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HOW TO CAUSE IN MIXTEC<sup>1</sup>

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1.0 Introduction

In recent studies of iconicity in language, attention is being paid to differing degrees of linguistic dependence between semantic units -- that is, is there a predictable semantic difference to be found between items expressed as independent morphemes as opposed to bound morphemes, or morphemes vs. fused items? (By fusion, we mean that the semantic units are represented together in a single morpheme -- as in the word "kill", which can be represented as "cause to die".) Mixtecan languages, spoken in Mexico in the state of Oaxaca, are an excellent set of languages for studying this sort of question, for they have a large set of closely related forms where one version of the form is an independent morpheme and another phonologically related version is an affix. Pike (1944) proposed that Mixtec should be viewed as consisting underlyingly entirely of independent morphemes, with a set of rules of cliticization operating that puts certain words into affix form. This view is probably more representative of the historical facts about Mixtec than of the synchronic facts. Mixtecan appears to have cliticized forms that were originally independent; however, most of these young affixes exist side by side with fully stressed independent forms whose meanings are related, but not identical, to the meanings of the affixes. It is this semantic difference between the full and affixed forms that is most interesting in studies of iconicity. In this paper, I will concentrate on the different forms of the causative.

2.0 The Mixtec Causatives

There are actually four forms of the causative in Mixtec:

- (a) There is a fully independent verb, sáʔá<sup>2</sup> (to make, cause, fabricate -- a very general predicate of agentive activity). sáʔá takes a dependent clause as its object:

1. sáʔá hà nà kee  
cause nom. opt. eat (pot.)<sup>3</sup>  
"Make him eat."

- (b) There is an affixed form s- which precedes verbs (attached directly to the root, as shown in the examples below):

2. a. ndahì to get wet  
 b. sndahì to get someone/something wet  
 c. ndé?è to cry  
 d. sndé?è to make someone cry  
 e. ndatútú to be in a group  
 f. ndastútú to gather

- (c) There is an affixed form sá- which prefixes nouns and adjectives:

3. a. ndaa truth  
 b. sandaa to clear up, tell truth  
 (i.e. make truth)  
 c. ndoo clean (adj.)  
 d. sandoo to clean (i.e. to make clean,  
 cause to be clean)

- (d) In a very few verbs, the causative is actually fused, and other grammatical processes are used to distinguish between the causative and non-causative verbs.

4. a. kuû to die  
 hí?ì he dies  
 b. ka?ni to kill  
 há?nidé he kills him  
 c. ??skuû (N.C. accepted this as a possible way to say "kill", but said it is better to use ka?ni)
5. a. kundí?u to close (intransitive)  
 pwertawáá ndí?u The door is closed.  
 b. kasù to close (causative)  
kasù pwertawáá Close the door!  
 c. \*skundí?u, \*sndí?u These forms are unattested and unacceptable to N.C.)
6. a. núña to open (intransitive)  
 pwertá wáá núña. The door opens.  
 b. kuña to open (causative)  
kuña pwertá wáá Open the door!  
 c. \*snuña, \*skuña (unacceptable to N.C.)

## 2.1 Semantic Differences Between the Forms of the Causative

### 2.1.1 Differences between sáʔà and the affixes

There is a clear semantic difference between the causative prefix s and the full verb sáʔà. Observe the difference between the pairs of sentences in 7, 8 and 9.

7. a. sáʔà hà ná káčáʔa Make him dance! (i.e.,  
get him up and have him  
go out there and dance!)  
cause nom. opt. dance (pot.)  
b. skáčáʔa Dance him! (e.g., if  
you are riding a horse,  
make him dance by  
manipulating the reins.)
8. a. sáʔà hà nà kee Make him eat; prepare  
things so he may eat.  
cause nom. opt. eat (pot.)  
b. skée Feed him. (implies  
putting food directly  
into his mouth, as when  
you feed a baby.)
9. a. sáʔà hà nà kunu Have him run!  
cause nom. opt. run (pot.)  
b. skúnu Run him! (EG run the  
horse you are riding.)

The difference between sáʔà and s- is the same difference pointed out in causative analysis between two-predicate forms such as "cause to die" and single-predicate forms such as "kill." Fodor (1970) pointed out that they might be seen as 2-event constructions vs single-event constructions -- thus in "Make him eat" and "Feed him", the first form can be seen as having two agents: the causer and the eater, for two events, while the second form has merely one agent: the feeder -- and a patient: the one being fed. Thus for "feed" a single event occurs. McCawley extended this notion of single vs. double events by noting that in the case of single-event causatives, the patient of the causative does not function as an agent. By describing these as two-agent vs. single-agent causatives, he was able to make a formal description of both types within a generative framework.

Shibatani's approach to the difference was to develop the concepts of "directive" vs. "manipulative" causation. "Directive" causation might be seen as telling someone to do something, making someone do something (where the person doing the caused action is active); "manipulative" causation involves actually handling the patient, being in direct contact, forcing the action through

direct manipulation -- as in "dancing a horse" as opposed to making someone dance by telling him to.

Both approaches are relevant to the Mixtec causative: Semantically, Shibatani's analysis exactly fits the semantics of Mixtec causatives; and Fodor's and McCawley's double agent vs. single-agent constructions are directly reflected in the form the sáʔá vs. s- constructions.

An important grammatical difference between the full verb sáʔá and the prefixes s- or sá- is that a sentence containing sáʔá will have one subject suffix on sáʔá and another on the second verb, while sentences with s- have a single subject.

10. a. nì-saʔa-rí róʔó hà ní-yee-ró I made you eat.  
 past-cause-1s.subj 2s.obj nom. past-  
eat(act.)-2s.subj  
 b. ni-s-kée-rí róʔó I fed you.  
 past-caus-eat-1s.subj 2s.obj

sa- is prefixed onto nouns and adjectives, and thus functions not only as a causative but also as a verbalizer. Semantically, the difference between the sá- prefix and the full form sáʔá can be seen to be very similar to that between s- and sáʔá. Examples 11 & 12 show this difference.

11. a. ni-sáʔá-de hà ní-nduukwáʔá-ri He made me  
 get red (blush)  
 past-cause-3s.subj nom past-become red-I  
 (masc.)  
 b. ni-sa-kwáʔá-de He made me red. (I.E., he  
 painted me red.)  
 past-cause-red-3s.subj (masc.)
12. a. sáʔá-ri hà nà ku-čáʔá-de bina. I am arrang-  
 ing for him to get dirty  
 today.  
 cause-1s.subj nom. opt. future-dirty-  
 3s.subj (masc.) today.  
 b. sa-čáʔá-ri-de bina. I am getting him dirty  
 today. (i.e. I am spreading  
 dirt on him.)  
 cause-dirty-1s.subj-3s.obj. (masc.) today.

McCawley's and Shibatani's solutions to the problem of semantic nonidentity between "kill" and "cause to die" allow the two forms to be treated successfully within a generative framework.

In the languages that they and most causative theorists have dealt with, the two kinds of causatives are morphologically unrelated. However, in Mixtec we have an added problem: the forms are clearly related, and must form a derivational set. It is therefore not adequate to say that we have different causatives.

The Mixtecan causative system is a clear example of the tendency being noted by many linguists recently for syntactic form to iconically reflect meaning. It appears that in most languages where causatives can be differentiated, the two-agent or directive causative is lexically independent of the predicate it modifies, and the single-agent or manipulative causative is affixed or fused. As noted by Ross (1981), Lakoff (1980), and Haiman (1980) in separate papers the physical closeness or non-separability of the causative from the lower verb reflects the degree of control the causing agent has over the lower verb and its actor.

### 2.1.2 Differences between sá- and s-

So far we have treated sá- and s- as variants of the same semantic unit, with the distinction between them merely in their syntactic environment. But why should we get sá- on nouns and adjectives, and s- on verbs?

We might begin by looking at the affixes historically.

There is strong evidence that sá? first shortened to sá-. Some Mixtec dialects retain sá- as the only affixed form. Most dialects of Mixtec have strong canonic restraints against consonant clusters: all syllables are CV. In Chalcatongo Mixtec (and some other dialects), consonant clusters beginning with /s/ are allowed. This fact was probably a precondition for the further shortening of the causative that occurred with verbs. There is no phonological motivation for shortening sá- to s- on the particular lexical items for which the reduction occurred. It is not unreasonable to suggest that the shortening was the result of the particular close overlap of actions illustrated here -- in other words, the historical process of reduction was motivated by a condition of human cognition lately called iconicity. The closer the cognitive distance between two predicates, the more likely it is that the linguistic distance will lessen.

It is possible to argue that in predicates prefixed by sá-, there is not quite such a close overlap of agent action and resulting change by patient. Unlike the verbs prefixed by s-, the patient of sá- changes from one state to another state. This change of state is due to direct manipulative control by the agent, but in contrast to the s- causative, the patient retains the new state even after the agent ceases his manipulations. The

room stays clean after the agent cleans it; if he paints me red, I stay that way even after he stops painting.

Another point worth noting is that the new state depicted by the predicate with sá- does not begin to exist immediately. When the agent cleans the room, it becomes cleaner and cleaner, but the full-fledged state of cleanliness is not achieved until the agent gets in the last lick at it.

Thus, while the semantics are not clear in every case, it is nevertheless obvious that verbs formed with sá- do not represent the proto-typical sort of complete control by agent and complete overlap of activity by agent and patient. And, this fact may form one reason why sá- on nouns and verbs has not shortened to s-.

The result is a set of three semantically contrastive causatives. (As we shall see presently, there are in fact four.) To my knowledge, other languages examined by linguists interested in causation have not divulged more than two types of causation. The three types in Chalcatongo Mixtec can be illustrated by the chart shown below.

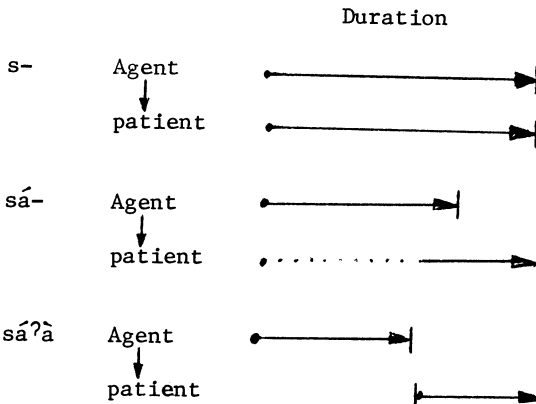


Figure 1

As shown by this figure, the length of the causative and degree of phonological interaction and syntactic dependence on the verb is symbolically reflective of the degree of overlap between the action of agent or patient, or degree of dependence of the action of the patient on the action of the agent.

### 2.1.3 Phonological characteristics of s- and sá

The iconicity of s- with totally overlapping action of agent and patient is further enhanced when one realizes that s- is not just a "short" prefix, but instead has characteristics suggesting that s- itself overlaps with the root. The s- causative is unique in the language in its degree of cleavage to the verb root. It is the only Mixtec affix that is not CV, and it is always directly attached to the verb root, with all other affixes to its left.

Furthermore, there is some morphophonological interaction going on between s- and the verb root. For example,

the complex s-yu → si in Chalcatongo, as in

14. sɪʔú "Scare him"  
 < yúʔú "be afraid".

Also, h → {<sup>Vlength</sup> / s-  
 ∅}

as in

15. si(i)nu "to finish"  
 < hínu "to become finished"

There is a general rule in Chalcatongo and a closely related dialect in San Miguel el Grande that s → š / \_i. This rule does not apply in the case of the s- prefix. We could say, then, that the rule is blocked by the presence of a morpheme boundary. However, in San Miguel we have an additional rule:

s → š / \_ [+nasal],

and in that situation the s causative does in fact become š. Mixtec canon does not allow many vowel-initial stems, so we cannot see a causative s- preceding an i in any underlying form. Thus we must see the rule changing s to š as an ordered or global rule -- that is s → š if it precedes i in the underlying form.

San Miguel, by the way, treats the 2 examples above [be afraid and finish] differently -- in San Miguel, there is an i inserted after s in these cases

16. siyuʔu "Scare him"

17. sihinu

Chalcatongo and San Miguel are very closely related, mutually intelligible dialects spoken only a few kilometers apart; since these morphophonological alternations are different in the 2 dialects, they undoubtedly have very shallow time-depth. (It is possible that the difference between San Miguel and Chalcatongo is due to fact that San Miguel data was collected about twenty years ago and from older, monolingual speakers -- thus it may instead



represent an earlier stage in the development of this phonological interaction between s- and the root.)

No other affix in Chalcatongo (or San Miguel) displays any morphophonological alternation except for extensive tone Sandhi, which pervades the language. Tone Sandhi in the case of the causatives is also very informative.

Looking first at the prefix *sá-*, we can see that *sá-* (which bears high tone) does not perturb the following root. It is itself perturbed if it precedes two high tones. This is common in Mixtec; it is a form of disimilation.

S- carries no tone, since it has no syllabic nucleus. However, it does perturb the next vowel. Using tone letters for illustration, if the bisyllabic root has the tones ˩ ˩, when s- is added it becomes ˩ ˩. ˩ ˩ becomes ˩ ˩ with s-, etc. So s- perturbs, *sá-* does not. What happens is that the high tone evidenced in *sá-* transfers over to the next vowel when *sá-* reduces to s-. An excellent example is the one verb for which N.C. has the two alternatives of either *sá-* or s-:

*sándoo* ˩ ˩ ˩ (to clean)

vs *sndóo* ˩ ˩

So *s-* is not merely prefixing the root, it is interacting with it strongly. In this sense it can be seen as an "overlapping affix", symbolically representing the overlap of activity of agent and patient.

#### 2.1.4 s- vs. fused forms

On the basis of the tripartite semantic scheme we have devised so far, we would predict that there should exist a semantic difference between the *s-* causative and the fused causatives as well. In fact, I believe one can make a case for a systematic semantic difference between the *s-* causatives and the fused causatives. In the cases of "kill", "open" and "close" (with fused causatives), the action is punctual; that is, the action is typically quick, with an immediate resultant change of state in the patient. The verbs with *s-*, on the other hand, are durative in nature: dancing, eating, running all take place over a period of time. With *s-*, some sort of volition is typically present in the patient: he opens his mouth to be fed, he moves his legs to dance or run; but there is no volition whatsoever for the patient of "kill", "open" or "close".

The verbs represented with fused causatives may also be replaced by intransitive verbs in a clause with *sáʔá* where agent and patient are seen to have non-overlapping activities:

18. a. kuña pwertá wáã "Open the door."  
 b. sáʔa hà na núña pwertá wáã "Make it so that the door opens."

Thus there are two cross-cutting parameters of semantic variation for the Mixtec causative, both related to time:  
 (1) degree of overlap of action of agent and patient of causative;  
 (2) punctual vs. durative activities. These are summarized on the chart below.

		<u>overlap</u>		
		none	partial	total
<u>aspect</u>	durative	sáʔa	sa-	s-
	punctual	sáʔa		fused

The fused causative must be seen as outside the scheme of iconicity posited here for sáʔa and its abbreviated forms. Nevertheless, its contrast with sáʔa can be argued as following the same rule of iconicity as the others, in that the short form (in this case  $\emptyset$ ), inextricably represents overlap of agent's and patient's activity involved while the long form (sáʔa), separated fully from with the root, the other predicate, represents non-overlap.

We now have a four-way distinction in the causative: sáʔa, where patient's action is catalyzed by but independent of the agent; sá-, where agent's action and patient's change of state are partially overlapping; s-, where agent's and patient's action have duration and are totally overlapping; and the fused causative, where agent's action is punctual and patient's change of state is immediate rather than durational, and completely without volition by the patient. Note that sáʔa and s- are parallel, where in both cases the patient is acting, with the difference that with sáʔa the patient acts under his own power by his own will, whereas with s- the patient is entirely under the control of the agent. Sá- and the fused causative both involve change of states rather than action; in neither case is volition involved. The difference is that sá- is for durational change of state, and the fused causative for a punctual change of state.

## 2.2 Conclusion: Iconicity and Causatives

I have argued that the three degrees of phonological fusion of sáʔa represent degrees of fusion in a semantic sense, between the activity of the agent and of the patient; and that a fourth type, the  $\emptyset$  (fused) causative, contrasts with the other three by

being "punctual". This state of affairs demonstrates that degrees of phonological fusion can be iconic of relations between components of a sentence on the semantic level. These findings also demonstrate that historical processes within a language may be motivated by iconicity.

#### Notes

1. This paper has been strongly influenced by discussions with Mariscela Amador, Claudia Brugman, John Haiman, George Lakoff, and of course Nicolas Cortes, the native speaker of Mixtec who is really responsible for it all. My thanks to all.
2. There are three tones in Mixtec: high, represented by an acute accent (´); low, represented by a grave accent (`); and mid, which is unmarked.
3. Abbreviations used in this paper:
  - nom. = nominalizer
  - opt. = optative
  - pot. = potential form
  - 3s. = 3d person singular
  - masc. = masculine
  - act. = active form
  - n.c. = no change
  - N.C. = Nicolas Cortes

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