do not assimilate most of the time. Note that the initial non-anterior consonant in Greenland has become a continuant.
- in Chimo, both iKPasaq and iPPasaq are found.
- a note of caution should be made as to the QP cluster in Chimo. In Schneider's orthography, it is found as RKP. It is difficult to know whether the initial consonant is a continuant, /r/

followed by a tense /p/ which would be realized as -rp- or whether it is a true stop, /q/ followed by a lax consonant, /p/. It will be seen that two theories of the nature of tense consonants are advanced in this work. PP here is a tense consonant in Chimo in the manner of articulation. The tense stop has three periods: the initial part of the articulation is sometimes realized as a glottal stop, or an alveolar stop, or a velar stop according to dialectal difference; in Chimo, the tense /p/ is realized phonetically as a blank period followed by a very strong explosion of the stop. This is the reason why it is thought of as a tense consonant rather than a geminated one. Two hypotheses are advanced:

1. the initial segment assimilates to the second one and the geminated consonants merge into one single articulation.
2. The second consonant becomes tense, then deletes the lax initial segment. The phonetic realisation of this now tense consonant depends on dialectal preferences.

(ii) - V as the second member of the cluster

Supposed origins	West of H.B.	Chimo	Greenland	Translation
J?V?		kaVarpuq	kaJarpuq	he is sad, melan- cholic
V?Ø?		nuVak	nuak	bow made with rope
V?:?		nuVuk	nu:k	tip, point of land
V:	paBViK paGViK tiBVuarpuq siBViaq	paBViK tiBVuapuq siBViaq	paVFik tiVFuarpuq siVFiaq	little bones he spits away head of the femur
GV?VV?	uBVa	uBVa	uBVa uGVa	look
GV	qaGVartuq	qaGVatuq	qaGFagpuq	he raises himself
GV?	naGVa:pa:	naBVa:pa:	naVfa:rpa:	he finds it
BV:	agVairpa:	abVaipa:	avfa:irpa:	he pulls himself back (not to hinder someone)
GV?	kaGVaq	kaGVaq	kaGfuk	ice floes
LV?	iLVich (1) iLiVich (2) iLVit (3) iGVit (3)	iBVit	iVDLit	you
QV	aRViQ	aQViQ (aRBViQ)	aRFiQ	whale
QV? VQ?	aRVirtartuq	aQVitartuq	avQusa:rpuq	he wanders here and there

COMMENTS

The biggest problem in this series is whether the written difference BV/GV represents two different origins or not. Here, Greenlandic Eskimo is of great help for comparisons.

a) - note first that /v/ in Chimo is found as /v/, /ʃ/, /j/, lengthening of the preceding vowel without a consonant or no lengthening and no consonant in Greenland.

b) - BV in the West is always BV in Chimo and VF in Greenland. This may be taken as the tense /v/, with different phonetic realisations according to dialectal preferences. However, as alveolar-bilabial clusters are missing, it can be postulated that there has been a process of tensing of the second member of the cluster and deletion of the lax initial one. Anteriors are noticeably more sensitive to complete assimilation or to deletion by a tense consonant than non-anteriors.

c) - Velars have nearly all been deleted by the following tense /v/ in Chimo while they remain in Greenland in the shape of GF. Note one exception in Greenland, uBVa or uGVa. In this case, the initial cluster is uncertain but it is likely to be GV as anteriors have all assimilated.

d) - uvulars are continuants in the West and in Greenland. In Chimo, it is difficult to decide whether the initial segment is a stop or a continuant. This is due to the fact that

one hears RBV, and it is written as such in Chimo and the West. However, due to the fact that other initial segments in this series are lax continuants, it might be better to postulate that the second hypothesis is the one applicable, and that the /v/ is tense, not having yet deleted the uvular which is a very stable element in the language.

e) - Looking at Greenland dialect, many occurrences of $v\int$ and $g\int$ can be found. This would be clusters of palatals and V or G. (j in Chimo is $\int\int$ in Greenland, e.g. $iji/i\int i$). It appears that in Chimo the palatal has been deleted after tensing of the /v/. However, ka $g\int$ uk is a very disturbing occurrence and one wonders whether there might be a alternance /v/- $\int\int$ / which would be rather inexplicable at this stage.

f) - Several Western dialects and Greenlandic demonstrate the existence of a lateral-bilabial continuant cluster. Chimo has nothing of the like. Consider (1), from Kobuk, (2) from Barrow and Inuvik, (3) from tuktujaktut, Coppermine, Utkusiksaliṇmiut and Baker Lake, (4) in Eskimo Point, Rankin; and iVDLit in Greenlandic. In Chimo and some other dialects, the lateral has been deleted after tensing of the /v/. In Greenland, there has been inversion of the two segments and the lateral is either in the process of tensing, or is a lateral fricative.

g) - Note finally the inversion of the uvular and the bilabial, the uvular being a stop, in Greenland. However, it appears that usually, only continuants cluster with continuants, otherwise, if it were a stop at the origin, this has been continuized.

Another thing to be noted is that the realization of the tense consonant is different according to the dialect. Chimo has a distinct preference for BV while other dialects have DV or GV, showing the origin of the cluster; Port Harisson and Pond Inlet have geminated vv, Baker Lake has a glottal stop followed by the /v/. This would go in the way of assimilation rather than tension-deletion as it appears to be in Chimo. One might have to accept that there are dialectal preferences as to the process involved or that both processes occur sometimes in the same dialect.

One occurrence has been found of the cluster of a stop with a continuant: this is iRKPadlakpuq "he swallows", in the West which is IRBValaktuq in Chimo. That might reinforce the hypothesis that the tendency is to have only continuant clusters.

(iii) T as the second member of the cluster

Supposed origins	Western dialects	Chimo	Greenland	Translation
PT?	iPTiq	iTTiq	iVSiq	juice
P+S?	kaiPTaq	kaiTTaq	kaiVSa:q	spinning top
	niPTarpuq	niTTapuq	niVTavug?*	the weather becomes clear
TT?	puTTuguq	puTuguq		big toe
	aTTak	aTSa		paternal aunt
	aiTTapuq	aiTTapuq	aiTSarpuq	has a wide open mouth
	aiTTurpa:	aiTTupa:	a: turpa:?	he gives him...
	naiTTuq (1)	naiTTuq	naiTSuq	short
	naTTiq (2)			
	naTSiq (3)			
	naTCHiq (4)	naTSiq	naTSiq	seal
TT	maTTarpuq	maTTapuq	maTTarpuq	he takes off his clothes
TT?	maKTAq	maKTAq	maTTaq	beluga skin
KT	iKTuq	iKTuq	iTTuq (iTuq)	old man
	aKTupa:	aKTupa:	aGTurpa:	he touches him
	naKTuraq	naKTuraq	naGTuraq	
	iKTipruq	iKTipruq	naTSiraq	belt of woman's atig
	iliKTirpa:	iliKTirpa:	iGSiavuq	he sits down
			iliGSirpa:	he cuts sewing material
QT	pu:qtujuq	pu:qtujuq	puRTuvuq	it is situated high
	aQTirpait	aQTirpait	aGTirpait	he takes out of the house
QT?	aQTakuit	aQTalukuit	aGTAq?	garbage
RT?	aniRTa	aniRTa	aniRSa	Good!, swell!
	iluñiRTurpuq	iluñiRTupuq	iluñiRSurpuq	he acts of all his might

 * ? stands for: we are not sure of the form

COMMENTS

The biggest problem in this series is to find out whether the second segment of the cluster is an /s/ or a /t/ which has assibilated, and whether, in the case of TT clusters in Greenland, this is due to assimilation of the velar to the alveolar or whether it is only a tense T, which could represent former clusters of TT and KT.

a) - PT clusters of the West are invariably TT in Chimo.

Both hypotheses could apply. In Greenland however, both VT and VS occur. It will be noted that in Greenland, the first member of a cluster is always a continuant, and the presence of the /s/ might only be a case of assibilation of the /t/. or even, assimilation of the /t/ to the preceding continuant.

b) - The same problem occurs with TT clusters. Both Western dialects have the TT form but Greenland only has TS. Only in a few examples do we find TT, and in these cases, one does not know whether that would not be the realization of the assimilation or tension-deletion of a preceding velar. In the affixation of -t- initial endings in the verbal flexion, gt is always found in Greenland. The best hypothesis offered at this time is that what is realized as KT in most dialects is but a phonetic realization of a tense T.

- c) - The case of naTSiq "seal" is an interesting one: it is naTTiq in Tuktujaktut dialect, naTCHiq in Inuvik and naTSiq elsewhere. CH usually is written for an alveopalatal /s/. This appears to be a TT cluster with assibilation of the second /t/.
- d) - KT clusters appear not to have undergone any changes; they are found as GT or GS in Greenland for the reasons given above.
- e) - QT clusters are found as RT or RS in Greenland.
- f) - there appear to be some clusters RT in Chimo and the West. Again, one is not sure whether the QT clusters, heard and written as RKT are composed of a continuant followed by a tense T or a stop followed by a lax T.
- g) - Some occurrences of GT instead of QT are found in Greenlandic. No explanation of this is attempted at this stage.

It is hoped that further studies will reveal a pattern in the occurrences of assibilation against retention of the /t/ form.

(iv) K as the second member of the cluster

Supposed origins	West of H.B.	Chimo	Greenland	Translation
PK	niPKu* uPKuaq	niKKu uKKuaq	niVKu uVKuaq	dried meat tent door
TK	uTKusik aTKa	uKKusik aKKa	uVKisik aKKak	cooking pot paternal uncle
KK	aKKirpa: kaKKiq kiKKuliq iKKiq	aKKipa: kaKKiq kiKKuliq iKKiq	aKKirpa: kaKKik kiKKuliq iKKiq	helps him (by pushing to climb) snot breathing hole gum
QK				

COMMENTS

In Chimo, there has been perfect assimilation of the initial consonant to the -K-. Through interdialectal differences, it can be noted that all clusters of stops with /k/ as a second member were possible. A notorious exception is clusters with a uvular as an initial segment. This could be explained with the help of affixation rules: the /k/ following a /q/ is uvularized yielding -qq- or the /q/ is deleted by the /k/ yielding /k/. In this fashion, it is impossible to find such clusters. This again is another hypothesis which should be checked on a large amount of interdialectal data.

- two hypotheses are advanced as to the processes involved giving -kk- as a final result:

- 1) - the first consonant simply assimilates to the second
- 2) - the second consonant tenses after a consonant, then deletes it. This is more obvious in the treatment of continuants, especially laterals and palatals.

- niPKu* is found in Eskimo Point, mijPKu in Tuktoyaktuk, Coppermine and Utkusiksaliᖃmiut and Baker Lake.

- Note that PK becomes VK in Greenland, in the same fashion as TK and KK gives GK. This might be thought of as the first stage of continuizing.

The pattern followed would be:

- tensing of second consonant
- deletion of first consonant
- initial part of the tense segment becomes a bilabial continuant
- second part assimilates and yields in this case VG
- if the initial segment of the cluster was K, it becomes a continuant

KK is often GK in Greenland, only a few exceptions are noted.

(v) G as the second member of the cluster

Supposed origins	Western dialects	Chimo	Greenland	Translation
PG?	kiVGaq	kiGgaq		messenger
VG?	naBGuaq	naGGuaq	naVGuaq naGfaq naGʃaq	joint
	aBGurpa :	aGJupa : aGGupa :	aVGurpuq	he divides into two
GG	iGGiaq	iGGiaq	iGGiaq	throat
QG RG	-----			
SG?	aRGait (1) aJGaich (2) aLGait (3) aGGait (4) aDGait (5)	aggait	agʃait	fingers, hand
	aqiDGiq (1) aqaRGiq (2) akiJGiq (3) aqaLGiq (4) aqiGGiq (5)	aqiggiq	aqiGʃiq	white artic partridge
	kiDGavik	kiGGavik	kiGʃavik	falcon
LG?		kiGGupa :	kiGDLuppa :	he tells nasty tales

COMMENTS

Consonant clusters with /g/ as the second member have all followed the process of tension-deletion in Chimo.

a) - VG has become GG in Chimo, and is found as VG or GF in

b) - Uvular-velar clusters are not usual. However, they are found sometimes in some far Western dialects. It is not sure whether there is any basis for them or if they are

not transcription errors as these have not been checked in this work. The biggest problem in this series is the nature of the initial segment of clusters yielding $g\int$ in Greenland. If one remembers that $\int$ is a palatal but might have stemmed from an occlusive, a fricative and even a lateral occlusive, it helps to consider the following data:

- (1) aRGaich is found in Kobuk, Barrow and Inuvik,
- (2) aJGaich is found in Tuktujaktuk, Uktusiksaliṇmiut, Baker Lake
- (3) aLGait is found in Coppermine
- (4) aGGait is found elsewhere
- (5) aDGait (quoted by Trinel)

- (1) aqiDGiq (quoted by Trinel)
- (2) aqiRGiq is found in Kobuk, Barrow, Inuvik
- (3) akiJGiq is found in Tuktujaktuk, Uktusiksaliṇmiut, Eskimo Point, Baker Lake.
- (4) aqaLGiq is found in Coppermine
- (5) aqiGGiq is found in Rankinlnlet

(vi) Q as the second member of the cluster

Supposed origins	West of H.B.	Chimo	Greenland	Translation
PQ	aPQuti aPQalajuq tuPQuja:q	aRQuti aRQalajuq tuRQuja:q	avQut avQalasuq tuRQu ^f a:q	path he devours larynx
TQ	aTQarpuq iTQiq	aRQapuuq iRQiq	aRQarpuq iRQiq	he dives (bird) egg of louse
KQ				
QQ	uQQuq aRQuna:rpa:	uQQuq aRQuna:rpa:	uQQuq aRQunarpa:	lee side (or it is hot) he hurts him badly

COMMENTS

The usual patterns are followed. Note that there is
no KQ cluster QQ is usually written as RQ.

(vii) R as the second member of the cluster

Supposed origins	West of H.B.	Chimo	Greenland	Translation
VR	niuvqujuq nuVRaq	niuRRuvuq nuRRaq nikuRRavuq	niuRRuvuq nuRRaq nikuRFavuq	he goes and visits young fawn he stands up
DR	qaDRurpa: iTRii	qaRRupa: iKKii	qaRTipa:?	he wings something it is cold
LR	aLRa:gu iLRavit maLRuk aŋiLRaq ikkaLRuq ikuLRaq	aRRa:gu iRRavit maRRuk aŋiRRaq ikkaRuq ikuRRaq	aQa:gu aRDLa:q iRDLavik maRDLuk aŋiRDLarpuq ikkaRDLuk ikuRFAQ	 tomorrow viscera two home depths of sea something to make taller
RR	maRRaujaq	maRRaq	maRRaq	clay

COMMENTS

Clusters with /r/ as a second member follow the pattern in Chimo with tension-deletion. Elsewhere, as in Greenland for instance, there is inversion of the two members of the cluster, the uvular being in initial position. There is sometimes complete assimilation in this dialect. In Western dialects, no change has occurred as yet.

(viii) S as the second member of the cluster

Supposed origins	West of H.B.	Chimo	Greenland	Translation
s	isiq	isiq atsuk	isiq asuk	smoke
	asava:	asava:	af agpa:	I don't know clean something
ts?	itsigaq itigaq isigaq	itigaq	isigaq	foot
s?		iji	if i	eye

First, one must remember that the origin of the /s/ is not sure. From the above data, it could be proposed that what presently is an /s/ in Greenland comes from an occlusive. However, note the /h/ which is very common in Coppermine and Utkusiksaliṇmiut, and to a certain extent in Eskimo Point. That same /h/ is found in words like hiksik "ground squirrel" as an initial consonant while there is -s- in -ks. These appear to be of different nature and origins. /h/ is generally found at word initial and only sometimes in the body of a word. -ch- is used as in naTCHiq "seal" where in other dialects, TS or TT are found.

/f/ in Greenland is used where there is a palatal in Chimo and West. It could be postulated that /s/ in aSava: comes from a palatal.

PS	iPSuturtuq qaPSit ilaPSugiva: iPTiq	iTSuturtuq qaTSit ilaTSugiva: iTtiq	iVSugturpuq qaVSit iVSiq	shakes himself how many he pities someone oil running
TS	aPSimajuq iTSurpa: aTTa :q iKSi kaTSuaq	aTSimajuq iTSupa: atsa aTSira :rpuq iTsi kaTSuaq	aTSimajuq iTSurpa: aTSaq aTSirarpuq iTsik kaTSuaq	separated he tries to see it maternal aunt he calls him by his name egg yolk biceps
KS	iKSivautaq	iTSivautaq aKSut iKSipuq	iGSivautaq aGSut iGSigpuq	seat Go on! he bends down
K ⁺ palat?	akiliKSaq ikpaKSaq	akiliKSaq ippaKSaq	akiliG ^f aq igpaG ^f aq	debt, must be paid yesterday
QS		aQSa :pa : aQSivuq aQSupa :	aRSa :rpa : aRSivuq aRSugpa :	he grabs forcefully he has lots of... he polishes a thong he made
Q+ pal.?	uQSiq iQSaq uQSuq	uQSiq iQSaq uQSuq	uR ^f iq iR ^f aq uR ^f uq	ring, loop around dog harness temple oil
Q+ lat.?	iQSikpaq	iQSipaq	iRDLigpak	molar tooth
?	aQsarquq	aQSaquq	aG ^f arquq	back of arm, humerus
KSL	aKSLuna :q iKSLirvik	aKSuna :q iKSivik		rope box
QSL	qiniQSLiq iQSLirpaq	qiniQSiq iQSipaq	qiniRSiq iRDLipaq	glands molar tooth

COMMENTS

- a) - PS has completely assimilated to TS in Chimo, apparently through the process of tension-deletion. In Greenland, /p/ has become a continuant
- b) - TS is a tense /s/. It is sometimes realized as KS in the West (iKSi)
- c) - KS has not thoroughly assimilated in Chimo. K has become a continuant in Greenland.
- d) - Some clusters, which appear to be of K or Q and /s/ are in fact a new version of these occlusives followed by either a palatal or a lateral. This is obvious when interdialectal differences with Greenland are used.
- e) - KSL and QSL are further proofs of the existence of at least two, if not three, origins for /s/: one is an alveolar, the second comes from a palatal occlusive, the third one a lateral occlusive. If it were not so, the initial segment would be a continuant in both cases which is not the case.

(ix) L as the second member of a cluster

Supposed origins	West of H.B.	Chimo	Greenland	Translation
dl/1		amauDLiga :q iñiDLiq	amauLigaq iñiLiq	snow sparrow angels (borrowed)
1/dl	maLarpuq	ma :DLatuq		the dog cries with pain
	piLisinartuq	piDLisinartuq		something which puts to sleep
DL/1	maDLik naDLapuq	maLik naLavuuq		wave he is laying down
VL	aBLa :kpa : aBLuraq iBLiriva :	aDLa :pa : aDLuraq iDLiriva :	aVDLurpa : aVDLuriu aq iVDLira :pa :	he steps over it door step he likes it much
TL	aDLiq aDLa :q auDLapuq	aDLiq aDLa :q auDLapuq	aTDLiq aTDLaq auTDLapuq	lowest object meat of bird's breast leave on a trip
LL	qaLLut	qaJu :t	qaJu :t	cup
GL	kaDLu aGLaq aGLu iGLu niGLaktuq qaDLu qaLLu qaVLu	kaDLu aGLaq aGLu iGLu niGLatuq qaDLu	kaGDLiq aGDLaq aGDLu iGDLu niGDLarpuq qaGDLu qaVDLu	thunder letter seal hole house it gets cold eyebrows
?		kiGGupa :	kiGDLu :pa :	he brings it back
RL	aRLuk qaRLiq	aRLuk qaRLiq	a :RDLuk qaRDLiq	killer whale trousers
?	qaRuk	qaRTSuk	qaRDLuq	lower lip
?	aKaqq	aTSaqq	aGDLaq	brown bear

QL?QL?	iRLiktuq	iRGLituq	iRDLigpuq	rinned in water
	quRGLurpuq	quRGLutuq	quRDLurpuq	it drips
	maRGLu	maRGLu		dirt in lamp
	nuRLuk	nuRDLuq	nuRDLuq	loop
		nirDLiq	nirDLiq	goose with grey-brown plumage
		nuRDLu	nuRDLuq	loop made with cord
		piRDLituq	piRDLirpuq	he dies from lack of care
Q+lat?		iQSipak	iRDLigpak	molar teeth
Q+pal?		iQSuq	iRDLuq	large intestine
		kaŋiQSuk	kaŋiRDLuk	bay
R+l?		iRRavit	iRDLavit	viscera
		iŋiRRavuq	iŋiRDLavuq	he goes forward
		maRRu:k	maRDLuk	two
		uRRuvuq	uRDLuvuq	he falls
		piRRa :q	piRDLa :q	braids

COMMENTS

- a) Note first the differences in the lateral according to the dialect.
- b) Bilabial-lateral clusters have followed the process of tension-deletion in Chimo and the result is a tense /l/. This also is true for alveolars. Velars have not often followed the process but the /l/ following the velar is a lateral fricative which can be taken as a beginning of tensing. The same is true for uvular-initial clusters. In Greenland, the lateral is always tense but the initial segment has not been deleted. This may be due to the fact that only assimilation occurs in this dialect.

- c) LL has become a palatal in practically all dialects.
- d) Continuant uvulars have become tense and completely deleted the lateral in Chimo and most of the Western dialects. This must have been clusters of uvulars and liquid. The one composed of a lateral occlusive and a uvular is left in Chimo as RDL. No differences are found in Greenland where the end result appears to be the same.
- e) Some clusters of velars in Chimo are realized as continuant-velar and tense-lateral. Other correspondences are not explicable at this stage.
- f) garluk and aklag demonstrate the existence of a lateral series has now disappeared and been replaced by a tense /s/ or a palatal fricative.

Supposed origins	West of H.B.	Chimo	Greenland	Translation
Ql	aRLSLartuq	aRKSatuq	aRDLarsarpa:	it is windy
	iRKSLirpuq	iRKSipuq	iRDLigpak	molar tooth
	iRKSLuq	iRKSuq	iRDLuq	large intestine
Kl	aKSLaq	aKSaq	aGDLaq	white bear
	aKSLuna:q	aKSuna:q	aGDLiguna:q	rope
	iKSLigiva:	iKSigiva:	iGDLigugpuq	he desires
	miKSLiaq	miKSiaq	miGDLiaq	umbilical cord

This series shows the existence of an unvoiced lateral which has become /s/. This is an occlusive (as shown by the uvular occlusive preceding it in Chimo).

(x) Palatal as the second member of a cluster

Supposed origins	West of H.B.	Chimo	Greenland	Translation
palatal		iji ammaJaq	iʃi aŋmaGʃak	eye sand fish (fin fish)
PJ	kiPJartuq niPJarpupq	kiDDJatu:k niDZatuq	kiVʃarpupq	the scissors cut he speaks in a loud voice
		? naBVa:pa:	naVʃa:rpuq	he finds it
BJ	kaBJiq	kaDZiq	kaVʃiq	natural parting in hair
	qaBJarpupq	qaDZatuq	qaVʃagpuq	takes the fat off skin
B+ occl. pal	tuDJa:rpuq (tuBJarpa:) iBJajuq iBJutaq qiBJaq	tuDZapa: (tuDJaq) iDDZajuq iDDZuutaq qiDDJaq	tuVʃarpa: iVʃurtaut qiVʃaq	he follows him the lamp needs air lever smth. twisted in a spiral
V+fric. pal?	iBJuq iBJujuq nikuBJarpupq	iDDJuq iDDjuvuq nikuDZa:tuq puDLaq	iVʃuq iVʃuvuq nikuVʃa:rpuq puVʃaq	humus thick he stands on tiptoe: air bubble
TJ? tense? palatal fric.? or pal. occl.?	kiTJija:rpuq aDJurpuq puDJuk uDJirturpa: aDJuarpa: aDji	kiDZitarpuq aDJupupq puDJuk uDZiturpa: iDDZuapa: aDzi	kiʃʃa:tdlagpuq aʃʃurpai puSSuk uʃʃirsurpa:? iʃʃuarpa: aʃʃik	he feels very hot he dresses himself finger tip he looks after him he reproduces it picture
K+ fric.?	kuDJartuq tiKJukpuq naDDJuk	kuDZatuq tiDDJupupq naDDJuk	kuGʃarpupq? tiGʃurpuq naGʃuk	is put upside down dried up river horn

+occl.?	aGJarpa:	aGGZapa:	aGfartirpuq?	carries smth. in hands
		iGDJuk	iGfuk	testicles
?		uDDJuk	uGfuk	bearded seal
?		aqiGGiq	aqiGfiq	partridge
		kiGGavik	kiGfavik	falcon
		aGGiq	aGfiq	small duck
		qiGGituq	qiGfirpuq	jump in the air
?		kaGVaq	kaGfuk	ice floes
?		aQSaquq	aGfarquq	humerus
?		aQSaniq	aRfaniq	northern lights
		iQSaq	iRfaq	temple
Q+pal	aRKDJaq	aRKDZaq		gunpowder
RDJ	niRDJut	niRDJut	niRfut	animal
	qaRDJuk	qaRDJuk	qaRSSuk	arrow

COMMENTS

This is the most difficult problem of them all and I shall not attempt to give any solution. The classification as given above is a best attempt at finding the origins possible in the present conditions. Schneider's orthography is so complicated that it is difficult to understand why there are so many different representations for what is usually rather simple in Greenland.

a) Bilabial-palatal clusters have followed the usual pattern of tension-deletion. It appears that there are both stop clusters, as written BJ or PJ in the West, and KJ, and continuant clusters. This allows us to posit a rather complete series of palatals, with both stops and continuants. As mentioned before, this is a first attempt at classification made

in the hope that it might be helpful for further, more detailed studies.

(xi) /m/ as the second member of the cluster

Supposed origins	West of H.B.	Chimo	Greenland	Translation
QM:N*M	iRMikpa:	iRMipa:	iRMigpa:	he washes it
PM	qiPMiq qiMMiq qi?Miq qiηMiq	qiηMiq	qiηMiq	dog
MM	aMMa iMMipa:	aMMa iMMipa:	aMa iMMipa:	again he serves him a drink
KM ηM	kiKMik kiPMik kiMMik ki?Mik kiηMik	kiηMik	kiηMik	heel

/n/ as the second member of the cluster

VN	iMNaq	iNNa:rquq	iVNarssuq	slope
NN	iNNaqpupq	iNnapuq	iNNarpuq	he lies on the side
ηN	iηNaq aNRuaq	iηNaq aNNGRuaq	iηNiq aRNuaq	flintstone amulet
N*	aN*naq aniRNiq	aN*naq aniRNiq	aN*naq aniRNiq	woman breath

/η/ as the second member

V η	iMnirpuq iηηirpuq	iηηirpuq	iVNGirpuq	he is singing
ηη	aηηaq	aηηaq	aηηaq	son of brother, nephew...
N*-η	iRNRartuq	iRNGRatuq	iRNGarpuq	it drips

N* as the second member of the cluster

RN*?	iRNRutaq	iN*N*utaq (irngrutaq)	iRN*utaq	grandchildren
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N* nasal uvular

COMMENTS a) /m/ second segment

- all initial segments assimilate in nasality.
- In Chimo, bilabials and alveolars assimilate totally which allows us to believe that there can be the process of tensing-deletion. However, non-anterior consonants assimilate only in nasality. This is an indication that both processes, assimilation, total or not, and tensing-deletion are involved in most eastern dialects. The -ŋ- of qinmiq is a realization of the initial part of the tense consonant. The same is true of the glottal stop found in certain western dialects. No retrogressive uvularization appears to occur with /m/ as the second member.

b) /n/ as a second member

Bilabials assimilate completely in Chimo. In Greenland, a continuant is found as the initial segment, /v/.

- non-anterior consonants nasalize but do not usually assimilate. Note that NR as in anruaq has become RN in Greenland while in Chimo, the uvular has nasalized in a retrogressive fashion and has become tense. The next logical step would

be the deletion of the alveolar nasal altogether.

- A nasal following the uvular nasalizes the latter. No tensing has occurred.

c) /ŋ/ as the second member

Bilabials assimilate to the velar nasal in Chimo but not in Greenland. No cluster n-ŋ- has been found. This may be due to complete assimilation in all dialects. /ŋ/ is the only nasal which appears to be really tense.

- uvular-velar clusters are difficult to determine. The only indication is found in the Greenlandic dialect which makes a difference between iRNGarpug and iRNutaq. One can be reasonably sure of a uvular-velar nasal cluster while there are no indications as to the origin of the uvular-uvular nasal cluster. These can only be the result of the tensing of the uvular with deletion of the preceding segment.

Table of consonants combinations (Chimo)

	p	v	m	t	s	n	λ	l	J	j	k	g	ŋ	q	r	N
p	PP		ηm mm	TT	TS(SS)	nn				Dj BV?	KK	GG	ηη	QQ		
v		BV						DL					ηη?		RR	
m			mm			nn							ηη			
t	PP			TT TS	TS			DL	DJ	Dj	KK	GG		QQ	RR	
s												GG				
n						nn							? ηη			
λ																
l								DL				GG			RR	
J		BV?														
j																
k	KP-PP		ηm	KT		ηn	TS KS ?		KS DJ? GJ?		KK					
g		GV BV						GL	GG? GJ?	GG?						
ŋ						ηn							ηη			
q	QP	QV? RV:?	NM	QT? RT?			QS QDL ?	QDL RL	QS QJ				Nη	QQ		
r				RT			RTS?	RL RR	RJ	Rj Rdj					RR	

DL = tense l
TS = tense s
Dj = tense j

N = uvular nasal
J = palatal occlusive
λ = lateral occlusive

SAMPLE OF INTERDIALECTAL VARIATIONS

1	KOBUK R.	5	COPPERMINE	9	<u>RANKIN INLET</u>
2	BARROW	6	UTKUSIKSALI 7 MIUT	10	REPULSE BAY
3	<u>INUVIK</u>	7	ESKIMO POINT	11	POND INLET
4	TUKTUYAKTUK	8	<u>BAKER LAKE</u>	12	<u>FORT CHIMO</u>

13 WEST GREENLAND

ENGLISH	SUPPOSED ORIGINS	INUVIK	RANKIN	CHIMO	WEST	OTHER
house	gl	<u>iglu</u>	<u>igluqyu</u> aq	<u>iglu</u>	<u>igd</u> lu	<u>igluy</u> uaq (7) <u>iglury</u> uaq (10)
woman	rn	a <u>R</u> naq	s	s	s	angnaq (5,7,10)
white man	vl		qav <u>l</u> una	qad <u>l</u> unaaq	qav <u>d</u> luna:q qag <u>d</u> lu..	qallumaaq (11)
you	lv	il <u>v</u> ich	ig <u>v</u> it	ig <u>v</u> it	iv <u>d</u> lit	ivvit ipvit (11)
family	nR	qitun <u>R</u> ai	qitun <u>n</u> garai	ilagiit qitu <u>N</u> ngaq	qiturnaq	
hair	tc	nut <u>c</u> at	nuyaq	nuyaq	nu <u>j</u> aq (sing) nut <u>s</u> aq (plur)	
eye	?h	ir <u>i</u>	iy <u>i</u>	iy <u>i</u>	iss <u>i</u>	ii (5)
foot	?h	isig <u>a</u> q	itsig <u>a</u> q	itig <u>a</u> q	isig <u>a</u> q	ihig <u>a</u> q (6)
hand (fingers)	rg?	ar <u>g</u> aich	agg <u>a</u> it	agg <u>a</u> it	agss <u>a</u> q	aygait (8) alg <u>a</u> q (5)
heel	km	kipm <u>i</u> k	kin <u>m</u> ik	kimmik		kikm <u>i</u> k (1)
seal	tt?	natchi <u>q</u>	natsi <u>q</u>	natsi <u>q</u>		natti <u>q</u> (4)
ptarmigan	rg?	aqargi <u>q</u>	aqiggi <u>q</u>	aqiggi <u>q</u>		akiygik (4,6,7 8) aqalgi <u>q</u> (5)

280.

name	t	atiq	atsiq	atiq	atiq
------	---	------	-------	------	------

fish net	vr	kuvraq	kupyaq	nuluaq	kuvyaq (4,5)
					kuvsaq (6)

short	tc?	naitchuq	naittuq	naittuq	naittuq	naitsuq (7)
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SUMMARY

From the attempt at classification made in this appendix, the following patterns have been encountered:

- 1) - stops cluster with stops, continuants with continuants
- 2) - uvulars and velars cluster with practically every consonant, and patterns of stop-continuant clusters can be found usually with segments which have disappeared as such from the Chimo dialect but are still found in other dialects.
- 3) - anterior consonants assimilate more than non-anteriors.
- 4) - two hypotheses were advanced as to the processes involved in the creation of tense consonants: a) the initial consonant assimilates to the second one, then the geminated consonants lose their distinct identities and merge into a single tense segment b) the second segment of the cluster tenses and then deletes the lax initial segment. The tense segment thus created is realized phonetically in different manners according to dialectal preferences. It is usually an alveolar or a velar in Chimo.
- 5) - in Greenland, the initial segment of the cluster usually is a continuant and tensing of the second segment is sometimes encountered.
- 6) - Both patterns might be at work in the same dialect. It would be of some interest to find in which conditions a certain pattern is found over the other one.

7) - Many inexplicable cluster differences interdialectally have been found in the course of this rather incomplete study. The only aim was to present the problems so that subsequent in-depth studies would be made easier.

APPENDIX II Words of Foreign Origins

Numbers

gijaq (jijak)	"Jack at cards"	ua	"one"
kapi	"coffee"	tuu	"two"
ti:	"tea"	salii	"three"
pata	"butter"	pua	"four"
patitasi	"potato"	pai	"five"
sigaliaq	"cigarette"	siksi	"six"
ta:nisirtut	"they dance"	sava	"seven"
kalaag	"clubs, at cards"	ii	"eight"
kutitapat	"guitar"	nai	"nine"
jama	"jam"	tia	"ten"
jaman	"German"	lava	"eleven"
liuviq	"lion"	tualu	"twelve"
matsi	"match"		
patiarguti	"putty"		
polisi	"police"		
pisi	"peas"		

Days of the week

sanattaili	"Sunday"
manni	"Monday"
tuusiti	"Tuesday"
uinnisiti	"Wednesday"
tuursiti	"Thursday"
palaiti	"Friday"
saatati	"Saturday"

Months of the year

januari	"January"
viivuuri	"February"
maasi	"March"
aipuru	"April"
mai	"May"
juni	"June"
julai	"July"
ugusiti	"August"
sattaappa	"September"
attuuppa	"October"
nuvaappa	"November"
tisaappa	"December"

APPENDIX III

Table of nominal declension

Words in tense vowels

	<u>Sing</u>		<u>Dual</u>	<u>Plural</u>
Intrans.:	nuna	"land"	nuna:k	nunait
Trans.:	nunaup		nuna:k	nunait
Modalis:	nunamik		nuna:ɳnik	nunanik
Localis:	nunami		nuna:ɳni	nunani
Ablative:	nunamit		nuna:ɳnit	nunanit
Terminal:	nunamut		nuna:ɳnut	nunanut
Vialis:	nunakkut		nuna:kkut, :ktigut	nunatigut
Aequalis:	nunatut		nuna:ktut, :ktitut	nunatitut

Words in k

Intrs.	inuk	"eskimo"	inu:k	inuit
Trans.	inu:p		inu:k	inuit
Mod.	inuɳmik		inu:ɳnik	inuɳnik
Loc.	inuɳmi		inu:ɳni	inuɳni
Ablat.	inuɳmit		inu:ɳnit	inuɳnit
Term.	inuɳmut		inu:ɳnut	inuɳnut
Vial.	inukkut		inu:kkut, :ktigut	inuktigut
Aequ.	inuktut		inu:ktut, :ktitut	inuktitut

Words in q

Intr.	nasaq	"hat"	nasa:k	nasait
Trans.	nasaup		nasa:k	nasait
Mod.	nasarmik		nasa:ɳnik	nasarnik
Loc.	nasarmi		nasa:ɳni	nasarni
Ablat.	nasarmit		nasa:ɳnit	nasarnit
Term.	nasarmut		nasa:ɳnut	nasarnut
Vial.	nasakkut		nasa:kkut, :ktigut	nasartigut
Aequ.	nasartut		nasa:ktut, :ktitut	nasartitut

APPENDIX III (Cont'd)

Words in -t, -ti

Intr.	siut	siuti	"ears"	siuti:k	siuti:t (tit
Trans.		siutiup		siuti:k	siuti:t (tit
Mod.	siummik	siutimik		siuti:ɳnik	siutini
Loc.	siummi	siutimi		siuti:ɳni	siutinit
Abl.	siummit	siutimit		siuti:ɳnit	siutitut
Term.	siummut	siutimut		siuti:ɳnut	siutitigut
Vial.		siutikkut		siuti:kkut, :ktigut	siutititut
Aequ.		siutitut		siuti:ktut, :ktitut	

Words in long vowels and in diphthongs

	<u>In vowel</u>		<u>In k</u>	
	<u>Sing.</u>	<u>Plural</u>	<u>Sing.</u>	<u>Plural</u>
Abs.	sa: "table"	sa:t	ku:k "river"	ku:t
Trans.	sa:p	sa:t	ku:p	ku:t
Mod.	sa:mik	sa:nik	ku:ɳmik	ku:ɳnik
Loc.	sa:mi	sa:ni	ku:ɳmi	ku:ɳni
Abl.	sa:mit	sa:nit	ku:ɳmit	ku:ɳnit
Term.	sa:mut	sa:nut	ku:ɳmut	ku:ɳnut
Vial.	sa:kkut	sa:tigut	ku:kkut	ku:ktigut
Aequ.	sa:tut	sa:titut	ku:ktut	ku:ktitut

	<u>In q</u>	<u>Diphthong</u>	
Abs.	qa:q "mattress"	qa:t	aiq "sleeve" ait
Trans.	qa:p	qa:t	aip ait
Mod.	qa:ɳmik	qa:ɳnik	airmik airnik
Loc.	qa:ɳmi	qa:ɳni	airmi airni
Abl.	qa:ɳmit	qa:ɳnit	airmit airnit
Term.	qa:ɳmut	qa:ɳnut	airmut airnut
Vial.	qa:kkut	qa:rtigut	aikkut airtigut
Aequ.	qa:rtut	qa:rtitut	airtut airtitut

Polysyllabics

	<u>Sing.</u>		<u>Plural</u>	
Abs.	kikiak	"nail"	kikia:t	
Trans.	kikiap		kikia:t	
Mod.	kikiaṁmik	or kikia:mik	kikiaṁnik	or kikia:nik
Loc.	kikiaṁmi	or kikia:mi	kikiaṁni	or kikia:ni
Abl.	kikiaṁmit	or kikia:mit	kikiaṁnit	or kikia:nit
Term.	kikiaṁmut	or kikia:mut	kikiaṁnut	or kikia:nut
Vial.	kikiakkut		kikiaktigut	or kikia:tigut
Aeq.	kikiaktut	or kikia:tut	kikiaktitut	or kikia:titut
Abs.	umiaq	"boat"	umiat	
Trans.	umiap		umiat	
Mod.	umiarmik	or umia:mik	umiarnik	or umia:nik
Loc.	umiarmi	or umia:mi	umiarni	or umia:ni
Abl.	umiarmit	or umia:mit	umiarnit	or umia:nit
Term.	umiarmut	or umia:mut	umiarnut	or umia:nut
Vial.	umiakkut	or umiakkut	umiartigut	or umia:tigut
Aeq.	umiartut	or umia:tut	umiartitut	or umia:titut

Table of possessive declension

POSSESSOR	OBJECT			ELSEWHERE		
	SINGLE OBJECT	DUAL OBJECT	PLURAL OBJECT	SING. O.	DUAL O.	PLU. O.
<u>1st. sing absolute</u>	nunaga paniga nasara irnira	nuna:kka pani:kka nasa:kka irni:kka	nunakka panikka nasakka irnika			
<u>relative</u>	nunamma panimma nasaNma irnima	nuna:ηma pani:ηma nasa:ηma irni:ma	nunamma panimma nasaNma irnima	nunama paniηma		-ma -ηma
<u>modalis</u>	nunaganik paniganik nasaranik irniranik	nuna:kkanik pani:kkanik nasa:kkanik irni:kanik	nunakkanik panikkanik nasakkanik irnikanik	nunamnik	nuna:mnik	-mnik
<u>vialis</u>	nunagagut panigagut nsaragut irniragut	nuna:kkakut pani:kkakut nasa:kkakut irni:kakkut	nunakkatigut panikkatigut nasakkatigut irnikkatigut	nunapkut	nuna:pkut	-pkut
<u>aequalis</u>	nunagatut panigatut nasaratut irniratut	nuna:kkatut pani:kkatut nasa:kkatut irni:katut	nunakkatitut panikkatitut nasakkatitut irnikatitut	nunaptut	nuna:ptut	-ptut

Table of possessive declension (Cont'd)

POSSESSOR	OBJECT			ELSEWHERE		
	SINGLE OBJECT	DUAL OBJECT	PLURAL OBJECT	SING. O.	DUAL O.	PLU. O.
<u>1st. plur.</u> <u>absolute</u>	nunavut panivut nasavut irnivut	nuna:vut (kput) pani:vut (kput) nasa:vut (kput) irni:vut (put)	nunavut panivut nasavut irnivut	nunavut		
<u>relative</u> Ungava nunatta	nunavutta panivutta nasavutta irnivutta	nuna:vutta pani:vutta nasa:vutta irni:vutta	nunavutta panivutta nasavutta irnivutta	nunapta panipta nasapta irnipta		
<u>modalis</u> Ungava nunattinik	nunavutti(n)nik panivutti(n)nik nasavutti(n)nik irnivutti(n)nik	nuna:vutti(n)nik pani:vutti(n)nik nasa:vutti(n)nik irni:vutti(n)nik	nunavunnik panivunnik nasavunnik irnivunnik	nunaptiṇnik		
<u>vialis</u> Ungava nunattigut	nunavuttigut panivuttigut nasavuttigut irnivuttigut	nuna:vuttigut pani:vuttigut nasa:vuttigut irni:vuttigut	nunavutigut panivutigut nasavutigut irnivutigut	nunaptigut		
<u>aequalis</u> Ungava nunattitut	nunavuttitut panivuttitut nasavuttitut irnivuttitut	nuna:vuttitut pani:vuttitut nasa:vuttitut irni:vuttitut	nunavutitut panivutitut nasavutitut irnivutitut	nunaptitut		

Table of possessive declension (Cont'd)

POSSESSOR	OBJECT			ELSEWHERE		
	SINGLE OBJECT	DUAL OBJECT	PLURAL OBJECT	SING. O.	DUAL O.	PLU. O.
<u>1st. dual</u> <u>absolute</u>	masavil nasavuk	nasa:vuk	nasavuk		<u>Ungava</u> nasa:kput	
<u>relative</u>	nunavunnuk	nuna:vunnuk	nunavunnuk	<u>West</u> nunamnuk <u>Ungava</u> nunannuk	<u>West</u> nuna:mnuk <u>Ungava</u> nuna:nnuk	
<u>modalis</u> <u>vialis</u> <u>aequalis</u>	see plur. poss.					
<u>2nd sing.</u> <u>absolute</u>	nunait paniit nasait irniit	nuna:kkik pani:kkik nasa:kkik irni:kik	nunatit panitit nasatit irnitit			
<u>relative</u>	nunavit panivit nasavit irnivit	nuna:vit pani:vit nasa:vit irni:vit	nunavit panivit nasavit irnivit	<u>Ungava</u> nunakpit panikpit nasarpit irnipit <u>West</u> nunaᖅnik nasaᖅnik	nuna:kpit	-kpit
<u>modalis</u>	nunannik paninnik nasaᖅnik irninik	nuna:kkinik pani:kkinik nasa:kkinik irni:kinnik	nunannik paninnik nasannik irninik		nuna:ᖅnik	

Table of possessive declension (Cont'd)

POSSESSOR	OBJECT			ELSEWHERE		
	SINGLE OBJECT	DUAL OBJECT	PLURAL OBJECT	SING. O.	DUAL O.	PLU. O.
<u>vialis</u>	nunakkut panikkut nasakkut irnikkut	nuna:kkikut pani:kkikut nasa:kkikut irni:kikkut	nunaktigut paniktigut nasaktigut irnitigut		<u>West</u> nuna:kkut	
<u>aequalis</u>	nunaktut paniktut nasaktut irnitut	nuna:kkitut pani:kkitut nasa:kkitut irni:kiktut	nunaktitut paniktitut nasaktitut irnititut		nunaktut	
<u>2nd. plur absolute</u>	nunasi panisi nasasi irnisi	nuna:ksi pani:ksi nasa:ksi irni:si	nunasi panisi nasasi irnisi			
<u>relative</u>	nunatsi panitsi nasatsi irnisi	nuna:tsi pani:tsi nasa:tsi irni:si	nunatsi panitsi nasatsi irnisi	<u>West</u> nunapsi		
<u>modalis</u>	nunatsinik panitsinik nasatsinik irnisinnik	nuna:tsinik pani:tsinik nasa:tsinik irni:sinnik	nunatsinik panitsinik nasatsinik irnisinnik	nunapsinnik		

Table of possessive declension (Cont'd)

POSSESSOR	OBJECT			ELSEWHERE		
	SINGLE OBJECT	DUAL OBJECT	PLURAL OBJECT	SING. O.	DUAL O.	PLU. O.
<u>vialis</u>	nunatsigut	nuna:tsigut	nunatsigut	nunapsigut		
<u>aequalis</u>	nunatsitut	nunatsitut	nunatsitut	nunapsitut		
<u>2nd dual absolute</u>	nunatik panitik nasatik irnitik	nuna:ktik pani:ktik nasa:ktik irni:tik	Same as singular	<u>West</u> -pt instead of -tt		
<u>relative</u>	nunattik panittik nasattik irnitik	nuna:ttik pani:ttik nasa:ttik irni:tik				
<u>modalis</u>	nunattinik panittinik nasattinik irnitinnik	nuna:ttinik pani:ttinik nasa:ttinik irni:tinnik				
<u>vialis</u>	nunattikut panittikut nasattikut irnitikkut	nuna:ttikut pani:ttikut nasa:ttikut irni:tikkut				
<u>aequalis</u>	nunattitut panittitut nasattitut irnitittut	nuna:ttitut pani:ttitut nasa:ttitut irni:tiktut				

Table of possessive declension (Cont'd)

POSSESSOR	OBJECT			ELSEWHERE		
	SINGLE OBJECT	DUAL OBJECT	PLURAL OBJECT	SING. O.	DUAL O.	PLU. O.
		3rd sing. plur. possessor	3rd sing. plur. possessor			
<u>3rd pers.</u> <u>sing.</u> <u>absolute</u>	nuna(η)a pani(η)a nasa(η)a irni(η)a	nuna:gik pani:gik nasa:gik irni:gik	nuna(η)it pani(η)it nasa(η)it irni(η)it			
<u>relative</u>	nuna(η)ata pani(η)ata nasa(η)ata irni(η)ata	nuna:gikta pani:gikta nasa:gikta irni:gikta	nuna(η)ita pani(η)ita nasa(η)ita irni(η)ita			
<u>modalis</u>	nuna(η)anik pani(η)anik nasa(η)anik irni(η)anik	nuna:ginnik pani:ginnik nasa:ginnik irni:ginnik	nuna(η)innik pani(η)innik nasa(η)innik irni(η)innik			
<u>vialis</u>	nuna(η)agut pani(η)agut nasa(η)agut irni(η)agut	nuna:gikkut pani:gikkut nasa:gikkut irni:gikkut	nuna(η)itigut pani(η)itigut nasa(η)itigut irni(η)itigut			
<u>aequalis</u>	nuna(η)atut pani(η)atut nasa(η)atut	nuna:giktut pani:giktut nasa:giktut	nuna(η)ititut pani(η)ititut nasa(η)ititut			

Table of possessive declension (Cont'd)

POSSESSOR	OBJECT			ELSEWHERE		
	SINGLE OBJECT	DUAL OBJECT	PLURAL OBJECT	SING. O.	DUAL O.	PLU. O.
<u>3rd poss.</u>	nuna(η)at					
<u>plural</u>	pani(η)at					
<u>absolute</u>	nasa(η)at					
	irni(η)at					
<u>relative</u>	nuna(η)ata					
	pani(η)ata					
	nasa(η)ata					
	irni(η)ata					
<u>modalis</u>	nuna(η)annik			ηnik		
	pani(η)annik					
	nasa(η)annik					
	irni(η)annik					
<u>vialis</u>	nuna(η)atigut					
	pani(η)atigut					
	nasa(η)atigut					
	irni(η)atigut					
<u>aequalis</u>	nuna(η)atitut					
	pani(η)atitut					
	nasa(η)atitut					
	irni(η)atitut					

Table of possessive declension (Cont'd)

POSSESSOR	OBJECT			ELSEWHERE		
	SINGLE OBJECT	DUAL OBJECT	PLURAL OBJECT	SING. O.	DUAL O.	PLU. O.
<u>dual 3rd</u> <u>absolute</u> <u>relative</u> etc....	nuna(η)ak see above	nuna:ηik nuna:ηikta nuna:ηinnik nuna:ηiktigut nuna:ηiktitut	nuna(η)it see plural obj. sing. and plu. possessor	-ηnik	-ηinnik	
<u>reflexive</u> <u>sing.</u> <u>absolute</u>	nunani panini nasani irnini	nuna:ηni pani:ηni nasa:ηni irni:ni	SAME AS SING. OBJ.			
<u>relative</u>	nunami panimmi nasaNmi irnimi	nuna:ηmi pani:ηmi nasa:ηmi irni:mi				
<u>modalis</u>	nunaminik panimminik nasaNminik irniminik	nuna:ηminik pani:ηminik nasa:ηminik irni:minik				
<u>vialis</u>	nunamigut panimmigut nasaNmigut irnimigut	nuna:ηmigut pani:ηmigut nasa:ηmigut irni:migut				

Table of possessive declension (Cont'd)

POSSESSOR	OBJECT			ELSEWHERE		
	SINGLE OBJECT	DUAL OBJECT	PLURAL OBJECT	SING. O.	DUAL O.	PLU. O.
<u>aequalis</u>	nunamitut panimmitut nasaNmitut irnimitut	nuna:ηmitut pani:ηmitut nasa:ηmitut irni:mitut				
<u>reflexive</u> <u>plural</u> <u>absolute</u>	nunanni paninni nasanni irninni	nuna:ηni	see sing. obj.	nunatik	nuna:ktik	
<u>relative</u>	nunamik panimik nasaNmik irnimik	nuna:ηmik				
<u>modalis</u>	nunaminnik paniηminnik nasaNminik irniminnik	nuna:ηminik irni:miηnik				
<u>vialis</u>	nunamigut paniηmigut nasaNmigut irnimigut	nunaηmikut irni:ηmitut	nunamiktigut nasaNmitigut irnimittigut			
<u>aequalis</u>	nunamiktut paniηmitut nasaNmitut irnimiktut	nuna:ηmitut irni:miktut				

Table of intransitive conjugation

	AFFIRMATIVE			NEGATIVE		
	<u>singular</u>	<u>dual?</u>	<u>plural</u>	<u>singular</u>	<u>dual</u>	<u>plural</u>
INDEPENDENT indicative						
1st pers.	takuvuna tikitpuna malikpuna tusaqpuna audlapuq	-vuguk -puguk -puguk -puguk	-vugut -pugut -pugut -pugut	takunnilana tikiñnilana maliñnilana tusanñilana audlanillana	-ññilaguk	-ññilagut
2nd pers.	takuvutit tusarputit audlaputit	takuvutik tusarputik audlaputik	takuvusi tusarpusi audlapusi	takunñilatit tusanñilatit audlanillatit		
3rd pers.	takuvuq tusarpuq audlapuq	takuvu:k tusarpu:k audlapu:k	takuvut tusarput audlaput	takunñilaq tusanñilaq audlanillaq		
<u>interrog.</u>						
1st pers.	takuvina?	takuvinuk	takuvita			
2nd pers.	malikpit	malikpitik	malikpisi			
3rd pers.	tusaqpa	tusaqpak	tusaqpat			
<u>imperative</u>						
1st pers.	takudlan(la-) tikidlana maliglana tusarlana	takudluk tikidluk maligluk(kl) tusarluk(ql)	luktakutta tikita malitta tusatta	takunñilaurdlana audlanilaurdlana		
2nd pers.	takugit tikigit maligit tusarit	takugitik tikigitik maligitik tusaritik	takugitsi tikigitsi maligitsi tusaritsi			

	AFFIRMATIVE			NEGATIVE		
	<u>singular</u>	<u>dual?</u>	<u>plural</u>	<u>singular</u>	<u>dual</u>	<u>plural</u>
3rd pers.	takudli(-li) tikidli maligli tusarli-dli	takudlik tikidlik maliglik(kl) tusardlik(ql)	takudlit tikidlit maliglit tusardlit			
<u>causative</u>						
1st pers.	takugama tikigama maligama tusarama	takugannuk tikigannuk maligannuk tusarannuk	takugatta tikigatta maligatta tusaratta	takuḡḡinama audlaḡḡinama		
2nd pers.	takugavit tikigavit maligavit tusaravit	takugattik tikigattik maligattik tusarattik	takugatsi tikigatsi maligatsi tusaratsi			
3rd pers.	takuḡmat tikiḡmat maliḡmat tusarmat	takuḡmatik tikiḡmatik maliḡmatik tusarmatik	takuḡmata tikiḡmata maliḡmata tusarmata			
reflexive	takugami	takugamik	takugamik			
<u>conditional</u>	see causative with -gu instead of -ga and -kpat instead of -mat			taku ḡḡikuma audla ḡḡikkuma		
reflexive	takuguni	takugutik	takugutik			

AFFIRMATIVE				NEGATIVE		
	<u>singular</u>	<u>dual?</u>	<u>plural</u>	<u>singular</u>	<u>dual</u>	<u>plural</u>
Gerund (known)						
1st pers.	takutsuḡa tikittsuḡa maliktsuḡa tusartsuḡa	takutsunuk tikitsunuk maliktsunuk	takutsuta tikitsuta maliktsuta			
	other persons have the same initial, behaving in the same fashion					
2nd pers.	takutsutit	takutsutik	takutsusi			
3rd pers.	takutsuni	takutsutik	takutsutik			
Gerund (unknown)	takudluḡa tikitluḡa malikluḡa tusaqluḡa					

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Table of abbreviations used

smth.	something
smone	someone
dbl.	rule of double consonant
ADG.	Adgormiut, general denomination of Eskimos of the West of Hudson Bay
H.B.	Hudson Bay
poss.	possessive
:	tense segment
N	nasal uvular