Language Universals and Variation

Edited by Mengistu Amberber and Peter Collins

Perspectives on Cognitive Science

Peter Slezak, Series Editor

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Preface

In mid-1999, Peter Slezak, the Series Editor of Perspectives on Cognitive Science, invited us to edit a linguistics volume addressing current issues and problems in the analysis of cross-linguistic data.

We invited colleagues from Australia and overseas whose areas of expertise include phonology, lexical semantics, and morphosyntax to contribute a paper on the broad theme of formal approaches to language universals and variation.

Most of the chapters in this volume investigate aspects of natural language variation from a formal theoretical perspective, including the Principles and Parameters/Minimalist Program, Lexical Functional Grammar, and Optimality Theory. It is assumed that the reader will have at least some basic familiarity with these frameworks.

We thank all the authors for contributing to this volume. We would also like to thank David Adger, Heidi Harley, Larry Hyman, Géraldine Legendre, Andrew Radford, Peter Sells, Roumyana Slabakova, Margaret Speas, and Lindsay Whaley for their invaluable advice as reviewers.

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1

Quirky Alternations of Transitivity: The Case of Ingestive Predicates

Mengistu Amberber

In a number of languages, verbs of ingestion—including verbs roughly equivalent to the English verbs *eat, drink, swallow, taste, suckle*—exhibit marked transitivity behavior. In languages where a causativizing morpheme is otherwise restricted to attach to intransitive verbs it can exceptionally appear with transitive ingestive verbs. It is unlikely that this phenomenon is due to an accidental property of individual languages given that it occurs in many genetically and typologically unrelated languages. This chapter will show that the marked transitivity pattern exhibited by ingestive predicates can be accounted for by appealing to a rich Lexical Conceptual Structure (LCS). I argue that contrary to appearance, ingestive predicates such as the English *eat* are ditransitive with an Agent, Theme/Patient, and Goal argument. The crucial property of ingestive predicates that is responsible for their marked transitivity pattern is that the Agent and Goal arguments are co-indexed at the level of LCS and thus normally only one argument (the Agent) is mapped onto the surface syntax. Due to the co-indexation of the Agent and Goal arguments, it is possible to suppress the Agent argument—as it is recoverable from the Goal—thus allowing the introduction of another Agent via morphological causativization.

It is known that many languages employ a morphological strategy to encode transitivity alternations (cf. Comrie and Polinsky, 1993). A transitive verb may be derived by attaching an affix onto an intransitive stem. Likewise, transitive stems can be detransitivized via affixation, thus deriving intransitive constructions such as the anticausative, middle, passive, or antipassive among others. The class of verbs that may be affected by causativization or detransitivization may differ from language to

language. For instance, in many languages the passive derivation typically applies to dynamic transitive verbs (e.g., *cut* -> *be cut*) but not to intransitive verbs (*walk* -> **be walked*). However, in a number of languages intransitive verbs can be passivized, giving a construction known as impersonal passive (or "pseudo-passive"), as in Dutch (cf. Kirsner, 1976).

Analogous variation can be found in the case of causativization. In some languages, the causative morpheme is attached only to an intransitive stem to derive a transitive verb, whereas in other languages the causative morpheme may attach to both intransitive and transitive stems, in the latter case deriving a ditransitive verb (cf. Haspelmath, 1993).

From a broad typological perspective, it appears that there are two types of languages with respect to the distribution of causative morphemes: languages with a single causativizing morpheme (Type A) and languages with two (perhaps more) causativizing morphemes (Type B). Type A languages can be further subclassified in terms of whether the causative morpheme can attach to only intransitives (Type A1) or to both intransitive and transitives (Type A2). In Type B languages, we find one causative morpheme exclusively for causativizing intransitive verbs and another causative morpheme that can causativize both intransitive and transitive verbs (deriving a "double" causative in the latter case). The classification is summarized in (1) below with some examples of representative languages.

(1)	*Causative Type*	*Language*
	Type A: a single CAUS	
	Type A1: CAUS + √Intr	*Berber*
	Type A2: CAUS + √Intr/Tr	*Malayalam*
	Type B: two CAUS	
	($CAUS_1$ +√Intr; $CAUS_2$ + √Intr/Tr)	*Amharic*

When languages have two or more causativizing morphemes, their distribution is often circumscribed: One causative morpheme attaches only to intransitive verbs whereas the other causative morpheme attaches to both intransitive and transitive verbs.[1] For example, Amharic has two productive morphological causative prefixes: *a-* and *as-*. The causative *a-* attaches to intransitive verbs as in (2), whereas the causative *as-* can attach to both intransitive and transitive verbs as in (3):[2]

(2)				
	a. k'omə	'stand (intr)'	a-k'omə	'stand (tr)'
	b. k'əllət'ə	'melt (intr)'	a-k'əllət'ə	'melt (tr)'
	c. k'^{w}ərrət'ə	'cut'	*a-k'^{w}ərrət'ə	

(3)				
	a. mət't'a	'come'	as-mət't'a	'make x come'
	b. k'^{w}ərrət'ə	'cut'	as-k'^{w}ərrət'ə	'make x cut y'

The fact that the causative *a-* cannot attach to transitive verbs can be seen in the ill-formed derivation in (2c).

Therefore, in Amharic the distribution of the two causative affixes is predictable. While the causative affix *as-* can attach to either a transitive or an intransitive stem, the causative affix *a-* can attach to intransitive stems only. However, further investigation reveals that there is one exception to this generalization. Some verbs exhibit an unexpected causativization pattern: They can take the causative affix *a-* despite the fact that they are already transitive. For example, consider the verb *bəlla* "eat." This verb is transitive as it occurs with two arguments—Agent and Patient. As would be expected for any other transitive verb, this verb can be causativized by the causative prefix *as-*, deriving the factive meaning "cause someone to eat" as in (4):

(4)	*aster*	*ləmma-n*	*dabbo*	*as-bəlla-čč-iw*
	A.	L.-ACC	bread	CAUS-eat.PF.-3F-3MO
	'Aster made Lemma eat some bread.'			

Now given that the verb which means "to eat" in (4) is transitive and that transitives do not take the causative prefix *a-*, we would not expect the verb *bəlla* "eat" to occur with *a-* and yet this is precisely what we find in (5):

(5)	*aster*	*ləmma-n*	*dabbo*	*a-bəlla-čč-iw*
	A.	L.-ACC	bread	CAUS-eat.PF.-3F-3MO
	'Aster fed Lemma some bread.'			

The verbs that behave like *bəlla* "eat" are very few. There are about 10 or so verbs, and they are listed in (6) below (see also Demoz, 1964; Leslau, 1995):

(6)				
	a. bəlla	'eat'	a-bəlla	'feed'
	b. t'ət't'a	'drink'	a- t'ət't'a	'give to drink'
	c. lasə	'lick'	a-lasə	'give to lick'
	d. t'əbba	'suck'	a-t'əbba	'to suckle'
	e. k'əmməsə	'taste'	a-k'əmməsə	'give to taste'
	f. lək'k'əmə	'pick up'	a-lək'k'əmə	'graze'
	g. g^{w}ərrəsə	'take a mouthful'	a-g^{w}ərrəsə	'give a mouthful'
	h. wat'ə	'swallow'	a-wat'ə	'give to swallow'
	i. k'amə	'eat large mouthfuls of ' grain	a-k'amə	'give large mouthfuls of grain'
	j. gat'ə	'graze'	a-gat'ə	'let graze'

A closer look at the meaning of the class of verbs that exhibit the unexpected causativization pattern reveals that they share a common

semantic core. Indeed, Demoz (1964) classifies them under a single heading "ingestive" as the event expressed by the verbs has something to do with taking food or edible substance.

A number of interesting questions arise regarding ingestive verbs including the following: (a) Is there any cross-linguistic evidence to support the assumption that the verbs in question form a distinct lexical semantic class? (b) What are the lexical semantic properties of the ingestive verbs that warrant their quirky causativization behavior?

These and related questions are addressed in this chapter. The rest of the chapter is organized as follows. In the next section some cross-linguistic evidence regarding the class of ingestive verbs and other similar verbs that exhibit a marked causativization pattern is presented. In the section Ingestives and Ambitransitivity, the ambitransitive nature of ingestives is discussed. In the section Ingestives as Three-Phase Predicates, a lexical-semantic analysis of the ingestive predicates is proposed mainly on the basis of the Amharic data.

INGESTIVES IN A CROSS-LINGUISTIC PERSPECTIVE

Ingestive predicates seem to exhibit marked behavior in a number of genetically and typologically diverse languages including Malayalam (Mohanan, 1983:105-106), Berber (Guerssel, 1986:36ff), Tariana (Aikhenvald, 2000), Jarawara (Dixon, 2000), and Chichewa (Baker, 1988:461).

In the Dravidian language Malayalam (Mohanan, 1983), there is a productive causativization process that derives causative predicates both from intransitives and transitives. However, intransitives and transitives differ in the syntactic realization of the causee. In the causativization of intransitive verbs, the causee (the original subject) becomes a primary object marked by accusative case, whereas in the causativization of transitive verbs, the causee occurs in an instrumental phrase. Thus, consider the following contrast (from Mohanan, 1983:58-59):

(7) a. *kuṭṭi* *kaṟaññu*
child-N cried
'The child cried.'

b. *acchan* *kuṭṭiye* *kaṟay-icc-u*
Father-N child-A cry-CAUSE-PAST
'The father made the child cry.'

(8) a. *kuṭṭ* *aanaye* *ṉuḷḷi*
child-N elephant-A pinched
'The child pinched the elephant.'

b. *amma* *kuṭṭiye-kkonte* *aanaye* *ṉuḷḷ-icc-u*
mother-N child-with elephant-A pinch-CAUSE-PAST
'The mother made the child pinch the elephant.'

In the causative of a transitive verb, as in (8b), the causee must appear as an instrumental with the postposition *konte* "with."

The only exception to the above generalization comes from a small class of transitive verbs that Mohanan also refers to as ingestive. Consider the following examples (Mohanan, 1983:105):

(9) a. *kuṭṭi* *coorə* *ṭiṉṉu*
child-N rice-N ate
'The child ate the rice.'

b. *amma* *kuṭṭiye* *coorə* *ṭiitti*
mother-N child-A rice-N eat-CAUSE-PAST
'The mother fed the child rice.'

As (9b) shows, the causee of the verb *ṭiṉṉ* "eat" behaves as the causee of an intransitive verb: It occurs with the accusative case instead of the instrumental adposition. Thus, even though the verb is transitive, its causativization pattern is that of an intransitive verb. Mohanan does not offer any explanation for what he calls the "mystery of ingestive verbs" (Mohanan, 1983:106).

It is interesting that the Malayalam ingestive class includes not only verbs of eating, such as *ṭiṉṉ* "eat," *kuṭikk* "drink" but also verbs such as *kaaṇ* "see," and *paṭhikk* "learn." Mohanan (1983:106) notes that in the Dravidian literature the term "ingestive" is used to encode the meaning of "taking something either literally or metaphorically." According to Mohanan, this class of verbs exhibits similar behavior in other Indian languages as well. Apparently, the existence of the ingestive class of verbs had been noted as far back as Panini in the study of classical Sanskrit.

The ingestive verbs also exhibit unexpected patterns of transitivity alternation in Berber, an Afroasiatic language (Guerssel, 1986). Berber has a productive morphological process that derives causative verbs from intransitive verbs. Thus, according to Guerssel (1986), "active" (unergative) monadic verbs such as *bedd* "stand" and "stative" (unaccusative) monadic verbs such as *zyert* 'be long' can be causativized by the causative prefix *ss-* (Guerssel, 1986:14-15):

(10) a. *y-bedd* *wrba*
3ms-stand boy:cst
'The boy stood up.'

b. *y-ss-bedd* *wryaz* *arba*
3ms-TRANS-stand man:cst boy
'The man made the boy stand up.'

(11) a. *y-zyert* *wfuli*
3ms-be long string-cst
'The string is long.'

b. *y-ss-zyert* *wrba* *fuli*
3ms-TRANS-belong boy-cst string
'The boy lengthened the string.'

On the other hand, causativization cannot apply to typical transitive verbs such as *wt* "hit" (Guerssel 1986:18):

(12) **y-ss-wt* *wmddakkwl-inw* *mucc* *aryaz*
3ms-CAUSE-hit friend:cst-my cat man
'My friend made the man hit the cat.'

The only exception to the generalization that Berber transitive verbs cannot be causativized comes from a class of verbs that Guerssel (1986:36) refers to as the *eat* class, which includes verbs such as *ttc* "eat" *sw* "drink" *jjawn* "be satiated with food" and *tted* "suckle." Consider the examples in (13)-(14):

(13) a. *Y-ttcu* *wqqzin*
3ms-eat dog:cst
'The dog ate.'

b. *Y-ss-ttc* *wryaz* *aqqzin*
3ms-TRANS-eat man:cst dog
'The man fed the dog.'

(14) a. *Y-ttcu* *wqqzin* *aysum*
3ms-eat dog:cst meat
'The dog ate the meat.'

b. *Y-ss-ttc* *wryaz* *aysum* *i-wqqzin*
3ms-TRANS-eat:per man:cst meat dat-dog:cst
'The man fed meat to the dog.'

Notice that, like most other languages, the Berber verb *ttc* "eat" can be used intransitively, as in (13a). However, the interesting example is (14b), where the transitive variant of the verb *ttc* "eat" is causativized, in a marked departure from the causativization pattern of Berber.

In Tariana (North-Arawak), morphological causatives typically attach to intransitive verbs (Aikhenvald, 2000:154-155). In the following examples the affix *-i(ta)* is employed to derive transitive verbs from intransitives:

(15)	a. -eku	'run'	-eku-ita	'make run'
	b. -yena	'pass'	-yeneta (<yena-i-ta)	'make pass'
	c. -musu	'go out'	-musu-i-ta	'make go out, drive out'
	d. -thaka	'cross'	-thaketa	'make cross'
	e. sakamu	'be luke-warm'	-sakamu-ita	'warm up'
	f. hiwiri	'be cool'	-hiwiriketa	'cool down (e.g. by stirring)'

Although normally morphological causatives cannot be formed on the basis of transitive verbs, there are some exceptions. A few transitive verbs can take the morphological causative. According to Aikhenvald (2000:157), the set of transitive verbs that can take the morphological causative include the verb *-ira* "drink" and verbs that refer to "ritual" actions such as those listed in (16)–(19):

(16) a. -sita 'smoke a traditional cigar'
b. -siteta 'get one's partner to smoke in the cigar-smoking ritual'

(17) a. -eme 'sniff snuff'
b. -emeta 'get someone to sniff snuff'

(18) a. -peru 'lick tobacco from partner's tongue in the cigar-smoking ritual'
b. -perita 'get someone to lick tobacco from partner's tongue'

(19) a. -ɲapa 'bless'
b. -ɲapeta 'get a shaman, or an older man, to bless someone'

Notice that, if one excludes the verb for "bless" in (19), all the other verbs can be classified as ingestive, broadly defined to include verbs that refer to taking some substance via olfaction (to accommodate verbs such as "sniff"). Aikhenvald (2000:156) notes that in languages closely related to Tariana, the morphological causative does not apply to transitive verbs, but again with the notable exception of the verbs for "drink" (Baniwa *-iza*, Bare *-dia*, Warekena *-kulua*).

In Jarawara (Dixon, 2000:28), the causative prefix *na-* "is used most often with intransitive verbs" as in (20):

(20) *okaki* *owa* *na-jana*
1sgPOSS+grandmother(f) 1sgO CAUS-grow up + f
'My grandmother brought me up.'

According to Dixon (2000), the causative prefix is normally attached to intransitive verbs. However, it is "occasionally used with a transitive verb." The only example given by Dixon refers to the ingestive meaning "to drink" (Dixon, 2000:28):

(21) a. *inamatewe* *remejo* *fawa-ke*
child(f) medicine(f) drink-DECf
'The child(feminine) drinks the medicine.'

b. *inamatewe* *mati* *na-fawa-ke*
child(f) 3sgPOSS+mother(f) CAUS-drink-DECf
remejo *jaa*
medicine PeRI
'Her mother made the child drink the medicine.'

It is interesting to note that in another Amazonian language, Urubu-Kaapor (Tupí-Guaraní, cf. Kakumasu, 1986:342), causatives are formed by attaching the prefix *mu-* to an intransitive verb (and also to some nouns). It appears that in Urubu-Kaapor, the causative does not attach to a transitive verb. According to Kakumasu (1986:342), the equivalent of "the mother caused the child to eat" is expressed either by "paraphrasing in terms of commanding (. . .) or using a different verb, e.g. *jopói* "give food to" (used of babies, pets, etc.)":

(22) a. *e-'u* *ma'e* *aja* *tipe* *i-mai*
2SQ.IMP-eat something thus FRUST 3-mother
'His mother said in vain, "Eat something".'

b. *ihe* *rendyr* *riki* *ma'e* *so'o* *te'e* *jopói* *reko*
my sister EMPH some game freely 3+feed AUX
'My sister is feeding some kind of game (animal).'

In Apalai (Carib family, cf. Koehn and Koehn, 1986:50-51), some intransitive verbs can take two causative suffixes. The only example given by Koehn and Koehn (1986) involves the ingestive verb *otuh* "eat." This verb can be transitivized by the causative suffix *-ma*:

(23) a. *poeto* *otuh-noko* *mana*
child eat-CONT 3+be+PRES
'The child is eating.'

b. *poeto* *otuh-ma-Vko* *mana*
child eat-CAUS-CONT 3+be+PRES
'He is feeding the child.'

The verb so transitivized can further take a second causative suffix:

(24) *aimo* *otuh-ma-po-Vko* *mana*
boy eat-CAUS-CAUS-CONT 3+be+PRES
'He is getting (someone) to feed the boy.'

Although the meaning that corresponds to the English *feed* seems to be a causative of the transitive *eat*, languages can lexicalize this meaning so that the verb can be predicated of only certain arguments. Thus, in Sre (Mon Kmer) the verb *po* means "to feed at the breast" and is predicated of infants (cf. Manly, 1972:44). Interestingly, this verb is intransitive—along with verbs such as *dùn* "to fall," and *lik* "to come out"—and can be causativized by the prefix *tən-* and the derived meaning is "to suckle":

(25) a. po 'to feed at the breast (of infants)'
b. tən-po 'to suckle'

It is clear therefore that in several languages some verbs appear to behave in a marked manner with respect to causativization processes or some morphosyntactic operations. In Amharic, the causative affix *a-* normally takes intransitive verbs. However, this affix can exceptionally take transitive ingestive verbs. In Malayalam, the causee of a transitive verb is always realized as an instrumental. With the exception of ingestive verbs, there is no other transitive verb whose causee can appear in an accusative case. In Berber, transitive verbs cannot be causativized. The only exception to this comes from ingestive verbs. In Tariana, the morphological causative is normally based on intransitive verbs. In a few instances, however, the morphological causative can be based on transitive verbs. Most of the verbs that belong to this exceptional class of verbs refer to ingestion. Likewise, in Jarawara, while the unmarked use of the causative morpheme is with intransitive verbs, it can occasionally occur with some transitives such as the verb meaning "to drink"—a typical ingestive predicate.

The cross-linguistic facts suggest that there are three ways of deriving the causative of ingestive predicates (not surprisingly parallelling the three types of causativization strategies (cf. Comrie, 1989).

(26) a. Lexical (suppletive forms are employed as in English)
b. Morphological (a causative morpheme is employed even if it means relaxing the selectional restriction on the causative affix as in Amharic)

c. Periphrastic (an independent verb, e.g., *give*, is employed as in Urubu-Kaapor)

The cross-linguistic behavior of ingestive verbs militates against analyzing the verbs in question as quirks of individual languages. Thus, a more satisfactory reason should be provided by investigating the semantic property of the verbs.

INGESTIVES AND AMBITRANSITIVITY

The Implicit Object

One characteristic property of ingestive verbs in general is the fact that they can be both transitive, as in (27a), and intransitive, as in (27b):

(27) a. John ate the sandwich
b. John ate

The verb *eat* in (27a) occurs with its patient argument whereas in (27b) it occurs as a monadic predicate with only one argument. Such ambitransitivity is also found in Amharic:

(28) a. *ləmma* *dabbo* *bəlla*
L. bread eat.PF.3M
'Lemma ate some bread.'

b. *ləmma* *bəlla*
L. eat.PF.3M
'Lemma ate.'

Even though the (b) sentences in (27) and (28) appear to be intransitive, it is the intuition of speakers that there is an implicit object argument that is prototypically understood as something edible or more specifically as a meal.

Thus, cross-linguistically ingestive verbs that occur without their patient argument are interpreted with an implicit object. Even in languages in which intransitivity is marked by morphology, such verbs are semantically transitive. For example, in Menomini (Algonquian, cf. Bloomfield, 1946) verbs are classified as intransitive and transitive. The verb meaning "to drink" is morphologically intransitive. According to Bloomfield (1946:94-95) such verbs make sense only in a syntactically transitive frame. He says "some intransitive verbs are used habitually with *implied goals* thus (. . .) *menuah* 'he drinks (it)' is intr.[ansitive] in form, but in general makes sense only with a pseudo-object: *nepeew menuah* 'he drinks some water,'" (emphasis in the original). In Onondaga (Iroquoian), the verb meaning "to eat" can occur without the patient as in the sentence *cihá i.weks* "the dog eats." According to Chafe (1970:10) this sentence is ambiguous as "it might mean 'the dog eats it' as well."

In languages that use a special marker for unspecified objects, a transitive verb does not have to occur with an object NP. For example, in Pipil (Uto-Aztecan) the prefix *ta-* on the verb indicates that the object is unspecified. According to Campbell (1985:77) verbs with the prefix *ta-* "are translated with an object 'something' or 'to be doing' whatever the action of the verb is, without specifying what the object is." Hence, it would not be surprising if in languages like Pipil verbs such as 'to eat' can occur without an object while maintaining their transitivity.

Although the problem of ingestive verbs is noted in some studies, no systematic analysis of the problem has been proposed. A notable exception is Guerssel (1986) who offered an account of the ingestive verbs in Berber.

The Lexical Structure of Ingestives

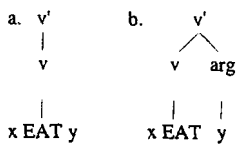
Guerssel (1986:6) assumes a framework that recognizes a level of Lexical Conceptual Structure (LCS) that represents the meaning of a verb, and a level of Lexical Structure (LS) that is "the lexical projection of the category verb." The two representations are related by "a set of linking conventions that associate the variables in LCS to argument positions in LS." The LCS and LS together are referred to as the Predicate Argument Structure (PAS) of a verb.

To account for the problem of ingestive verbs, Guerssel (1986) begins with the assumption that the ingestive verbs have Agent and Patient semantic roles. He argues that the LCS of *ttc* "eat" contains a clause that identifies the patient variable, as in (30):

(29) LCS of *ttc* 'eat'
x EAT *y*, where *y* is typically FOOD

Guerssel proposes that the patient role in the LCS is not obligatorily linked to an argument position in the LS. Thus, depending on whether or not the patient argument is linked, there are two PAS representations for *ttc* "eat" (Guerssel, 1986:37):

(30)



The PAS representations in (30a) and (30b) are that of the intransitive and transitive "eat," respectively. Guerssel argues that the causativization rule cannot apply to any transitive PAS, including (30b), but there is no reason why it cannot apply to (30a). The basic idea is that the *eat* verbs, by virtue of their lexical properties, have a patient role that is not linked into a position in LS. Due to these properties, the *eat* verbs can behave as intransitive for the purpose of causativization. Guerssel argues that the crucial difference between the *eat* verbs and other transitive verbs such as *hit* is that the latter cannot have a PAS like (30a) and as a result cannot be causativized.

Guerssel's (1986) analysis regarding the grammatical function of the arguments in the causativized "eat" (30b) is problematic. Notice that in Berber the Agent of the basic verb is realized as a dative argument. There is no reason why this argument is not realized as the object of the derived verb. To account for this problem, Guerssel (1986:39) invokes the notion of "passive participant": an argument that is a passive participant in a given activity is mapped onto the object position. Guerssel (1986) stipulates that in (30b), although the Agent argument of the lower verb is a passive participant relative to the external causer, the Patient argument of the lower verb is a "more" passive participant than the Agent argument and as a result it is the Patient that can be mapped onto object position.

One problem with Guerssel's notion of passive participant is that it is not independently determined but is rather evaluated relative to other arguments. Furthermore, it would be difficult to transfer the notion of a passive participant into the analysis of other languages such as Amharic and Malayalam, where it is the causee (not the patient of the lower verb) that is mapped onto the object position. Thus, it would be desirable to derive the effect of passive participant from other independently motivated principles of grammar.

In the next section, I will motivate an account of the ingestive verbs on the basis of a more articulated LCS. I will establish that the important property of ingestive verbs is not only the presence of an optional Theme/Patient argument but also the presence of a Goal argument that is co-referential with the Agent.

INGESTIVES AS THREE-PLACE PREDICATES

To investigate the meaning of the verb "eat," we need to look at the various components that are present in its LCS. Let us begin with the LCS of *eat* proposed in Jackendoff (1990). According to Jackendoff (1990:253), the verb *eat* has a causative LCS with an Agent, an optional Theme/Patient and a Goal argument:

(31) *eat*
V
[Event CAUS ([Thing$_i$], [INCH ([Thing],
[Path TO[IN[MOUTH-OF [Thing $_i$]]]])])]

The Path argument of INTO is normally conceived of as "self's mouth," which is co-indexed with the first argument of CAUSE. Typically, the arguments of CAUSE, INCH, and INTO—Agent, Theme/Patient, and Goal—are mapped onto the subject, object, and indirect object positions, respectively. However, when the Agent and Goal arguments are linked to the same NP, only the higher argument, that is, the Agent, is mapped onto the syntax. In other words, although the *eat* class of verbs appears to be transitive in the syntax, the verbs are ditransitive in the LCS.

Note that, crucially, when the Agent and Goal arguments are co-indexed, it is the higher of the two—within standard assumptions of the Thematic Hierarchy—namely the Agent, that is mapped onto syntax, giving the argument structure of the transitive verb *bəlla* "eat," with an Agent and a Theme argument. In other words, the Goal argument, (i.e., the argument of the functor PATH) does not project into syntax:

(32) bəlla 'eat'
[x_i CAUS^H (y) INCH z_i PATH]
↓
ø
< Agent, Theme >

Let us assume that another CAUSE is introduced. Suppose that *a-* cannot attach to a verb that already has an internal CAUSE. However, given the LCS of the verb *bəlla* "eat" in (32), the possibility of allowing a new CAUSE emerges.

Suppose also that the original CAUSE does not project. This option, which is otherwise unavailable with other causative verbs, is made possible by the co-indexation of CAUSE with PATH. In other words, CAUSE can fail to project as it is semantically recoverable from PATH. Thus, the old CAUSE will be displaced by the new CAUSE. This will give the triadic argument structure of the verb *a-bəlla* "feed," as modeled in (33):

(33) a-bəlla 'feed'
[w CAUS [x_i CAUS (y) INCH z_i PATH]]
↓
ø
< Agent, Theme, Goal >

Languages vary in how they realize the LCS in (33). In languages like Amharic, the introduction of the new CAUSE is achieved by a morpho-

logical causative, the internal CAUSE affix *a-*. The Tibeto-Burman language Meithei is like Amharic in that a causative suffix is used to derive the causative of the verb 'eat.' Thus, *čá* "eat" → *čáhənbə* "cause to eat" (cf. Chelliah, 1997:110). In English, the LCS in (33) is realized by a suppletive form, the verb *feed*.[3] In Chitimacha, according to Swadesh (1946:318), the causative variant of the verbs meaning "to eat" and "to drink" are formed by suppletion:

(34) a. gušt- 'to eat...' nokšte 'to feed ...to...'
b. ka.čt- 'to drink...' hakte- 'to give...to...to drink'

The proposed analysis does not imply that all verbs of ingestion will behave in the same way. On the contrary, there will be language-particular lexical gaps. For instance, the verbs *eat* and *drink* are conceptually identical except for the specification of the Theme/Patient argument: in the former the Theme/Patient is typically a solid substance (cf. Levin, 1993: 213ff), whereas in the latter it is some sort of liquid.[4] In both cases, the Theme/Patient can be omitted: *John drank beer* versus *John drank*. Nevertheless, although an internal causative can be introduced into the LCS of *eat*, deriving the lexicalized verb *feed*, there is an idiosyncratic constraint (i.e., not all ingestive verbs allow the same kind of derivation). Thus, in English we find periphrastic forms with most verbs of ingestion such as *give to drink*.

There is cross-linguistic variation with respect to the productivity of deriving a causative verb through the addition of an internal causative morphology. As we saw earlier in the chapter, the set of ingestive verbs that take the internal causative *a-* in Amharic include verbs such as *bəlla* "eat," *t'ət't'a* "drink," *k'əmməsə* "taste," among others. Likewise, in Malayalam and Berber, ingestive verbs have causatives that are derived by a productive morphological process. However, recall that Malayalam (Mohanan, 1983) differs from both Amharic and Berber in that the set of ingestives includes verbs of perception and mentation such as the verbs meaning "to see" and "to learn"—metaphorical extensions of the prototypical notion.

Note that, even in Amharic, the term "ingestive" is used in a loose sense as it covers verbs of gustation like *k'əmməsə* "taste." It is interesting to note that in some languages, there is only one abstract verb that can be used with anything that is taken into the body. For instance, in Bengali the verb *kha* can be used as "eat," "drink," "smoke," or "graze" depending on the identity of the Agent and/or Theme/Patient argument (M. Onishi, p.c.).[5]

There is also cross-linguistic variation with respect to the case of the Goal argument. As the case assignment of the Goal argument depends on the case resources of individual languages, there may be some variation. In Malayalam the Goal argument receives accusative case, whereas in Berber, the Goal argument receives dative case. In languages like English, the goal argument can be expressed either as accusative or dative. Consider the examples in (35), from Carrier and Randall (1992):

(35) a. They fed the baby (peas)
b. They fed peas to the baby

The sentence in (35a) resembles the dative shift structure that is familiar from the verb *give*. One important difference between the typical dative shift structure and (35a) is that in the former the Theme/Patient argument cannot be left implicit (*They gave John * (a present)*). This can be trivially traced back to the LCS of the verb *give*; namely, unlike the ingestives, the Theme/Patient argument cannot be implicit.

I have said that the crucial property of ingestive verbs is that the Agent argument can be co-indexed with the Goal argument. If this assumption is correct, one may wonder whether there are noningestive verbs that exhibit the same lexical property (i.e., meet the requirement that the Agent and Goal be co-indexed) and behave in a marked way. Amharic has one such verb, namely *ləbbəsə* "dress." Consider the examples in (36):

(36) a. *aster* *lɨbs* *ləbbəsə-čč*
A. dress dress.PF-3F
'Aster dressed in a dress.'

b. *ləmma* *aster~~i~~-in* *lɨbs* *a-ləbbəs-at~~i~~*
L. A.-ACC dress/cloth CAUS-dress.PF.3M-**3FO**
(lit. 'Lemma dressed/clothed Aster a dress.')
'Lemma dressed/clothed Aster in a dress.'

I assume that the LCS for *ləbbəsə* "dress" is as in (37)—which is only minimally different from that of the verb *bəlla* "eat":

(37) *dress*
V
[Event CAUSE ([Thing~~i~~], [INCH ([Thing],
[Path TO [ON [BODY-OF [Thing~~i~~]]]])])]

The LCS of *dress* is very much like *eat* except that in the former the Goal argument is not "self's mouth" but rather "self's body." As in the case of the ingestives, the Goal of the verb *ləbbəsə* "dress/put on/wear" can be different from the Agent argument: X causes Y(clothing) to be on the body of Z.

Not surprisingly, within the context of the proposed analysis the verb meaning "to dress" or "to put on" also forms a natural class with the

ingestive verbs in languages like Hindi-Urdu, which brings us to yet another unusual behavior of ingestive verbs.

It has been noted for some time now that ingestive verbs exhibit an unexpected morphosyntactic pattern with respect to the construction known as a *resultative participle*. Defining a resultative participle is not a straightforward matter, but generally most will agree with Haspelmath (1994:159) that a resultative participle expresses "a state resulting from a previous event." Typical examples include *the abused child*, or *the wilted dandelion*.

In many languages the resultative participle is not possible with unergative verbs; thus the equivalents of *the run boy* or *the danced man* are ungrammatical. It appears that resultative participles have Passive orientation with transitive verbs but Active orientation with unaccusative or inactive intransitive verbs. What is interesting is that, as pointed out by Haspelmath (1994:159–161), ingestive verbs often have (exceptionally) active orientation (i.e., they behave as if they are intransitive).

In Hindi-Urdu the class of transitive verbs that have active resultative participles includes verbs meaning "to eat," "to drink," "to see," "to learn," "to wear," and "to put on." Note that English has the lexicalized form *drunken* as well as the mental ingestion verb *learned* (Haspelmath, p.c.), but the process appears to be productive in languages like Hindi-Urdu. According to Haspelmath (1994:161) "what 'drink', 'eat', 'learn', 'see', and 'put on', 'wear' have in common is that the agent is saliently affected by the action."

I suspect that the enriched Lexical Conceptual Structure proposed for the ingestive verbs here may eventually be able to provide a unified account for the resultative facts we find in language like Hindi-Urdu. The fact that the Agent is saliently affected may be derived from the assumption that it is co-indexed with a Path argument, distinct from other transitive verbs.

CONCLUSION

Ingestive predicates exhibit marked transitivity patterns in many typologically and genetically diverse languages. In many languages an otherwise strict selectional restriction of causativizing morphemes is relaxed just in case the verb in question belongs to the ingestive class. Thus, in Amharic the causative affix *a-* normally attaches to (unaccusative) intransitives to derive causative predicates. The exception in which *a-* attaches to a transitive verb occurs with ingestive predicates, such as *bəlla* "eat" -> *a-bəlla* "feed."

Intuitively, ingestive verbs appear to be semantically homogenous. The problem is: how can we account for the marked property of the verbs within a restricted theory of argument structure? For example, in Amharic how can we account for the argument structure of this class of verbs without abandoning the otherwise robust generalization that the internal causative morpheme attaches to intransitive predicates.

A closer examination of the LCS of the ingestive predicates has revealed that the verbs are actually ditransitive and take an Agent, Theme/Patient, and Goal (cf. Jackendoff, 1990). Distinct from the ditransitivity of other verbs (e.g., *give* in English) the ditransitivity of ingestive predicates has one special property: the Agent (the first argument of CAUS) and the Goal (the argument of PATH) are linked to a single argument and thus syntactically realized by one argument (the Agent). I have argued that introducing an Agent argument would be possible provided that the former Agent is not syntactically realized. This would be possible because the former Agent is conceptually linked with the Goal argument. The result is a construction where a Goal argument surfaces as the direct object of a ditransitive predicate yielding verbs such as *a-bəlla* in Amharic and *feed* in English.

Thus, the marked behavior of ingestive verbs with respect to transitivity alternation can be accounted for by assuming that the verbs' LCS specifies a Goal argument that forms a chain with the Agent argument. By virtue of its co-indexation with a Goal argument, the Agent may not project in the syntax. This allows for the introduction of another causer argument thus deriving a special causative of transitive verbs.

NOTES

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1. It is interesting to note that cross-linguistically a causative affix that can attach to a transitive verb can also attach to an intransitive verb, whereas the reverse is not true. There is no language in which a causative morpheme attaches only to transitive verbs (see also Hetzron, 1976:374).
2. Actually, the causative prefix *a-* attaches only to stative (or unaccusative) intransitives such as *k'əllət'ə* "melt (intr)." This prefix cannot attach to activity (or unergative) intransitives such as *č'əffərə* "dance." In this chapter, I ignore this distinction, as it is not relevant to the main argument (but see Amberber, 1996, 2000).

3. It should be noted here that the English verb *feed*, which we assume to be the lexicalized causative of *eat*, has a different range of usage from the verb *eat*. As noted in Fellbaum (1990), the verb *feed* supports a number of compounds such as *bottlefeed, breastfeed, spoonfeed*, which simply do not occur with the verb *eat*. This type of meaning extension is typical of lexicalization; recall the famous debate regarding the relationship between *kill* and *cause to die*.

4. This is a slight oversimplification. There are other differences between the English verbs *eat* and *drink*, which are not relevant for the present discussion. For instance, consider the difference between *John had a drink* vs. **John had an eat*. See Wierzbicka (1982) for a discussion of some interesting differences between the two English verbs.

5. In some languages, it is the manner of eating that seems to be expressed by different verbs. English appears to have a rich inventory of verbs of ingestion that specify the *manner* of eating. Thus, consider *chew, chomp, crunch, gnaw, munch, nibble, pick, peck, sip, slurp, suck* (examples from Levin, 1993:214). Some verbs are used to encode "the complete, and usually speedy, consumption of something" (Levin, 1993:215). Such verbs are *bolt, gobble, gulp, guzzle, quaff, swallow, swig, wolf*.

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2

Explaining Clitic Variation in Spanish

José Camacho and Liliana Sánchez

Dialects of Spanish display a complicated pattern of variation with respect to the morphological shape of the third person clitics (for a complete list of references, see Fernández-Ordóñez, 1994). Some dialects are more or less stable, whereas others, in contact with other languages, are in constant change. Accounting for clitic variation in these complex situations poses a challenge for Linguistic Theory. In this chapter we will attempt to account for such variation using the framework of Optimality Theory, hence OT (cf. Prince and Smolensky, 1993), which uses universal constraints that are ranked on a language-particular basis. In OT, linguistic variation stems from the relative position of a given constraint within the ranking. Additionally, a lower-ranked constraint may be violated to satisfy a higher-ranked one.

In particular, we will compare the non-contact varieties (etymological and referential dialects) with contact varieties. Contact varieties yield grammars that vary in interesting ways. In some, a unique clitic is the result (but not always the same one for all grammars); in others, the result is two forms in free variation, with wide variation across speakers as to which specific forms are chosen. For these dialects, we will argue that free variation is the consequence of unranked constraints. An important asymmetry will be shown when comparing different contact dialects: whereas the marked form for case (dative) can surface as the unique clitic form, the marked form for gender (feminine) never does. Furthermore, when the feature feminine is present in the lexical representation, it is generally maintained in the surface form. In OT terms, the faithfulness constraint to feminine is highly ranked.