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)  
<table>
<thead>
<tr>
<th>Labial</th>
<th>Alveolar</th>
<th>Palatal</th>
<th>Velar</th>
<th>Uvular</th>
<th>Pharyngal</th>
<th>Glottal</th>
</tr>
</thead>
<tbody>
<tr>
<td>p</td>
<td>t</td>
<td>c</td>
<td>x</td>
<td>ñ</td>
<td>k</td>
<td>k’</td>
</tr>
<tr>
<td>b</td>
<td>d</td>
<td>Ø</td>
<td>x’</td>
<td>ñ’</td>
<td>k’</td>
<td>q’</td>
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<tr>
<td>s</td>
<td>l</td>
<td>s</td>
<td>x</td>
<td>x’</td>
<td>x’</td>
<td>h</td>
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<tr>
<td>m</td>
<td>n</td>
<td>y</td>
<td>w</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>m̃</td>
<td>ń</td>
<td>ỹ</td>
<td>ń̃</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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* The data for this paper are drawn primarily from the unpublished notes of Morris Swadesh in the Boas Collection of the American Philosophical Society, ms.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.
length distinction, \([\pm \text{ long}]\), as shown in (2). There are no phonemic mid vowels in the language.

\[
i(\cdot) \quad \text{u}(\cdot) \quad \text{a}(\cdot)
\]

Nootka is heavily polysynthetic, employing suffixation almost exclusively to expand the word. In addition, reduplication and vowel quantity changes occur to indicate a variety of morphological distinctions. Roots have a fairly rigid syllable structure. All roots begin with a single consonant and words must contain only one root. /h/ can occur only root-initially and in the reduplicative copy of the /h/-initial root. The onset of the syllable, which must contain only one consonant, is followed by a vowel which may be long or short. Following this, there may be from zero to three consonants in the coda. This is the same for later syllables with the exception that /h/ does not occur elsewhere.

Given this information, we can form some conclusions regarding the phonotactic tendencies of the language. For the purposes of exposition, we posit the syllable structure to be as in (3) and restrictions on it to include those in (4), where \([\pm \text{ glottal}]\) is an informal feature representing some characteristic such as constricted glottis, subsuming any glottalised stop or affricate (\(\text{C}\)), laryngealised resonant (\(\text{I}\)), or the phonemes /ʔ/, and /ʕ/. This is not intended to be a definitive characterisation of the structure of Nootka, but will serve as a basic description of the facts.

(3) Nootka Syllable Structure:

Based on a survey of coda shapes extracted from a number of texts, it is possible to characterise the occurrences and co-occurrences of consonants in the coda with some accuracy. It was found that sonorants only occurred in the onset and immediate post-nuclear positions in the syllable. No tautosyllabic geminates occur, although identical consonants may appear in adjacent positions due to the concatenation of morphemes. A tentative set of constraints on syllable structure are posited in (4), where \(C_1\) represents the onset consonant and \(C_2-4\) represent the consonants of the coda from innermost out.

(4) a. \(C_1 = \text{ any C (except h inside word)}\)
    b. \(C_2-4 = [\pm \text{ glottal}]\)
    c. \(C_3-4 = [\pm \text{ son}]\)
    d. \(V = \text{ a, i, u} [\pm \text{ long}]\)
What kind of coda clusters does this rule out? Among others, any coda containing a glottalised stop or resonant such as /p/, /t/ or /j/ or any other [+ glottal] consonant (/ʔ/, or /Sl/), any cluster containing a resonant as second or later consonant, such as /xm/ or /tw/, such as in (5).

(5) * CVC'C * CVCR * CVh * CV?C

This leads us to a reformulation of our description of the syllable structure as follows:

(6) Revised Nootka Syllable Structure:

With this information in hand, we will now move on to an exposition of the facts of H.F.

Hypocoristics

The hypocoristic form is used as a term of endearment in familiar company and may be formed from any proper name, including the names of tribes or peoples as well as relationship terms. Names in Nootka are morphologically complex, containing a single root as in all words in the language, and from one to theoretically any number of suffixes. Examples are as in (7) below.

(7) tux'six
    tux'-šix

    ?animayis?aqs
    ?ani-ma't'-is-?aqs

    'he jumps (Sechaht Jackson)'
    jump-MOM(enteraneous aspect)

    'woman going alone on the beach'
    alone-move -on beach-...woman

As can be seen from the examples above, names are usually analysable by speakers and the meanings are typically transparent. In forming terms of endearment, normal names are transformed in a predictable fashion into

1 Š has been described as a pharyngealised glottal stop (cf. Maddieson 1984), but I represent it here as a glottalised pharyngeal stop as this better reflects it's origin and the gaps in the inventory (cf. Jacobsen 1969). h, the pharyngeal fricative, is not [+glottal].
2 Morpheme boundaries are indicated by / - /.
hypocoristic forms such as in (8) below.

(8) **Hypocoristic Form** | **Regular Name**
--- | ---
hep ?is | hapu-t
k'c-c?is | k'a-ca-pi
ho-ḥ?is | hu-ḥink-ap
xi-ḥ?is | xiḥa-a

There are several changes which forms undergo in order to arrive at the final output: names are shortened, suffixed by -?is, 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 -?is."

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. ūk?is | ṭu-ki-ru-a
ho-y?is | hu-ya-mis-aqs
mo-w?is | muwaṭath

b. k'esp?is | k'is-pisi-s
me-tk?is | ma-tk'a-yapši-t
me-k's?is | ma-k'sisap
ṭo-čḥ?is | ṭučha-aqs

c. ūe-mt.ś?is | ūimt.śi-at
we-štq?is | waštqa-a

d. se-p?is | 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-štq?is < waš-tqa-ʔa (hiʔi-śi-k) is coiled-under-on rocks
ṭo-čḥ?is < ṭuč-ḥa-aqs wife-buy... - ...woman
b. tet?is < tatatwaq-’i·h  speckled trout-hunter of ...  
mow?is < muwač-’atḥ  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 /-?is/ or /-is/; and (iii) first medial cluster ending in /m,n,y,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. če·pis  ěipu·qshwiqtim
    to’k’is  tuš’a·qasup
    ke’čis  kašinu·ux

b. ho’pis  hu·fi·qasup

c. čo·kriis  čukria
    te·myis  timša·a

d. to·xis  tušmis

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 /-?is/ is attached, only part of it, /-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, /m/ being [+ son] and therefore not allowed after /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. fe·s?is  čašašataqs
    če·st?is  čačastusi·h

b. te·yis  tatayu·as
    čo·?is  čuču·up

c. te·t?is  tatatwaši·h
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) *

\[
\begin{array}{l}
\text{SeS?is} \\
\text{Lee?is}
\end{array}
\]

\[
\begin{array}{l}
\text{SaSagataqs} \\
\text{eaLastuSih}
\end{array}
\]

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. Ratx?ka, where there was no reduplication.

(15) *

\[
\begin{array}{l}
\text{Ke-tx?is} \\
\text{Katx?ka-txilwat}
\end{array}
\]

This exhausts the various types of seemingly irregular hypocoristic forms. 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 \(\text{če-x?is} < \text{čakcayaťuk}\) and \(\text{pe-x?is} < \text{pä-xpa-yafuk}\). 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**: \( X Y \rightarrow X \)

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,

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4 An account of reduplication in the closely related Nitinaht language is provided in Stonham 1987.
a partially-specified nucleus, and a coda containing as many consonants as available, disregarding morpheme boundaries, but respecting the phonotactic requirements of the language. This is followed by a second syllable whose nucleus and coda are fully specified but whose onset is only specified for [+ glottal]. No phonemes may be skipped in linking to this template, which applies left to right, one-to-one. Since the vowel of the template is specified to be long, and since there are no diphthongs in the language, the vowel slot of the original must link to both slots of the template. No consonants will be allowed in the coda if they would violate any of the restrictions discussed previously, for example a coda containing a glottalised stop as in (12a), a glottal consonant as in (12b), or a sequence such as /-xm/ or /-tw/ as in (12d) and (13c) respectively.

Descriptively, there are two means to resolving this possible conflict. One possible strategy is to place the offending member in the onset of the following syllable. This is the strategy employed to repair the forms in (12a-c) and (13b), where the phonemes are [+ glottal] and therefore may serve in the [+ glottal] onset of the suffix /-is/. The other choice is to drop the offending member of the cluster. This is the strategy invoked to handle (12d) and (13c), where it is plain resonants which are disallowed in the coda due to sonority violations. The dropping of these resonants repairs the sonority violation, producing outputs which do not contain the sonorants. While these two strategies would seem at first glance to be unrelated, when we turn to the theoretical characterisation that involves the linking of melody to template, we can see more clearly what is actually going on here. The principle may be stated as: use as much of the original as you can. If the phonotactic restrictions of the language or the more universal ranking of the sonority hierarchy would be violated, then the segment is not linked.

In the most straightforward case, as in (18), linking is left to right, until we arrive at the second vowel of the melody, which has no available slot in the template. Linking stops there, the partially specified C-slot is filled in with the default consonant, /?-/, and we arrive at the final form of the hypocoristic, we·štq?is.

(18)

![Diagram](image)

This will be the same for all the regular cases such as those in (10). But what about the other cases? First let's take a look at those cases which involve glottalised obstruents, such as those in (12a). The linking proceeds
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]. 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-x?is/.

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

**The Morpheme -?is**

The suffix /-?is/ 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, /-?is/ appears in the following position in the word:

(22) Root - Lexical - Aspect - Non-Paradigmatic - ?is - 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 /-?is/ 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

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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, /-?is/ 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).

\[(23)\]
\[
\begin{array}{c}
\text{S} \\
\text{R} \\
\text{C} \\
\text{N} \\
\text{V} \\
\text{C} \\
\text{C} \\
\text{C} \\
\text{C} \\
\end{array} \]

\[
\begin{array}{c}
\text{S} \\
\text{R} \\
\text{C} \\
\text{N} \\
\text{V} \\
\text{C} \\
\text{C} \\
\text{C} \\
\text{C} \\
\end{array} + \begin{array}{c}
\text{S} \\
\text{R} \\
\text{C} \\
\text{N} \\
\text{V} \\
\text{C} \\
\text{C} \\
\text{C} \\
\text{C} \\
\end{array} \\
\]

Base melody

Reduplication

**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 [-hi]. 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 [± rnd]. With a tripartite division created by means of underspecification, the system of Nootka can be described as follows:

\[(24)\]

\[
\begin{array}{c}
\text{i} \\
\text{u} \\
\text{a} \\
\text{rn}d \\
\text{lo} \\
\end{array} \]

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

\[(25)\]

\[
[ ] \rightarrow [+ \text{ lo}] \\
[ ] \rightarrow [- \text{ rnd}] \\
\]
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:

(26)

\[
\begin{align*}
\text{u + u} & = \text{u} & \text{i + u} & = \text{u} & \text{i + i} & = \text{i} \\
\text{u + i} & = \text{u} & \text{a + u} & = \text{u} & \text{i + a} & = \text{i} \\
\text{u + a} & = \text{u} & \text{a + i} & = \text{i} & \text{a + a} & = \text{a}
\end{align*}
\]

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 /-?is/ 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) \( \text{čē?is} < \text{či?akim} \quad \text{vs} \quad \text{čo?is} < \text{čuču?up} \)

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.
This result would seem to suggest that hypocoristics are in some sense extra-linguistic or at least 'special' linguistically. Taking up on an idea presented in Zwicky and Pullum 1987, we will examine here the possibility that hypocoristics are instances of 'expressive' morphology, a separate module of morphology that involves special cognitive processes which interact with the regular linguistic ones, and which may include such phenomena as English expletive insertion, various language games and varieties of hypocoristic formations in other languages. As such, H.F. has the leeway to establish new phonemic distinctions while maintaining certain requisite constraints on Nootka word-building.

The exact mechanisms of expressive morphology are unclear, but we envisage it as a separate but parallel module within the grammar that allows a limited interchange between what we refer to as regular grammar and that which is expressive. This explains the observation that expressive morphology is usually constrained to some extent by regular rules of grammar. However, it contains a set of over-ride rules which take precedence over the regular rules where there is a clash, accounting for violations within a certain set of parameters. If the expressive module is an optional, adjunct member of the grammar, it would also explain why skill levels of certain individuals exceed those of others in, for example, language games, whereas you wouldn't expect this result for rules of passivisation or plural formation.

The use of these pseudo- or perhaps semi-phonemes in this case brings us to an interesting question regarding the nature of language. Is it possible to have what appears to be a phonemic distinction between non-phonemic vowels in a language? Or is it possible that /e/ and /o/ are, in fact, phonemic in the language, but skewed as to distribution, along the lines of, say, /z/ in English?

**Regular Grammar**

There is one piece of evidence that /e/ and /o/ do play a role in the phonemic system of the language and that comes from borrowings. In words borrowed from English or French, there are many cases where /e/ and /o/ appear. /e/ seems to correlate with English /æ/, and /o/ with /oʊ/, /aʊ/ and /ɔ/, as in the examples in (29).

(29)  
\[
\begin{align*}
\text{penči} & \quad < \quad \text{English 'Frenchie'} \\
\text{če-m} \quad (\text{če-mq-}) & \quad < \quad \text{English 'jam'} \\
\text{mišo-n} \quad (\text{mišaq-}) & \quad < \quad \text{French 'le châle'} \\
\text{poyisin} \quad (\text{poyisinq-}) & \quad < \quad \text{English 'poison'}
\end{align*}
\]
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.

\[
\begin{align*}
\text{i(\text{-})} & \quad \text{u(\text{-})} \\
\text{e·} & \quad \text{o·} \\
\text{a(\text{-})}
\end{align*}
\]

**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' (magṉtiṣ), which attach to quadriconsonantal templates, as in the verb form for 'to magnetise', given in (31) (adapted from McCarthy 1981:399).

\[
\begin{align*}
\mu & \\
\text{m̱ntṣ} & \quad \text{CVCCVC} \\
& \quad \text{magṉt 'to magnetise'}
\end{align*}
\]

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.
References


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