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The y of Pochutec -lut is a regular correspondence of Proto-Aztecan and Classical o': (see Langacker and Campbell 1978). The underlying vowel of -LO is long o': In Classical Nahuatl this long o': was preserved except when in final position or preceding -t. For example, o':-ni-k'-li-lo:k' 'it has been taken from me.' (Caroqui p. 433).

Since Pochutec retained Proto-Aztecan *-t finally, loss of final -h does not appear to be a valid motivation for the development of plural -lut, as it is for -LO in the other dialects. -lut might have been introduced in Pochutec to distinguish first person plural from second person singular, since both are marked by the prefix t-.

Orizaba Nahuatl data is from my own fieldwork in Rafael Delgado, locally known as San Juan del Río, which is located on the outskirts of Orizaba. There are some 5,000 residents in San Juan del Río, all of whom speak Nahuatl and Spanish. My principal informant was Vitor Hernández de Jesús.

This should be omomkti(h)ke. I cannot explain the missing plural suffix, since 'they' refers to 'five steers' and should therefore require the plural suffix. There are also some examples of verbs in future tense in the document with plural subjects and no plural suffix. For example, ti-k-ito-s 'we will say' and ti-k-mo-kakiti-s 'we will announce it (to you)' (p. 174) should both have the suffix -ke. I have refrained from marking long vowels and writing glottal stops in the SMH text since they were not indicated by the scribe.

About this, Langacker (1975:36) observes that 'Pochutla is the only Aztec dialect I have found which can lay some claim to being a true sister of Classical Nahuatl rather than a descendant of the classical language or a close dialect thereof.'

REDUPLICATION IN NAHUATL, IN DIALECTAL AND HISTORICAL PERSPECTIVE

Una Canger

Horacio Caroqui (1645) distinguishes and discusses four different cases of reduplication of stem-initial CV-: 1) reduplication with a long vowel used in the formation of plural of nouns (mama:-i : ma:-mama:-i 'deer'), 2) frequentative verbs derived from a restricted set of roots through the suffixes -ka and -da and reduplication with a short vowel (ka-kala-ka intr : ka-kala-da tr 'jingle'); nonfrequentative verbs are formed from the same set of roots with the suffixes -ni and -na/-nia (kala:-ni intr : kala:-nia tr 'ring'), and 3) and 4) frequentative verbs derived from other verbs through reduplication with CV-: or with CVI- (teki 'cut' : teki-teki 'slice' : teki-teki 'cut to pieces').

The two first mentioned cases were not productive in Classical Nahuatl. Plural formation of nouns with the reduplication CV:- was restricted to a small number of nouns (cf appendix A); and loan words from Spanish were not pluralized through reduplication. Karttunen and Lookhart (1976) never even discuss that possibility in their thorough treatment of the plural forms of Spanish loan nouns in Nahuatl.

The derivation of frequentatives through CV- was, as mentioned above, restricted to a set of roots which formed a closed class.

But the last-mentioned cases of reduplication, namely the formation of frequentatives with CV:- and CVI:- were clearly productive in the sense that reduplication here was used to add to the verbs certain semantic nuances, which cannot be simply summarized for all the possible examples. Caroqui (1645:473) says about these:

Author's address: 1932 Florida Court San Diego, Cal. 92140
Knowing when one doubles this first syllable and how to pronounce it: whether with glottal stop or without, and knowing precisely what the verb means when the first syllable has glottal stop and when it is long, that is the most difficult thing there is in this language. [My translation. UC]

Till today no one has taken up the challenge contained in Carochi’s words, and in reality it is an impossible task in Classical Nahuatl because vowel length and glottal stop are, as a rule, not indicated in the texts. But the modern dialects may be used in studying reduplication and may also throw some light on Classical Nahuatl. However, I do not intend in this paper to take up Carochi’s challenge. I here only wish to survey and in an organized way present some of the existing material and introduce a dialectal perspective.

Reduplication for plural of nouns

In grammars of Classical Nahuatl, we find some thirty nouns which employ reduplication, combined - in most cases - with a suffixed glottal stop to indicate plural:

masa:-k  ma:masa-?  deer

In the case of a few nouns the reduplication is combined with the suffixes -tin or -me?, and the reduplication may then be optional:

kwa:w:-l  (kwa:-)kwa:w-tin  eagle
idka:-l  (i:-)idka-me?  sheep

Note that in the following nouns a prefix precedes the noun stem, but still the noun stem is reduplicated:

iodzi:-po:di-l  iodzi:-po:di-tin  young woman
tei:-po:di-l  tei:-po:di-tin  young man
adzi:-ka:w-l  adzi:-ka:w-tin  officer

In most modern dialects this plural formation is unknown or occurs only with one or two nouns. However, it is found in some of the dialects most closely related to Classical Nahuatl: Milpa Alta (Whorff 1946:382), San Martín de las Pirámides (González C. 1922:610), and North Puebla (Canger 1976b). In the last mentioned dialect it occurs with most names for animals, but not typically with humans, and with no inanimates.

In Classical Nahuatl number was distinguished only with animates, but - probably due to Spanish influence - inanimate count nouns are now pluralized in most modern dialects. In North Puebla, reduplication for plural is used with approximately the same nouns as in Classical Nahuatl, and yet, with the expanded use of plural this specific marker of plural has become more specialized, being used exclusively with animates that are nonhuman. Within this category, I have even registered a case of reduplication with a loan word (berdise) (Spanish berdiz) 'partridge': be:-berdise-s 'partridges').

In Tetelcingo, we also find reduplication indicating plural with a restricted number of nouns, but not typically with the same nouns as in Classical Nahuatl or North Puebla. In Brewer & Brewer’s dictionary (1952), there are seven names of animals with which reduplication is used, but there are also nine animate, human nouns that take reduplication:

comixi  cu-comix-te  lizard
ceuetspal  cue-ceuetspal-me-te  iguana
chicojti  chi-chicoj-me  bumblebee
chipolo  chi-chilpol-te  wasp
quiquimchi  qui-quimich-te  rat
texu  tie-texun-te  badger
Reduplication has here clearly received a reinterpretation which is different from the one in North Puebla.

For San Martín de las Pirámides and Milpa Alta I have not yet had the chance of analyzing the plural of nouns, so I do not know whether reduplication with a long vowel has also become specialized in those localities.

Apart from the mentioned dialects, reduplication is generally not used with nouns in any modern dialect to indicate plural, with the striking exception of Pipil. In Pipil reduplication constitutes the principal marker of plural with all native nouns as well as with loan nouns:

| Kò1 | kax-kå1 | house |
| Künet | kux-künet | child |
| Íkší | ìx-Íkší | foot |
| Kauáyu | kax-kauáyu | horse (Spanish caballo) |
| Kámù | kax-kámù | manioc |

(from Schultze Jena 1935)

In a short sketch dealing exclusively with reduplication in Pipil of El Salvador, Judith Maxwell says:

Con bases sustantivales la reduplicación de la primera sílaba sirve para indicar pluralidad. Ocurre con o sin otras marcas del plural.

| Takat | hombre |
| Tajtakat | hombres |
| Tajtakamet | hombres |

(Maxwell et al. 1980:14)

Note that in Pipil this reduplication has the equivalent of glottal stop, CV-, whereas in Classical Nahua and the few modern dialects around the Valley of Mexico where reduplication is still used to indicate plural it is always reduplication with a long vowel. "La reduplicación puede ser exacta, C1V1-, o con aspiración adicional, C1V1-j-. Ante fricativas la segunda opción es menos común, pero ocurre." (Maxwell et al. 1980:14).

Verbs derived with reduplication CV-, and -kà/-kà

There is nothing remarkable about the reduplication CV- that co-occurs with the suffixes -ka (intransitive) and -eà (transitive) in forming frequentatives. Such frequentatives are found in a restricted number in all the dialects and are formed from approximately the same roots everywhere. I have excerpted all the verbs included in Molina’s dictionary (1571) which are formed from these roots, and they are listed according to roots in a section called NI in an appendix to Canger 1980.

Other nonproductive cases of reduplication

These were the two simple and unproductive cases mentioned by Caroqui. A first step towards a study of the remaining complex of reduplication must consist in separating off other individual or
systematic cases of reduplication which do not participate in the productive system.

1. Words lexicalized with reduplication. First we have a number of nouns, verbs, and adjectival forms which occur only with reduplication. Many of these are found in several or all the dialects; in other words, their reduplication may go back to Proto-Aztecan, and they have become lexicalized in this form. Some examples are:

<table>
<thead>
<tr>
<th>neneplili</th>
<th>tongue</th>
</tr>
</thead>
<tbody>
<tr>
<td>dodona</td>
<td>beat (instrument)</td>
</tr>
<tr>
<td>di:ik</td>
<td>bitter</td>
</tr>
</tbody>
</table>

Most of these "inherited" reduplications have a short vowel, and many have an inherently repetitive meaning (sprinkle, suck, tickle, tremble, etc.).

Among these lexicalized forms with reduplication, we may also register some "frozen" reduplicated forms which are found in many dialects and to which we find corresponding unreduplicated forms, but with no predictable semantic relationship between the two. An example is:

| nemi | live |
| ne?-nemi | walk |

The old age of some of the lexicalized reduplications is recognized by the fact that they occur in many dialects. But we also have a reduplicated verb. kekesa 'stamp on', which on other grounds can be shown to go back to Proto-Aztecan. The verb kekesa was derived from a simple verb *kVsa (the first vowel is uncertain. However, after the reduplicated form had come into use, *kVsa went through the metathesis which Campbell & Langacker (1978:202) have described and identified as one of a series of changes "deriving Proto-Aztecan from Proto-Uto-Aztecan"; thus pre-Proto-Aztecan *kVsa gave iksa, a verb found in Classical Nahuatl and several modern dialects with the meaning 'step on'. But the reduplication protected pre-Proto-Aztecan kekesa from the metathesis. It became lexicalized with the meaning 'stamp on', and the morphological connection between kekesa 'stamp on' and iksa 'step on' was lost.

It is striking that a number of adjectives have been lexicalized with reduplication:

| toto:nki | warm |
| so:swi | fresh, green |
| kokoi:k | pioante |
| sesoj: | cold |
| di:ik | bitter |
| di:ilo:li:ki | red |
| si: | round |
| kokoiki | sick |
| sosi: | old |

This may have to do with a tendency in Nahuatl towards words of a certain length. In La Huasteca, several more adjectives (that somehow seem to be basic or maybe just not characterized morphologically in any other way) have an inseparable reduplication - almost as an adjectival marker:

| weweyak | long |
| kokohya:k | stinking |
| yaya:wi: | black |
| tetetoki | thick (about liquids) |
| so:di:oi: | soft |

(from Kaufman 1969 and Tuggy 1979) (cf. also North Puebla wawhki 'dry').

I append to this paper a list of nouns and verbs that are widely attested in the Nahuatl dialects only with reduplication
(Appendix B). The problem of demonstrating that initial CV- is in fact historically a reduplication in such words is disregarded in the present paper.

2. Reduplication with numbers. Secondly, distributive numbers can be set aside. They are naturally restricted to numbers and semantically well-defined. Distributive numbers are formed with a reduplication prefixed to the simple numbers. In many dialects, the reduplication has (or the equivalent) when prefixed to the low numbers, but a long vowel when prefixed to higher numbers. The distributive numbers signify 'two of each', 'three at a time', or the like.

In a village in Central Guerrero, Xalatzala, we find for example:

oh-ome 'two at a time'
yeh-ye:yi 'three at a time'
nah-na:wi 'four at a time'
ma:-mak'ili 'five at a time'

The expression for 'every day' is in many dialects formed with a reduplication with glottal stop prefixed to the word for 'tomorrow', mo:ia: : moh-mo:ia: 'every day'.

3. Plural of adjectives. Thirdly, in some modern dialects reduplication with glottal stop (or the equivalent) is used systematically in forming the plural of adjectives. This is true in parts of Central Guerrero and in North Guerrero, for example toma:wak : toh-toma:w-keh 'fat'.

Productively used reduplication

This ought to take care of all the simple and fairly unambiguous cases, and we are now left with Caroqui's puzzlers, which are also found in most of the dialects spoken today.

In summary, Caroqui (1645:473-5) observes that CV- adds intensity to the action and indicates that it occurs independently several times and in several places. I quote two of his examples: in-ča?:t-čan o:-ya?:-ya?:-ke? 'they went, each to his own house' and te:-pan ti-k'i?-ki:a:-ti-nemi 'you go from house to house (i.e. you go leaving and entering in several places)'. CV- on the other hand also indicates that an action occurs repeatedly, but in an orderly fashion, with no specific intensity, and in a sequence. Some of his examples are: ni-k-te:-teki in āaskalli 'I slice/cut the bread' versus ni-k-te?-teki in āaskalli 'I cut the bread to pieces' and ni-k-če:-če:loa in jaollī 'I spread the corn out over one continuous area' versus ni-k-če:-če:loa in jaollī 'I spread the corn out in different places, from different piles'.

In descriptions of modern dialects, we find labels characterizing the diversified uses of reduplication such as "intensified action", "repetitive action", "plural of subject or object". Reduplication often indicates repetitive or intensified action or some similar semantic shift. (Tuggy 1979:85). "Some stems evidence reduplication to mark plurality of subject or object, or repetitive action." (Brockway 1979:172). "Reduplication is most commonly used to give the verb a new meaning that is more intense ... Reduplication also can indicate repeated action on verbs in which repeated action is inherent." (R. & C. Beller 1979:272 and 273). And "in any stem in which reduplication has not come to denote a completely different meaning of the stem, reduplication of the initial syllable generally indicates intensification of the meaning." (Sisco 1979:352).

In general, no systematic attempt has been made to distinguish inherited from productive cases of reduplication or to consistently correlate the two or three types of reduplication with the suggested semantic labels. However, Howard Law and Harold Key are exceptions to this generalization. Law (1958:124-5) says:

Three initial reduplicatives of first relative order from
the root occur as stem formatives. They are as follows: Morpheme 318 C₁V₁- indicates a derived but non-predictable meaning from the root ... Morpheme 319 C₁V₁h- indicates simple repeated action ... Morpheme 320 C₁V₁: - indicates repeated action with reference to various objects.

Key (1960: 131-2) says:

Initial stem reduplication occurs involving either the basic root or any preposed root or prefixed object. There are two patterns of initial reduplication designated C₁V₁- and C₁V₁h-, and constituting two distinct morphemes. C₁V₁- repetition or emphasis of action. ([in a foot note to this:] "An allomorphic C₁V₁:- appears to indicate a persisting or continuing of the same action." [end of foot note]) C₁V₁h- V₁h (the latter occurs with the vowel-initial roots) multiplication of action but with variation, distributive action.

These short quotations from descriptions of a variety of Nahualt dialects show that we do in fact find reduplication used productively in the modern dialects and possibly in approximately the same ways as described in Carochi's grammar. However, for lack of time and data, I shall have to restrict myself to one dialect.

In 1973 I collected some data in Zitlala, Central Guerrero, on the dialect in general and some specifically on reduplication. These data from Zitlala on reduplication I append to the present paper (Appendix C), but only with a great deal of reservation. My reservation is concerned with the reliability of the data. In collecting the material, I produced the greater part of the reduplicated words, presented them to the informants, and asked them for an interpretation, and I did not have the possibility, while I was there, of comparing these forms systematically with the ones that occur in texts also collected in Zitlala and of analyzing the whole body of material. I have not later been back to Zitlala to check my data and continue the study of reduplication. So what I have are some reliable examples from texts and some slightly doubtful, elicited ones with interpretations of their meanings. My reason for appending the material is to give others the possibility of using it in studying reduplication in other dialects - or in Zitlala. It should be added that reduplication is used prolifically in Zitlala, and it is my impression that Central Guerrero would be an excellent place for a thorough study of the semantics of reduplication.

The Zitlala material - as well as existing material from other dialects - shows a general agreement with Carochi's description of the content of the two types. In the following three examples:

(1) ne:č-ch:ö:ktia it (smoke) makes me cry
    (on and off)

(2) o: ti:ö:ö:kakeh we cried (all of us, individually)

(3) o: ch:olohkhe o: yah-yahken they fled, they went off
    (individually)

reduplication with glottal stop (here h) indicates that the action takes place distributively, either several times with irregular intervals (1) or performed by several different persons (2) and (3); in the latter case the reduplication emphasizes that every single person carries out the action (2) or that they do it in different places or directions (3).

In the following examples we have reduplication with a long vowel:

(4) xa:to:-toponis a bull made of reeds and connected
    firecrackers will detonate (the
    connected firecrackers will explode
    in an orderly and planned sequence)

(5) ki-pi:-piolah they hang it up (an offering of
intestines on an arch) piece by piece

In one text about the revolution, we find the verb kištłia 'take out' once with CVn- and once with CV:-

(6) o: ḥa-ki:-kištli:keh they took out things (systematically, piled them up, and burnt them)

(7) miš-o:n-ḥa-kih-kištli:skeh they would take your things (individual and random objects)

I would like to suggest some terms that we who work with Na-
huatl could all agree on for the basic contents of these two pro-
ductive types of reduplication. They emerge quite clearly in many
examples, but have received a number of different labels. I sug-
gest that we call the content of CVn- distributive. It has been
described as plurality of subject or object, repeated action or
distributive action.

The basic content of CV:- is more difficult to name appropri-
ately; it seems to combine repetition with sequentiality or order-
liness, and it might be possible to call it consecutive. I find it
desirable to avoid such terms as repetitive or iterative because
they describe an aspect of the contents of both CVn- and CV:-.

I do not know where the often-mentioned aspect of intensity or
intensified action belongs, whether with CVn- 'distributive' or
with CV:- 'consecutive', or maybe with a third unidentified type.

In the Zitlala data not all examples fit the recognized basic
contents of the two types. Furthermore - as observed from other
dialects - the prefix ḥa can also be reduplicated; the meaning of
such forms is not yet entirely predictable, but intensity may be
involved in some examples:

(8) ḥah-ḥa-ko:wa he buys much/strongly
(9) ḥah-ḥa-pa:ka she does nothing but wash
(10) ḥah-ḥa-nemaka he sells, but has little to sell
(11) ḥah-ḥa-k'a:wa he eats much/strongly
(12) koš ti-ḥah-ḥa-k'a:wa you do not eat anything at all

However, in Zitlala reduplication also seems to be used pro-
ductively in an entirely different sense, namely indicating that
the object or action is not real, but only imitating that which the
unreduplicated form signifies:

koh-kon:a: doll
kone:a: child
mah-masa:a: imitation of a deer
masa:a: deer
kah-kalli awning used at the market to create shade
("pretend house")
kalli house
ti-kö:-koći you are pretending to sleep
do:-ño:ka he pretends to cry

Curiously enough, the word for 'mushroom', which in all other
dialects has the inherited reduplication with a short vowel, nanak:a,
and thus probably suggests no connection with the word näk:a 'meat',
here has CVn-, nah-naka:l, and can be interpreted as 'pseudo meat'
on a par with koh-kon:a: 'pseudo child'.

This perhaps farfetched interpretation should possibly somehow
be related to a use of reduplication as diminutive found randomly
in various dialects.
To sum up:

1) Forms that have reduplication with a short vowel are most likely inherited from Proto-Aztecan, both in individual words and in frequentative verbs derived from a restricted set of roots.

2) The use of reduplication to mark plural of nouns is not so widespread and uniform that it can naturally be assumed to have its origin in Proto-Aztecan.

3) Because of its widespread occurrence, I assume that the productive use of CV? as 'distributive' and of CV:- as 'consecutive' goes back at least to General Aztecan. The fact that CV:- is employed in deriving some of the distributive numbers may support this assumption.

4) At this point, I cannot say little about the history of the possible use of reduplication to indicate 'pseudo' as recognized in Zitlala, but I find it suggestive that the word for 'doll' is "reduplicated child" in most dialects.

<table>
<thead>
<tr>
<th>Noun</th>
<th>Plural Form</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>čikwalo-</td>
<td>či:-čikwalo-</td>
<td>a bird</td>
</tr>
<tr>
<td>iška-</td>
<td>i:-iška-me?</td>
<td>sheep (cotton)</td>
</tr>
<tr>
<td>kolo-</td>
<td>ko:-kolo-?</td>
<td>scorpion</td>
</tr>
<tr>
<td>kone-</td>
<td>ko:-kone-?</td>
<td>child</td>
</tr>
<tr>
<td>koyame-</td>
<td>ko:-koyame-</td>
<td>jabalí</td>
</tr>
<tr>
<td>koyo-</td>
<td>ko:-koyo-?, koyo:-me?</td>
<td>coyote</td>
</tr>
<tr>
<td>ko:wa-</td>
<td>ko:-ko:wa-?</td>
<td>snake</td>
</tr>
<tr>
<td>kwa:wa-</td>
<td>kwa:wa:-tin, kwa:-kwa:wa-tin</td>
<td>eagle</td>
</tr>
<tr>
<td>kwelač-</td>
<td>kwel-ač-tin</td>
<td>wolf</td>
</tr>
<tr>
<td>kweya-</td>
<td>kwe:-kweya-?</td>
<td>frog</td>
</tr>
<tr>
<td>masa-</td>
<td>ma:-massa-?</td>
<td>deer</td>
</tr>
<tr>
<td>mičin</td>
<td>mi:-mič-tin, miči-me</td>
<td>fish</td>
</tr>
<tr>
<td>mis-</td>
<td>mi:-mis-tin</td>
<td>puma</td>
</tr>
<tr>
<td>mo:yo-</td>
<td>mo:-mo:yo-?</td>
<td>mosquito</td>
</tr>
<tr>
<td>ose:lo-</td>
<td>o:-ose:lo-?, ose:lo:-me?, ose:lo:-tin</td>
<td>jaguar</td>
</tr>
<tr>
<td>pil-</td>
<td>pil-tin</td>
<td>lord</td>
</tr>
<tr>
<td>si:al-in</td>
<td>si:-si:al-tin</td>
<td>star</td>
</tr>
<tr>
<td>si?-in</td>
<td>si:-si?-tin</td>
<td>hare</td>
</tr>
<tr>
<td>sol-</td>
<td>sol-tin, sol-tin</td>
<td>partridge</td>
</tr>
<tr>
<td>λa:ka:tekolo-</td>
<td>λa:-λa:ka:tekolo-?</td>
<td>devil</td>
</tr>
<tr>
<td>λako?-</td>
<td>λa:-λako?-tin</td>
<td>slave</td>
</tr>
<tr>
<td>tekolo-</td>
<td>te:tekolo-?</td>
<td>owl</td>
</tr>
<tr>
<td>te:kw-</td>
<td>te:-te:kw-tin</td>
<td>lord</td>
</tr>
<tr>
<td>teo-</td>
<td>te:-teo-?</td>
<td>god</td>
</tr>
<tr>
<td>tepe-</td>
<td>te:-tepe-?</td>
<td>mountain</td>
</tr>
<tr>
<td>ti:si-</td>
<td>ti:-ti:si-?</td>
<td>doctor</td>
</tr>
</tbody>
</table>
Appendix B: Nahuatl words attested with an inseparable reduplication in several nonadjacent dialects

NOUNS:

\[ \text{\#}1(1) \text{dika:sa\#i} \] nettle CIN,Tetel,NGro,SdeP, SdeP, NGro,VC,1Sth, NGro,WP,SGro,Pi
\[ \text{\#}0\text{dok}a \] stingy, wart CIN,Tetel,CGro,SdeP,NGro,MIch,WP
\[ \text{\#}0\text{okol}lI \] jug CIN,CGro,Tlax,SdeP,1Sth,Pi,WP
\[ \text{\#}0\text{oma\#i} \] cloth CIN,Tetel,Tlax,VC,1Sth,MIch,WP
\[ \text{\#}0\text{opa\#i} \] batten, loom CIN,VC,NGro
\[ \text{\#}0\text{ka\#} \] wind CIN,Tetel,CGro,NGro,Tlax,LaH,SdeP, NGro,WP,SGro,Pi
\[ \text{\#}0\text{ka\#} \] cacao; peanuts CIN,Tetel,Tlax,LaH,CGro,NGro,NGro,WP
\[ \text{\#}0\text{kon}e\#1/ko?kone\#1 \] doll CIN,Tetel,CGro,NGro,NLax,NGro
\[ \text{\#}0\text{ma\#i} \] fan CIN,VC,NGro
\[ \text{\#}0\text{naka\#} \] mushroom CIN,Tetel,CGro,Tlax,NGro,VC,1Sth,NGro,NGro,WP,SGro,SGro,1Sth
\[ \text{\#}0\text{nep}lI(l)lI \] tongue CIN,Tetel,CGro,Tlax,NGro,VC,1Sth,NGro,WP,SGro,SGro,1Sth
\[ \text{\#}0\text{par}lol\#o\#k \] butterfly CIN,Tetel,CGro,Tlax,NGro,VC,1Sth,NGro,WP,SGro,SGro,1Sth
\[ \text{\#}0\text{popo\#i} \] incense CIN,Tetel,CGro,VC,NGro,WP
\[ \text{\#}0\text{tata}p\#i \] cloth CIN,Tetel,NGro
\[ \text{\#}0\text{to\#i} \] bird CIN,Tetel,CGro,Tlax,LaH,VC,1Sth,NGro,WP,SGro,SGro,1Sth
\[ \text{\#}0\text{to\#olin} \] turkey CIN,Tetel,CGro,NGro,VC,1Sth,NGro,WP,SGro,1Sth
\[ \text{\#}0\text{to\#omo\#i} \] corn husk CIN,Tetel,CGro,Tlax,NGro,VC,NGro, SdeP,SGro,SGro,1Sth,NGro,WP,SGro,1Sth

VERBS:

\[ \text{\#}0\text{es\#o\#a} \] shake, strain CIN,Tetel,CGro,Tlax,LaH,VC SdeP,1Sth,NGro,WP
\[ \text{\#}0\text{ono\#a} \] beat CIN,Tetel,CGro,Tlax,LaH,VC, (instrument) SdeP,NGro,WP,1Sth,Pi
Appendix C: Material on reduplication from Zitlala, Central Guerrero

1. Words with inseparable reduplication. Not included are words that were listed in appendix B.

<table>
<thead>
<tr>
<th>Word</th>
<th>Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>či:ši:</td>
<td>suckle</td>
</tr>
<tr>
<td>či:ši:liwi/či:ši:lišik (turn) red</td>
<td>CIN,Tetel,Tlax,CGro,LaH,VC,SdeP, Isth,NGro,WP,PI</td>
</tr>
<tr>
<td>či:ši:na</td>
<td>suck, smoke tobacco</td>
</tr>
<tr>
<td>ke(?):keloa/ke?kele?: tickle/ticklish</td>
<td>CIN,Tetel,CGro,Tlax,LaH,NI,VC, SdeP,NGro,WP,Isth,PI</td>
</tr>
<tr>
<td>kekešiwa</td>
<td>itch</td>
</tr>
<tr>
<td>ma:ma:</td>
<td>carry</td>
</tr>
<tr>
<td>pepešoa</td>
<td>roll</td>
</tr>
<tr>
<td>pe?paloa</td>
<td>lick</td>
</tr>
<tr>
<td>pepešoa</td>
<td>paste, patch up</td>
</tr>
<tr>
<td>pe?pena</td>
<td>pick out, pick up</td>
</tr>
<tr>
<td>pipišoa</td>
<td>suck, lick</td>
</tr>
<tr>
<td>pipišoa</td>
<td>suck</td>
</tr>
<tr>
<td>po:po:wa/popo:ka</td>
<td>smoke (intr)</td>
</tr>
<tr>
<td>po:po:wa/popo:ka</td>
<td>clean/broom</td>
</tr>
<tr>
<td>lala</td>
<td>burn (intr)</td>
</tr>
<tr>
<td>lala</td>
<td>cough</td>
</tr>
<tr>
<td>takaka</td>
<td>scratch</td>
</tr>
<tr>
<td>wawana</td>
<td>scrape</td>
</tr>
<tr>
<td>wawana</td>
<td>shake</td>
</tr>
<tr>
<td>wawana</td>
<td>tremble</td>
</tr>
<tr>
<td>wawana</td>
<td>pull out</td>
</tr>
</tbody>
</table>

2. Examples of CVH- from texts

- `k'Alli k'wa:k'awte:-čin-čibo` with very twisted horns
- `ne:o-doh-čo:ktia` it (smoke) makes me cry (on and off)
- `o: ti-doh-čo:kakeh` we cried (all of us, individually)
- `o: doh-čolohke: o:yah-yahkeh` they fled, they went off (individually)
- `nido:nia-kih-ki:štilli:akeh` they would take your things (individual and random)
objects) the pigs bite at each other, the animals kick at each other
she became very scared
sparks began to sprinkle, to spread in all directions
it passes under
the turkeys flutter
we have absolutely nothing
he tied himself on to
that tree (in various places)
everywhere those sparks sprinkled
everybody (participants in a fiesta) goes there individually
they go following them
thick (pl)
there was occasional shooting at night
the old men (pl)
they are big
they then began to beat people (here and there)
others go beating the drum
you do not eat at all
the neighbors are only looking at it
again they then begin to

run off to the mountains
they got very drunk

pseudo atole
it breaks, shatters
their houses (each his own)
makes cinta (palm braids for hats; this is the main product of Zitlala) make, produce
she makes atole
he works in the field
my toy house
it burns in various places
toy pot
white lizard
pretends to buy
eats little, chews (gum)
sounds in various places
I beat him
 carriers a little
makes tortillas slowly
pseudo deer
pseudo deer (pl)
where water gathers
pretends to sell
I tell, relate
washes dishes
licks (about flame)
my pseudo cat
corn pours out
she makes it (bread) in
a disorderly and slovenly
manner
      place full of stones
      cuts it to pieces
      falls

---------

lah-a-te:ma
    puts something in several
    sacks

lah-a-teki
    puts small

lah-a-panpaloa
    looks everything

lah-a-pa:ka
    does nothing but wash

lah-a-nemaka
    sells, but has little to
    sell

lah-a-ne:-nemaka
    sells (little) to various
    people

lah-la-bihöi:wa
    makes little cinta

lah-la:wa
    drinks heavily

lah-la-k'wa
    buys much

kəslah-la-k'wa
    does not eat at all

lah-la-ma:ma
    carries little

iv. Elicited examples of CV:-

nikim-la:-tak'wa ni:tololohwan
  I close my eyes

kim-lə:-tak'wa i:skamakwan
  they close their mouths

ko:ki:-k'wa
  they pretend to cry

ki:-k'wa
  in their pots

ki-k'wa
  he buys it in several places

ki-k'wa
  he eats it slowly

ki-k'wa
  he eats little from several
  plates

ki:ma:-mana
  she makes tortillas

ki-nei:-nemaka
  he sells it to several persons

ki-pai:-paloa
  he slowly dips the tortilla
  (in the beans)

ki-tei:-teki
  he cuts it in pieces in
  an orderly way

ki-tei:-te:ma
  she puts it (corn) (in small
  piles on a sheet of plastic
to sell)

ki-la:-la:lia
  she puts it (tomatoes)
  (in small piles on a sheet
  of plastic to sell)

nikim-la:-lapo:n ni:tololohwan
  I open my eyes

---
\( \text{la}=\text{lakaw} \) buys little
\( \text{la}=\text{lanemaka} \) sells little
\( \text{la}=\text{lapaloa} \) dips slowly (in the soup)

NOTES

1Data for this appendix come from the following dialects or
dialect areas: Classical Nahuatl (CIN: Molina 1571), Tetelcingo,
Morelos (Tetel: Brewer & Brewer 1962) Cuacuila, North Puebla
(WP: Canger 1976b.Pp 453), San Pedro Tlaouapan, Tlaxcala (Kaufman
93, Ramírez & Dakin 1979), La Huasteca (LaH: Kaufman 1969.Pp 137,
Canger 1976e.Pp 104), Veracruz (VC: Kaufman 1979b.Pp 112), Sierra
de Puebla (SdeP: Key & Key 1953, Canger 1976d.Pp 71) Isthmus
(Isth: García de León 1976, Canger 1976o.Pp 99), North Guerrero
75), Michoacán (Mich: Sischo 1979), Western Periphery (WP: Guerra
1692, Cortés y Zedeño 1755), Pipil (Pl: Schultze Jena 1935, Aráuz
1960), Pochute (Po: Boas 1917).

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