

Hypocoristic Formation in Nootka*

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In Nootka, there is a strategy for forming hypocoristic names, or terms of endearment, from the normal form of the name by a combination of truncation, vowel mutation and affixation. The nature of this formation is highly suggestive of the type of morphology described by many linguists as *subtractive*. In this paper, however, we will show that what actually occurs is a pattern of template-filling based on the prosodic structure of the language. We will argue that the building of hypocoristic forms is, in fact, highly reminiscent of reduplicative strategies employed in this language as argued for in Stonham 1987 for the closely related Nitinaht language, the difference being that reduplication subsequently concatenates with the structure it has drawn from, while Nootka hypocoristic formation, henceforth H.F., abandons the remainder of the original structure, retaining only the copied portion required for the template.

Before investigating the nature of H.F., we will first present certain aspects of Nootka structure which will be important for a clear exposition of the problem.

Nootka Structure

The consonant inventory of Nootka is quite complex, involving 7 points of articulation and secondary articulations involving glottalisation and labialisation. There are full series of stops, plain and glottalised, fricatives and affricates, including laterals, as well as plain and laryngealised nasals and glides, as in (1).

(1)	<u>Labial</u>	<u>Alveolar</u>		<u>Palatal</u>	<u>Velar</u>		<u>Uvular</u>		<u>Phar.</u>	<u>Glottal</u>
	p	t	c	ɕ	k	ḳ	q	q̣		ʔ
	p̣	ṭ	c̣	ɕ̣	ḳ	ḳ̣	q̣	q̣̣	ʔ̣	
			s	ʃ	x	x̣	χ	χ̣	ħ	h
	m	n		y	w					
	ṃ	ṇ		ỵ	ẉ					

The vowel system involves just the three basic vowels /i, u, a/ and a

* The data for this paper are drawn primarily from the unpublished notes of Morris Swadesh in the Boas Collection of the American Philosophical Society, ms. w2a.10. These are based on the fieldnotes of Edward Sapir, also in the collection. They have been supplemented by material from the published texts, Sapir and Swadesh 1939, 1955. I would like to thank Paul Kiparsky, Will Leben, K.P. Mohanan, and the participants of the 1990 Phonology in the Old Pueblo conference, especially Cari Spring, Donca Steriade, and Moira Yip for valuable comments on this paper. Any errors are the sole responsibility of the author.

hypocoristic forms such as in (8) below.

(8) <u>Hypocoristic Form</u>	<u>Regular Name</u>
he·pʔis	hapu·t
kʰe·cʔis	kʰa·ca·pi
ho·hʔis	hu·hinkʰap
ʰe·hʔis	ʰiḥaʔa

There are several changes which forms undergo in order to arrive at the final output: names are shortened, suffixed by -ʔis, and the root vowels are mutated and, if not already long, lengthened.

On examining further instances of H.F. it is possible to arrive at a tentative description of the facts such as the following:

- (9) **Hypocoristic Formation:** "Truncate name immediately before second vowel, changing remaining vowel to mid, either front or back depending on the roundness of the original vowel, lengthen if not already long and affix -ʔis."

This characterisation accounts for all of the following instances of N.H.F., including those with one (10a), two (10b), and three (10c) consonants in the coda of the derived form. Notice that these examples include a case (10d) of a presumably unanalysable foreign name, 'Sapir', which illustrates the productivity of the process.

(10) a. ʔo·kʔis ho·yʔis mo·wʔis	ʔu·kʰi·rúʔa hu·ya·t̪misʔaqs muwačatḥ
b. kʰe·spʔis me·tkʰʔis me·ksʔis t̪o·čḥʔis	kʰi·spisi·s ma·tkʰa·yapš̪i·t̪ ma·ksisaṅap t̪učḥa·ʔaqs
c. ʃe·mt.šʔis we·štqʔis	ʃimt.š̪iʔat waštqaʔa
d. se·pʔis	sapir

Note that this process of truncation does not appeal to morpheme boundaries at all, as can be seen by the following examples where either more than a single morpheme is involved (11a), or less than a single morpheme (11b), or an unanalysable form, as for 'sapir' in (10d) above.

- (11) a. we·štqʔis < waš-tqa-ʔa (ḥiʔi·ʰi·k) is coiled-under-on rocks
t̪o·čḥʔis < t̪uč-ḥa-ʔaqs wife-buy... - ...woman

- b. $\text{t}e\cdot\text{t}ʔ\text{is}$ < $\text{t}a\text{t}a\text{t}w\text{a}q\text{'i}\cdot\text{h}$ speckled trout-hunter of ...
 $\text{m}o\cdot wʔ\text{is}$ < $\text{m}u\text{w}a\check{\text{c}}\text{'a}t\text{h}$ deer-...tribe

A description such as that in (9) accounts for a large number of the cases involved, but it also misses a number of cases as well as a generalisation about the nature of the entity which represents the hypocoristic. In Swadesh's unpublished account, he divides the cases up into a number of types. The criteria he chose were: (i) simple name versus reduplicated name; (ii) suffix $/-ʔ\text{is}/$ or $/-\text{is}/$; and (iii) first medial cluster ending in $/\text{m},\text{n},\text{y},\text{w}/$. We will see shortly that all of these criteria are a result of the template that is used to create the hypocoristic and there is actually no need to mark various forms on the basis of their shape or environment.

Examples of cases which do not fit the description in (9) include those of the following groups:

- | | | |
|---------|---|--|
| (12) a. | $\check{\text{c}}e\cdot\text{p}\check{\text{i}}\text{s}$ | $\check{\text{c}}i\text{p}u\cdot\text{q}\text{s}\check{\text{h}}w\check{\text{i}}\text{t}\check{\text{i}}\text{m}$ |
| | $\text{t}o\cdot\text{k}^{\text{v}}\check{\text{i}}\text{s}$ | $\text{t}u\text{k}^{\text{v}}a\cdot\text{?a}\text{q}\text{s}\text{u}\text{p}$ |
| | $\text{k}e\cdot\text{x}\check{\text{i}}\text{s}$ | $\text{k}a\text{x}\text{i}\text{n}u\text{?u}\text{x}$ |
| b. | $\text{h}o\cdot\text{ʔ}\text{i}\text{s}$ | $\text{h}u\cdot\text{ʔ}\text{i}\cdot\text{?a}\text{q}\text{s}\text{u}\text{p}$ |
| c. | $\check{\text{c}}o\cdot\text{k}r\check{\text{i}}\text{s}$ | $\check{\text{c}}u\text{k}r\check{\text{i}}a$ |
| | $\text{t}e\cdot\text{m}\check{\text{y}}\text{i}\text{s}$ | $\text{t}\text{i}\text{m}\check{\text{y}}a\cdot\text{?a}$ |
| d. | $\text{t}o\cdot\text{x}\text{?}\text{i}\text{s}$ | $\text{t}u\cdot\text{x}\text{m}\text{i}\text{s}$ |

The cases in (12a) above contain glottalised stops or affricates as the final member of the derived form. Remember that [+ glottal] consonants may not occur in the syllable coda according to the constraints in (4) above. Note that when the affix $/-ʔ\text{is}/$ is attached, only part of it, $/-\text{is}/$, appears. Likewise, in (12b) for the laryngealised glottal stop which is also considered [+ glottal] and in (12c) for the laryngealised sonorants. In (12d) not all of the consonant cluster after the first vowel is copied, $/\text{m}/$ being [+ son] and therefore not allowed after $/\text{x}/$ in the coda of the same syllable.

There is another set of examples which appear to constitute exceptions to the general case. All of these cases involve name forms which are reduplicated in their normal shape, as in (13).

- | | | |
|---------|--|--|
| (13) a. | $\text{ʔ}e\cdot\check{\text{s}}\text{?}\text{i}\text{s}$ | $\text{ʔ}a\text{ʔ}a\check{\text{s}}a\text{t}a\text{q}\text{s}$ |
| | $\check{\text{c}}e\cdot\text{s}\text{t}\text{?}\text{i}\text{s}$ | $\check{\text{c}}a\check{\text{c}}a\text{s}\text{t}u\text{ʔ}\text{i}\cdot\text{h}$ |
| b. | $\text{t}e\cdot\text{y}\check{\text{i}}\text{s}$ | $\text{t}a\text{t}a\text{y}u\cdot\text{?a}\text{s}$ |
| | $\check{\text{c}}o\cdot\text{?}\text{i}\text{s}$ | $\check{\text{c}}u\check{\text{c}}u\cdot\text{?u}\text{p}$ |
| c. | $\text{t}e\cdot\text{t}\text{?}\text{i}\text{s}$ | $\text{t}a\text{t}a\text{t}w\text{a}\text{ʔ}\text{i}\cdot\text{h}$ |

d. kɛ·tʰʔis

kətʰka·tʰilwat

In the first group, the hypocoristic form patterns after the regular case with the exception that it does not involve the prefixed copy of the name. What we would expect to appear would be something like what is given in (14), but that is not the case.

- (14) * ʕe·ʕʔis ʕaʕaʕataqs
* ʕe·ʕʔis ʕaʕastuʕi·h

The second case, (13b), patterns after the cases in (12a-c) above, which have only /-is/ attached, with the further consideration that the reduplicative prefix is not included just as in (13a). In (13c) we have another example where all of the cluster is not copied, as in (12d), and again the copy is not included, and (13d) is an example of a different type of reduplication where again the hypocoristic form does not appear to be based on the full name form but rather on the unreduplicated form. We maintain this based on the fact that the hypocoristic for (13d) does not appear as in (15), which it should if based on the entire name. Note that there is no apparent reason why this form could not appear, given the proper context, on analogy with forms such as those in (12a), but this is not the case for reduplicated forms. We would, however, expect a form such as (15) if there existed a normal name form such as e.g. kətʰka, where there was no reduplication.

- (15) * kɛ·tʰkɪs kətʰka·tʰilwat

This exhausts the various types of seemingly irregular hypocoristic forms.³ We will now show that the explanation for these widely divergent forms of the hypocoristic rests with the inherent prosodic structure of the language and the constraints which hold in it, rather than with any rampant allomorphy obtaining in the language.

Subtractive Morphology and Nootka Hypocoristic Formation

On first examination, it would appear that the proper treatment of H.F. involves an instance of what has been described in the literature as *subtractive* morphology. Such accounts have been posited previously for certain phenomena, as, for example, in Bloomfield 1933 for French adjective derivation or in Anderson 1988 for the formation of Danish imperatives. Cases such as these have been used to argue for the necessity of

³ There are two additional forms that pose further difficulties. These are the structurally identical forms ʕe·xʔis < ʕaxca·yaʔux and ʕe·xʔis < ʕa·xpa·yaʔux. I have at this point no account of these forms, but it is interesting to note that they involve a /-x/ infix which occurs only with the iterative aspect reduplication of strictly CV- roots, which accounts for their occurrence in the full name. This infix appears to be carried over in the hypocoristic forms, where it would serve as an indicator of the original shape of the root.

a process-based model of morphology along the lines of Anderson 1988, Matthews 1972, Zwicky 1985, etc. It seems obvious that a morpheme that removes phonological material can hardly be described as an affix; therefore, a morphological theory that relies strictly on concatenation will find these cases particularly troublesome. A process-based account of subtractive morphology, on the other hand, could employ a rule similar to that in (16) to realise the output, in conjunction with whatever grammatical category the subtraction occurred in.

(16) **Subtraction Rule:** $X Y \rightarrow X$
 1 2 1

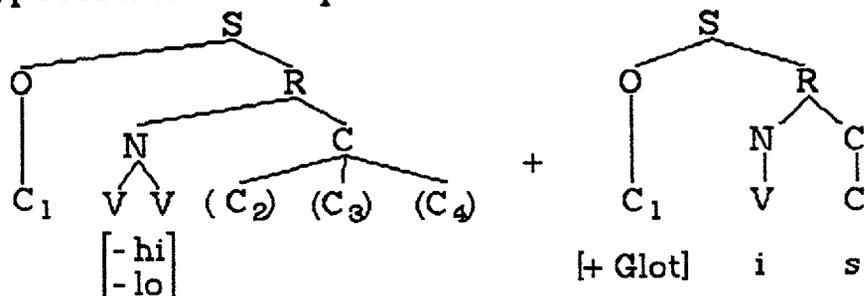
Another, related treatment, along the lines of Martin 1988 for Choctaw, could involve the use of the autosegmental machinery of delinking to achieve the effect of subtraction.

A significant consideration in such treatments is the nature of the contents of X and Y in this rule. In order to employ such a rule it is necessary to capture the class of things subtracted, for example, a phoneme, a morpheme, a syllable, etc. But in the case of H.F. there is, in fact, no unified class of deletees. What is removed may be a phoneme, as in (12c), a morpheme as in the first example in (8), several parts of a form as in the cases involving reduplication or from just half of a syllable to a number of phonemes, morphemes, syllables, etc. Thus there is no single entity which may be dropped in forming the hypocoristic and it is clear, therefore, that to look at this case as involving subtraction is to totally obscure the regular pattern of derivation that obtains and which will be described in the next section.

A Unified Account

Taking the previous discussion and our knowledge of the syllable structure of Nootka into account, let us look at a unified treatment of H.F. in terms of the imposition of a template on a melody containing the entire name, linking, as we would for reduplicative copies, from left to right, one-to-one until all available slots are filled, as in (17).⁴

(17) **Hypocoristic Template:**

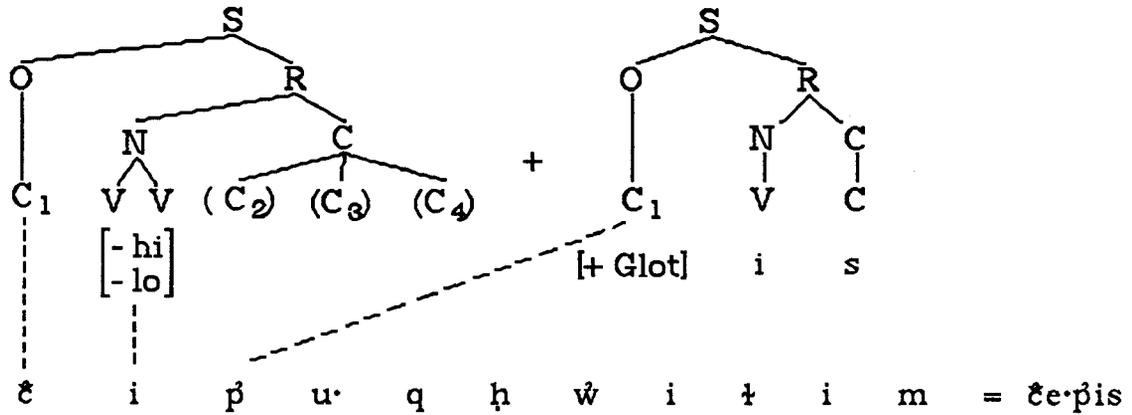


What this template represents is a maximal syllable, containing an onset,

⁴ An account of reduplication in the closely related Nitinaht language is provided in Stonham 1987.

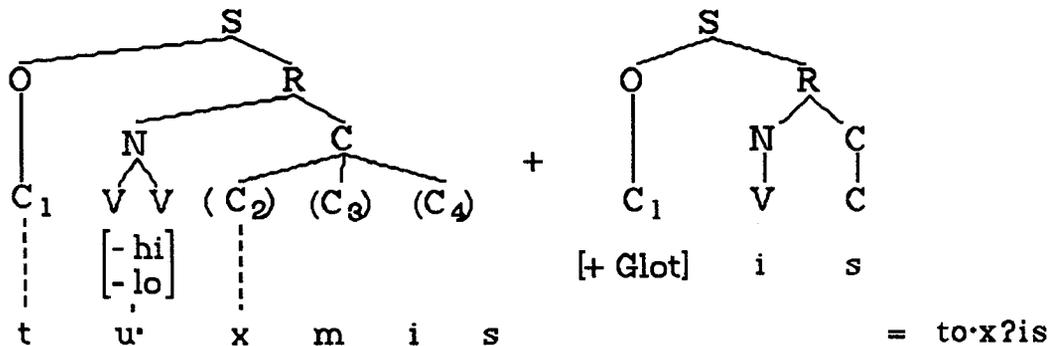
as in the previous case until we reach the glottalised consonant. It is not allowed to link to the coda of the first syllable since all these slots are specified to be [- glottal]. But it can link to the onset of the following syllable which is specified to be [+ glottal].⁵ This gives us the final output for the form, as in (19).

(19)



Now what about the cases involving sonorants following obstruents in the coda, such as in (12d)? We proceed as in all the other cases, linking from left to right until we arrive at the C₃ position where it is specified to disallow sonorants. We attempt to link to the next slot but the same constraint obtains. The next position, i.e. the onset of the following syllable does not bar sonorants but it specifies that whatever links to it must be [+ glottal] and /m/ is not. The final two slots are already filled and thus, unavailable. Therefore, the hypocoristic form appears as /to·xʔis/.

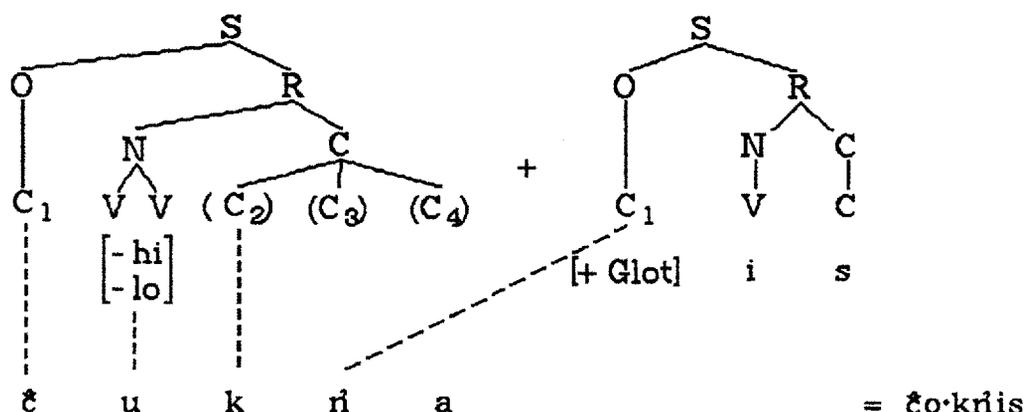
(20)



This template would predict that it is permissible to have a laryngealised sonorant occur in this position, since it would be [+ glottal], and thus, not subject to the same constraints. In fact, that is just the case, as can be seen in (21).

⁵ This strategy suggests a melody-driven mechanism of linking.

(21)



This mechanism explains the apparent disappearance of the glottal stop in the suffix /-ʔis/ in cases like (12) and (13) by allowing an already existing [+ glottal] phoneme to link to it, giving the effect of coalescence.

The Morpheme -ʔis

The suffix /-ʔis/ which appears after the template in the hypocoristic form is actually a regular morpheme of the language. It is described by Sapir and Swadesh 1939 as a non-paradigmatic incremental suffix, which indicates that it is a member of a class of suffixes which follows all the lexical suffixes and the aspect suffixes, but which precedes the paradigmatic incremental suffixes, i.e. the regular inflectional suffixes of the language. Schematically, /-ʔis/ appears in the following position in the word:

(22) Root - Lexical - Aspect - Non-Paradigmatic - ʔis - Inflection - Clitics

The location of this suffix is pinpointed to this location in an unpublished manuscript by Morris Swadesh on the inflectional suffixes of Nootka.⁶ Swadesh states that it occurs after all other non-paradigmatic suffixes and before the paradigmatic suffixes. This locates the suffix right on the border between what we would call derivation and inflection and explains why no further derivational morphology may occur after the affixation of /-ʔis/ and also suggests that this entire process must occur in the lexicon rather than postlexically.

Reduplication and Hypocoristic Forms

In order to arrive at the proper output for the hypocoristic forms of reduplicated names the copy must be made off the melody of the unreduplicated base and not off the copy or the sequence of copy + root. This can be seen in the examples of reduplicated roots given in (13). Because of this, we argue

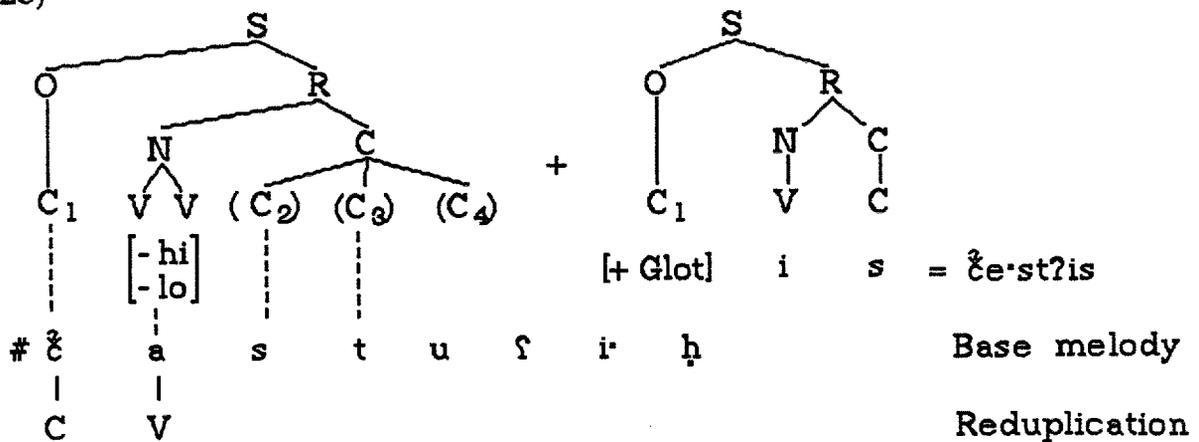
⁶ From the same document as the other material cited in this paper, i.e. w2a.10.

for the derivation of hypocoristics at a point before the reduplicative copy has been conflated with the rest of the form, i.e. at level one of the morphology.

As we have stated above, /-ʔis/ is a diminutive suffix which applies after the first level of derivation, that is after reduplication and presumably after H.F. This explains why the hypocoristic is formed off of the root and not off of the copy in the cases of reduplication: H.F. is considered a derivational process which applies at the end of level one after affixation but before tier conflation. Thus, the input to the template will be just the unreduplicated base before conflation of the copy.

This should not be surprising given that later rules of morphology are concerned with inflection, which applies outside of hypocoristics and does not involve reduplication. The formation of the hypocoristic form of reduplicated names will be as in (23).

(23)



Vowel Mutation and Coalescence in Nootka

The representation of the nucleus in the hypocoristic template contains a partially specified matrix for the vowel. The vowel is specified as branching,

and as $\begin{bmatrix} -hi \\ -lo \end{bmatrix}$. These stipulations ensure that the correct vowel is obtained depending on the vowel of the input. The vowels of Nootka must be partially specified as to roundness $[\pm \text{rnd}]$. With a tripartite division created by means of underspecification, the system of Nootka can be described as follows:

(24)

		i	u	a
	rnd		+	
	lo	-	-	

The remaining features will be filled in by default rules as in (25) below.

(25)

[]	-->	[+ lo]
[]	-->	[- rnd]

Justification for /a/ being the maximally underspecified vowel comes from several sources. Firstly, /u/ cannot be so specified, since it takes part in processes of secondary labialisation of obstruents which can be proved to obtain only at an early stage of derivation prior to the inflectional level, where labialisation does not take place. And /a/ appears to be the default vowel in terms of coalescence, which arises when two morphemes are juxtaposed, the first ending in a vowel, the second beginning in one. In coalescence, any vowel conjoined with /u/ yields /u/, any non-/u/ vowel conjoined with /i/ yields /i/ and only /a/ + /a/ yields /a/, exactly what one would expect if /a/ carried no specifications of its own, thus:⁷

$$(26) \quad \begin{array}{lll} u + u = u & i + u = u & i + i = i \\ u + i = u & a + u = u & i + a = i \\ u + a = u & a + i = i & a + a = a \end{array}$$

If coalescence is looked upon as the unification of features with later filling in by default, then the results are as expected if vowels are specified as in (24) above.

Expressive Morphology

Since there are no names which occur with inflection as an inherent part of them, as opposed to inflection to indicate possession, deixis, etc., and since the suffix /-ʔis/ has been shown to occur at a definite point in the derivation, then hypocoristics must be derived at a point in the derivation immediately preceding the inflectional module, i.e. inside the derivational morphology. If this is the case, then we are left with two choices: (1) that H.F. is somehow 'special' in its behaviour, accounting for this apparent exception to Structure Preservation, or (2) that it is a regular process of the lexical module of the language, in which case there must be an explanation for the apparent violation. We will examine these two possibilities in order, beginning with the 'special' treatment of hypocoristics as part of an 'expressive' module of morphology.

The fact that this strategy appears to involve the abandonment of the left-over melody and the use of mid-vowels, which are not supposed to be phonemic, is suggestive of an operation outside the regular grammar. If this phenomenon were part of the regular grammar of the language, we would expect it to employ regular phonemes of the language. As we have seen above, /e/ and /o/ are not regular phonemes of the language, but do play a role as contrastive vowels in N.H.F., as shown by the example below.

$$(27) \quad \check{c}e\text{-}\text{ʔis} < \check{c}i\text{-}\text{ʔakim} \quad \text{vs} \quad \check{c}o\text{-}\text{ʔis} < \check{c}u\check{c}u\text{-}\text{ʔup}$$

H.F. does, however, result in other ambiguities due to the truncation of a form before it may be distinguished from another, as in the following example.

⁷ These are the facts for the quality of the coalescence. The length of the result remains to be accounted for but is not really germane to the issue at hand.

Note that all these examples, and in fact, all examples involving /e/ or /o/ have only long vowels, never the short versions, and that the words have been otherwise adapted to fit Nootka phonotactics, /p/ substituting for /fr/, /č/ for /j/, etc. Furthermore, these free-standing words have separate combining forms in many cases, just as regular words of the language do, e.g. če·mq-, mišatq-. What this seems to show is that the vowels /e/ and /o/ are now part of the phonemic inventory of the language, whereas previously, they would have existed only as special vowels in the expressive module, used only for the formation of the hypocoristic forms. This gives us the modified phonemic inventory you see in (30) below.

- (30)
- | | |
|------|------|
| i(·) | u(·) |
| e· | o· |
| | a(·) |

Theoretical Implications

If H.F. is a rule of the regular grammar, which is in some sense the more attractive option, then we must address the issues of Structure Preservation and underspecification in addition to the existence of sub-phonemic vowels.

First, there is good evidence that H.F. is a member of the regular morphology, based on its order of occurrence, its observance of the rules of the grammar and its adherence to the syllable structure. In fact, the only thing which sets it apart from regular grammar is the fact that the template that it adheres to fails to concatenate with the melody from which it is drawn, unlike reduplication which is virtually identical in formation but does concatenate with its base. No one would suggest that reduplication is 'extralinguistic' in Nootka and so this case is reduced to the non-conflation of tiers in the case of hypocoristics.

This phenomenon is not new to the linguistic literature. In 1981, John McCarthy discussed such cases in Arabic, where they involve quinquiliteral melodies, such as the word for 'magnet' (mağnaṭiiš), which attach to quadriconsonantal templates, as in the verb form for 'to magnetise', given in (31) (adapted from McCarthy 1981:399).

- (31) (= McCarthy 1981's (38)) mağnaṭiiš 'magnet'
- | | |
|---|-----------------------|
|  | |
| CVCCVC | mağnaṭ 'to magnetise' |

Since copying is eminently amenable to a similar treatment, it should not be surprising that the same thing occurs in the formation of Nootka hypocoristics, where the template is linked to the melody of the regular name.

Furthermore, if the long mid-vowels must be available underlyingly for loanwords, which contrast all five long vowels, then there is no impediment to them appearing in H.F. and no violation of Structure Preservation.

Conclusion

In conclusion, the case of hypocoristic formation in Nootka is an important one for several reasons. First it presents a superficial example of subtraction at work in language. We say superficial since it only obtains at the surface level and cannot be explained even at that level in these terms as there is in actuality no unified sequence of segments that is removed. Quite the opposite, it is an excellent example of the operation of templates in language, in this case a partially specified foot which links from left to right, taking its melody from that of the original word and filling in where possible.

This formation operates surprisingly like reduplication yet with a very different outcome: only the copy is saved and the remainder is discarded. This analysis makes the case appear much more like template-satisfaction along the lines of McCarthy and Prince 1988's treatment of Arabic Broken Plurals than like a subtractive morpheme.

H.F. can be shown to occur within the grammar of the language and yet, it involves vowels which are not typical in the language. The evidence from loanwords indicates that these vowels are now part of the phonemic make-up of the language, most likely due to the influence of their presence originally in the H.F. being extended beyond this area. Thus we have an instance of a formation that was at one time most likely a part of the expressive morphology of the language now existing as a regular part of the grammar, which explains the change in the phonemic inventory of the language.

The further complication of vowel mutation can be seen to be a straightforward example of a partially specified template unifying with an underspecified class of vowels, resulting in the mutation of the input vowels. The violation of structure preservation suggested by the presence of the mid-vowels in H.F. can be resolved if we examine the nature of loanwords, which freely admit long mid-vowels. Thus these vowels must now constitute part of the underlying phonemic inventory. The question of underspecification and the maximally underspecified vowel is another issue, but the evidence from coalescence and other rules of the phonology argues for /a/ being maximally underspecified.

All in all, H.F. presents a fascinating body of data and a complex interaction of operations which challenge current views of linguistic theory.

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