

Pronominal Suffixes in Nisgha*

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1.0 Introduction:

Nisgha, a Tsimshian language spoken in British Columbia, exhibits a complex interaction between phonology and morphology in the pronominal system. The interaction involves the presence of vowels between pronominal suffixes and verb stems depending to some degree upon the grammatical function of the pronoun. The presence of some vowels is clearly due to the application of phonological rules while others are not. The interaction combined with a lack of explicitness in the phonological processes assumed has complicated the morphological analysis of the pronominal suffixes.

The problem is to provide an analysis of the pronominal suffixes which accounts for not only the underlying forms of the suffixes, but also the interaction of the regular phonological processes which introduce predictable vowels. The present proposal makes the rules and environments for epenthesis explicit, and argues that the formal properties of predictable vowels can be used to determine the underlying status of the vowels which surface in the pronominal suffixes. While previous proposals have been made on these issues (Tarpent 1981;1982), the present paper contributes a more explicit account of the interaction of phonology and morphology in the pronominal system of Nisgha.

I discuss the positions and phonetic forms of the pronominal suffixes in the language, then compare two different analysis of the forms with respect to what may be assumed underlyingly and what can be accounted for by means of regular phonological rules.

2.0 Background to the Nisgha Pronominals:

2.1 Positions of the Pronominals

Nisgha sentences exhibit a major division between simple verb-initial declaratives and those sentences which have some negative or aspectual marker in the first position.¹ The division is reflected in the position and form of the pronominal elements which may occur in the construction. Both sentence types employ verbal suffixes, distinct in grammatical function but not necessarily in form. In one instance the

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¹ For a full range of the elements which may occur in the first position in a non-verb initial clause, see Tarpent(1981;21).

verbal suffix marks the ergative pronominal while in the other it marks the absolutive.² The formal similarities between the suffixes make them difficult to distinguish without contrasting the range of elements which occur in the entire sentence constructions. Thus I begin with a description of the pronominal forms and their function in the two sentence types which I call verb-initial versus non-verb-initial.³

2.1.1 Verb Initial Sentences

In a transitive verb-initial construction, the ergative pronominal elements are suffixes on the verb and the absolutive is a suffix on a pronominal base hi-. These can be seen in the following examples. (For simplicity of presentation, the transcription is phonemic with respect to the consonants, but phonetic with respect to the vowels.⁴)

- (1) a. ʔanɔ:q-aʔ hi-n I like you.
like -1sERG base-2sABS
b. ʔanɔ:q-an hi-ʔ You like me.
like -2sERG base-1sABS

The phonetic forms of the ergative verbal suffixes employed in these constructions can be seen in the inflected verb /ʔanɔ:q/ 'like'.

(2) ERGATIVE SUFFIX PARADIGM:

1sg ʔanɔ:q-aʔ	1pl ʔanɔ:q-aʔ
2sg ʔanɔ:q-an	2pl ʔanɔ:q-əʔsəʔ
3sg ʔanɔ:q-ət	3pl ʔanɔ:q-tit

The absolutive forms are exhibited on the base in the following paradigm.

(3) ABSOLUTIVE PRONOMINALS:

1sg hi-ʔ	1pl hi-ʔ
2sg hi-n	2pl hi-səʔ
3sg hi-t	3pl hi-tit

These absolutive forms also mark the sole argument of an intransitive verb-initial construction.

- (4) a. paX hi-ʔ I ran
run base-1sABS
b. paX hi-n You ran
run base-2sABS

² All arguments in the Nisgha sentence exhibit an ergative-absolutive organization. The agent of a transitive (ergative) is always formally distinct from the patient of a transitive and the subject of an intransitive (absolutive). (For a discussion of ergativity in Nisgha see Tarpent 1981;1982.)

³ These are also called "independent" versus "dependent" clause constructions in the literature (Boas 1911; Tarpent 1981;1982).

⁴ The regular voicing of consonants in pre-vowel position and their aspiration elsewhere is not represented. On the other hand, the predictable vowels are included in the phonetic transcription since their analysis is a major issue in the paper.

2.1.2 Non-verb-Initial Sentences⁵

In non-verb-initial constructions the ergative pronominals are clitics in preverbal position while the absolutive is a verbal suffix.

- (5) a. niti təp ʔanɔːq-səḿ We didn't like you (pl).
NEG 1pERG like -2pABS
b. niti məsəḿ ʔanɔːq-aḿ You (pl) didn't like us.
NEG 2sERG like -1pABS

The preverbal clitic forms of the ergative are given in (6).

- (6) PRE-VERBAL ERGATIVE CLITICS:⁶
1sg n(ə) 1pl təp
2sg m(ə) 2pl məsəḿ
3sg t 3pl t VERB-tit

The absolutive is marked by means of a verbal suffix, the forms of which can be seen in the inflected verb "like" in the paradigm below.

- (7) ABSOLUTIVE VERBAL SUFFIX PARADIGM:
1sg ʔanɔːq-aʔ 1pl ʔanɔːq-aḿ
2sg ʔanɔːq-an 2pl ʔanɔːq-səḿ
3sg ʔanɔːq-t 3pl ʔanɔːq-tit

These suffixes also mark the sole argument to the intransitive verb.

- (8) a. niti paX-aʔ I didn't run.
NEG run-1sABS
b. niti paX-an You didn't run.
NEG run-2sABS

This discussion has shown that Nisgha has two distinct sentence configurations with respect to the position and grammatical function of the pronominal elements. These can be schematized as:

- (9) a. VERB (-ERG) BASE-ABS
b. NEG (ERG) VERB-ABS

The forms of the absolutive in (9a) and the ergative in (9b) are straightforward, therefore I assume the forms in the paradigms in (3) and (6) as the underlying morphemes. The remainder of this paper is concerned with the analysis of the verbal suffixes (the paradigms in (2) and (7)), although distinct in function in each case, the underlying morphological forms are subject to some dispute.

⁵ I employ only negative examples to exhibit the forms of the pronominals in the non-verb-initial constructions. The forms and positions hold for aspectual constructions as well.

⁶ The first and second person singular forms occur suffixed to the preceding element if vowel final, as is the case with the negative, but are independent clitics after consonants. When suffixed, the vowels enclosed in parentheses do not surface.

(i) niti -n ʔanɔːq-an I didn't like you.
NEG -1sERG like -2sABS

The third person plural marker is a discontinuous morpheme, with the t preceding the verb and the -tit suffixed to the verb itself.

2.2 Morphological Forms of the Verbal Suffixes:

When the ergative suffixes in (2) and the absolutive suffixes in (7) are compared, many similarities in the two paradigms are apparent. In fact many of the suffixes are identical. For example, compare the underlined second person singular forms in the negative and positive constructions below.

- (10) a. niti -n ʔanɔːq-an I didn't like you.
NEG -1sERG like -2sABS
b. ʔanɔːq-an hi-ʔ You like me.
like -2sERG base-1sABS

Both examples employ the identical suffix, -an, to mark a second person singular argument on the verb, but the grammatical function of the suffix is unambiguous in each. In (10a) it serves to mark the absolutive argument while in (10b) it marks the ergative. The functional difference between the two forms is unambiguous, since it can be determined by the form of the construction, and by the presence of the ergative clitic in (10a) and the absolutive form on the pronominal base in (10b).

Not all the verbal suffix forms are identical however. There is a formal distinction in the ergative and absolutive suffixes in the second person plural and the third person singular forms. The difference can be seen by comparing negative and positive transitive constructions.

- (11) a. ʔanɔːq-səḿ hi-ʔ You (pl) like me.
like -2pERG base-1sABS
b. niti -n ʔanɔːq-səḿ I didn't like you (pl).
NEG -1sERG like -2pABS

The above examples show that the two second person plural suffixes differ in form. The ergative suffix is vowel initial, while the absolutive suffix is not:

- (12) 2pl ergative: -əsəḿ
2pl absolutive: -səḿ

A similar distinction is evident in the third person singular forms.

- (13) a. ʔanɔːq-ət hi-ʔ He liked me.
like -3sERG base-1sABS
b. niti -n ʔanɔːq-t I didn't like him.
NEG -1sERG like -3sABS

The ergative is vowel initial while the absolutive is not.

- (14) 3sg ergative: -ət
3sg absolutive: -t

But even when formally distinct the two verbal suffix paradigms share many features. Ignoring the extra vowels in the ergative forms, a similar sequence occurs in each case.

(15) SURFACE SUFFIX FORMS: (as found on /ʔan :q/ "like")

a. Ergative	b. Absolutive
1sg -aʔ	-aʔ
2sg -an	-an
3sg -ət	-t
1pl -am	-am
2pl -əsəm	-səm
3pl -tit	-tit

For example, the third person singulars both contain [t], while the second person plural forms both contain the sequence [səm]. The rest of the forms are identical.

The similarities evident in the two paradigms, make two morphological analyses possible: 1) Collapse the two paradigms, depending on an independent explanation for the differences which surface. 2) Treat the two suffix paradigms as separate and distinct, but differing only in the third person singular and the second person plural forms.

The next two sections examine the two proposals and argue that the latter must be preferred because it is able to handle the data with well motivated rules. The form of the argument comes from the phonological analyses which are necessary to each case. The morphological analysis in (1) which collapses the paradigms, requires extra, morphologically-sensitive rules to apply in the ergative paradigm. The analysis in (2) accounts for the surface forms of both the ergative and absolutive suffixes by the application of a single set of phonological rules which are necessary elsewhere in the language.

3.0 A Single Paradigm Analysis:

Based on the identity of many of the elements in the two verbal suffix paradigms, there have been attempts to collapse the two suffix paradigms into one. Such a proposal has been made by Tarpent (1981; 1982), and has been adopted by others in the analysis of the Tsimshian languages (Belvin 1984; Rigsby 1986; Jelinek 1986). Under Tarpent's analysis, only one set of person and number suffixes are posited.

(16) PERSON AND NUMBER SUFFIXES:

1sg -ʔ	1pl -m
2sg -n	2pl -səm
3sg -t	3pl -tit

These suffixes are employed to mark the ergative, and the absolutive pronominals in the language.⁷

All the suffixes in (16) are consonant initial, yet a comparison with the forms in (15) show that neither the ergative or absolutive forms surface that way. Extra vowels must be accounted for. The assumption made in the single paradigm analysis is that surface vowels arise from different sources; those in the absolutive are phonologically predictable while those in the ergative forms are due to an extra underlying morpheme. I will now examine how the surface vowels are accounted for in each paradigm.

⁷ This paradigm is also used to mark the pronominal base *hi-* and the possessive pronominals which are identical in form to the absolutive suffixes.

3.1.1 Absolutive Vowels

The surface forms of the absolutive suffixes vary from the underlying forms in (16) in the three underlined forms below.

(17) ABSOLUTIVE VERBAL SUFFIX PARADIGMS:

	"like"	"hit/chop"
1sg: /-ʔ/	ʔanɔ:q-aʔ	yats-Iʔ
2sg: /-n/	ʔanɔ:q-an	yats-In
3sg: /-t/	ʔanɔ:q-t	yats-t
1pl: /-m/	ʔanɔ:q-am	yats-Im
2pl: /-səm/	ʔanɔ:q-səm	yats-səm
3pl: /-tit/	ʔanɔ:q-tit	yats-tit

None of the suffixes is assumed to be vowel initial, yet the first person singular and plural, and the second person singular forms surface with a vowel, [a] or [I] depending on the verb stem. The extra surface vowels in these forms are assumed to be epenthetic, inserted by phonological rule(s) breaking up impermissible consonant clusters.⁸ Such an assumption is not problematic, but it is necessary that the environments and the corresponding rules for the epenthesis process be made explicit. The next section of the paper will outline the analysis for epenthesis proposed by Livingston (1985; 1986).

3.1.2 Epenthesis

All descriptions of the Tsimshian languages have noted the occurrence of epenthetic vowels in the language. In a study of the consonant clusters which occur in Nisgha, Livingston (1985;1986) notes that there are no sequences of a consonant immediately followed by a sonorant consonant which are not between two vowels. This gap can be captured in the following statement.

(18)	*C	C	{#
		[+sonorant]	{C

Sonorant consonants do not occur following any consonant in word final position or before another consonant.⁹

Livingston (1985;1986) argues that the explanation for the lack of clusters of this type is not due to an accidental gap in the phonology of the language, but is the result of epenthesis occurring to break up such clusters. The argument is based on the behavior of suffixes consisting of a single underlying sonorant consonant, on consonant final versus vowel final stems, such as when a second person singular possessive is added to nouns.

(19) a. /ʔus + n/	'dog + 2s'	[ʔusIn]
b. /wen + n/	'tooth + 2s'	[wenIn]
c. /ptɔ: + n/	'door-2s'	[ptɔ:n]

When the suffix /-n/ is added to a vowel final stem the addition results in simple concatenation, while on a consonant final stem the

⁸ Tarpent (1981; 1982:56, note 10). Rigsby (1986:218) differs by assuming the vowels in these forms are inserted by morphological rules specific to these morphemes and not a regular phonological process.

⁹ The sonorant consonants are: {m, n, ŋ, l, l', y, ʔ, w, ʍ}.

result is a sequence [...CVn].¹⁰ Given the possessive data in (19), a rule of epenthesis can be proposed.¹¹

(20) VOWEL EPENTHESIS:

$$\emptyset \longrightarrow \text{I} / [+consonantal] ___ \begin{bmatrix} +sonorant \\ +consonantal \end{bmatrix} \begin{Bmatrix} \text{C} \\ \# \end{Bmatrix}$$

The rule inserts a vowel, [I], between a consonant and a following sonorant consonant when the sequence occurs word finally or before another consonant, the environment created by the addition of the possessive forms in (19).

Another important fact about the epenthesis process noted by in Livingston concerns the quality of the epenthetic vowel inserted by the rule. Epenthetic vowels in Nisgha are subject to lowering in the environment following uvular and glottal consonants. Compare the epenthetic vowels which surface in (19) above with the forms in (21) below.

- (21) a. /q'eysa? + n/ 'knee cap + 2s' [q'eysa?an]
 b. /hanaq' + n/ 'woman + 2s' [hanaq'an]
 c. /naX + n/ 'vest + 2s' [naXan]

Following a glottal stop or a uvular consonant, the epenthetic vowel surfaces as [a] and not [I]. This lowering of the epenthetic vowel can be accounted for by a rule which is necessary to account for the quality of the vowels which surface in reduplication.

In Nisgha the quality of the vowel in the reduplicative prefix is independent of the stem vowel. Compare the vowels in the following reduplicated examples.

- (22) a. wank^w wIn-wank^w be worried sg abs/ pl abs
 b. te:s tIs-te:s punch sg abs/pl abs
 c. qan qan-qan tree/trees
 d. ?us ?as-?us dog/dogs

¹⁰ That the second person singular is not vowel initial can be seen by comparing the addition of a vowel suffix to a vowel final stem.
i) /ptɔ: + a/ [ptɔ:ya] door + Question

The sequence of two underlying vowels is the environment for glide epenthesis, thus /...V + V/ surfaces as [...VyV]. That the epenthesis process is limited to the addition of sonorant consonant suffixes is shown by a comparison with the behavior of other suffixes on consonant final forms.

- i) /?us + t/ [?ust] dog + 3s (his dog)
ii) /?us + a/ [?usa] dog + Question

On a consonant final stem, non-sonorant and vowel forms do not trigger epenthesis.

¹¹ Data of this kind are not limited to the possessive markers in the language. Sequences of [...CVC] versus [...VC] result in the addition of the attributive suffix /-m/ in the formation of adjectives as well.

- (i) /hanaq' + m/ 'woman + attributive' [hanaq'am]
(ii) /kipu: + m/ 'wolf + attributive' [kipu:m]

Following the uvular consonant, the reduplicative vowel surfaces as [a] instead of the regular [I].¹² The lowering of the reduplicative vowel is accounted for by means of a vowel variation rule (Thompson 1984:30). A simplified form of the rule is given in (23) to account for the quality alternations in the epenthetic vowel.¹³

(23) VOWEL LOWERING:

$$\text{I} \longrightarrow \text{a} / \begin{bmatrix} +consonantal \\ +low \end{bmatrix} ___$$

The rule lowers the epenthetic vowel [I] to [a] following a glottal or a uvular consonant. The interaction of Epenthesis and Vowel Lowering is sufficient to derive the forms in (21) above.

To sum up the epenthesis process assumed here is one which inserts vowels within clusters of any consonant followed by a sonorant consonant in word final or preconsonantal position. Furthermore, the quality of the epenthetic vowel is determined in part by the nature of the preceding segment. If the stem final consonant is a glottal or a uvular the vowel lowers from the normal [I] to [a].

This account of epenthesis is adequate for deriving the surface vowels in the absolute suffixes given the underlying forms of the suffixes assumed in (16) above. Because the process is limited to clusters whose second member is a sonorant, it accounts for the fact that vowels surface only with the first person singular and plural, and the second person singular forms, these being sonorants. As the derivation in (24d) shows, the epenthesis rule does not apply in the case of the third person singular.

- (24) DERIVATIONS:
a. 'hit + 1s' b. 'hit + 2s' c. 'hit + 1p' d. 'hit + 3s'

	/yats + ʔ/	/yats + n/	/yats + m/	/yats + t/
epen	I	I	I	-
	[yatsIʔ]	[yatsIn]	[yatsIm]	[yatst]

Only the application of the epenthesis rule is necessary to account for the surface forms which occur on /yats/ "hit/chop".

In addition, the epenthetic vowels in the absolute suffix are expected to be subject to the Vowel Lowering rule, surfacing as [a] instead of [I] after uvulars and glottals.

¹² For a thorough analysis of the reduplication process and in particular the form of the vowels see Thompson 1984.

¹³ The rule is simplified for two reasons. Thompson's rule accounts for the rounding of the reduplicative vowel in addition to the lowering, a process involved in epenthesis which I ignore for the purposes of this study. In addition I assume different distinctive features for the conditioning environment, employing the features [+consonantal, +low] to distinguish the glottal and uvular consonants from the rest of the consonants in the inventory.

(25) DERIVATIONS:

a. 'like + 1s'	b. 'like + 2s'	c. 'like + 1p'	d. 'like + 3s'
/ʔanɔ:q + ʔ/	/ʔanɔ:q + n/	/ʔanɔ:q + m/	/ʔanɔ:q + t/
epen I	I	I	-
V-lo a	a	a	-
[ʔanɔ:qaʔ]	[ʔanɔ:qan]	[ʔanɔ:qam]	[ʔanɔ:qt]

The derivations in (25) show that the application of Epenthesis followed by Vowel Lowering successfully accounts for the position and the form of the vowels which surface on the verb "like". Thus the surface forms of the absolutive suffixes are accounted for by a combination of the underlying forms in (16) in conjunction with two general phonological rules which are needed elsewhere in the language.

As mentioned above, the Single Paradigm analysis relies on an independent explanation for the vowels which surface in the ergative suffixes, one which does not rely on phonological processes.

3.2 Ergative Marker Hypothesis

According to Tarpent (1982:56), the vowels which surface in the ergative suffixes are an independent underlying morpheme. The ergative pronoun is unambiguously marked by means of an ergative suffix on the verb consisting of a single unstressed vowel, underlyingly /-ə-/. The suffix precedes the person and number pronominals from the paradigm in (16). Thus the morphological elements in the ergative suffix are analysed as a sequence of 'ergative marker-person marker' on /ʔanɔ:q/ "like" below.

(26) UNDERLYING ERGATIVE PARADIGM: ergative marker hypothesis (Tarpent 1981;1982)

1sg	ʔanɔ:q-ə-ʔ	1pl	ʔanɔ:q-ə-m
2sg	ʔanɔ:q-ə-n	2pl	ʔanɔ:q-ə-sə̃m
3sg	ʔanɔ:q-ə-t	3pl	ʔanɔ:q-ə-tit

The underlying forms in (26) account for the fact that the ergative suffixes are vowel initial in the majority of cases, but when the proposed underlying morphological sequences in (26) are compared with the forms which actually surface some differences are evident (underlined in the paradigm below).

(27) SURFACE FORMS OF THE ERGATIVE PARADIGM:

	"like"	"hit/chop"
1sg	ʔanɔ:q-a-ʔ	yats-I-ʔ
2sg	ʔanɔ:q-a-n	yats-I-n
3sg	ʔanɔ:q-ə-t	yats-ə-t
1pl	ʔanɔ:q-a-m	yats-I-m
2pl	ʔanɔ:q-ə-sə̃m	yats-ə-sə̃m
3pl	ʔanɔ:q-tit	yats-tit

Within the four underlined forms in each example, two differences must be accounted for. First, the quality of the ergative marker vowel alternates in some of the forms surfacing as [a] and [I] not the expected [ə]. The alternating vowels occur in:

(28) -first person singular	[-a-ʔ] ~ [-I-ʔ]	*[-ə-ʔ]
-first person plural	[-a-n] ~ [-I-n]	*[-ə-n]
-second person singular	[-a-m] ~ [-I-m]	*[-ə-m]

The non-alternating vowels occur in:

(29) -third person singular	[-ə-t]
-second person plural	[-ə-sə̃m]

Only the forms in (29) can be accounted for on the basis of the underlying form of the ergative marker vowel.

The second deviation between the proposed underlying morpheme sequences in (26) and the surface forms in (27) is the complete lack of ergative marker vowel in the third person plural forms.

Because the ergative marker hypothesis proposes a single underlying form for the ergative marker vowel, the differences between the underlying and surface forms must be accounted for by phonological processes. I will now discuss the phonological rules necessary to derive the surface forms from the underlying ergative marker-pronominal suffix sequence.

3.2.1 Phonological Processes Affecting the Quality of the Ergative Marker Vowel

The alternations in the ergative marker vowel are of two kinds. One involves alternations within the single paradigm, specifically the two vowels which surface as [-ə-] versus the rest. In addition to the vowel alternations which occur within a single paradigm, there are quality alternations in the surface forms of the ergative marker vowel depending upon the nature of the stem final consonant. For example the vowels which surface as [a] following the verb /ʔanɔ:q/ surface as [I] after /yats/.

Since the alternation in the ergative marker vowel is similar to that found in other vowels, that is the vowel surfaces as [a] when the stem ends in a uvular or a glottal, as is the case with /ʔanɔ:q/, and [I] elsewhere, the variation in the quality of the alternating vowels can be accounted for by means of a lowering rule similar to that proposed in (23) to account for the epenthetic vowel (Tarpent 1981:7, note 7). But accounting for the quality of the alternating vowels is not the problem. Rather it is necessary to explain why the otherwise general phonological rules do not apply consistently to the ergative marker vowel within a single paradigm. Something must block the application of a lowering rule in the derivation of the third person singular and the second person plural forms since they always surface as [ə].

3.2.2 Deletion of Ergative Marker Vowel in Third Person Plural

In addition to the problems presented by non-alternating ergative marker vowels, there is a consistent lack of the hypothesized ergative marker in the third person plural. It never surfaces between the verb and the suffix in any form. Since the vowel is posited to be present underlyingly, its disappearance must be due to deletion.

Furthermore, since the posited ergative marker vowel never surfaces in the third person plural, the deletion has to be analysed as a case of absolute neutralization in that all traces of the underlying form are removed by the application of phonological process(es). The absolute neutralization might not be a problem if there were independent evidence for the necessary deletion process elsewhere in the language, but deletion of elements other than the ergative marker

vowel is not attested anywhere in the Tsimshian literature.¹⁴
 Independent of supporting evidence based on other deletion processes, one might use violations of phonotactic constraints to motivate the deletion of the vowel in the third person plural form. But the proposed [...C-V-CVC] sequences cannot be construed as such given the acceptable [...C-V-CVC] sequences which arise in the second person plural.

- (30) third plural -ə-tit
- second plural -ə-səh

Given the lack of motivation for a general deletion rule in the language, the deletion of the ergative marker vowel in the third person plural form appears to be a morpheme specific case.
 Thus far I have outlined a number of phonological problems with the ergative marker hypothesis based strictly on the form and presence of the vowels which surface in the ergative forms. The first is the inconsistency in the application of otherwise regular phonological rules to the proposed underlying ergative marker vowel, and the second is the need for a morpheme specific rule to account for the deletion of the proposed vowel in every instance of the third person plural.
 The problems for the phonological analysis of the language posed by the Ergative Marker analysis are significant enough to suggest that some other account of the ergative suffix morphemes is possible. The next section outlines a proposal for the underlying forms of the pronominal suffixes which accounts for the presence and the quality of the vowels in every case, using only the Epenthesis and Vowel Lowering rules discussed in Section 3.1.2.

4.0 A Two Paradigm Analysis:

Rather than collapsing the suffix forms in the language into one paradigm, the analysis of the pronominal suffixes advocated here posits two sets of verbal suffixes, one specific to the ergative the other specific to the absolutive.
 The account of the absolutive suffixes is identical to that outlined for the Single Paradigm analysis outlined in Section 3.2 above. The paradigm I assume is that given in (16) above.

- (31) ABSOLUTIVE SUFFIX PARADIGM:
- | | |
|--------|----------|
| 1sg -ŋ | 1pl -h |
| 2sg -n | 2pl -səh |
| 3sg -t | 3pl -tit |

The underlying absolutive suffixes are all consonant initial and the vowels which surface between the verb stem and the suffix are inserted by the epenthesis process outlined in Section 3.1.2. Therefore vowels will surface between the stem and the suffix in sonorant forms and will be subject to the lowering rule after the uvular and glottals.
 Thus far this analysis of the suffixes is identical to the single Paradigm analysis. Where it differs is in the underlying forms assumed for the ergative suffixes. The ergative suffixes are not accounted for by an underlying morpheme sequence. Rather they are members of a

¹⁴ While Tarpent (1981:6, note 6a) assumes deletion of the ergative marker vowel in other environments she is not committed to deletion occurring in the third person plural case.

specific ergative paradigm.

- (32) ERGATIVE SUFFIX PARADIGM:
- | | |
|---------|------------|
| 1sg -ŋ | 1pl -h |
| 2sg -n | 2pl -ə-səh |
| 3sg -ət | 3pl -tit |

The ergative suffixes differ from the absolutives only in the presence of extra underlying vowels in the second person plural and the third person singular forms. The rest of the forms are identical to those in (31). They are all consonant initial except for the second person plural and the third person singular forms.
 The morphological forms of the ergative suffixes in (32) account for the surface forms of all but the first person singular and plural, and the second person singular forms in a straightforward way. They are derived by means of simple concatenation.

- (33) DERIVATIONS:
- | | | |
|----------|-----------------|--------------|
| 2pl erg: | /ʔanə:q + əsəh/ | [ʔanə:qəsəh] |
| 3sg erg: | /ʔanə:q + ət/ | [ʔanə:qət] |
| 3pl erg: | /ʔanə:q + tit/ | [ʔanə:qtit] |

In each case, the suffix is added to the stem and the surface form is identical to the underlying form.
 Given the underlying forms of the ergative suffixes in (32), it is necessary to account for the addition of surface vowels in three of the forms: the first person singular and plural, and the second person singular. In addition it is necessary to account for the alternations in these vowels, that is [ɪ] except where lowered to [a]. This is not a problem for the analysis. Since this pattern of alternation is exactly that found in the absolutive suffix paradigm, I utilize the phonological rules necessary there to account not only for the presence but also the alternations of the vowels in these forms. This is possible because the underlying forms assumed in the ergative paradigm consist of a single sonorant consonant, creating the environment where epenthesis applies to insert a vowel. And since epenthetic vowels are subject to lowering the alternations in form are accounted for by the regular Vowel Lowering rule.

I assume, therefore, that the Epenthesis and the Vowel Lowering rules apply to the sonorant consonant forms within the ergative paradigm exactly as they do in the absolutive. Thus the derivations of epenthetic vowels between the absolutive suffixes in (24) and (25) apply to the sonorant ergative suffix forms as well.

The Two Paradigm analysis of the verbal suffixes advocated here requires two distinct paradigms, differing only in two forms. But the added morphological complication, assuming that positing a paradigm versus a single morpheme adds to the complexity of the analysis, is more than offset by the simplification of the phonological analysis necessary to account for the surface forms. Only two general phonological rules are necessary to account for all the surface forms. Furthermore, both rules are necessary elsewhere in the language. The need for two rules contrasts with the minimum of four rules required in the Single Paradigm analysis: epenthesis and lowering applying to the absolutive, modified lowering, and deletion applying to the ergative marker vowel.

Independent of the number of rules necessary for the two analyses, a generalization is captured under the Two Paradigm Analysis which is not possible employing a single paradigm analysis. This has to do with

the quality of related vowels. Under the Two Paradigm analysis, a generalization can be made regarding the difference between alternating and non-alternating vowels in the language. Non-alternating vowels are posited to be present in the underlying morpheme, for example the [ə] which occurs in the second person plural and the third person plural ergatives, while alternating vowels are inserted by phonological rules.

Contrasted with this are the predictions made by the Single Paradigm analysis. The vowels in the ergative and absolutive paradigms are analysed as coming from separate sources in the grammar, one is present underlyingly while the other is inserted by phonological rule, and thus are predicted to pattern together along these lines. The predictions do not accord with the data, however. Rather there is a division between alternating and non-alternating vowels within the ergative paradigm which is not accounted for.

5.0 Conclusions

The large number of shared elements which occur in the ergative and absolutive suffixes combined with the fact that co-occurrence restrictions unambiguously determine their grammatical function in every case, makes an analysis which collapses the two into a single suffix paradigm very appealing. But as this study has shown, a morphological analysis cannot be carried out in isolation. The simplicity gained in one area of the grammar can create significant complications in another. For example, I have argued here that the simplification in the analysis of the paradigms loses its appeal when the complications generated for the phonology are considered. Therefore I adopt an analysis with two very similar but distinct paradigms.

In addition to the phonological implications, it is necessary to consider the interaction of the morphology and syntax in the analysis of the Nisgha pronominals. While such a study is beyond the scope of this paper, I would like to suggest a few questions which are raised by the two analyses discussed here.

The Single Paradigm analysis posits an ergative marker whose function is to mark the ergative argument in a sentence (Tarpent 1981;1982). Such an analysis receives support when some transitive sentences which include nominal elements are considered. When the ergative nominal directly follows the verb in a verb initial construction, a suffix occurs on the verb. The form of the suffix is [-ə-], the same as that posited as the ergative marker.¹⁵

- (34) ?ano:q-ə -X hanaq' X ?us
like -SUFF-CN woman CN dog
The woman liked the dog.

There is no case marking on the nominals themselves, their grammatical function is determined by word order. The order of elements in the sentence are: VERB --ERGATIVE NOMINAL --ABSOLUTIVE NOMINAL.

Positing an ergative marker between the verb and the ergative argument, raises questions with respect to its function in the syntax of the sentence. Is it a case marker assigning ergative case to the following noun or pronominal as assumed by Belvin (1985)? If so, an immediate question concerns the assignment of ergative case to those

¹⁵ A connective, [X] (glossed CN), occurs between the verb and the nominals and between the nominals themselves.

elements when no such suffix is present.

Recall from the discussion in 2.1.2, when constructions are non-verb initial the ergative is marked by a preverbal clitic. A similar pattern is evident in non-verb initials which include nominals.

- (35) niti t ?ano:q X hanaq' X ?us
NEG 3sERG like CN woman CN dog
The woman didn't like the dog.

The order of elements in the sentence are the same as in (34), the ergative nominal follows the verb and precedes the absolutive. There is a difference, however, in the morphological elements which occur with the verb. Instead of an ergative marker preceding the ergative nominal functioning to assign it case, there is the regular third person singular ergative clitic between the negative and the verb. The syntactic analysis which assumes an ergative marker must explain why a case marker is necessary for the ergative nominal in the sentence in (34) but not in (35).

The examples in (34) and (35) raise other questions for the Two Paradigm analysis. The pronominal element in (35) is explainable as a case of agreement or double marking of the ergative argument. But what is the verbal suffix in (34); if it is a case of double marking why does it surface as [-ə-] and not the normal [-ət]?

Addressing these issues is not the purpose of this paper. Rather they are raised to show that morphological issues are important throughout the grammar and therefore cannot be addressed in isolation. This seems to be particularly true for the analysis of Nisgha since many of the important inflectional elements in the language consist of single consonantal segments suffixed or encliticized to the verbal elements where they are subject to phonological alternations. In addition many inflections contrast with similar but non-alternating forms, making the morphological analysis of the language a complex process of factoring out phonologically predictable material.

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