

## TZOTZIL NUMERAL ROOT MORPHOLOGY

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### 1. The numeral roots

The Great Tzotzil Dictionary (Laughlin 1975, hereafter abbreviated as GTD) lists 23 roots which are labelled numeral roots. These fall into two categories: native Tzotzil roots and roots borrowed from Spanish for the higher multiples of ten.

The native Tzotzil roots are:

JUT	'a little'
JAY	'how many, several'
JUN	'one'
CHA7	'two'
CHIB	'two'
7OX	'three'
CHAN	'four'
VO7	'five'
VAK	'six'
VUK	'seven'
VAXAK	'eight'
BALUN	'nine'
LAJUN	'ten'
BULUCH	'eleven'
TOB	'twenty'

The roots borrowed from Spanish are:

TRENTA (treinta)	'thirty'
KWARENTA (cuarenta)	'forty'
SINKWENTA (cincuenta)	'fifty'
SESENTA (sesenta)	'sixty'
SETENTA (setenta)	'seventy'
7OCHENTA (ochenta)	'eighty'
NOVENTA (noventa)	'ninety'
SYEN (cien)	'hundred'

### 2. Prefixes formed directly from the numeral roots

I will first discuss the morphology of the numbers from one through nineteen, and then return to describe the formation of the larger numbers. Numbers in Tzotzil have two forms: prefix forms which are affixed to a numeral classifier, and free forms which occur alone. The classifier to be used is determined by the noun that the number modifies. The free form is used when the noun does not have an associated classifier. The prefix forms of the numbers from two through ten, as well as the prefix form of the indefinite JAY, have the same shapes as the roots from which they are derived, as follows:

Rule (1): numeral root      prefix  
              value = x       $\Rightarrow$  value = x  
              x in [2,12]

That is, from a numeral root whose numeral value is x, where x is between two and twelve, there is a stem of the same form as the root, which is a prefix with numerical value x. For example, the prefix form of the number two is cha7-, from the root CHA7 'two.' (See also the GTD data set, items 1 and 5-15.) These prefixes, affixed to numeral classifiers, form nouns of type nle. vo7- 'five' plus a classifier, however, forms a n5, i.e. an unpossessed noun. For an explanation of this fact, see below, section 14.

The prefix form for the number twelve is la.jcha7-, which is listed in the GTD under the root LAJUN. This form seems to be a contraction of lajun 'ten' plus cha7- 'two.' The prefix form buluch- 'eleven' is listed in the GTD under the root BULUCH. Perhaps, however, it should be derived, like la.jcha7-, from a contraction of balun 'nine' plus cha7- 'two.' J. Haviland (to appear, 152) considers this a possible derivation. The root JUT does not have a corresponding prefix form.

### 3. The -teens

From the prefix forms for the numbers three to nine are derived prefixes for the numbers thirteen through nineteen, as follows:

Rule (2): prefix from Rule (1)      prefix  
              value = x      + lajun-  $\Rightarrow$  value = x + 10  
              x in [3,9]

That is to say: take a prefix from the set produced by Rule (1), whose numerical value (call it x) is greater than or equal to three and less than or equal to nine. Attach this prefix to the prefix lajun- 'ten,' to produce a new prefix whose numerical value is x + 10. For example: chan- 'four' plus lajun- produces chan-lajun- 'fourteen.' (See the Haviland data set, items 4-7, and compare the free-standing forms in the GTD data set 33-39.)

Rule (2) also seems to apply to jay- 'several, how many?' The meaning of the resulting form is 'however many, how many?' The corresponding free-standing form carries the implication of a great number (GTD data set 16, 20).

### 4. Free-standing numbers in -Vb

Rule (3): prefix from Rules (1)-(2) +  $\left\{ \begin{matrix} e \\ i \\ o \\ u \end{matrix} \right\} b \Rightarrow$  nle  
              value = x      value = x

This rule forms the free-standing forms of numbers from their prefix forms. For example, the free-standing form of the number three is 7oxib, from the prefix form 7ox-. (See the GTD data set 17-39; Haviland data set 1-19.) I do not know what determines which vowel

occurs with which prefix. This appears to be irregular and lexically determined.

Although the GTD does not list any form jut-, there is a form juteb 'a little,' from the root JUT. There are also a number of forms from a stem jutuk (GTD data set 17-18, 112-116). Thus it seems that juteb is formed by Rule (3) from a non-occurring stem jut-. The form chib seems to be a contraction of cha7 plus ib, although the GTD lists it under a root CHIB (see below, section 14).

Rule (3) seems to apply to all the available bases. All of the stems output by this rule can go on to act as bases for further derivations, with the following exceptions: la.jcheb, jayib, and jayla.juneb. Lack of derived forms from these stems may be due to gaps in my data.

#### 5. Partial reduplication of the smaller numbers

The first syllable of a number in Tzotzil can be reduplicated, to form a stem meaning 'by or in x's, every x,' as follows:

Rule (4):	number	→	number
	value = x	(by reduplicating the	'every x'
		entire first syllable)	

For example, 7ox- 'three' has a corresponding stem 7ox7ox- 'by or in threes, every three.' Only the first syllable is reduplicated, as shown by the forms la.jun- 'ten' and la.jla.jun- 'every ten.' For other examples, see the GTD data set 71-94, and also the textual data, items 25, 31-32.

The input to rule (4) can be almost any type of number. I have not put into this rule any information on the stem class of the output number, because this seems to depend on the stem type of the input number. When the input is a prefix form (output of Rule (1)), the output is a prefix form. This prefix attaches to a numeral classifier to form a n5, that is an unpossessed noun. When the input is a free form (from Rule (3)), the output is also an unpossessed noun.

I have examples of reduplicated prefix forms for all the numbers from two to ten, with the exception of eight. There are also a few reduplicated free forms in -Vb. The GTD does not list any reduplicated forms for the numbers thirteen to nineteen. I don't know whether the missing forms are impossible or simply rare.

#### 6. The number one

The root for the number one, JUN, forms some rather odd stems. These stems resemble the stems for the other small numbers, but they are not formed regularly. The prefix form of the number one is j-, and the free-standing form (listed as stem type num) is jun. There is no form in -Vb from this root. The root jun also produces a second prefix form ju- 'each' (GTD data set 2-4, 64-66, 69). This root also produces two partially reduplicated forms:



juju- as in juju- jujun 'one \_\_\_\_\_ apiece' and in juju-tob 'every twenty' (GTD data set 67-68).

junjun 'one only' (GTD data set 71; textual data 33).

## 7. Other numeral morphology

The smaller numbers also produce nouns in -ej and -je, meaning 'x days from today' and 'x days ago.'

Rule (5): prefix from Rule (1) + ej  $\Rightarrow$  nle  
value = x 'x days from today'

Rule (6): prefix from Rule (1) + je  $\Rightarrow$  nle  
value = x 'x days ago'

For example, 7oxej 'three days from now' is formed from 7ox- 'three.'

The only forms in -je and -ej listed in the GTD are from the smaller numbers. The non-occurrence of vo7ej in my data seems to be an accidental omission, and similar forms for numbers larger than seven may only be rare, not impossible (J. Aissen, personal communication). There is at least one other example of Rule (6), applying to a non-numerical base. This is the stem volje 'yesterday' from the P-root VOL, which has a transitive verb stem vol meaning 'to wrap up, carry in bundle.' (See the GTD data set 95-106.)

There are also a few fully reduplicated stems and stems in -tik from some of the smaller numbers:

chabjetik 'every other day'  
chábjechábje 'every other day'  
7oxjetik 'about three days ago'  
7óxje7óxje 'about three days ago'  
váktevákte 'walking about with six toes'

(See the GTD data set 107-111.)

vaxakibvaxakib 'every week'

jujunjujun 'one by one'?

(See the textual data 28.)

## 8. Noun and verb compounds from the smaller numbers

The prefix forms of the smaller numbers, especially cha7- 'two,' can be affixed to transitive verb stems to form verb stems meaning 'do y so as to produce x sections,' or 'do y with x objects.' For example, chan-pakan (tv.) 'fold over twice /paper, clothes/, fold into four sections' from chan- 'four' and pakan (tv.) 'double over, fold a lot of' (root PAK). (See the GTD data set 192-202). There are also a large number of verb stems with prefix cha7- 'two' meaning 'do x again.' For example, cha7-7och (iv.) 'reenter' from 7och (iv.) 'enter.' (See the GTD data set 167-191.)

There are also a number of nouns with numerical prefixes such as



7ox-tzelav 'three-sided' from 7ox- 'three' and tzelav (root TZEL X) 'ridge.' (See the GTD data set, items 143-158.) In addition, the GTD lists a number of assorted compounds and expressions involving numeral roots (see the GTD data set 119-142, 159-161).

9. Numeral roots borrowed from Spanish

The numeral roots borrowed from Spanish behave differently from the native Tzotzil roots. The Spanish roots produce only two stems: a free-standing numeral and a form in -tik. There is also one Spanish numeral classifier, mil 'one thousand' (GTD data set 118). The free-standing numerals from Spanish roots have exactly the same forms as the roots themselves, and are of stem type nle. The suffix -tik can be added to all these free-standing numerals, except syen, to form a word meaning 'by or in x's, every x,' where x is the value of the free-standing numeral. These forms seem to be parallel to the stems derived by partial reduplication from the native Tzotzil numeral stems.

10. Multiples of twenty

The nle stem tob 'twenty' is the unique entry listed under the root TOB in the GTD. I find it interesting that this form ends in -b, but it may have no connection with the other free forms in -Vb. This root does not give rise to any prefix forms. tob occurs with the prefixes j- and ju-, which suggests that it might be a numeral classifier. However, the GTD also gives the form ta s-tob-al 'at the price of twenty,' in which tob seems to be acting like a noun.

The other multiples of twenty are not formed from the stem tob, but from the stem vinik, as follows:

Rule (7):    prefix                 +    vinik    ⇒    nle  
                 value = x                                 value = 20x  
                 x in [2..19?]

For example, chan- 'four' plus vinik produces chan-vinik 'eighty.' For more examples, see the GTD data set, items 42, 44, 46, 48 and the Haviland data set 11, 13-16. The stem -vinik seems to be a numeral classifier, related to the noun vinik 'man.' In my data, there are no examples of any morphological suffixes after -vinik. Its use to designate multiples of twenty is probably due to the fact that a man has twenty fingers and toes. Numbers ending in -vinik are free-standing forms, which can occur without a numeral classifier. After these numbers, a numeral classifier can still be used, introduced by the preposition ta. For example, see the Haviland data set 9-10. Still larger numbers can be formed by using other numeral classifiers, such as mil 'thousand' (GTD data set 118; Haviland data set 19), or by using the noun syen 'hundred' (GTD data set 56; Haviland data set 20).

Classifying -vinik as a numeral classifier raises the question of whether the ending -Vb of free-standing numbers could also be a numeral classifier. This would simplify describing the structure of a numeral expression, since all numeral expressions would then have a classifier. However, there are several problems with labelling -Vb a classifier.

First of all, unlike most (if not all) numeral classifiers, -Vb changes its vowel depending on the number to which it is suffixed. Secondly, the forms in -Vb are the bases for further derivations, including the formation of numbers between multiples of twenty (see below, section 11). There is also a fully reduplicated form, in which -Vb is reduplicated along with the rest of the number (textual data 28).

#### 11. Between two multiples of twenty

Numbers larger than twenty, but not multiples of twenty, are formed using the next multiple of twenty larger than the number, as follows:

Rule (8): free numeral in -Vb +  $\left[ \begin{array}{l} \text{output of Rule (7)} \\ \text{value} = 20y \\ y \text{ in } [2,?] \end{array} \right] n^4 \text{ (i.e. always possessed)}$

value = x  
x in [1,19?]

=> nphr  
value = x + 20(y - 1)

For example, chib 'two' plus cha7-vinik 'forty' produces chib xcha7-vinik 'twenty-two' (see the Haviland data set 9-10, 17-18). Numbers of this type are listed in the GTD without possessive affixes, but they are listed as being: nphr(num & num/num & numcpd/4f). 4f designates nouns which are always possessed. This means that the second word in the numeral phrase actually occurs in possessed form (see the GTD data set, items 41, 43, 45, 47). I do not know what is possessing the multiple of twenty. Perhaps it is possessed by the set of items to be counted. See also Haviland (to appear, 152) and Cowan (1969, 39). Haviland (to appear, 152-53) and Cowan (1969, 39) also mention a second system for forming these numbers, using the preposition-like word xchi7uk.

#### 12. Other morphology of the larger numbers

Like the small ones, the large numbers can be partially reduplicated, using Rule (4). The multiples of twenty reduplicate to form unpossessed nouns, such as 7ox7ox-vinik 'every sixty.' The noun phrases from the other large numbers reduplicate to form noun phrases, such as la7la7uneb chan-vinik 'every seventy.' Many of the reduplicated large numbers listed in the GTD are marked as archaic. See the GTD data set, items 84-94.

#### 13. Rule Ordering

So far, I have described the rules in an order which facilitated explanation of the rules. However, certain of the rules, those to which I have assigned numbers, seem to apply in a linear order, as follows:

- Rule (1): prefixes formed directly from stems.
- Rule (2): prefixes of numbers thirteen to nineteen.
- Rule (3): free-standing numbers in -Vb.
- Rule (7): multiples of twenty.
- Rule (8): numbers larger than twenty, not multiples of twenty.



Rule (4): partial reduplication (the output cannot serve as the base for further rules).

Rules (5) and (6): days back into the past and forwards into the future (the output cannot serve as the base for further rules).

I have ordered Rule (4) near the end because that makes the semantics of partial reduplication easier to handle.

#### 14. Morphophonemics

The form chib occurs in places where the form cha7 + Vb would be expected (GTD data set 21, Haviland data set 10, 18). Therefore, chib seems to be an irregular product of Rule (3), perhaps a contraction of cha7 + ib. The forms la.jcheb and lachaeb (Haviland data set 3) seem to be contractions of la.jcha7 + eb. Aside from cha7 and chib, there is yet a third form for the numeral two: chab, in which b replaces 7. This form occurs in the following stems in place of cha7:

chabje, n1e (GTD data set 100)  
chabjetik, n5 (GTD 107).  
cháb.jechábje, n4f (GTD 109)

and in the following stems where we would expect a reduplicated form in -Vb:

chabchab, num5 (GTD 73)  
chabchab cha7-vinik, nphr (GTD 85).

The root CHAN 'four' has two allomorphs. chan- occurs in most forms, but chon- occurs in: chonej 'four days from today' and chonje 'four days ago' (GTD data set 97 and 102).

There are four numeral roots beginning with the consonant v: VO7 'five,' VAK 'six,' VUK 'seven,' and VAXAK 'eight.' Two of these, VAK and VAXAK, always occur with initial v. VO7 and VUK, on the other hand, alternate with the forms O7 and UK. The difference in behavior between these two pairs of roots seems to be due to the fact that what is now a v in VO7 and VUK was originally different from what is now a v in VAK and VAXAK. For example, Delgaty and Sanchez (1978, 458) give the following forms for San Andres Tzotzil (free-forms) jo7ob 'five,' vakib 'six,' jukub 'seven,' vaxakib 'eight.' And Cowan (1969, 39) gives the forms for Huixtec Tzotzil: xo7 'five,' vak 'six,' xuk 'seven,' vasak 'eight' ('s' corresponds to 'x' in our orthography and 'x' corresponds to 'j'). Also, Kaufman (1971, 91) gives the following forms for Tzeltal: Ho7 'five,' wak 'six,' huk 'seven,' wasuk 'eight.' ('s' corresponds to 'x' in our orthography; 'H' is a morphophoneme, realized as  $\phi$  in some environments and as /h/ in others. 'h' (as in huk) also alternates with  $\phi$ , but in a distinct set of environments.)

Thus VO7/O7 and VUK/UK are derived from forms JO7 and JUK, by three rules:

Rule (a):  $j \rightarrow \phi$  /C \_\_\_\_

Rule (b): since the forms created by (a) take the set A prefixes which occur with vowel-initial stems, the initial consonant must be deleted before the appropriate set A form is selected.

Rule (c):  $j \rightarrow v/\text{elsewhere}$

These rules only survive in frozen forms. Regular forms, in which the v is retained, also occur where the v might be expected to disappear. However, the forms with no v appear only where predicted by these rules. Thus we have the forms: 7o7ob (always possessed, initial 7 disappears after A-prefixes), vo7- (unpossessed) and vo7ob (optionally possessed); la:juneb 7o7-vinik (second word always possessed, initial 7 disappears after A-prefixes) but vo7-vinik (optionally possessed); vo77o7 cha7-vinik (77 and 7 have the same phonetic value), vo77o7-vinik (unpossessed) and vo7vo7- (unpossessed); yukub (unpossessed form), yukubal and svukubal (both are possessed forms); yukuk- but also yukvuk- (unpossessed); as well as some other regular forms with v retained. See the GTD data set, items 8, 10, 24-25, 27, 35, 37, 47-48, 76, 78-79, 86, 94, 99, 103, 105.

#### REFERENCES

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#### Appendix I: Emendations to the DATA SET

In compiling a list of examples from the GTD, I noticed several entries in which the stem classification seems to be incorrect:

la:juneb chan-vinik (45) is listed as a vphr rather than an nphr.

chan-te7 mok (155) is also listed as a vphr rather than an nphr.

vak- (9) is listed as num(n & nccpd), which seems to be a typographical slip for n(num & nccpd).



vaxak- (11) is listed as num(num & nccpd), which may also be a mistake for n(num & nccpd).

Also, cha7-vinik 'forty' (42) is not listed in the Tzotzil-English section of the dictionary, but only in the English-Tzotzil half.

In addition to the above, there are a number of stems which are classified differently from other stems formed by the same morphological process. Those differences which seem to be significant or non-random have been noted above. The examples which seem to be due either to random gaps in data, or to errors in the dictionary, or to arbitrary lexical constraints are as follows:

7ochenta 'eighty' (54) is listed as nla, unlike the other Spanish-root numbers, which are nle.

7ox-vinik 'sixty' (44) is listed as n5, rather than as nle.

chonej 'four days from today' (97) is listed as n5, rather than as nle.

vakje 'six days ago' (104) is also listed as n5, rather than as nle.

#### Appendix II: DATA SET from the GTD

1. jay-\_\_\_\_, n(num & nccpd)le. how many?, several, few. (JAY)  
jay-kot ka7. how many horses? (or) several horses.
2. jun, num. one. (JUN)  
pero jun vinik yech. But he is a unique man.  
Scolding speech; mi jun Jobel mi jun Chamu7 muk' yilojon  
yilel. It seems as if he didn't see me either in San Cristobal  
or in Chamula.
3. jun ... jun, num ... num. the one ... the other. (JUN)
4. j-\_\_\_\_, n(num & nccpd). one. (JUN)
5. cha7-\_\_\_\_, n(num & nccpd)le. two. (CHA7)
6. 7ox-\_\_\_\_, n(num & nccpd)le. three. (7OX)
7. chan-\_\_\_\_, n(num & nccpd)le. four. (CHAN)
8. vo7-\_\_\_\_, n(num & nccpd)5. five. (VO7)
9. vak-\_\_\_\_, num(n & nccpd). six. (VAK)
10. vuk-\_\_\_\_, n(num & nccpd)le. seven. (VUK)
11. vaxak-\_\_\_\_, num(num & nccpd). eight. (VAXAK)
12. balun-\_\_\_\_, n(num & nccpd)le. nine. (BALUN)
13. lajun-\_\_\_\_, n(num & nccpd)le. ten. (LAJUN)
14. buluch-\_\_\_\_, n(num & nccpd)le. eleven. (BULUCH)
15. lajcha-\_\_\_\_, n(num & nccpd)le. twelve. (LAJUN)
16. jay-lajun-\_\_\_\_, n(num & num & nc)cpd5. however many, how many.  
jay-lajun-7ech'el. how many times?, as many times as.
17. juteb, num. a little /1 only/. (JUT)  
Scolding speech; mi j-set' mi juteb. not a pinch, not a jot.  
Ritual speech, when offering liquor; ch'ambon i j-set'e,  
ch'ambon i jutebe. Accept from me the drop, accept from me the

trifle

18. jutebal, num5. a little bit. (JUT)  
yu7 van jutebal ti ye 7une. lit., As if he had a little bit of  
speech! i.e., As if he hadn't a word to say! /sarcastic/.
19. jayib, nle. several, however many, how many? /implying a great  
number/. (JAY)
20. jay-lajuneb, n(num & nccpd)le. however many, how many? (JAY)
21. chib, nle. two. (CHIB)
22. 7oxib, nle. three. (7OX)
23. chanib, nle. four. (CHAN)
24. vo7ob, nle. five. (VO7)
25. 7o7ob, n4e. five. (VO7)
26. vakib, nle. six. (VAK)
27. vukub, nle. seven. inan. poss.; svukubal (or) yukubal. (VUK)
28. vaxakib, nle. eight. (VAXAK)
29. baluneb, nle. nine. (BALUN)
30. lajuneb, nle. ten. (LAJUN)
31. buluchib, nle. eleven. (BULUCH)
32. lajcheb, nle. twelve. (LAJUN)
33. 7ox-lajuneb, n(num & numcpd)le. thirteen. (7OX)
34. chan-lajuneb, n(num & numcpd)le. fourteen. (CHAN)
35. vo7-lajuneb, n(num & numcpd)le. fifteen. (VO7)
36. vak-lajuneb, n(num & numcpd)le. sixteen. (VAK)
37. vuk-lajuneb, n(num & numcpd)le. seventeen. (VUK)
38. vaxak-lajuneb, n(num & numcpd)le. eighteen. (VAXAK)
39. balun-lajuneb, n(num & numcpd)le. nineteen. (BALUN)
40. tob, nle. twenty /absolute form always occurs as j-tob/. (TOB)  
ta stobal. at the price of twenty /cents or pesos/.
41. lajuneb cha7-vinik, nphr(num & num/num & numcpd/4f). thirty.  
(LAJUN)
42. cha7-vinik, n(num & numcpd)le. forty. (CHA7) (only entered in  
the English-Tzotzil section)
43. lajuneb 7ox-vinik, nphr(num & num/num & numcpd/4f). fifty.  
(LAJUN)
44. 7ox-vinik, n(num & numcpd)5. sixty. (7OX)
45. lajuneb chan-vinik, vphr(num & num/num & numcpd/4f). seventy.  
(LAJUN)
46. chan-vinik, n(num & numcpd)le. eighty. (CHAN)
47. lajuneb 7o7-vinik, nphr(num & num/num & numcpd/4f). ninety.  
(LAJUN)
48. vo7-vinik, n(num & numcpd)le. hundred. (VO7)
49. trenta, nle. thirty. (TRENTA)
50. kwarenta, nle. forty. (KWARENTA)
51. sinkwenta, nle. fifty. (SINKWENTA)
52. sesenta, nle. sixty. (SESENTA)
53. setenta, nle. seventy. (SETENTA)
54. 7ochenta, nla. eighty. (7OCHENTA)
55. noventa, nle. ninety. (NOVENTA)
56. syen, nle. hundred. (SYEN)
57. trentatik, n5. by or in thirties, every thirty. (TRENTA)
58. kwarentatik, n5. by or in forties, every forty. (KWARENTA)
59. sinkwentatik, n5. by or in fifties, every fifty. (SINKWENTA)
60. sesentatik, n5. by or in sixties, every sixty. (SESENTA)



61. setentatik, n5. by or in seventies, every seventy. (SETENTA)
62. 7ochentatik, n5. by or in eighties, every eighty. (7OCHENTA)
63. noventatik, n5. by or in nineties, every ninety. (NOVENTA)
64. ju-\_\_\_\_, n(num & nccpd)5. each. (JUN)  
ju-likel. every few minutes.
65. ju-jun, num(num & numcpd)5. one each, apiece. (JUN)
66. ju-jun tal, nphr(num/num & numcpd/& dr). each person, everyone.  
(JUN)
67. ju-ju-\_\_\_\_ ju-jun, nphr(n/num & nccpd/& num/num & numcpd/). one  
\_\_\_\_ apiece /bowl, handful, etc./. (JUN)
68. juju-tob, num(num & numcpd)5. in or by twenties, every twenty.  
(JUN)
69. ju-tob, num(num & numcpd)5. in or by twenties, every twenty.  
(JUN)
70. ju-juntik, num(num & numcpd)5. very few. (JUN)
71. junjun, num. one only. (JUN)
72. junjun \_\_\_\_, nphr(num & n4d). one \_\_\_\_ /eared, armed, legged/.  
(JUN)
73. chabchab, num5. by twos. (CHA7)  
chabchab ju-jun. two apiece.
74. 7ox7ox-\_\_\_\_, n(num & nccpd)5. by or in threes, every three. (7OX)
75. chanchan-\_\_\_\_, n(num & nccpd)5. by or in fours, every four. (CHAN)
76. vo7vo7-\_\_\_\_, n(num & nccpd)5. by or in fives, every five. (VO7)
77. vakvak-\_\_\_\_, n(num & nccpd)5. by or in sixes, every six. (VAK)
78. vukvuk-\_\_\_\_, n(num & nccpd)5. by or in sevens, every seven. (VUK)
79. vukuk-\_\_\_\_, n(num & nccpd)5. by or in sevens, every seven. (VUK)
80. balbalun-\_\_\_\_, n(num & nccpd)5. in or by nines, every nine.  
(BALUN)
81. balbaluneb, n5. in or by nines, every nine. (BALUN)
82. lajlajun-\_\_\_\_, n(num & nccpd)5. by or in tens, every ten. (LAJUN)
83. bulbuchib, n5. in or by elevens, every eleven. (BULUCH)
84. ju-jun cha7-vinik, nphr(num/num & numcpd/& num/num & numcpd/4f).  
in or by twenty-ones, every twenty-one. (JUN)
85. chabchab cha7-vinik, nphr(num & num/num & numcpd/4f). in or by  
twenty-twos, every twenty-two. (CHA7)
86. vo77o7 cha7-vinik, nphr(num & num/num & numcpd/4f). by or in  
twenty-fives, every twenty-five. (VO7)
87. lajlajuneb cha7-vinik, nphr(num & num/num & numcpd/4f). in or  
by thirties, every thirty /archaic/. (LAJUN)
88. cha7cha7-vinik, n(num & numcpd)5. in or by forties, every forty.  
(CHA7)
89. lajlajuneb 7ox-vinik, nphr(num & num/num & numcpd/4f). in or by  
fifties, every fifty /archaic/. (LAJUN)
90. 7ox7ox-vinik, n(num & numcpd)5. in or by sixties, every sixty.  
(7OX)
91. lajlajuneb chan-vinik, nphr(num & num/num & numcpd/4f). in or by  
seventies, every seventy /archaic/. (LAJUN)
92. chanchan-vinik, n(num & numcpd)5. in or by eighties, every  
eighty. (CHAN)
93. lajlajuneb 7o7-vinik, nphr(num & num/num & numcpd/4f). in or by  
nineties, every ninety /archaic/. (LAJUN)
94. vo77o7-vinik, n(num & numcpd)5. in or by hundreds, every hundred  
/archaic/. (VO7)

95. cha7ej, nle. day after tomorrow. (CHA7)  
     ta scha7ejal. on the second day after /a particular day being  
     discussed/.
96. 7oxej, nle. three days from now. (7OX)
97. chonej, n5. four days from today. (CHAN)
98. vakej, nle. six days from now. (VAK)
99. vukej, nle. seven days from today. (VUK)
100. chabje, nle. the day before yesterday. (CHA7)  
     ta schabjeal. two days before /a particular day being dis-  
     cussed/.
101. 7oxje, nle. three days ago. (7OX)
102. chonje, nle. four days ago. (CHAN)
103. vo7je, nle. five days ago. (VO7)
104. vakje, n5. six days ago. (VAK)
105. vukje, nle. seven days ago. (VUK)
106. VOL P, P(2)  
     vol, tv. wrap loosely /head in scarf while holding onto ends/,  
     wrap up /clothes, tortillas/, carry in bundle.  
     volje, nle. yesterday.
107. chabjetik, n5. every other day. (CHA7)
108. 7oxjetik, n5. about three days ago. (7OX)
109. chábjechábje, n4f. every other day. (CHA7)
110. 7oxje7oxje, n5. about three days ago. (7OX)
111. vaktevakte, av. walking about with six toes. (VAK)
112. jutuk, n5. a little, almost, nearly. (JUT)  
     jutuk xa muk' xlok' xch'ulel. he almost died.  
     jutukon xa ya7el. I feel sick.  
     jutuk mu junuk limite. nearly one bottleful.
113. jutuktik, aj. rather few. (JUT)
114. jutukaj, iv. become rare or scarce, lessen (sickness). (JUT)
115. jutukib, iv. lessen (sickness, work). (JUT)
116. jutukibtas, tv. settle or quell argument. (JUT)
117. mu jayuk, nphr(pt & n5). be unable to finish. (JAY)  
     mu jayuk ka7i. I could not finish (or) I could not hear  
     everything.  
     mu xa jayuk jchakbe ti sk'obike. I could not shake all their  
     hands.
118. MIL X (Sp, mil).  
     mil, nc. thousand.
119. jun 7o7on, vphr(num/pres/ & n4d). happy, contented. (JUN)
120. jun 7o7on 7a7i, vphr(num/pred/ & n4d // tv). feel happy. (JUN)
121. junul 7o7on, nphr(num4f or n4d). wholeheartedly, wholehearted.  
     (JUN)  
     muk' bu sjunul yo7on xchi7uk li 7orten 7albile. He does not  
     agree with the law.
122. chib 7o7on, vphr(num/pred/ & n4f). sad, discontented, uneasy,  
     unhappy. (CHIB)  
     chib yo7on t xbat ta 7olon ja7 li 7oy yajchamele. He is not  
     happy that he has to go to the lowlands because he has a  
     patient (or) a sick member of the family.  
     chib yo7on t xbat ta 7olon yu7un yan sba svayich. He is unhappy  
     over going to the lowlands because he had a nightmare.



123. chib k'opal, vphr(num/pred/ & n4f). uncertain. (CHIB)  
 chib sk'oplal mi xibat mi mu xibat. It is uncertain whether  
 I will go or not.
124. chibaj 7o7on, vphr(iv & n4d). become disconsolate or depressed,  
 become sad or unhappy. (CHIB)  
 ichibaj yo7on muk' xbat. He grew sad that he wasn't going.  
 ichibaj yo7on ti t xk'oponbat ta yan li slekome. He became  
 depressed because his fiancée had an affair with someone else.  
 ichibaj 7o yo7on li labal k'opetike. She became unhappy over  
 the endless quarrels /daughter-in-law/.
125. chibet 7o7on, vphr(av & n4d). feeling disconsolate or depressed,  
 feeling sad or unhappy, feeling nauseated. (CHIB)  
 xchibet yo7on t xve7 ti mi mu sna7 x7atin xve7 li schi7ile.  
 He feels nauseated eating with a person who doesn't wash  
 before the meal.  
 xchibet yo7on yik' smalal. With a heavy heart she took him as  
 her husband.
126. chibetik 7o7on, vphr(av & n4d). Cf chibet 7o7on (plu). (CHIB)
127. chibal k'op, nphr(numatt & n)5. self-destructive talk. (CHIB)
128. LETANYA N (Sp, letania).  
 letanya, n5. Rogation Day /Monday before Ascension Day/.  
 ba letanya, nphr(n type n)5. First Rogation Day /Monday before  
 Ascension Day/.  
 chib letanya, nphr(num4e type n)5. Second Rogation Day  
 /Tuesday before Ascension Day/.  
 7oxib letanya, nphr(num4e type n)5. Third Rogation Day  
 /Wednesday before Ascension Day/.  
 chanib letanya, nphr(num4e type n)5. Fourth Rogation Day  
 /Thursday before Ascension Day/.  
 vo7ob letanya, nphr(num4e type n). Fifth Rogation Day  
 /Friday before Ascension Day/.
129. buch'u junukal, nphr(pt & num5). which one, which one?, whichever  
 person, which person? (JUN)
130. jun tak'in, nphr(num & n)5. one real /formerly/. (JUN)
131. jun tak'in najelil, nphr(nphr/num & n/5 of n)5. 160 cardfuls  
 /wool/. (JUN)
132. chib tak'in, nphr(num & n)1a. twenty cent piece /two bits/.  
 (CHIB)
133. jun-ab, n(num & n/contr of jabil/ cpd)5. next year. (JUN)
134. jun-abi, n(num & n/contr of jabil/ cpd)le. last year. (JUN)
135. jun 7olil, nphr(num & n)3d. woman's cousin younger than ego  
 /archaic/. (JUN)
136. jun ch'amalil, nphr(num & n)3d. male's cousin younger than ego  
 /archaic/. (JUN)
137. jun me7il, nphr(num & n)3d. aunt /maternal, paternal, wife of  
 maternal or paternal uncle/, female cousin older than ego. (JUN)
138. jun nich'onil, nphr(num & n)3d. male's cousin younger than ego  
 /archaic/. (JUN)
139. jun totil, nphr(num & n)3d. uncle /maternal, paternal, husband of  
 maternal or paternal aunt/, male cousin older than ego. (JUN)
140. chanib 7ok, nphr(num & n)le. marsh alligator lizard. (CHAN)
141. chanib 7ok chon, nphr(nphr/num & n/ type n)5. cf. chanib 7ok.  
 (CHAN)

142. chantiko, nle. four-horned ram. (CHAN)
143. 7ox-7u, n(num & ncpd)le. 'three months,' a temperate "vine." (7OX)
144. 7ox-tzelav, n(num & ncpd)5. three-sided /fruit, stem/. (7OX)
145. chan-tzelav, n(num & ncpd)5. four-sided, winged /stem/. (CHAN)
146. chan-tzelav 7ak', nphr(n/num & ncpd/ type n). 'four-ridged vine.' (CHAN)
147. chan-tzelav tzele-pat, nphr(n/num & ncpd/type n/ x & ncpd/). shrubby butterfly bush. (CHAN)
148. chan-tzelav kinya, nphr(n/num & ncpd/ type n). 'four-ridged banana.' (CHAN)
149. chan-tzelav lo7obol, nphr(n/num & ncpd/ type n). 'four-ridged banana.' (CHAN)
150. chan-tzelav sun, nphr(n/num & ncpd/ type n). 'four-ridged sun' (sun, n5. bush sunflower). (CHAN)
151. cha7-\_\_\_\_, n(num & ncpd)3d. step-\_\_\_\_. used with kin term of nuclear family and wife's brother /infr/. (CHA7)
152. cha7-utz'il, n(num & ncpd)3d. second of younger siblings after first has died. (CHA7)
153. 7ox-jisomal chij, nphr(n/num & ncpd/type n)5. lit., tripartite blanket, i.e., wedding blanket. (7OX)
154. 7ox-jistobil, n(num & ncpd)4f. yarn-embroidered shoulder seams of woman's blouse. (7OX)
155. chan-te7 mok, vphr(n/num & ncpd/ type n)5. fence with four rails for horse corral. (CHAN)
156. vak-nab, nphr(num & ncpd)le. rainbow. Term learned from Chamulas. (VAK)
157. vuku-pat, n(aj & ncpd)5. big dipper /Ursa Major/. (VUK)
158. balun-7ok'es, n(num & ncpd)5. tropical mockingbird. (BALUN)
159. jcha7-kuch 7e, agn: nphr(n/num & tvcpd/ type n). person with tooth sticking out above row of teeth. (CHA7)
160. vaxak-men, n(num & xcpd)5. creator god. (VAXAK)
161. trenta, nld. .30-30 rifle, thirty cents or pesos. (TRENTA)
162. cha7-jot, n(num & ncpd). Ritual speech, woman praying, referring to husband who conceals existence of mistress; two-faced. (CHA7)  
cha7-jot ti sbae cha7-jot ti ssate. He has two countenances, he is two faced.
163. cha7-koj, aj(num & ncpd). homosexual, hermaphroditic. (CHA7)
164. jcha7-jot sat, agn(nphr/num & ncpd type n5/). supernatural two faced devil. (CHA7)
165. 7ox-lot, n(num & ncpd)5. constellation comprised of the three stars of Orion's belt; delta, epsilon, xi. (7OX)
166. 7ox-lot j7elek', nphr(n/num & ncpd/4d of agn). constellation; comprising theta, l, d of Orion. (7OX)
167. cha7-7al, tv(num & tvcpd). repeat /words/. (CHA7)
168. cha7-7ayan, iv(num & ivcpd). reappear. (CHA7)
169. cha7-7ik', tv(num & tvcpd). remarry. (CHA7)
170. cha7-7och, iv(num & ivcpd). reenter. (CHA7)
171. cha7-tzak, tv(num & tvcpd). recapture. (CHA7)  
cha7-tzako ta vun. Rewrite it!
172. cha7-chon, tv(num & tvcpd). resell, act as middleman. (CHA7)
173. cha7-jam, tv(num & tvcpd). reopen. (CHA7)
174. cha7-javan, tv(num & tvcpd). turn right side up again. (CHA7)
175. cha7-kil ba, rv(num & rvcpd). drag self again. (CHA7)



176. cha7-kuch, tv(num & tvcpd). carry again /heavy burden/ /person rests and then carries it, or burden is taken part way and left, then carried the rest of the way/, have homosexual relations with /man/. (CHA7)
177. cha7-kuxes k'op, vphr(tv/num & tvcpd/ & n5). revive quarrel. (CHA7)
178. cha7-lok', iv(num & ivcpd). reappear. (CHA7)
179. cha7-lok'es, tv(num & tvcpd). take out again. (CHA7)
180. cha7-me7in, iv(num & ivcpd). recur (sickness). (CHA7)
181. cha7-me7intas, tv(num & tvcpd). cause to recur /sickness/. (CHA7)
182. cha7-meltzaj, iv(num & ivcpd). fix again, settle again /dispute/. (CHA7)
183. cha7-mes, tv(num & tvcpd). sweep again. (CHA7)
184. cha7-paj, tv(num & tvcpd). replant /posts/. (CHA7)
185. cha7-7olin, tv(num & tvcpd). acquire stepchild (woman). All other kin terms of nuclear family may take cha7- and suffix -in to produce verb form meaning acquire step-\_. (CHA7)
186. cha7-sut, iv(num & ivcpd). return again. (CHA7)
187. cha7-ta, tv(num & tvcpd). rediscover. (CHA7)
188. cha7-tik', tv(num & tvcpd). put in again. (CHA7)
189. cha7-toy, tv(num & tvcpd). lift up again, raise again. (CHA7)
190. cha7-vay, iv(num & ivcpd). fall asleep again. (CHA7)
191. cha7-vil, iv(num & ivcpd). fly again. (CHA7)
192. cha7-tz'alan, tv(num & tvcpd). pile one on top of another /bags of corn/. (CHA7)
193. cha7-javin, tv(num & tvcpd). split or slice in two. (CHA7)
194. cha7-latzan, tv(num & tvcpd). pile one on top of another /bags of corn/. (CHA7)
195. cha7-pakanpakan, tv(num & tvcpd). fold one inside another /clothes, paper/. (CHA7)
196. chan-pakan, tv(num & tvcpd). fold over twice /paper, clothes/, fold into four sections. (CHAN)
197. cha7-puxin, tv(num & tvcpd). fold over, fold in two /mat, paper/, double over /with blow/. (CHA7)
198. cha7-puxin ba, rv(num & rvcpd). be folded in two or doubled, kneel and bow low. (CHA7)
199. 7ox-puxin, tv(num & tvcpd). fold over three times /bridal head-dress, rope/. (7OX)
200. chan-puxin, tv(num & tvcpd). double over so as to make four /rope/. (CHAN)
201. cha7-lak'ta, tv(num & tvcpd). twine /thread, yarn/. (CHA7)
202. chan-lak'ta, tv(num & tvcpd). place four together so as to make one /thread, yarn/. (CHAN)

### Appendix III: DATA SET from Haviland (to appear, 151-153)

When two forms are cited for one number, they are the free-standing form and the prefix form with the numerical classifier -kot.

1. lajuneb, lajun-kot. 10.
2. buluchib, buluch-kot. 11.

3. lajcheb/lachaeb, lajcha7-kot. 12.
4. 7ox lajuneb, 7ox lajun-kot. 13.
5. chan lajuneb, chan lajun-kot. 14.
6. vo7 lajuneb, vo7 lajun-kot. 15.
7. balun lajuneb, balun lajun-kot. 19.
8. j-tob, j-tob ta kot. 20.
9. jun xcha7-vinik, jun xcha7-vinik ta kot. 21.
10. chib xcha7-vinik, chib xcha7-vinik ta kot. 22.
11. cha7-vinik. 40.
12. lajuneb y-ox-vinik. 50.
13. 7ox-vinik. 60.
14. chan-vinik. 80.
15. lajun-vinik. 200.
16. vo7 lajun-vinik. 300.
17. jun x-cha7-vinik. 21.
18. chib y-ox-vinik. 42.
19. cha7-mil. 2000.
20. chib syen ta mil. 200000.

#### Appendix IV: TEXTUAL EXAMPLES<sup>1</sup>

##### Numeral expressions without numeral classifiers

- (1) 7a ti krixchano-etik 7une, yech 7i-laj ti s-vokol  
topic THE PEOPLE-pl pt THUS cp-FINISH THE A3-EFFORT  
ti 7ox-vinik ta s-jok' ti balamil-e. (OCK 188)  
THE 60 icp [A3-DIG THE LAND-enc]  
'As for the people, all the efforts of the sixty men who dug up  
the ground ended like that.'
- (2) 7i-y-ak' li cha7-vinik k'ak'al la li vo7 7une. (OCK 337)  
cp-A3-GIVE THE 40 DAY enc THE WATER pt  
'He gave 40 days of rain.'
- (3) Mu j-na7 mi vo7-lajuneb pexu k'u la xi tal y-ak'-ik  
NOT A1-KNOW Q 15 PESO WHAT enc enc CAME A3-PUT-3p  
7o ta na taj 7antz 7une. (OCK 193)  
WITH IT prep HOUSE THAT WOMAN pt  
'I don't know if it was fifteen pesos or how much in exchange  
for which they came to leave that woman in her home.'

##### Numeral expressions with numeral classifiers

- (4) Pero 7i-sk'el xa 7ox komel ta s-sat vak-vo7 x-ch'amal  
BUT cp-A3-SEE enc enc dr prep A3-EYE 6-nc A3-CHILD  
ti j7ik'al-e. (OCK 192)  
THE SPOOK-enc  
'But she had already seen the Spook's six children.'



- (5) Ti mi mu 7av-ak'-be s-ve7el-e yu7n la ta x-laj  
comp Q NOT A2-GIVE-io A3-MEAL-enc THEN enc icp-FINISH  
jay-vo7 ta jteklum. (OCK 371)  
SEVERAL-nc prep Zinacantan Center  
'If you didn't give it its meal then a number of people in the  
town would die.'
- (6) Yu7n xa ch-i-laj-otik cha7-vo7 li7-e. (OCK 371)  
THEN enc icp-B1-DIE-lplin 2-nc HERE-enc  
'Then both of us will die here.'
- (7) 7i-lok' 7ox-kot paloma-e. (OCK 375)  
cp-GO OUT 3-nc DOVE-enc  
'Three doves came out.'
- (8) K'ajom la bak' j-set' xi 7une. (OCK 375)  
ONLY enc MOVE 1-LITTLE BIT LIKE THIS pt  
'[The wall] only moved a little, like this.'
- (9) Kontrato bat na7tik jay-mil. (OCK 380-81)  
CONTRACT GO WHO KNOWS HOW MANY-THOUSAND  
'They went on contract. Who knows how many thousands.'
- (10) Ch-a-k-ak'-be jay-mil-uk. (OCK 383)  
icp-B2-A1-GIVE-io SEVERAL-THOUSAND  
'I'll give you several thousand.'

## Numbers in time expressions

- (11) Ch'ipomaj la te jayib k'ak'al ch'ipomaj la 7un. (OCK 380)  
BABY-SIT enc // THERE FEW DAY BABY-SIT enc pt  
'[Peter] baby-sat. He baby-sat there for a few days.'
- (12) K'al vo7-lajuneb k'ak'al ch-i-tal. (OCK 197)  
AFTER 15 DAY icp-B1-COME  
'I'll come in two weeks.'
- (13) Ta vaxakib 7ora k'ak'al-e yu7n 7o to j7ik'al. (OCK 192)  
prep 8 HOUR DAY-enc THERE ARE enc SPOOK  
'At eight o'clock there were still Spooks.'
- (14) Vakib xa 7u x-chi7in ti s-malal ya7el 7une. (OCK 195)  
6 enc MONTH A3-BE WITH THE A3-HUSBAND IT SEEMS pt  
'She was together with her husband for six months.'
- (15) 7i-bat ta mukenal noxtok 7oxib k'ak'al 7oxib 7ak'ubal,  
cp-GO prep CEMETARY AGAIN 3 DAY 3 NIGHT  
ta mukenal 7i-bat. (OCK 370)  
prep CEMETARY cp-GO  
'He went to the graveyard, too. Three days and three nights.  
He went to the graveyard.'

- (16) 7a ti k'alal lek nan chanib 7ora k'ak'al-e  
 topic THE WHEN EXACTLY PERHAPS 4 HOUR DAY-enc  
 mu xa s-tak' bu x-a-lok'. (OCK 192)  
 NOT enc A3-BE POSSIBLE SOMEWHERE nt-B2-GO OUT  
 'Around four o'clock in the afternoon, you couldn't go anywhere.'

From the above examples, it seems that time expressions occurring before the main clause have been topicalized out of the clause.

- (17) Pero mu j-na7 mi 7ach' to 7ox, chabje 7oxje to 7ox la  
 BUT NOT A1-KNOW Q NEW enc enc 2 3 enc enc enc  
 jelav 7un. (OCK 385)  
 PASS BY pt  
 'But I don't know if it was recently, two or three days before, that he passed by.'

#### Numbers as predicates

- (18) Mu j-na7 mi vak-vo7 mi chan-vo7 mi k'u la xi x-ch'amal  
 NOT A1-KNOW Q 6-nc Q 4-nc Q WHAT enc enc A3-CHILD  
 ti j7ik'al 7une. (OCK 192)  
 THE SPOOK pt  
 'I don't know if the Spook had six or four children or what.'
- (19) Vukub la x-ch'ulel taj rey. (OCK 375)  
 7 enc A3-SOUL THAT KING  
 'That king had seven souls.'
- (20) 7ox-tz'ok la riata lok' 7o tal ti 7antz 7une. (OCK 193)  
 3-nc enc LASSO [GO OUT WITH IT dr THE WOMAN pt]  
 'Three were the ropes with which the woman came out.'
- (21) Vo7-lajuneb la pexu 7ak'-b-at 7un. (OCK 193)  
 15 enc PESO [GIVE-io-pass pt]  
 'They were given 15 pesos.' literally: 'The pesos that they were given were 15.'
- (22) Mu j-na7 jay-p'ej s-jol taj chon 7une. (OCK 371)  
 NOT A1-KNOW [HOW MANY-nc A3-HEAD THAT SNAKE pt]  
 'I don't know how many heads that serpent had.'
- (23) Vo7ob x-cha7-vinik s-tojol-e. (OCK 298)  
 5 A3-40 A3-PRICE-enc  
 'Twenty-five is its price.'

#### Distributives

- (24) Te 'la s-nit-be s-ba-ik k'u y-epal ta s-ak'-be  
 THERE enc A3-COUNT-io A3-refl-3pl WHAT A3-MUCH icp-GIVE-io  
 s-ba-ik ti tak'in ju-jun 7i-y-ich'-ik 7une. (OCK 193)  
 A3-refl-3pl THE MONEY EACH cp-A3-RECEIVE-3pl pt  
 'They figured out there how much money they would give each other, [how much] each one would get.'



- (25) Jayjay pexu ta x-k-ich'-tik 7un lavi lajcha-vo7-otik  
SEVERAL PESO icp-A1-RECEIVE-lplin pt // NOW 12-nc-B1plin  
7une. (OCK 193)  
pt

'We'll get several pesos apiece since there are twelve of us.'

If pexu is acting as a noun here, it should be preceded by a free-standing numeral form. Although jayjay is not listed in the GTD, it looks like a regular partially reduplicated prefix form. Perhaps pexu is acting as a numeral classifier here.

- (26) 7i 7o la y-ich'-oj mu j-na7 mi ju-p'ej s-riata  
AND THERE IS enc A3-BRING-pf [NOT A1-KNOW Q EACH-nc] A3-ROPE  
ti vinik-etik 7une. (OCK 193)  
THE MAN-pl pt

'And each of the men had brought, I don't know if it was one rope apiece.'

- (27) K-ich' k-unin parte-tik ju-jun tal 7un. (OCK 194)  
A1-RECEIVE A1-LITTLE PORTION-lplin APIECE dr? pt  
'We've each gotten our little share.'

- (28) Ta vaxakibvaxakib k'alk'al-e yu7n ju-jun ju-jun k-ol. (OCK 194)  
prep EVERY EIGHT DAY-enc EACH ONE A1-CHILD  
'Every week I had another child,' literally: 'Every eight days, (there was) one of my children.'

vaxakibvaxakib and ju-jun ju-jun seem to be parallel fully reduplicated forms.

- (29) Yu7n la mak'lin-bil ju-jun 7ak'ubal. (OCK 371)  
enc FEED-ppf EACH NIGHT  
'It was fed every night.'

- (30) Laj la x-tuch'an-be ju-set' ta komon  
FINISH enc A3-CUT-io EACH-LITTLE BIT prep EQUALLY //  
7i-x-ch'ak-be la 7un. (OCK 374)  
cp-A3-DIVIDE-io enc pt  
'After he had cut up each little bit for them equally, he portioned them out.'

- (31) L-i-k'opoj ta 7ox7ox-koy ya7el k'op 7un. (OCK 298)  
cp-B1-PRAY prep BY THREES-nc IT SEEMS PRAYER pt  
'I prayed a set of three prayers.'

- (32) T'uj-bil xa no 7ox cha7-kot xa 7i-kom, cha7cha7-kot  
CHOOSE-ppf enc enc enc 2-nc enc cp-REMAIN BY TWOS-nc  
k'usi mut. (OCK 338)  
WHAT BIRD  
'Just two were chosen to remain. Two apiece of each kind of bird.'

- (33) Yu7un. la junjun ti s-krem nop-em. ta  
 BECAUSE enc ONLY ONE THE A3-BOY BECOME ACCUSTOMED TO-pf prep?  
 labal paxyal 7une. (OCK 168)  
 DO NOTHING BUT HUNT pt  
 'She had just the one son who was used to going hunting all  
 the time.'

## NOTES

1. Additional abbreviations for glossing texts:  
 prep--ta used as a preposition  
 refl--ba used as a reflexive  
 dr--directional  
 topic--7a marking a topicalized element  
 comp--complementizer, such as ti  
 //--marks clause boundary  
 [ ]--encloses a constituent. I only use this abbreviation when it  
 seems necessary to clarify how I am parsing the sentence. In  
 particular, the bodies of relative clauses are enclosed in  
 brackets.