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DRAG-CHAIN/PUSH-CHAIN PATTERNS IN KEKCHI

John R. Bringhurst

The "drag-chain/push-chain" effect¹ has been shown to be a useful mechanism in describing and explaining the process of change in the phonetics of certain languages and language groups. The purpose of this paper is to show how changes of a similar character have taken place both in the lexicon and the morphology of the Kekchi language, hence strengthening the position of that effect as a mechanism of linguistic change.

Briefly and simply stated, the drag-chain/push-chain effect occurs when some element of a given language system--be it phonetic, lexical, or morphological--takes over the function of another related element within the same system. This causes something of a chain-reaction within the system, each element involved shifting to assume the position formerly occupied by the next element in the chain.

DRAG-CHAIN/PUSH-CHAIN IN A LEXICAL SETTING

The first change to be considered here involves the Kekchi names of body parts; specifically, the terms for mouth, teeth, and face. The change itself resulted when the semantic position occupied by the Kekchi word for mouth (*či?) was taken over by the term formerly used for teeth (*-e). With this introduction, let us now reconstruct the lexicon as it probably existed before this change, so far as can be determined from existing data.

STAGE I

*či?	=	mouth	
			(*u:č = face ²)
*-e	=	teeth	

There is strong evidence supporting this reconstruction. First, although the element *či? in its original form has dropped out of the language completely, it has left vestigial traces in a number of compound verbs in modern Kekchi, all of which refer to "speaking" in a highly marked or negative setting, as shown in the following examples³:

k'amči?	-i:nk	=	come to agreement
takči?	-i:nk	=	ill advise
q'abči?	-i:nk	=	make excuses

A study of colonial-period documents shows even more compelling evidence, including actual compound body-part terms relating to the mouth, as shown here⁴:

k'ak'ale	či?	=	chin	(k'ak'ale = "to guard")
risma	či?	=	beard	(rismal = "hair")

There are also certain vestigial terms which seem to employ the word *-e in its original meaning as "teeth," such as the following⁵:

šul -e = toothache
 k'upuk ši -e = bite off with teeth

These, however, are less significant since they lie within the semantic realm of the present meaning of the word "-e."

Perhaps the most important evidence supporting this original reconstruction is the fact that virtually all other Quichean languages still retain "ši?" as "mouth" and "-e" as "teeth," Kekchi being the notable exception, having made the shift in question⁶.

The notion of a term for "teeth" taking over the more general "mouth" position in the lexicon is by no means an isolated phenomenon in Kekchi. There are a number of historically documented changes in which the same sort of shift occurred: namely, the replacement of the name of a body part through generalization of a term which refers to a marked portion of that part, in much the same way that the term "teeth" became generalized to mean "mouth." Here are a few examples:

<u>Early</u> ⁷		<u>Modern</u>
-aq'	= tongue	ru'ux -aq' = tongue
ru'ux -aq'	= tip of tongue	
aq	= knee	šbe:n aq = knee
(*šbe:n aq	= top of knee?)	
-u:č	= face	šnaq' -u = face ⁸
šnaq' -u:č	= eyes	

Stage I of our reconstruction fits well into this pattern:

*ši?	= mouth	-e	= mouth
*-e	= teeth		

As a result of this shift, "*ši?" dropped out of the language entirely, being retained only in the compound vestigial forms already shown. The term "-e" took over as "mouth," but for a time at least there appears to have been no set form for "teeth," and in fact "-e" may have occupied both positions⁹. When a distinction was made, it was done through modification of the word "-e." One early grammar lists teeth as "šbaqel -e"¹⁰ (lit. "bones of mouth/teeth"), while other sources, especially in more recent times, use "ru:č -e"¹¹ (lit. "face" or "surface" of teeth/mouth). It was the latter which eventually became the universally accepted term.

This innovation became solidified during the past century when the Kekchi word "-u:č" (face/surface) changed to "-u" in common speech. Hence, the term "ru:č -e" is no longer conceptually identified by the Kekchi speaker as "surface of the mouth," but instead as an independent unit signifying "teeth," and the chain has been completed. Following is a representation of the initial and final stages of this change.

<u>STAGE I</u>		
<u>face</u>	<u>teeth</u>	<u>mouth</u>
-u:č	*-e	*xiʔ
<u>STAGE II</u>		
<u>face</u>	<u>teeth</u>	<u>mouth</u>
-u	ru:č -e	-e

(Vestigial forms: ci)

In this instance the chaining effect in a lexical context is clearly visible; the term at the lead end drops out of the language or moves to a highly marked position, the middle shifts in the direction of the original meaning of the first term, and a new term is created at the trailing end from within the structure of the language itself.

DRAG-CHAIN/PUSH-CHAIN IN A MORPHOLOGICAL SETTING

The second change to be considered here took place within the morphological framework of the language and involved forms derived from a series of monosyllabic verb roots in which Kekchi, and Mayan languages in general, are exceedingly productive. These roots generally take the form C₁VC₂ and are used to form the principle set of transitive verbs in the language, as well as a significant series of descriptive positional forms, hereafter referred to as "stative." Of the many semantic categories derived from these monosyllabic roots, we will concern ourselves with two: that of the stative adjective, and that of the numeral classifier.

The stative adjectives make up a category of adjectival forms which describe a state or position directly related to the meaning of the monosyllabic root word from which they are derived. In modern Kekchi this adjective is formed with a reduplicative construction, as shown here:

C₁VC₂-C₁-o(k)¹²

Examples: k'ox = sit k'oxk'o = seated
 φ'ap = shut φ'apφ'o = closed

The numeral classifiers are formed in modern Kekchi as shown here:

C₁VC₂-V-1

Examples: t'or = spherical t'orol = sphere
 b'as = folded b'asal = folded object

These classifiers are used in conjunction with primitive Kekchi numerals¹³ in the following fashion:

xun t'orol či čin = one (roundness of) orange
oš b'asal či hu = three (folded) papers

Both internal and external evidence strongly suggest that this modern system has undergone a change of the drag-chain/push-chain variety. In order to illustrate this change, let us reconstruct the morphological system as it may originally have stood in Kekchi. This necessitates the formation of a third semantic category, the reduplicative stative form, to explain the origin of the reduplicative element at the trailing end of the chain.

<u>STAGE I</u>		
<u>Reduplicative Stative</u>	<u>Stative Adjective</u>	<u>Numeral Classifier</u>
*C ₁ VC ₂ -C ₁ -ok or *C ₁ VC ₂ -VC ₁ -ok	*C ₁ VC ₂ -V-l	*C ₁ V:C ₂

Note that this reconstructed system introduces a third morphological element, a long-vowel form of the monosyllabic root, to occupy the category of numeral classifier. To illustrate further, let us employ this reconstruction with an actual Kekchi monosyllabic root, "b'ol" (rolled up, cylindrical). The above categories would have looked like this:

<u>Reduplicative Stative</u>	<u>Stative Adjective</u>	<u>Numeral Classifier</u>
*b'olb'ok or *b'olob'ok	*b'olol	*b'o:l

The change, then, simply involved the stative adjective *b'olol taking over the position of the numeral classifier *b'o:l, and the reduplicative stative *b'olb'ok (or b'olob'ok) assuming the position of stative adjective formerly occupied by *b'olol. With this explanation in mind, let us examine the validity of the reconstructed system in the light of available internal and external data.

Numeral Classifier—The reconstructed form of the original numeral classifier with the long vowel¹⁴ (*C₁V:C₂, "*b'o:l") is not difficult to verify, since numerous examples of this form still exist in modern Kekchi. Most of these denote units of measurement, as shown in the examples here:

<u>Root</u>		<u>Numeral Classifier</u>
b'is	= to measure	b'i:s = measurement
b'uy	= to pile	b'u:y = pile, hill
č'ut	= to gather	č'u:t = group
lek	= to spoon up	le:k = handfull
q'oč	= to roll up	q'o:č = roll

Although these long-vowel classifiers are not uncommon in modern Kekchi, their domain is clearly limited, and they can no longer be spontaneously generated from the monosyllabic roots as can the replacement form which employs the suffix "-V-l". In some cases the classifiers exist in both the old and new form, indicating that the process of replacement is ongoing in modern Kekchi. Here are two examples:

b'ol = to fold, roll	b'o:l, b'olol = roll of something
xob' = hollow	xo:b', xob'ol = handfull

In addition to these internal evidences, there is also substantial external support for the long-vowel form as the original numeral classifier. Many of the lowland Mayan languages, for example, employ this form or its equivalent, as does Tzeltal¹⁵.

Stative Adjective—With regard to the second element of the chain, there is overwhelming external evidence placing the "-V-l" suffix form in the category of stative adjective, as reconstructed here. Not only does this form appear in closely related languages such as Cakchiquel and Pokomchi, but in the distantly related lowland Mayan languages as well¹⁶. There is also compelling internal evidence to that effect, since once again there are a substantial number of cases in modern Kekchi in which the form retains its original meaning, as in the examples shown here:

<u>Root</u>		<u>Stative Adjective</u>
k'at	= burn	k'atal = burnt
č'em	= break off piece	č'emel = piece broken off
yok'	= cut	yok'ol = wounded
pex	= tear	pexel = torn

Note that in every case in which the "V-l" suffix form retains its position as an adjective, it describes some kind of defect or injury; this is evidently the only semantic domain in which the language has chosen to retain the original adjectival form in the "stative adjective" category.

Reduplicative Stative—It is somewhat more difficult to reconstruct and to document the original position of the third (reduplicative) form, for two reasons: First, its original meaning was almost certainly adjectival to begin with, so the change which occurred probably did not involve much of a shift in semantic domain; hence there are no internal relics of the old usage as is the case with the other elements in the chain. Second, this form actually appears to have undergone a morphological change in

addition to the semantic one, making it more difficult to apply external data. However, a fair reconstruction can be attempted despite these difficulties.

The morpheme in Cakchiquel and Pokomchi which seems to correspond with the Kekchi reduplicative form is actually formed from an inversion of the monosyllabic root; the vowel of the root is repeated, followed by the initial consonant and the suffix "-ik," as shown here (Kekchi equivalents are given in parentheses to the right):

b'ol--b'olob'ik	Cakchiquel ¹⁷	(b'olb'ok)
sur--surusik		(sirsok)
yok--yokoyik	Pokomchi ¹⁸	(yokyok)
paʔ--paʔapik		(paʔpok)

In each of these languages the form shown has an adjectival function which contrasts with that of the stative adjective (the "-V-l" suffix form in each case), and it is likely that this was originally the case in Kekchi as well.

To a certain extent this construction can be reconciled with the Kekchi reduplicative form, since the loss of the repeated root vowel is consistent with similar changes in morphology which have occurred throughout the Kekchi lexicon¹⁹. However, to this point we are still at a loss to explain the "-o" or "-ok" suffix on the Kekchi form, which is conspicuously absent in Cakchiquel and Pokomchi.

For a solution to this problem I refer once again to Cakchiquel, where the same reduplicative form is the basis for a series of verbal forms which are conjugated in both transitive and intransitive constructions. Interestingly, the morpheme which is used to set these verbal reduplicatives apart from their adjectival counterparts is the suffix "-o," which is added to the reduplicative form in a manner similar to the Kekchi form, as shown here²⁰:

<u>Root</u>		<u>Redup. Form</u>	
čap	—	čapačo	(Cakchiquel)
čap	—	čapčok	(Kekchi)

This Cakchiquel verbal construction offers quite a convenient explanation as to the origin of the Kekchi reduplicative form if we are willing to accept the assumption that the Kekchi form, which in modern speech is used exclusively as an adjective, originated as a verbal derivation rather than a strictly adjectival one. Fortunately, a search of Kekchi documents from the colonial period reveals that at that time the reduplicative form could indeed be conjugated with an aspect marker, as an intransitive verb²¹.

This suggests at least in part a solid basis for a former oppositional relationship between this form, which was evidently a verb, and the "-V-l" suffix form which in our reconstruction functioned as a stative adjective. The key, then, to the completion of the chain was probably the shift of the reduplicative from its verbal function to a strictly adjectival one, allowing it to take over the "stative adjective" category formerly occupied by the "-V-l" suffix form.

In summary, here is a reconstruction of the system as it appeared before the change, followed by the complete system as it appears in modern Kekchi (examples are included for illustrative purposes):

<u>STAGE I</u>		
<u>Reduplicative Verb</u>	<u>Stative Adjective</u>	<u>Numeral Classifier</u>
*C ₁ VC ₂ -C ₁ -ok or *C ₁ VC ₂ -VC ₁ -ok (*b'olb'ok, *b'olob'ok)	*C ₁ VC ₂ -V-l (*b'olol)	*C ₁ V:C ₂ (*b'o:l)
<u>STAGE II</u>		
<u>Reduplicative Verb</u>	<u>Stative Adjective</u>	<u>Numeral Classifier</u>
∅	C ₁ VC ₂ -C ₁ -o(k) (b'olb'o)	C ₁ VC ₂ -V-l (b'olol)

Vestigial forms:	C ₁ VC ₂ -V-l (k'atal)	C ₁ V:C ₂ (b'o:l)

Here again the drag-chain/push-chain effect is clearly evident; in each case, as one element shifts to take over the category of another, the element formerly occupying that category either shifts accordingly or drops out of the language with the exception of a marked set of vestigial remnants which betray its original position within the system.

FOOTNOTES

¹The term "drag-chain/push-chain" was first used by André Martinet to describe phonological changes.

²Kekchi documents up through the beginning of this century are replete with examples of the word "-u:č," and many modern compound forms retain it unaltered; it is cognate with "wač," which is used in other Quichean languages. The reconstruction of this term is only incidental at this point, since it was not directly involved in the chain.

³These examples are taken from William Sedat, Nuevo diccionario de las lenguas Kekchi y Española (Instituto Lingüístico de Verano en Guatemala, 1955).

⁴These examples are taken from a manuscript alternately entitled Arte Kekchi de Chamelco, Arte en lengua Kekchi, and Arte de la lengua Cacchi; a typescript prepared by William Gates is in the Gates Collection in the Harold B. Lee Library, box 43, fol. 9. This manuscript is often referred to as the "Morales" grammar since at one point in about 1741 a poor fellow named Juan de Morales enjoyed the dubious honor of copying the entire work from an earlier manuscript. Gates' typescript is particularly intriguing since notations made by C. Hermann Berendt with a native informant in 1875 are included, giving us information on the language in two stages of development.

⁵Taken from Sedat, op. cit.

⁶See Lyle Campbell, Quichean Linguistic Prehistory (U.C. Press, Berkeley, CA, 1977), p. 55. Included is a lexical listing in major Quichean languages. It is interesting to note that Tzotzil has made a change similar to that which took place in Kekchi, though evidently in more recent times. This is evidently not due to mutual influence, since the two languages are geographically isolated from each other.

⁷The first two examples of early forms are from the Gates manuscript (see note 4).

⁸While this change has not become completely established, it is commonly heard in modern Kekchi.

⁹Campbell (op. cit.) lists "-e" as both "teeth" and "mouth", and may have sources to back up that listing. My experience speaking the language, however, does not bear this out in modern Kekchi. Perhaps more significant is the fact that Tzotzil, which appears to have made the change more recently, still uses the term "-e" in both positions.

¹⁰Gates manuscript, page 62. Note that Berendt had changed the "teeth" entry to "ru:č -e."

¹¹See Sedat, op. cit., p. 207.

¹²Both modern and early evidence demonstrate that the final "-k" suffix was originally a part of this form, although in modern speech it is only pronounced when the term itself bears a suffix. This suffix, which corresponds to the "-ik" suffix of other Quichean languages, is fairly mobile and does not particularly affect the matter at hand, except to help establish that the form may have originated as a verb (as noted later in the paper), since in Kekchi the "-k" suffix is used to denote certain verb forms.

¹³In Kekchi when the "primitive" (abbreviated) numbering system is used, the numeral classifier becomes mandatory, as in the examples shown. There is reason to believe that this was originally the standard method for utilization of numbers. Although this construction is not uncommon in modern Kekchi, it is more common now to hear the augmented number forms which are generally used without numeral classifiers.

¹⁴The long vowel referred to here probably originated as a "vowel-h" construction: C₁V-h-C₂. This is the documented origin of a number of Kekchi long vowels (see Campbell, op. cit., pp. 47-61), and external evidence from lowland Mayan languages supports this.

¹⁵See Michael O. Hironymous, "Tonogenesis in Yucatec Maya: a morphological approach" presented at the annual meeting of the American Anthropological Association, December 3, 1981.

¹⁶See Hironymous, op. cit. Also Ricardo Terga et al., Gramatica Pokonchi' (Coban, A.V., Guatemala), pp. 4, 5.

¹⁷See Larry L. Richman, "An Examination of Adjectival Forms in the Cakchiquel Language" (unpublished paper).

¹⁸See Terga, op. cit., p. 5.

¹⁹Vowels are frequently dropped from between consonants in the Kekchi lexicon. For example, išq (woman) of other Quichean languages has become išq; oxob' (cough) has become oxb', etc. See Campbell, p. 41.

²⁰See Robert W. Blair et al., Diccionario Español-Cakchiquel-Inglés (Garland Publishing, 1981), p. 444.

²¹The Gates manuscript, after discussing the use of this form as an adjective, includes a couple of felicitous examples of its verbal usage as well (page 39). For example, k'oxk'okin (I am sitting) appears also as nakin k'oxk'ok.