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On the Argument Structure of Causatives

Morphologically derived causatives are composed of a causative morpheme and a base verb. It is generally accepted that the causative morpheme is a two-place predicate expressing a relation between a causer and a caused event. This has suggested to some researchers that morphological causatives have essentially the same syntactic representation at D-Structure as English periphrastic causatives involving verbs like *make* or *cause*, which are also semantically two-place predicates. This line of research is most clearly represented by theories that derive causatives through syntactic incorporation, particularly those of Baker (1988) and Li (1990).

In this study I will show that in certain languages the causative morpheme is a three-place predicate, involving a patient in addition to a causer and a caused event. This assumption will not only provide a simple account of the basic generalizations about causatives, but also explain a whole set of facts that are completely mysterious for the Incorporation theories. I will argue that the three-place causative predicate yields an argument that bears a semantic relation to both the causative predicate and the base predicate. This semantically composite argument cannot be derived through movement in the syntax, since it would violate the θ-Criterion (Chomsky (1981; 1982)). It must be formed elsewhere (i.e., in the argument structure) and assigned fully formed to one syntactic position. A consequence of this is that morphological causatives cannot be formed by a syntactic derivation, contrary to the claim made by the Incorporation theories.

1. The Basic Facts

In this section we will establish the basic facts about causatives in Chicheŵa, a language that has figured centrally in previous theories of causatives (e.g., Baker (1988) and Li (1990)). Chicheŵa is a Bantu language spoken in Malawi and neighboring countries in

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South Central Africa, and the judgments reported here are those of Sam Mchombo. We will first consider the way in which the causee is expressed, and then discuss the status of the oblique causee.

The morphosyntactic expression of the causee in Chichewa appears to depend on the transitivity of the verb on which the causative verb is formed. When the base verb is transitive, the causee may be expressed as an oblique phrase introduced by *kwá* (elsewhere used to introduce goals and directional locatives), as shown in (1a), or as an object, as shown in (1b) (examples from Alsina and Mchombo (1990)). (See section 3.1 on the generality of this alternation.)[1]

(1) a. Nŭngu i-na-phík-íts-a maûngu kwá kádzīdzi.
9 porcupine 9 S-PS-cook-CST-FV 6 pumpkins to 1a owl
'The porcupine had the pumpkins cooked by the owl.'
b. Nŭngu i-na-phík-íts-a kadzidzi maûngu.
9 porcupine 9 S-PS-cook-CST-FV 1a owl 6 pumpkins
'The porcupine made the owl cook the pumpkins.'

Chichewa is not exceptional in allowing this alternation in the expression of the causee of transitive base verbs. Many other Bantu languages have this variation: for example, Shona (Hawkinson and Hyman (1974, 155), Bokamba (1981)), Swahili (Scotton (1967, 260)), Kinyarwanda (based on the author's informant work with Monique Masagara), and Tharaka (according to research by Carolyn Harford). In the first three, unlike Chichewa and Tharaka, the oblique causee takes the same preposition as the passive *by*-phrase.

With causatives based on intransitive verbs, the causee is invariably expressed as an object, as shown in (2) (from Alsina and Mchombo (1990)).

(2) Chatsalĭra a-ku-nám-íts-á (*kwá) mwăna.
1 NAME 1 S-PR-lie-CST-FV to 1 child
'Chatsalira is making the child lie (tell lies).'

There is no doubt that the object causee in examples (1b) and (2) is an object, since it shows the general syntactic behavior of objects in Chichewa: it must be adjacent to the verb, can be expressed by means of an object marker, and can be the subject in the passive form (see Alsina and Mchombo (1990), Baker (1988, 165)).

As for the oblique causee of examples like (1a), the available evidence argues for treating it as an adjunct (of the variety referred to as "argument-adjunct" by Grimshaw (1990), which includes the passive *by*-phrase). Given the assumption that adjuncts are

[1] Tones and vowel length are marked in the Chichewa sentences as follows: long vowels may be low ¯, high ″, rising ˇ, and falling ˆ, and short vowels are either high ′, or low, which is unmarked. Each noun in Bantu belongs to one of eighteen noun classes, denoted in the glosses by Arabic numerals. Roman numeral I designates first person singular. The following abbreviations are used:

S	subject	PS	past	CST	causative	FV	final vowel
O	object	INF	infinitive	PAS	passive	FOC	focus
PR	present	ERG	ergative	ACC	accusative	REL	relative

generally optional, it then follows that the oblique causee of (1a) can be omitted, as in (3).

(3) Nŭngu i-na-phík-íts-a maûngu.
9 porcupine 9 S-PS-cook-CST-FV 6 pumpkins
'The porcupine had the pumpkins cooked.'

A sentence like (3), with an omitted causee, corresponds to a sentence like (1a), with an oblique causee, and not to one like (1b), with an object causee. The clearest evidence internal to Chichewa is the fact that the causee can only be omitted when there is a corresponding form with an oblique causee. Causatives based on intransitive verbs, for example, can neither express the causee as an oblique, (2), nor omit it, (4).

(4) *Chatsalĭra a-ku-nám-ĭts-a.
1 NAME 1 S-PR-lie-CST-FV
'Chatsalira is making someone lie (tell lies).'

There is cross-linguistic evidence pointing to the conclusion that the causee can be omitted only when it can be expressed as an oblique. The Bantu languages Shona, Swahili, Kinyarwanda, and Tharaka, which show an object/oblique alternation for the causee of transitive verbs, allow it to be omitted. On the other hand, the Bantu languages Sesotho (Machobane (1989; personal communcation)) and Kichaga (Alsina and Moshi (1990)), which can only express the causee of transitive verbs as an object, do not allow it to be omitted. The facts of Marathi (Alsina and Joshi (1991), Joshi (personal communication)) also support this conclusion. In Marathi, causatives based on most transitive verbs take an optional oblique causee, as in (5), whereas causatives based on transitives of the "ingestive" type (see Masica (1976)), which can only express the causee as an object, cannot omit it, as in (6).

(5) sumaa-ni (raam-kaḍun) shaam-laa maarawle.
Suma-ERG Ram-by Sham-ACC beat-CST
'Suma had Sham beaten (by Ram).'
(6) sumaa-ni *(raam-laa) paaṇi paa͡dz̆le.
Suma-ERG Ram-ACC water drink-CST
'Suma made Ram drink water.'

The evidence provided by Zubizarreta (1985) for the adjunct status of the *par*-phrase causee and for the argument status of the dative causee in French, when applied to Chichewa, reveals that the *kwá*-phrase causee is the analogue of the former and the object causee the analogue of the latter. As in French, an inalienable possession construction can be the embedded structure of a causative provided the causee is an object, (7a), and not an oblique, (7b).

(7) a. Alīmi a-na-kwéz-éts-á Chátsalirá dzāṇja.
2 farmers 2 S-PS-raise-CST-FV 1 NAME 5 hand
'The farmers made Chatsalira raise his hand.'

b. *Alîmi a-na-kwéz-éts-á dzânja kwá Chátsalîra.
2farmers 2S-PS-raise-CST-FV 5hand to 1NAME

The two forms of the causee contrast with respect to the ability to antecede a possessive pronoun in the same clause:

(8) a. Alîmi a-ku-lémb-éts-a mkángó ndakatulo yâke.
2farmers 2S-PR-write-CST-FV 3lion 9poem 9his
'The farmers are making the lion write his poem.'
b. *Alîmi a-ku-lémb-éts-a ndakatulo yâke kwá mkângo.
2farmers 2S-PR-write-CST-FV 9poem 9his to 3lion

Assuming that the inalienable possession construction requires a coargument of the possessed object to be interpreted as the possessor, the ungrammaticality of the *kwá*-phrase in (7b) follows from the fact that it is an adjunct and not an argument; the object causee, on the other hand, can be interpreted as the possessor of the inalienable object in (7a) because it is an argument of the same predicate as the possessed object.[2] Adopting Zubizarreta's assumption that an argument cannot be referentially dependent on an adjunct of the same clause, the object causee in (8a), as an argument, can be the antecedent of the possessive pronoun, but the oblique causee in (8b), as an adjunct, cannot.[3] As in Zubizarreta (1985), "truncated" causatives (those without an overt causee) are equivalent in terms of argument structure to those with an oblique causee (the *par*-phrase in French, and the *kwá*-phrase in Chichewa).

In sum, we have seen that, although causatives based on intransitive verbs in Chichewa have the causee invariably expressed as an object, (some) causatives based on transitive verbs allow the causee to alternate between an object and an oblique expression. A theory of causatives must account for what it is that allows the argument that corresponds to the external argument of the embedded verb to be expressed as an object in the causative form, what it is that allows it to be optionally expressed as an oblique or omitted, and what it is that allows this optional oblique expression only for some verbs.

2. The Three-Place Causative Morpheme

Whereas previous theories have attempted to account for the syntactic variation in causatives by means of purely syntactic principles (e.g., Case theory), I will show that this variation is rooted in the semantics of causatives. Different semantics, or argument structures, correspond to different syntactic structures.

In the theory I will present, complex predicates such as causatives arise through the combination of argument structures, yielding a derived argument structure. Since the argument structure contains the semantic information about lexical items that is relevant for syntax, the result of combining argument structures will have effects on the

[2] Zubizarreta (1985) analyzes the inalienable possession relationship as involving a bound pronoun in the possessed object; this pronoun, then, has to be bound by an argument. She also discusses causatives based on idiomatic expressions; see section 3.1.3 for similar facts in Chichewa.

[3] It is not possible to rule out linear order as a factor accounting for the contrast in Chichewa, as it is in French, where the possessive pronoun in the equivalent of (8) precedes both the oblique and the dative causee.

syntactic expression of arguments, given a set of principles for mapping argument structure to syntax.

2.1. The Semantics

According to standard assumptions, the causative predicate would contain the functor or predicator CAUSE, which takes two arguments: a *causer*, which may be an individual or an event, and the *caused event*, the event that is brought about by the causation. The caused event contains the argument structure of the predicate on which the causative is based. Under this approach, the causative morpheme in a language like Chicheŵa would be represented as in (9), where the label *ag(ent)* represents the causer.

(9) $\overbrace{\phantom{\text{CAUSE}\langle \text{ag PRED}\langle \ldots \rangle}}^{\text{caused event}}$

$$\text{CAUSE}\langle \text{ag PRED}\langle \ldots \rangle \rangle$$

This representation entails that the arguments of the predicate embedded in the caused event are not semantic arguments of the matrix CAUSE predicate. However, it has been observed that this is not correct for causatives in many languages. For example, Rizzi (1986, 534) notes, "It is intuitively plausible to look at the subject of the causative clause [i.e., the causee] as an argument of the causative verb, as well as of the embedded predicate: the subject of the causative clause is (more precisely, can be) 'acted upon' by the subject of the causative verb in order to bring about a certain result." Similarly, T. Mohanan (1988) proposes to "characterize direct causation as a semantic relation in which *the causer directly acts upon the causee*." Building on these ideas, I propose to analyze causative morphemes in many languages as three-place predicates in which the causer (or agent) acts on an individual, the patient, in bringing about an event, of which this individual is itself an argument. Such a causative morpheme can be represented as follows, where the label *pt* represents the patient:

(10) $\overbrace{\phantom{\text{CAUSE}\langle \text{ag pt PRED}\langle \ldots \theta \ldots \rangle \rangle}}^{\text{caused event}}$

$$\text{CAUSE}\langle \text{ag } \underbrace{\text{pt}}_{\theta} \text{ PRED}\langle \ldots \theta \ldots \rangle \rangle$$

The combination of this causative morpheme with another predicate creates a new argument that is a semantic argument both of the CAUSE predicate and of the embedded predicate. This sharing of thematic roles, or *fusion*, is shown in (10) by the line connecting the two thematic roles involved. The thematic identity of both original arguments is preserved in the *fused* argument, since they jointly determine its syntactic properties, as demonstrated in section 3 of this article.[4]

[4] Semantic identification, or fusion, of roles is shown in Alsina (forthcoming) to be a more widespread phenomenon than is generally thought, involving not only roles of different predicates in complex predicates such as causatives, but also roles of the same predicate, as with reciprocal verb forms in Bantu and reflexivized verbs in Romance. A similar notion, *argument binding*, is used in Jackendoff (1990) to allow for the possibility of an NP having multiple thematic roles. According to Jackendoff (1990) too, causative verbs have a patient role that binds an argument of the caused event. This is the case not only with verbs of coercion such as *force*, but also with verbs of permission such as *let*. Following this idea, then, the analysis proposed here can account for causatives with the coercive and permissive readings alike.

2.2. *Cross-Linguistic Variation*

The three-place causative predicate (10) has two variants of meaning, which constrain the types of arguments that the patient of causation may fuse with:

Variant 1: The causer, in order to bring about an event, acts on an individual who is the participant most in control of that event.

Variant 2: The causer acts on an individual by causing an event that affects that individual.

Causative constructions vary cross-linguistically depending on whether they have one variant of meaning or the other or both. If the causative has variant 1, the patient of the causative fuses with the "logical subject" of the embedded predicate, which is the most prominent argument of a predicate (see section 5). If the causative has variant 2, the patient of the causative fuses with the "logical object" of the embedded predicate, that is, an affected argument, typically a patient or theme. An affected argument is one that undergoes change of state or location.

Whether a particular causative morpheme has one variant or the other is determined by the two parameters in (11), which can be positively or negatively set, as argued and illustrated in Alsina and Joshi (1991). Chicheŵa has a positive setting for both parameters, which means that the patient of the causative predicate can fuse either with the logical subject or with the logical object of the base predicate.

(11) *Parameters*

The patient of the causative predicate may fuse with

a. the logical subject of the base predicate or
b. the logical object.

As we will see in sections 3 and 5, the patient of the causative predicate plays a crucial role in determining the syntactic expression of arguments, particularly of the causee. As a prototypical internal argument, a patient is canonically expressed as an object. Hence, this is the syntactic expression assigned in a causative construction to the argument of the embedded predicate that is fused with this patient. The option of realizing the causee of certain transitive base verbs as an adjunct comes about when the patient of the causative predicate is not fused with the causee. In this situation, the causee, as a noninternal argument, is not assigned the syntactic expression that corresponds to an internal argument. Because it is not the external argument of the derived argument structure either, it cannot be the subject; hence, it receives no syntactic expression as an argument and can only be realized indirectly as an adjunct.

The idea that causative morphemes in some languages are inherently three-place predicates receives additional support from the fact that verbs meaning 'give' are used as causatives in various languages, such as Tzotzil (Aissen (1983, 288–290)) and Chamorro (Gibson (1980)). This would be consistent with the assumption that the adicity of

a morpheme is relatively constant across its different uses. (I am grateful to an *LI* reviewer who pointed this out.)

3. The Composite Argument of Causatives

A fundamental aspect of the theory developed in this article is the assumption that the causative predicate in Chichewa has a patient that forms a thematically composite argument with an argument of the embedded predicate. This section provides further evidence for this claim.

3.1. The Patient of the Causative Predicate

The following evidence shows that causative constructions in Chichewa have an internal argument that is the patient of the causative predicate.

3.1.1. Correlated Syntactic and Semantic Differences The alternation in the expression of the causee in examples like (12) (= (1)) correlates with a semantic difference.

(12) a. Nŭngu i-na-phík-íts-a maûngu kwá kádzīdzi.
9 porcupine 9 S-PS-cook-CST-FV 6 pumpkins to 1a owl
'The porcupine had the pumpkins cooked by the owl.'

b. Nŭngu i-na-phík-íts-a kadzidzi maûngu.
9 porcupine 9 S-PS-cook-CST-FV 1a owl 6 pumpkins
'The porcupine made the owl cook the pumpkins.'

According to the theory developed here, the causee is the patient of the causative predicate when it is expressed as an object, but not when it is suppressed (optionally expressed as an oblique). Since a patient is, according to Jackendoff (1990), the entity affected by the action, the object causee is interpreted as affected by the causation; the oblique causee, on the other hand, is an agent unaffected by the causing event.

One way to bring out the semantic difference between the two forms is to consider the causer's intentions: in (12b), for example, where the causee *kadzīdzi* 'owl' is expressed as an object, the porcupine intends to get the owl to cook the pumpkins, whereas in (12a), where the causee is expressed as an oblique, the porcupine intends to get the pumpkins cooked, and the owl is only the intermediary who carries out the action of cooking. This follows from the assumption that, in the former case, the causer is acting on (affecting) the semantic subject of the base predicate, and, in the latter, the causer is not acting on the semantic subject of the base predicate, because it is acting instead on the patient of the base predicate.

The standard test for patienthood also distinguishes the alternative syntactic realizations in (12). If we ask the Chichewa equivalent of "What did the porcupine do to the owl?," (12b) is a possible answer, but (12a) is not. This follows from the proposal that the causee *kadzīdzi* 'owl' is the patient of the causative predicate in the former example, but not in the latter. In (12a), it is the base patient *maûngu* 'pumpkins' that is

the patient of causation; hence, this example is a plausible answer to a question like "What did the porcupine do to the pumpkins?"

The syntactic alternation in causatives is correlated with a semantic difference, because different semantics (argument structures) correspond to different syntactic structures.

3.1.2 Unspecified Object Deletion Some verbs allow their objects to be omitted, in which case the verb is interpreted as taking a prototypical generic or indefinite object. This phenomenon, known as *unspecified object deletion* (UOD), affects verbs like *phīk-a* 'cook', as in (13). However, the causative form of this verb with a suppressed causee, as in (3), does not allow the object of the base predicate to be omitted, as in (14).

(13) Kadzīdzi a-na-phík-a (maûngu).
1a owl 1 S-PS-cook-FV 6 pumpkins
'The owl cooked (the pumpkins).'

(14) *Nŭngu i-na-phík-îts-a.
9 porcupine 9 S-PS-cook-CST-FV
'The porcupine had something cooked.'

As shown in Alsina and Mchombo (1990; in press), there are different constraints on the omissibility of objects. In the first place, restricted objects cannot be deleted (see section 5.4). However, this constraint will not distinguish (13) and (14), since the object of both the simple verb and its causative form can be an unrestricted object (see section 5, especially (50a) and (51b)). On the other hand, the possibility of UOD is further constrained by lexical semantics. It seems that only those verbs that describe an unbounded process (an event that takes place over time and is not inherently delimited), as opposed to a state, a result, or a bounded process, allow UOD. If we assume Vendler's (1967) classification of verbs into states, achievements, activities, and accomplishments, it becomes apparent that, in general, the UOD verbs correspond to activities. (In Dowty (1979), UOD verbs are classified as activities, whereas their transitive counterparts are generally accomplishments.) It is natural that a verb that denotes an unbounded process, rather than a result or a bounded process, should be allowed to appear without its object, which is what delimits the process.

One test that identifies a subclass of non-UOD transitive verbs is to use the verb with a specified object and with the adverbial *kwá nthâwí yáítâli* 'for a long time'. If the sentence is semantically unacceptable, the verb does not allow UOD.[5] Consider (15)–(16).

(15) A-na-phík-á nyāma kwá nthâwí yáítâli.
1 S-PS-cook-FV 9 meat for 9 time 9 long
'He cooked the meat for a long time.'

[5] If the sentence is acceptable, the verb may or may not allow UOD. For example, *psopsōn-a* 'kiss' and *dūl-a* 'cut' can be used with the durational modification but do not allow UOD. Some other property of these verbs would have to explain their failure to undergo UOD.

(16) *A-na-thyól-á mpándo kwá ntháwí yáítâli.
1 S-PS-break-FV 3 chair for 9 time 9 long
'He broke the chair for a long time.'

Phīk-a 'cook', which can be used with the durational adverb, (15), allows UOD: see (13). *Thyōl-a* 'break', which cannot be used with that adverb, (16), does not allow UOD: **A-na thyôl-a* *'He broke'. Other verbs that behave like *phīk-a* in allowing both the durational adverb and UOD are *jambūl-a* 'paint', *lēmb-a* 'write', *dy-a* 'eat', *chāp-a* 'wash', and *sīnj-a* 'pound'. Verbs that behave like *thyōl-a* in disallowing both the durational adverb and UOD include *onōng-a* 'damage', *tsēk-a* 'close', *phwāny-a* 'smash', and *tsekūl-a* 'open'.

(17) contains a morphological causative with the durational adverb. This adverb is acceptable only when it is interpreted as modifying the caused event, as in (17a). It is unacceptable when it is interpreted as modifying the causing event, as in (17b). This indicates that the causative morpheme belongs to the same class as *thyōl-a*.[6]

(17) A-na-phík-íts-a nyāma kwá nthāwí yáítâli.
1 S-PS-cook-CST-FV 9 meat for 9 time 9 long
a. 'He caused the meat to be cooked for a long time.'
b. *'He caused for a long time the meat to be cooked.'

The fact that (17a) is acceptable, with the adverb modifying the base predicate, as in the noncausative (15), shows that the formation of the causative does not change the aspectual properties of the base predicate. This being the case, if the object of the causative in (17) were thematically related only to the base predicate, there would be no principled reason to rule out UOD of the causative *phik-īts-a*, since the base predicate *phīk-a* allows UOD. However, if the base object in (17) is also semantically the object of the causative morpheme, it cannot undergo UOD, because the causative morpheme belongs to the class of verbs that cannot take a durational adverb and consequently do not allow UOD. Therefore, we correctly predict that the single object of causatives based on transitive verbs cannot be deleted as an unspecified object, as in (14), regardless of the properties of the base predicate. It also follows that the object of causatives based on intransitive verbs cannot be deleted either, as shown in (4).

3.1.3. Verb-Object Idioms Consider the verb-object idiom in (18). Although the object in such a sentence is nonreferential and has no meaning that can be isolated from the idiom, it can be the subject of the passive form, as in (19).[7] A causative based on such an idiom must have the causee expressed as an object, in order to preserve the idiomatic

[6] If the adverb test distinguishes activities from nonactivities, as seems likely, the fact that the causative morpheme belongs to the latter class is not surprising in the light of proposals by Dowty (1979) and Van Valin (1990). These authors include the operator CAUSE in the formal representation of accomplishments. It follows that, if the causative morpheme contains this operator, it can only be an accomplishment (i.e., a nonactivity).

[7] In order to preserve the idiomatic reading, the oblique logical subject cannot be expressed in the passive. The reason for this restriction is unclear.

reading, as in (20a). The oblique expression (or omission) of the causee, as in (20b), is ungrammatical.

(18) Kalŭlu a-na-bwír-á dōthi.
1a hare 1 s-PS-scoop-FV 5 dust
'The hare scooped dust.' or 'The hare died.'

(19) Dōthi li-na-bwír-ídw-a.
5 dust 5 s-PS-scoop-PAS-FV
'Someone/people died.'

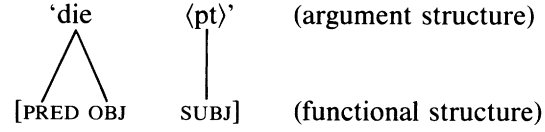
(20) a. Nyăni a-na-bwír-íts-a kalulú dōthi.
1a baboon 1 s-PS-scoop-CST-FV 1a hare 5 dust

b. *Nyăni a-na-bwír-íts-a dothi (kwá kálŭlu).
1a baboon 1 s-PS-scoop-CST-FV 5 dust to 1a hare
'The baboon killed (= caused to die) the hare.'

The idiomatic object has to be represented as an object NP in order to account for its ability to be expressed as the passive subject, as in (19), and for the fact that it needn't appear adjacent to the verb, as in (20a).

A theory such as the one proposed here in which causative formation involves the composition of two argument structures, rather than the transformation of syntactic structures, makes the right predictions concerning causatives with idiomatic objects. Let us assume that verb-object idioms involve a mismatch between argument structure and syntax: the idiomatic object is syntactically an NP, which, nevertheless, is not mapped onto an argument at argument structure; instead, it is idiosyncratically associated with the predicate. Although there are two grammatical functions in a sentence like (18), there is only one argument in the argument structure of the verb-object idiom, as indicated in (21).

(21) *bwir-a dōthi*



When a causative is formed on the basis of a verb-object idiom such as *bwir-a dōthi*, the patient of the causative predicate has to find an argument of the embedded predicate that it can be semantically identified with. Since there is only one argument in the argument structure of the idiom, the patient of the causative morpheme must fuse with this argument. The resulting composite argument, as an internal argument, is mapped onto an object function in the presence of an external argument, and there is no principle that would allow it to be expressed as an oblique or omitted. This accounts for the contrast in (20a–b).

Causatives based on verb-object idioms reveal the presence of the patient of the causative predicate: regardless of what thematic role the sole argument of the verb-

object idiom takes (patient, in the case of *bwir-a dōthi* 'die'; experiencer, in the case of *nongonez-á bôndo* 'feel regret' [lit. 'whisper to the knee']; or agent, in the case of *ch-a makûtu* 'pay attention' [lit. 'set the ears']), it is always expressed as an object in the causative form. Such causatives also reveal the need to state causativization as the combination of argument structures. Only in this way is it possible to distinguish, among transitive structures, those predicates that are semantically monadic (the idioms) from those that are semantically dyadic.[8]

3.1.4. Sentential Complements Let us consider the possibility of forming causatives from verbs that take sentential complements. In the first place, verbs whose sole argument is a sentential complement, such as *onēk-a* 'appear' in (22), do not allow the formation of a causative verb, as in (23).

(22) Zi-ku-ónék-a kutí nyáni a-na-póny-á mpira pa tsîndwi.
8 S-PR-appear-FV that 1a baboon 1 S-PS-throw-FV 3 ball 16 5 roof
'It appears that the baboon threw a ball on the roof.'

(23) *Njōvu i-ku-ónék-ets-a kutí . . .
9 elephant 9 S-PR-appear-CST-FV that
'The elephant makes it appear that . . .'

The ungrammaticality of (23) follows from the assumption that the causative predicate is a relation between an agent and an individual, in which the agent acts on the individual to bring about an event of which that individual is a semantic participant. If the predicate embedded in the causative is one whose sole argument is a proposition, there will clearly be no individual in this embedded argument structure that the causer can act upon to bring about the event. Therefore, the structure will be ill formed: the patient of the causative predicate finds no argument in the embedded predicate that it can fuse with.

Now consider a verb like *ganīz-a* 'think' in (24), which takes a sentential object. It can be the base of a causative, as in (25), provided its causee is an object. The causee cannot be expressed as an oblique, although *ganīz-a* is transitive, as shown in (26) by its ability to passivize.

(24) Njōvu i-ku-gániz-a kutí nyáni a-na-póny-á
9 elephant 9 S-PR-think-FV that 1a baboon 1 S-PS-throw-FV
mpira pa tsîndwi.
3 ball 16 5 roof
'The elephant thinks that the baboon threw a ball on the roof.'

(25) Kalūlu a-ku-gániz-its-a (*kwá) njovu kutí . . .
1a hare 1 S-PR-think-CST-FV to 9 elephant that
'The hare makes the elephant think that . . .'

[8] If, as argued by Wasow, Sag, and Nunberg (1982), idiomatic objects that passivize are thematic arguments, it would suffice to say that they are nonaffected arguments, which is obviously true. See section 3.1.5.

(26) Zi-ku-gániz-ídw-a ndí njóvu kutí . . .
8 S-PR-think-PAS-FV by 9 elephant that
'It is thought by the elephant that . . .'

The fact that the causee in (25) cannot be expressed as an oblique is a natural consequence of the theory proposed here. Although the base verb has two arguments, one of them is unable to fuse with the patient of the causative predicate: the propositional argument is not an individual that can be acted upon in bringing about an event. Only the other argument of *ganīz-a*—namely, its highest argument—can fuse with the patient of the causative predicate. Therefore, the causee of a causative based on this verb (its highest argument) must be fused with the patient of causation and is thus necessarily expressed as an object.

3.1.5. Nonaffected Objects There is a class of transitive verbs whose object is not affected in any relevant sense by the event described. This class includes verbs like *mv-a* 'hear', *kōnd-a* 'like', *landīr-a* 'receive', and *ōp-a* 'fear', whose objects are the stimulus of perception or emotion, or the entity that changes possession. Although the object of *mv-a* 'hear' is not an affected argument, there is clear evidence that it is an object: it can be expressed as an object marker, (27a), or as a subject in the passive form, (27b).

(27) a. Ăna a-ku-lí-mv-a (phokŏso).
2 children 2 S-PR-5 O-hear-FV 5 noise
'The children are hearing it (the noise).'
b. Phokŏso li-ku-mv-ĕdw-a (ndí ăna).
5 noise 5 S-PR-hear-PAS-FV by 2 children
'The noise is being heard (by the children).'

Nevertheless, the causee can only be expressed as an object, (28a); it can never be omitted or expressed as an oblique, (28b).

(28) a. Chatsalĭra a-ku-mv-éts-á aná phókŏso.
1 NAME 1 S-PR-hear-CST-FV 2 children 5 noise
b. *Chatsalĭra a-ku-mv-éts-á phokŏso (kwá ăna).
1 NAME 1 S-PR-hear-CST-FV 5 noise to 2 children
'Chatsalira is making the children hear the noise.'

The contrast between (28a) and (28b) can be explained by the assumption that Chichewa allows the patient of the causative predicate to fuse either with the logical subject of the embedded predicate or with an affected argument. When a verb contains an affected argument that is not its logical subject, such as *phīk-a* 'cook', it provides a choice of two arguments for the patient of the causative predicate to fuse with. This is what accounts for the alternation observed in (12). However, when a verb does not contain an affected argument, there is no choice of argument for fusion: only the logical subject is a suitable candidate. This is the situation we find with verbs that take nonaffected objects: these arguments do not qualify for fusion with the patient of causation,

and therefore only their logical subject is able to fuse in the causative verb. Since the patient of causation must fuse, and there is only one argument it can fuse with (the causee), this argument will be expressed as an object. Thus, we account for the impossibility of expressing the causee of these verbs as an oblique.

To summarize, the semantic correlates of the alternative syntactic realizations of causatives, the impossibility of UOD in causatives, and the properties of causatives based on verb-object idioms, on verbs with sentential complements, and on verbs with affected objects show, on the one hand, that the formation of causatives is a process sensitive to argument structure, rather than to syntax, and, on the other hand, that the causative morpheme in Chichewa is a three-place predicate that includes a patient semantically identified with a participant of the caused event.

3.2. The Thematic Role of the Embedded Predicate

The preceding paragraphs have established that the primary object in causative constructions in Chichewa is an internal argument (a patient) of the causative predicate. This argument also bears a thematic relation to the embedded predicate. There are two phenomena in which the primary object of causatives behaves differently depending on the thematic role contributed by the embedded predicate: extraction (or *wh*-movement) and locative inversion. These facts indicate that the patient of the causative predicate forms a thematically composite argument with a thematic role of the embedded predicate.

3.2.1. Extraction Restriction As noted by Baker (1988), beneficiary objects and causee (agent) objects cannot be extracted by relativization or clefting in Chichewa. According to Alsina and Mchombo (1991), this restriction is sensitive to the thematic role of the extracted argument: it affects internal arguments that are equal to or higher than goal in the thematic hierarchy (see (44)). Consider the following causatives based on intransitive verbs: unergative in (29a) (= (2)), and unaccusative in (29b).

(29) a. Chatsalíra a-ku-nám-íts-á mwăna.
1 NAME 1 S-PR-lie-CST-FV 1 child
'Chatsalira is making the child lie (= tell lies).'

b. Mwăna a-ku-d-éts-á zóvâla.
1 child 1 S-PR-be dirty-CST-FV 8 clothes
'The child is making the clothes dirty.'

The single objects of these two types of causatives behave alike with respect to word order, object marking, and passivization: they follow the verb immediately, they can be expressed as object markers, and they can be passive subjects (see Alsina and Mchombo (1990)). However, they differ with respect to extraction of the object, as shown in (30).

(30) a. *Mwaná áméné Chatsalirá á-ku-nám-íts-a . . .
1 child 1 REL 1 NAME 1 S-PR-lie-CST-FV
'The child that Chatsalira is making lie . . .'

b. Zóvála ziméné mwaná á-ku-d-ĕts-a . . .
8 clothes 8 REL 1 child 1 S-PR-be dirty-CST-FV
'The clothes which the child is making dirty . . .'

This contrast can be explained by taking into account the thematic role of the base predicate. As an agent, the object of (30a) is subject to the extraction restriction, like beneficiary and goal objects in applicative and dative shift constructions. On the other hand, the patient object of (30b), like patient objects in general and like instrumental and locative objects in applicative constructions, is free to be extracted. (See Alsina and Mchombo (1991) for an account.)

3.2.2. Locative Inversion In locative inversion (see Bresnan and Kanerva (1989)) a locative appears in subject position (outside the VP, agreeing with the verb, etc.) while the thematic subject of the verb appears as an object. Although this phenomenon does not generally affect active transitive verbs in Chichewa, it can apply to passive forms. The passive forms in (31a) and (32a), corresponding to (29), differ with respect to locative inversion, as (31b) and (32b) illustrate (examples from Alsina and Mchombo (1990)).

(31) a. Mwăna a-ku-nám-íts-ĭdw-a mu msīka.
1 child 1 S-PR-lie-CST-PAS-FV 18 3 market
'The child is made to lie in the market.'
b. *Mu msīka mu-ku-nám-íts-idw-á mwăna.
18 3 market 18 S-PR-lie-CST-PAS-FV 1 child
'In the market is made to lie the child.'

(32) a. Zóvâla zi-ku-d-éts-ĕdw-a mu msīka.
8 clothes 8 S-PR-be dirty-CST-PAS-FV 18 3 market
'The clothes are made dirty in the market.'
b. Mu msīka mu-ku-d-éts-édw-á zóvâla.
18 3 market 18 S-PR-be dirty-CST-PAS-FV 8 clothes
'In the market are made dirty the clothes.'

Bresnan and Kanerva (1989) argue that, in locative inversion, a locative is assigned the subject function in the presence of a presentational focus, which, as a parametric property of Chichewa, must be instantiated on an argument that is the highest of the clause, but no higher than patient in the thematic hierarchy (44). The suppression of the logical subject in passives makes the next highest argument the highest argument for our purposes.

Under the assumption that the passive subject of the causative verb in (31a) and (32a) is composed of a thematic role of the causative predicate and a thematic role of the embedded predicate, the relevant difference between the two examples is clear. In (31), as the agent of the embedded predicate, that argument is higher than patient and therefore does not satisfy the context for locative inversion. In (32) the patient of both the causative and the embedded predicate, being the highest argument and no higher than patient, can be the presentational focus in locative inversion.

3.3. Summary

In this section we have seen evidence that causatives in Chichewa have a thematically composite argument. The primary object of causatives is thematically related to both the causative predicate and the caused event predicate. In section 3.1 we saw that it is the patient of the causative predicate, and in section 3.2 we saw that it also bears a thematic relation to the embedded predicate. Whether this thematic relation is that of agent or of patient determines the ability of the argument to undergo extraction and locative inversion. If it is an agent of the embedded predicate, it is subject to a restriction that does not allow it to be extracted or to undergo locative inversion; if it is a patient of the embedded predicate, it can undergo both processes.

4. The Incorporation Approach

In this section I review the treatment of causatives developed in a prominent theoretical framework, "Incorporation," particularly in the versions of Baker (1988) and Li (1990). This approach assumes that morphological causatives of the Chichewa type consist of a two-place causative predicate that takes a clausal complement, and that they are derived by a head-to-head movement operation that adjoins the complement verb to the matrix affixal verb. Such theories are unable to account for the properties examined in section 3 that reveal the thematically composite nature of the primary object of causatives.

(i) The semantic difference that correlates with the syntactic alternation found in (1): in the Incorporation theories, the causative predicate does not assign a θ-role to any of the arguments that are thematically related to the embedded verb, and so the causee is always only an argument of the embedded verb, regardless of its morphosyntactic expression, which is assumed to derive from strictly syntactic (Case-theoretic) principles, without any relevance for the semantics.

(ii) The failure of causative verbs to undergo UOD, even though their underived forms can freely undergo it: in the Incorporation theories, nothing can prevent verbs that allow UOD from undergoing it when they are in the complement clause of a causative affixal verb.

(iii) The failure of causatives based on verb-object idioms to take an optional oblique causee, even though their base verbs are transitive: in the Incorporation theories, syntactic transitivity (or the need to assign Case to an object) is what determines the oblique expression of the causee, which such theories predict should be possible in this case too.

(iv) The failure of causatives to be based on verbs whose only argument is a clause, and the failure of causatives based on verbs with a sentential object to have the causee expressed as an oblique, despite the transitivity of the base verb: if causatives are formed by moving a verb out of a clausal complement, nothing

should prevent this movement when the sole argument of the verb is a sentential complement; and if the verb is transitive, nothing should prevent the causee from being an oblique.

(v) The inability of causatives based on verbs with a nonaffected object to have the causee expressed as an oblique, in spite of the transitivity of the base verb: once again syntactic transitivity proves to be inadequate for determining the oblique expression of the causee, contrary to the Incorporation claim.

These properties of causatives are completely mysterious for the Incorporation treatment. In addition, this approach falls short of accounting for even the generalizations that it sets out to explain, as the following review will highlight.

4.1. Variation and Invariance

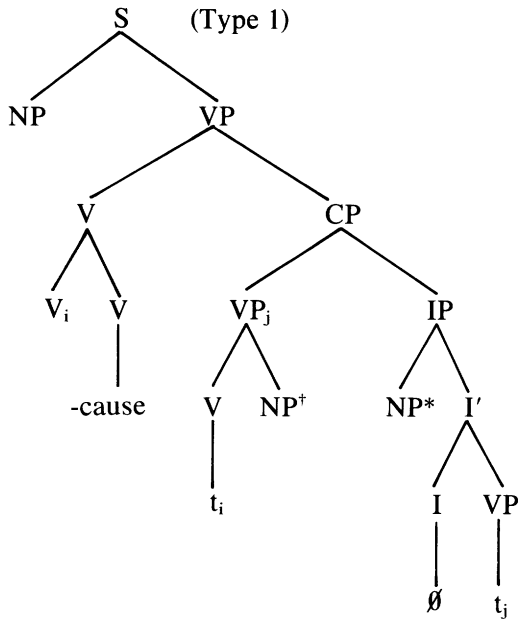
Baker (1988) and Li (1990), following Marantz (1984), assume and attempt to capture two descriptive generalizations, due in large part to Comrie (1974; 1976), Gibson and Raposo (1986), and others. First, there are two types of causatives cross-linguistically: in *type 1*, the causee of transitive verbs is expressed as an oblique; in *type 2*, it is expressed as an object. Second, regardless of the type of causative that a language may have, causatives based on intransitive verbs allow the causee to be expressed only as an object.

Baker (1988) assumes that causative constructions appear in either of two S-Structure forms, derived from one common D-Structure form, depending on the Case-marking properties of the language in question. As a two-place predicate, the causative verb subcategorizes for a sentential complement, semantically the caused event, and it takes a subject NP, the causer. As an affix, it must be attached to a morphological host on the surface, which occurs through incorporation of the verb of the embedded complement. There are two options prior to incorporation: either the whole VP of the embedded clause moves to the Specifier of CP (VP-to-Comp), as in (33a), or the V alone moves up via Infl to the head of CP (V-to-C), as in (33b). (As in Baker (1988), certain empty structural positions are not represented.)

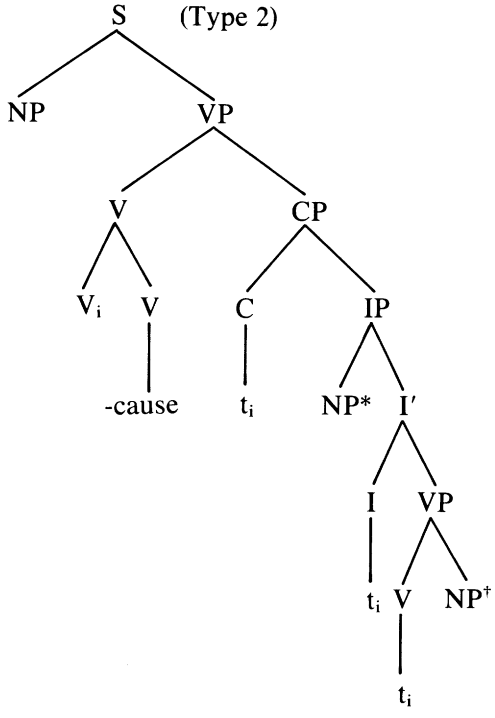
In (33a) the causee NP* is left in a position where it can only receive Case through some marked type of Case assignment, since the unmarked type of Case is assigned under adjacency. On the other hand, in (33b) it is the object NP† that can pass the Case Filter only through a marked type of Case assignment because it is not adjacent to the verb. Therefore, the type of causative that a language has is claimed to depend on whether the language has a particular marked type of Case assignment or not. If it can Case-mark the causee by inserting an adposition, then (33a) will be a possible structure, and the language will have type 1 causatives; if it can assign inherent or structural Case to a second NP, then (33b) satisfies the Case Filter, giving type 2 causatives.

Much of the motivation for this aspect of Baker's theory derives from a distinction between two putative dialects of Chichewa: so-called Chichewa-A, which is based on Sam Mchombo's judgments, and so-called Chichewa-B, which is based on informant

(33) a.


S
(Type 1)
NP
VP
V
CP
V_i
V
VP_j
IP
-cause
V
$NP^{\dagger}$
NP*
I′
t_i
I
VP
ø
t_j

b.


S
(Type 2)
NP
VP
V
CP
V_i
V
C
IP
-cause
t_i
NP*
I′
I
VP
t_i
V
$NP^{\dagger}$
t_i

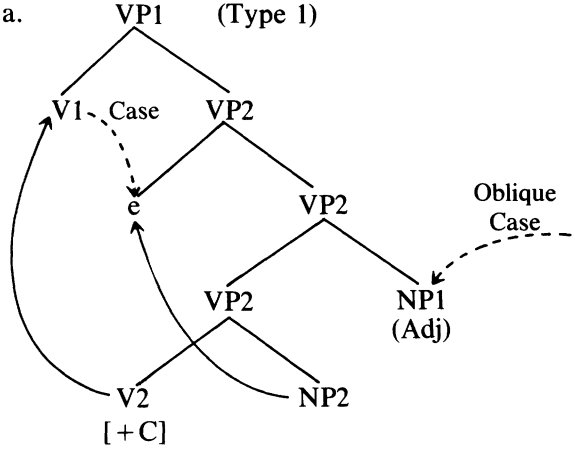
work by Trithart (1977). The former would have type 1 causatives, and the latter type 2 causatives, as a consequence of different Case-marking properties supposedly reflected in the existence only in Chichewa-B of underived verbs that take two objects. No evidence is provided to substantiate this claim: the only examples showing that Chichewa-B has such verbs, in Baker (1988, 166), involve the verb *pats-a* 'give', which, as Baker (1988, 460–461) acknowledges, also exists in Chichewa-A as a double object verb.

In fact, the same dialect (presumably Chichewa-A, since the source of the data is Sam Mchombo) has type 1 and type 2 causatives, as shown in (1), where (1a) would be type 1 and (1b) would be type 2. The presence of both types of causatives apparently in free variation in the same dialect undermines the proposed correlation between marked types of Case assignment and the type of causative. In order to accommodate these facts, Baker would have to assume that Chichewa has, not one, but two marked types of Case assignment: preposition insertion for the causee and (probably) inherent Case for the embedded object.

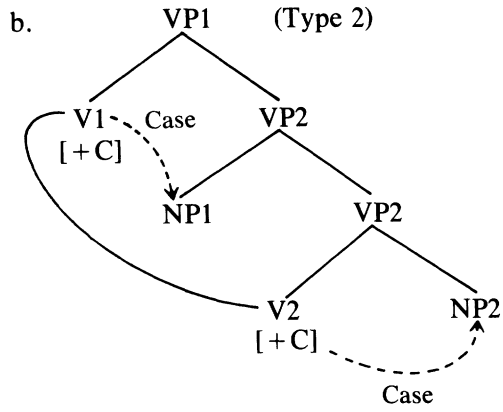
In Li (1990) a verb can only incorporate out of a subcategorized VP, rather than out of a subcategorized CP as assumed in Baker (1988). This has some positive empirical consequences: for example, it accounts for the fact that inflectional morphology does not appear between the base verb and the causative affix, which is unexplained in Baker's theory. Li (1990) accounts for the variation in the expression of the causee by means of two parameters. First, the causative affixal verb is either [+C] or unspecified ([ØC]), which is important for Case assignment because only a [+C] verb can assign Case, and then only when its maximal projection is governed by Infl or a [+C] constituent.[9] Second, following Larson (1988), the external θ-role is optionally assigned to an adjunct of the VP, which receives oblique Case.

In (34a), where the causative verb is unspecified for [C], the adjunct option is nec-

(34) a.



[9] Li (1990, 409) characterizes this featural classification of lexical items as follows: "The Case-assigning ability of a lexical item is either described with [+C], described with [−C], or unspecified. A constituent can potentially assign Case when marked with [+C], cannot assign Case when marked [−C], and is otherwise unspecified."



essarily taken because otherwise the object NP2 would be left without Case. V2 cannot assign Case to NP2 in situ, because its maximal projection, VP2, is governed neither by Infl nor by a [+C] constituent, and V1 can assign Case only when it acquires the [+C] feature by percolation from V2 after incorporation. In (34b) the [+C] causative verb V1, if governed by Infl, can assign Case to the causee NP1, and the embedded verb V2 can assign Case to its object NP2. After Case assignment, the embedded verb V2 incorporates into the matrix verb V1.

Notice, first, that Li gives up Baker's idea of relating the variation in causatives to the Case-marking properties of a language: there is no indication in Li (1990) that the [+C] or [ØC] marking of the causative morpheme should in any way be determined by independent properties of the language. This predicts that we should find double object causatives in languages that do not allow double object constructions elsewhere. As yet such languages remain unattested.[10]

[10] A reviewer suggests that French may be a language that (marginally) allows double objects with causatives, but not elsewhere: the marginal (ia) of Rouveret and Vergnaud (1980), with the accusative clitic *le*, contrasts with the unacceptable (ib).

(i) a. Je *le* ferai lire ton article.
'I'll make him read your paper.'
b. *Je *le* donnerai ton article.
'I'll give him your paper.'

But isn't the dative *lui* that replaces accusative *le* in the grammatical counterpart of (ib) an object as well? This is easily demonstrated by taking into account the intransitivizing effects of the reflexive clitic *se*, which saturates (or suppresses) an internal argument thematically bound to the external argument, following Grimshaw (1982) (see Grimshaw (1990) and S. Rosen (1989), for a different analysis). The reflexivized verb, like an unaccusative, selects the perfect tense auxiliary *être*, whether the saturated argument is an accusative or a dative object. Compare (iia), with a nonreflexive dative and auxiliary *avoir*, and (iib), with a reflexive dative clitic and *être*.

(ii) a. Je lui ai donné ton article.
'I gave him your paper.'
b. Il s'est donné ton article.
'He gave himself your paper.'

The argument saturated by *se* must be an object: the saturation of an oblique, if it were possible, would not intransitivize the verb. What (i) shows is not that French lacks double object constructions, but that although

Second, the option of generating a VP subject as an adjunct is available regardless of the syntactic configuration in which the VP appears. The VP may be governed by a [ØC] verb as in (34a), or by a [−C] verb as in passives, and no principled reason excludes this option when the VP is governed by a [+C] verb. (One wonders what happens when the VP is not a complement of any verb: it seems to allow passive syntax without passive morphology.) Therefore, if (34a) is possible whether V1 is [ØC], [−C], or [+C], a language with a [+C] causative affix will have not only the structure in (34b), as assumed by Li, but also the structure in (34a). Thus, surprisingly (since Li (1990) assumes that Chicheŵa-A causatives are consistently of type 1), the alternation in (1) can be accounted for by analyzing the Chicheŵa-A causative verb as being [+C]. Also, this predicts that, in Li's theory, there should be no language with only type 2 causatives—that is, where the causee is always expressed as an object—since nothing prevents a [+C] verb from taking a VP complement with an adjunct in it. But causatives that are consistently of type 2 are attested: for example, in Chamorro (Gibson (1980)) and Sesotho (Machobane (1989)).

The [ØC] specification characterizes a causative of type 1, in which the causee of a transitive verb can only be expressed as an adjunct, according to Li (1990). But it remains to be seen what language, if any, is consistently of this type. Of the languages that exemplify type 1 in Marantz (1984), Baker (1988), and Li (1990), none fits this description. In Chicheŵa-A the causee alternates between object and oblique, as exemplified in (1). In French (and Romance in general), the dative causee is not an adjunct (see footnote 10 and section 1). The same is true of Turkish: Marantz (1984, 282), Baker (1988, 213), and Li (1990, 414) all consider the dative causee in Turkish to be an oblique, explicitly predicting that it cannot antecede a "subject"-oriented reflexive, which it in fact does (see Aissen and Hankamer (1980), Davies and Rosen (1988)). And Malayalam allows the causee of certain transitive verbs to be expressed as an object (see T. Mohanan (1988)).

Baker's (1988) analysis can only account for the variation in the causee of transitive verbs in Chicheŵa by assuming that the language has two marked types of Case assignment, and Li's (1990), although (unintentionally) accounting for the variation of the causee of transitive verbs in Chicheŵa, cannot generate languages in which the causee of transitive verbs is always expressed as an object.

The second generalization assumed by both Baker (1988) and Li (1990) is that,

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it does not allow two accusative objects generally, (ib), it apparently does so in causatives, (ia). The explanation is related to the periphrastic nature of causatives in French: probably, French causatives are optionally a control construction, with the phonologically null subject of the infinitival complement controlled by the cliticized accusative object of the matrix verb. Notice that the apparent double accusative causative is only possible when one of the objects is cliticized on the causative verb *faire* and the other one is expressed as a full NP. When both objects are full NPs or are cliticized on *faire*, the double accusative ban remains in effect.

As suggested by the same reviewer, in order to capture the double object generalization, one might think of extending Larson's (1988) analysis of double objects by positing an "abstract" V that has the same syntactic properties as the causative verb. In Li's theory, this would be not only an ad hoc stipulation, but an unnatural one. In this theory, a passive (like a causative) is a verb that takes a VP complement. However, despite appearing in the same syntactic configuration, the two verb types are specified with different syntactic properties: passive is [−C], and causative is [+/ØC].

whether the causee of transitive verbs is expressed as an object or an oblique, the causee of intransitive verbs is invariably an object.[11] Chichewa conforms to this generalization, as shown in (2).

Both Incorporation theories claim that even in the structures designed so that the causee of transitive verbs surfaces as an oblique—(33a) for Baker and (34a) for Li—the causee of intransitive verbs will surface as an object. The derived causative verb can assign at least one Case, and the causee of an intransitive verb is the only NP that can receive it. It is true that both theories predict that the causee *may* receive this one Case, but in neither theory does it follow that it *must* receive it. As long as the causee has some alternative way of satisfying the Case Filter, it needn't receive Case from the causative verb. And both Incorporation theories provide this alternative Case-assigning mechanism.

According to Baker (1988, 189), Chichewa "has a very particular Case insertion rule which inserts a preposition before [the causee], thereby allowing it to pass the Case filter." Although the rule is not formulated, it is supposed to apply only in causatives based on transitive verbs. But what prevents it from applying when the verb is intransitive? Perhaps, as has been pointed out to me by an *LI* reviewer, one could appeal to a "last resort" or "least effort" principle: as a marked device of Case assignment, the preposition insertion rule would apply only as a last resort. Since the unmarked structural Case would always be available to the one NP that needs it with causatives based on intransitive verbs, no preposition insertion would be possible in this situation. However, this misses the point about the oblique causee: by treating it as an obliquely Case-marked argument like the dative causee in Romance, rather than as an adjunct, Baker (1988) does not account for its omissibility and predicts that it should behave like the dative causee in Romance, which it clearly does not.

One proposal to account for the adjunct properties of the oblique causee (such as the *par*-phrase in French, and the *kwá*-phrase in Chichewa), which Baker (1988, 487, fn. 38) refers to, is to assume that causative forms that take an oblique causee involve passivization of the embedded verb: in this way, the external argument of the embedded verb (the causee) would be realized as an optional oblique phrase. This analysis, which we can call the "*passive analysis*," has enjoyed a certain amount of acceptance in the literature on Romance causatives since Kayne (1975) (see Legendre (1990)), although Kayne himself rejected it (1975, 248). Alternatives to the "passive analysis" have been proposed by (among others) Kayne (1975), Zubizarreta (1985), Burzio (1986), and Davies and Rosen (1988). The arguments of Legendre (1990) show that the "passive analysis" is untenable even for French, the language for which it was conceived. (See also Cole and Sridhar (1977), and references cited in C. Rosen (1990).) Still further counterevidence comes from three problems that confront this analysis in Chichewa.

First, unlike what happens in other languages (Romance, Shona, Swahili, Kinyarwanda, Marathi, etc.), in Chichewa the oblique causee and the demoted subject of pas-

[11] This generalization is not absolute, since there are languages in which the causee of intransitive verbs may be expressed as an oblique, as has been shown by T. Mohanan (1988) for Malayalam. See Alsina and Joshi (1991) for an account of this type of language within the approach presented here.

sives are marked with different morphology: the oblique causee is marked with the preposition *kwá*, and the demoted subject of passives is introduced by *ndí*. (A morphological distinction is also made in Malayalam, according to K. P. Mohanan (1983) and T. Mohanan (1988).) In the theory of passive proposed by Baker (1988) and Baker, Johnson, and Roberts (1989), the *by*-phrase is dependent on (and licensed by) the passive morpheme. Under the "passive analysis" of causatives, the oblique causee should be morphologically identical to the demoted subject of passives (because this is what the oblique causee is, in that theory). Chichewa shows that this prediction is wrong.

Second, as Baker (1988, 487, fn. 38) points out, the passive morpheme in Chichewa never appears on the verb stem to which the causative morpheme attaches. All passive verbs in Chichewa are overtly marked with the suffix *idw/edw* (subject to vowel harmony). However, in order to make the "passive analysis" of causatives work, one would have to posit a phonologically null allomorph of the passive morpheme that would appear exclusively on verb stems that further combine with the causative affix. This null allomorph would have no independent motivation, and its distribution would be completely ad hoc, and unstatable in a natural way.

Third, not all verbs that passivize can form a causative that takes an oblique causee. Since the "passive analysis" forms causatives on the basis of passive stems, it predicts that any passive stem should be the input for the formation of a causative (although the passive morphology is not overt). In other words, it predicts that any passivizable verb should be able to form a causative with an oblique causee, since the oblique causee is the overt diagnostic of the putative passivization of the embedded predicate. However, as shown in section 3.1, Chichewa has many verbs that can passivize but can only form a causative that takes an object causee. This is particularly problematic for a theory in which the causative is a verb that takes a clausal complement: if the complement clause can contain a passive form, which can incorporate into the matrix causative verb, it is difficult to see what would rule out incorporation of a passive verb form in just a subset of cases.

The failure to predict the obligatory objecthood of the causee of intransitive verbs is patent in Li (1990). As has been noted, the possibility of generating the VP subject as an adjunct is independent of the syntactic specifications of the verb governing that VP. Therefore, regardless of whether the causative affixal verb is [+C] or [ØC], the subject of its VP complement can be an adjunct. This means that the causee of transitive and intransitive verbs alike always has the option of being expressed as an adjunct, and the invariance in the expression of the causee of intransitive verbs, illustrated in (2) and assumed in Li (1990), remains a problem for Li's account.[12]

[12] A reviewer suggests that this problem could be solved by assuming that the Specifier of VP2 in (34) must be filled, presumably at S-Structure, where a trace would also have to count as filling it. However, such a stipulation goes against the spirit of Government-Binding Theory, where it is assumed that whether a syntactic position is filled or not depends on independent principles of the theory: it need never be stipulated. In addition, it is possible for the VP complement to have no empty subject position, while the external θ-role is assigned to an adjunct position, as in Li (1990, 421, (48)), in which case that stipulation has no effect whatsoever. It is also not possible for Li (1990) to stipulate that Case assigners must assign their Case (a stipulation that would be highly redundant in a theory that already has a device—the Case Filter (Chomsky (1981))—to ensure Case

Baker's (1988) analysis can account for the invariance in the expression of the causee of intransitive verbs, by incorrectly treating the oblique causee as an argument with a special Case marking. Li's (1990), on the other hand, although rightly treating the oblique causee as an adjunct, cannot account for the invariance problem.

4.2. Li's Theory of Case and Passivization

The [C] feature plays a crucial role in Li's theory of Case and passivization. It appears that, excluding affixal verbs, all verbs that take nominal arguments are [+C] because they can (at least sometimes) assign Case. This includes unaccusatives, which are assumed to assign Case to their postverbal internal argument, as in (35), from Li (1990).

(35) There arrived a lot of soldiers.

The passive morpheme is very distinct because it is the *only* (underived) verb that is clearly [−C]. (There are some verbs, such as *seem*, whose status as [−C] or [ØC] is unclear.) Any compound that has the passive affixal verb as its morphological head will be [−C], by the feature percolation conventions assumed in Li (1990), and will thus be incapable of assigning Case. This predicts that we should not find a passive verb form in a structure like (35), in which the verb is assumed to assign Case to the postverbal NP. But in fact a passive verb form *can* be followed by an NP, as has been shown by Bresnan (1990) and Bresnan and Kanerva (1989), in locative inversion constructions such as (36), from Bresnan (1990).

(36) In this rainforest can be found the reclusive lyrebird.

This shows that passive verb forms should have the same Case-assigning properties as unaccusative verbs. The claim that passive verb forms cannot assign Case is falsified in certain Bantu languages, in which a passive verb form can contain an object marker, which both Baker (1988) and Li (1990) assume to be the expression of (structural) Case. Such forms occur in Kichaga (Bresnan and Moshi (1990), and example (38) below), Kinyarwanda (Kimenyi (1980)), Shona (Hawkinson and Hyman (1974)), Sesotho (Machobane (1989)), and Haya (Duranti and Byarushengo (1977)), among other languages.

Let us consider the passive form of causatives in Li (1990). The passive affixal verb takes a VP complement headed by the causative, whose Case-assigning abilities are blocked because passive is [−C]. The causee, as the subject of the VP complement of the causative affix, cannot be assigned Case by the causative. Hence, the causee will have to move to the IP subject position to receive Case from Infl. Alternatively, the causee is generated as an adjunct, in which case the base object may be the passive subject. This predicts that, in passives of causatives based on transitive verbs, the causee can be either the subject or an obliquely Case-marked adjunct, but it cannot be an object

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assignment). Consider unaccusatives: they are Case assigners (or [+C]), according to Li (1990, 417), but need not assign their Case. Requiring obligatory Case assignment would predict that the unaccusative argument could never appear in subject position: being Case-marked in object position, it would never be required to move.

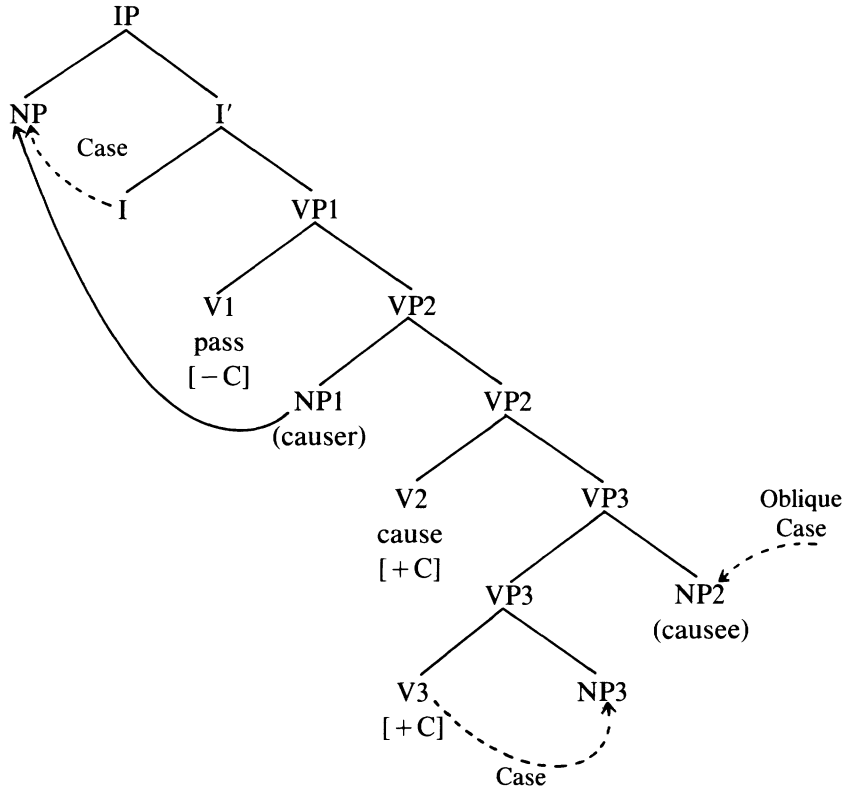
while the embedded object becomes the passive subject. This prediction is incorrect for Kinyarwanda (Kimenyi (1980)), Kimeru (Hodges (1977)), and Kichaga. Corresponding to the active causative construction in (37), Kichaga has the passive form in (38), where the basic object is the subject and the causee is an object (from Alsina and Moshi (1990)).[13]

(37) Ndesambulro n-a-i-zrem-ilr-a mana muinda.
1 NAME FOC-1 S-PR-cultivate-CST-FV 1 child 3 farm
'Ndesambulro is causing the child to cultivate the farm.'

(38) Muinda u-i-m-zrem-ilr-o.
3 farm 3 S-PR-1 O-cultivate-CST-PAS
'The farm is caused to be cultivated by him.' (Lit.: '. . .is caused him to cultivate.')

There can be no doubt that in (38), contrary to Li's predictions, the causee is an object: it is represented by means of an object marker, which, according to Li (1990), is a realization of structural Case. (This example is also problematic for Baker (1988),

(39)



[13] Notice that in (38) the causee is expressed by means of an incorporated pronoun, or object marker. It is possible for the object causee to be expressed as a full NP in a passive form, although the result is less acceptable than the example given here.

who has to make special ad hoc assumptions to account for it (lexically triggered deletion of Comp).)

A final surprising result of Li's theory of passive is that it does not always require the demotion/suppression of the logical subject. Consider the structure in (39). Given the option of generating external θ-roles either in subject position or as adjuncts, we generate the causer NP1 as the subject of its VP small clause, and the causee NP2 as an adjunct of its VP. NP2 and NP3 are assigned Case in situ, but the causer NP1 must move to the Specifier of IP and receive Case from Infl. Thus, Li's theory predicts the existence of passivized causatives in which the causer is the passive subject. In other words, it predicts that the Kichaga example (40) (Alsina and Moshi (1990)), which is an alternative passive corresponding to (37), could have the starred reading, as well as the grammatical one.

(40) Mana n-a-le-zrem-ilr-o muinda.
1 child FOC-1 S-PS-cultivate-CST-PAS 3 farm
'The child was caused to cultivate the farm.'
*'The child caused the farm to be cultivated.'

In sum, Li's (1990) theory of passivization incorrectly predicts that passive verbs should not take object NPs, contrary to what is found in locative inversion, or object markers, contrary to what is found in many Bantu languages; that the causee in passivized constructions cannot be expressed as an object, which is possible in several Bantu languages; and that the causer in passivized causative constructions could be the surface subject, which is attested in no language.

4.3. Implications for Incorporation

The Incorporation treatments of causatives just reviewed not only face important problems in accounting for the basic generalizations they assume, but also are unable to provide any explanation for the new facts of section 3. By not recognizing the complex argument structure of causatives, these theories incorrectly describe the facts of causatives as if they were purely conditioned by syntactic factors.

The evidence presented here shows that, in the Government-Binding framework, causatives (at least in Chicheŵa) cannot be formed in the syntax, contrary to what the Incorporation theories claim. Because the primary object of causatives is shown to bear a thematic relation to both the causative predicate and the embedded predicate, basic principles of Government-Binding Theory (the Projection Principle and the θ-Criterion; see Chomsky (1981; 1982)) rule out the formation of this thematically composite argument in the course of a syntactic derivation. These principles would exclude the movement of an NP out of a clausal complement into the object position of a 'cause' verb, thus collecting two θ-roles.

In order to solve this problem, one might attempt to analyze the relation between

the patient of the causative predicate and the coreferential argument of the embedded predicate as a control relation, as schematized in (41).

(41) [NP [$_{VP}$ V NP$_i$ [$_{XP}$ . . . NP [$_{VP}$ V . . .] . . .]]]
causer cause patient PRO$_i$

This would be consistent with an Incorporation analysis, since the verb of the clausal complement in (41) would incorporate into the matrix verb, forming a causative verb. This analysis predicts that the (primary) object of causative verbs is thematically related to the causative affix only. Consequently, the syntactic properties of this object are determined solely by this θ-role, not by the θ-role of the NP PRO that it controls.

A major problem of this control analysis is that it predicts that the patient of 'cause' can only control the subject of the embedded complement, since PRO can only appear in the ungoverned position of subject of a tenseless clause. However, we have seen that many transitive verbs form causatives whose primary object can be either the external or the internal argument of the base verb. An internal argument of an active transitive verb cannot be controlled, because it would be an object, which is a governed position. We saw in section 4.1 that the "passive analysis" of causatives is completely inadequate and cannot be used to rescue the control analysis. Therefore, the control analysis would not be able to account for the alternation in the expression of the causee.

Another important problem for the control analysis is that the θ-role of the supposedly controlled argument does, in effect, determine some syntactic properties of the overt argument, as shown in section 3.2. This is inexplicable if the relation between the two arguments involved is a control relation. In a control relation, the thematic role of the embedded predicate (the controlled one) would not be able to determine the syntactic behavior of the expressed argument. But the evidence of extraction and locative inversion indicates that it does.

If we assumed that the single object of causative constructions such as (29a–b) is a semantic argument of the causative predicate only, and that the argument of the base intransitive predicates is a phonologically null constituent controlled by that object, it would be impossible to explain the contrast in extractability of the objects illustrated in (30). The extractability of the controller cannot be expected to depend on the thematic role of the controllee. In fact, the object of a verb like *tandĭz-a* 'help', which controls the unexpressed subject of an infinitival complement, can be freely extracted, as in (42), where the verb of the complement is the one whose causative form in (30a) disallows extraction of its object causee.

(42) Mwaná áméné ndí-ná-tándíz-á ku-nâm-a . . .
1 child 1 REL IS-PS-help-FV INF-lie-FV
'The child whom I helped lie (tell lies) . . .'

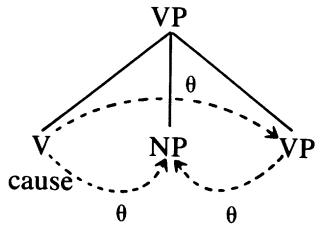
Under the control analysis there should be no difference between (30a) and (42), since the thematic role of the controllee is the same in both cases.

As for locative inversion, the control analysis would fail to recognize the semantic

contribution of the embedded predicate to the object of causatives like (29), and would not provide a way to distinguish the agent internal argument of (31), which does not permit locative inversion, from the patient internal argument of (32), which does. The control analysis would therefore wrongly predict that there should be no difference with respect to locative inversion between the passive form of a causative based on an unergative and the passive form of one based on an unaccusative.

A reviewer suggests an alternative according to which the θ-role of the causative affix and that of the embedded verb could be assigned to the same argument position, as in (43), consistent with current formulations of the θ-Criterion. This would allow the verb of the embedded VP to incorporate into the matrix V in the usual way.

(43)



This would perhaps be possible if the thematically composite argument of causatives always received the external θ-role of the embedded verb. But this suggestion cannot work whenever the object of the causative verb bears an internal θ-role of the embedded verb: an internal θ-role is assigned VP-internally, which means that the NP in (43) could not receive such a role from its sister VP.

In order to solve this problem, one might consider adopting Larson's (1988) hypothesis that theme/patient roles are assigned to the subject of a VP; but this clearly cannot work. Although the NP in (43) might receive a patient θ-role from the embedded VP according to this idea (despite the fact that, according to Larson (1988), the theme/patient receives a compositional θ-role from a V′, and not from a VP), it is unclear what would allow the external θ-role, when there is one, not to be assigned or to be realized as an adjunct, in order to derive the optional oblique expression of the causee. But, most importantly, if a theme/patient is assigned to a VP subject position, the configuration in (43) would not be right for the case in question, because the NP should receive a theme/patient θ-role not only from the embedded VP, but also from the causative V. In order to receive a theme/patient θ-role from this V, the NP should occupy the subject position of the VP headed by the causative V, in which case it would no longer occupy a position to which the θ-role of the embedded VP could be assigned. Hence, this attempt to preserve the Incorporation analysis also fails, because it cannot generate the thematically composite argument of causatives.

The only possibility left is for the thematically composite argument to be formed at the level of argument structure and to be assigned fully formed to one syntactic position. In order for this option to be consistent with the Projection Principle, according to which

the representations at each syntactic level observe the subcategorization properties of lexical items, the causative predicate and the base predicate must combine morphologically in the lexicon. These two predicates, as a single lexical item, can assign their θ-roles (whether simple or composite) to syntactic positions at D-Structure in accordance with the Projection Principle and the θ-Criterion.

5. Mapping to Syntax

In what follows I will present a theory developed by Bresnan and Kanerva (1989), Bresnan and Moshi (1990), Alsina and Mchombo (1990; in press), and Alsina (in press), which relates semantic arguments to their morphosyntactic expression by means of syntactic functions. This theory, the lexical mapping theory, was originally developed to account for phenomena other than causatives, such as object asymmetries in applicative constructions and locative inversion. I will show that this theory, virtually unchanged, accounts for all the syntactic properties of causatives, given the argument structure of causatives proposed here.

Syntactic functions constrain the surface expression of arguments, and they are assigned to arguments by a set of mapping principles that are sensitive to the hierarchical organization of arguments, as well as to their intrinsic content. Because syntactic functions are constrained by monotonicity and do not change in the course of a derivation, the syntactic expression of an argument cannot be fully determined until all argument structure combinations have taken place.

5.1. Mapping Principles

A crucial aspect of the organization of argument structure is the ordering of arguments, determined by the universal hierarchy of thematic roles (see Bresnan and Kanerva (1989; to appear) for justification and references).[14]

(44) *ag* > *ben* > *go* > *ins* > *pt* > *loc*

In each argument structure, an agent is placed before a goal, and a goal before a patient or theme, reflecting the prominence scale of the thematic hierarchy. An important function of the hierarchy is to identify the most prominent argument of a predicate, the *logical subject*. Thus, the logical subject of *phīk-a* 'cook ⟨ag pt⟩' or *năm-a* 'lie ⟨ag⟩' is the agent; the logical subject of *gw-a* 'fall ⟨pt⟩' is the patient; and so on. Likewise, the logical subject of the causative predicate in Chicheŵa *-its*, in (10), is also the agent. However, when the causative predicate combines with another predicate, a complex predicate results that contains two logical subjects, one for each of the two simple predicates. Nevertheless, one is more prominent than the other, on the assumption that an embedded structure is less prominent than the structure that contains it. I will refer to the logical

[14] The labels in the hierarchy in (44) subsume categories that are often referred to by different names. For example, *ag* (agent) includes notions like effector and causer, in addition to agent; *go* (goal) includes recipient, as well as experiencer; *pt* (patient) includes both patients and themes.

subject of the most inclusive argument structure as the *top logical subject*, represented by the notation $\hat{\theta}$, following Bresnan and Kanerva (1989), Bresnan and Moshi (1990), and others.

Syntactic functions are decomposed into two primitive features: [±r(estricted)] and [±o(bjective)], as in (45). Whereas restricted ([+r]) functions are individuated by the thematic role of the argument they express, unrestricted ([−r]) functions can encode any thematic role and may even correspond to no thematic role. Objective ([+o]) functions are those that can appear only with the transitive categories of predicators (verb and adposition).

(45) SUBJ = [−r, −o] OBJ = [−r, +o]
OBL_θ = [+r, −o] OBJ_θ = [+r, +o]

Internal arguments (patients, themes, and applied arguments) are lexically underspecified with respect to their syntactic function. (I am using the term *internal argument* not in Williams's (1981) original sense, but to designate an argument that has certain semantic entailments, such as those proposed by Dowty (1991) to characterize the Proto-Patient role.) Since an internal argument is normally expressed as an object in an active transitive verb, we can assume that internal arguments are lexically classified with one of the feature values that compose the syntactic function object: [−r] and [+o]. If [−r] is chosen, the internal argument will be able to alternate between the unrestricted functions subject and object. If [+o] is chosen, the internal argument will be expressed as a restricted, or unpassivizable, object. However, the latter classification is limited to the lower roles in the thematic hierarchy (instrumental, patient, locative), which is indicated in (46) by the notation $\lessdot go$ (= lower than goal); the higher, more topical, roles can only be classified [−r], which allows them to surface as subjects.[15]

(46) *Internal argument classification*

θ	or	θ	$\lessdot$go
|		|	
[−r]		[+o]	

It has been observed (Alsina and Mchombo (1990; in press), Bresnan and Moshi (1990)) that some languages have a constraint on the assignment of the internal argument classifications, the *asymmetrical object parameter* (AOP) of Bresnan and Moshi (1990): at most one internal argument may be classified [−r]. Other languages lack this constraint; in these languages, more than one internal argument may be classified [−r]. Chichewa is a language of the former type, Kichaga a language of the latter type.

[15] This restriction on the assignment of the [+o] classification can be understood by interpreting the thematic hierarchy as a topicality hierarchy, as in Givón (1984). If the higher roles are more topical than the lower roles, and the subject function is an unmarked topic, or a "weak topic," as in Dowty (1991), it is natural that the higher roles should have greater access to the subject function. This correlation between thematic roles, topicality, and function assignment is grammaticalized in the present theory by preventing the higher roles from being intrinsically classified with a feature ([+o]) inconsistent with the subject function.

The external argument (using Williams's (1981) term, but with a meaning more like that found in Grimshaw (1990) and elsewhere) is the default subject; only in its absence can the subject be an internal argument. Let us assume a mapping principle, (47), with exactly this effect. We can define *external argument* in this framework as the top logical subject ($\hat{\theta}$) that is not an internal argument, that is, not classified with the features [−r] or [+o] (see Bresnan and Zaenen (1990)).

(47) *Subject Principle*

Assign the subject features ([−r], [−o]) to
a. the external argument; otherwise, to
b. an internal argument.

Assuming that, by monotonicity, these principles cannot change existing features, the Subject Principle will not be able to apply to an argument that is specified with the feature [+o], since it is inconsistent with one of the subject features. The Subject Principle may leave internal arguments syntactically underspecified, and they will receive a full specification by means of a default principle that assigns a positive feature value, [+r] or [+o], to incompletely specified syntactic functions:

(48) *Default Principle*

Complete a partially specified syntactic function by assigning a positive value to the unspecified syntactic feature ([r] or [o]).

The output of the Mapping Principles must conform to the Well-formedness Conditions (Bresnan and Kanerva (1989)): one of the arguments must be a subject (Subject Condition), and there must be a one-to-one correspondence between functions and expressed arguments (Function-Argument Biuniqueness).

5.2. *Passive and Argument-Adjuncts*

Although the Mapping Principles assign syntactic expression to arguments, it is possible for arguments to have no syntactic expression, that is, to be unexpressed. One of the ways this can come about is by means of a lexically specified suppression. The passive morpheme specifies in its argument structure the suppression of the top logical subject (see Bresnan and Kanerva (1989), Grimshaw (1988; 1990)):

(49) *Passive*

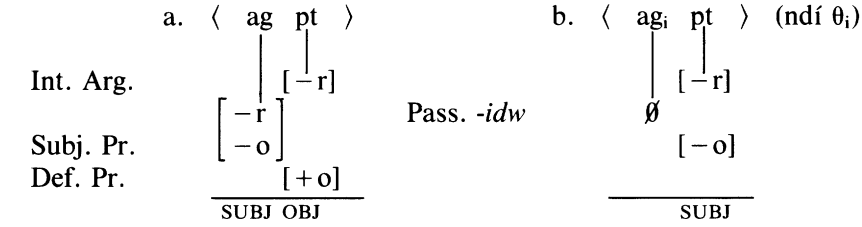
$$\begin{array}{c}\hat{\theta}\\ |\\ \emptyset\end{array}$$

Thus, in the argument structure that results from combining this morpheme with another one, the top logical subject is suppressed. A suppressed argument cannot be assigned a syntactic function. However, it can be thematically bound to (or can license, in Grimshaw's (1990) terms) an adjunct, which by virtue of its connection to an argument is

referred to as an *argument-adjunct*, or *a-adjunct*. In the case of the English passive, the a-adjunct thematically bound to the suppressed logical subject is the *by*-phrase. Its status as an adjunct accounts for its optionality, since adjuncts are normally optional. Its connection to an argument accounts for certain properties typical of arguments, such as its inability to occur in structures where it is not licensed (active forms) or with other passive *by*-phrases.

The mapping of arguments to functions with a transitive verb such as *phīk-a* 'cook' is illustrated in (50a) and (50b) for the active and passive forms, respectively.

(50) *phīk-a* 'cook'



As an internal argument, the patient in this example is classified [−r], according to (46). In the active form (50a), the agent, as the external argument, is assigned the subject function, and the function of the patient is fully specified as an object by the Default Principle. In (50b), once the passive morpheme *-idw* suppresses the logical subject, there is no external argument to which the Subject Principle can apply; it therefore applies to the internal argument, making it the subject. The Default Principle cannot apply. In the passive form (50b), the a-adjunct introduced by the preposition *ndí* may be used.

An argument may be suppressed in another way as well: if the Mapping Principles do not assign it any syntactic function, it will have no syntactic expression. In particular, this form of suppression will account for the cases in which the causee can be omitted or expressed as an oblique, as we will see presently. Whereas passive forms contain an instance of morphologically *specified suppression*, because the passive morphology specifies suppression of the $\hat{\theta}$, causatives with a suppressed causee involve *unspecified suppression*, because none of the component morphemes specifies suppression of the causee.[16]

5.3. Mapping in Causatives

When a causative verb is formed, the patient of the causative predicate (10) must fuse with an argument of the embedded predicate, which can be either the highest or an affected argument. In the case of a transitive verb like *phīk-a* 'cook', there are two

[16] Another instance of unspecified suppression is probably found in nominalizations of verbs: the direct arguments of the verb (subject and objects) are either omitted or expressed as oblique phrases in the corresponding nominalization. Presumably, the nominalizing morphology does not specify the suppression of any of the verb's arguments, so that nominalizations can be viewed as involving unspecified suppression.

arguments that qualify for fusion with the patient of the causative: the agent, which is the highest argument, and the patient, which is affected because it undergoes a change of state. In this case, then, the causative verb has two argument structures, which yield two different mappings to syntactic functions:

(51) *phik-īts-a* 'cause to cook'

a.

	⟨ ag	pt ⟨ ag	pt ⟩ ⟩	
Int. Arg.		[−r]	[+o]	
Subj. Pr.	[−r, −o]			
Def. Pr.		[+o]	[+r]	
	SUBJ	OBJ	OBJ_θ	

b.

	⟨ ag	pt ⟨ ag_i pt ⟩ ⟩		(kwá θ_i)
Int. Arg.		[−r]		
Subj. Pr.	[−r, −o]			
Def. Pr.		[+o]		
	SUBJ	OBJ		

By virtue of being the patient of the causative predicate, the composite argument in (51a) is assigned a syntactic classification as an internal argument. By virtue of being an agent, it cannot be assigned the [+o] classification, which is not available to the higher roles in the hierarchy. The patient of the embedded predicate, on the other hand, can only be classified [+o], since [−r] is assigned to another argument. The agent of the causative predicate, as the top logical subject of the derived structure and the external argument, is assigned the subject features by the Subject Principle, and the Default Principle assigns the missing positive features to the internal arguments.

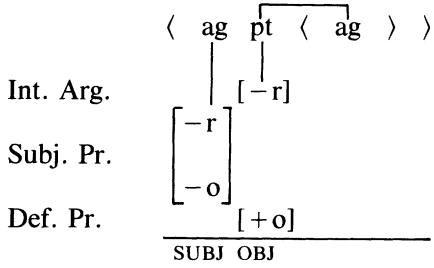
In (51b) the patient of the causative predicate is fused with the patient of the embedded predicate, and so this argument is assigned a syntactic classification as an internal argument.[17] As in the previous case, the causer becomes the subject by the Subject Principle. However, the agent of the embedded predicate has no syntactic realization in this form: since it is not an internal argument, it cannot be classified as such; since it is not the external argument of the derived structure, it cannot receive the subject features. It is assigned no syntactic features, and, since nothing licenses its syntactic

[17] In this example, the [−r] intrinsic classification is used, which determines that the fully specified grammatical function is an unrestricted object. The alternative [+o] classification could also be used in this case, giving a restricted object as the fully specified function. In many cases, there is an alternation between restricted and unrestricted object.

expression, it is consequently an unexpressed, or suppressed, argument—an instance of morphologically unspecified suppression. The adjunct *kwá*-phrase can be used here since it is thematically bound to (or licensed by) a suppressed causee.

This accounts for the alternation observed in (1) for causatives based on transitive verbs in Chichewa. (1a), with an oblique causee, corresponds to (51b), and (1b), with an object causee, corresponds to (51a). The invariance in causatives based on intransitive verbs in Chichewa, illustrated in (2), follows from the same assumptions. Since an intransitive verb has only one argument that can fuse with the patient of the causative predicate, there can be only one outcome of forming a causative from an intransitive verb. As we see in (52), the causee will fuse with the patient of the causative, and it will be assigned the object function in an active form.

(52) *nam-ĭts-a* 'cause to lie'



Because the single argument of an intransitive predicate must be fused with the patient of the causative predicate when the two predicates combine, this thematically composite argument is treated as an internal argument and syntactically classified as such. Thus, although it follows that the causee of transitive verbs can alternate between an object and an oblique (adjunct), we correctly predict that only the object expression is possible for causees of intransitive verbs.

5.4. Further Predictions

In Chichewa the two objects of double object causatives exhibit certain asymmetries (Alsina and Mchombo (1990)): the causee must precede the basic object, when both are expressed as object NPs; only the causee can be expressed by means of an object marker; and only the causee can be the passive subject. In the theory proposed here, these asymmetries follow from the different way the Mapping Principles treat the two internal arguments involved, as shown in (51a). The agent internal argument can only be [−r]. By the AOP, which is active in Chichewa, no other internal argument can be [−r], and so the patient/theme of the base predicate must be [+o]. Consequently, the causee is the unrestricted object of the active form, and the base patient is the restricted object. This accounts for the word order and object-marking asymmetries, since the unrestricted object must be adjacent to the verb and only the unrestricted object can be expressed by means of an object marker.

The ability to undergo suppression (as in passive, reciprocal, and unspecified object deletion) also distinguishes the unrestricted from the restricted object: it is proposed in Bresnan and Moshi (1990) and Alsina (in press) that only unmarked arguments (those with a negatively specified intrinsic classification) can undergo suppression. We saw in section 3.1.2 that the sole object of causatives could not undergo UOD for semantic (aspectual) reasons. But in double object causatives, as in (1b), the argument of the embedded predicate that is fused with the patient of the causative predicate is the causee. In this case, then, the theme/patient of the embedded predicate is not an argument of the causative predicate, and so it should be able to undergo UOD according to the aspectual analysis. However, a sentence like (1b) fails to undergo UOD, as shown in (53), from Alsina and Mchombo (1990).

(53) *Nŭngu i-na-phík-íts-a kadzīdzi.
9 porcupine 9 S-PS-cook-CST-FV 1a owl
'The porcupine made the owl cook.'

This is due to the constraint against suppressing arguments with positively specified intrinsic classifications. When the causee is expressed as an object (and is fused with the patient of the causative predicate), as shown in (51a) for *phik-īts-a*, the patient of the embedded predicate is intrinsically [+o], which makes it unavailable for suppression.

In the passive form, when the external argument is suppressed, the subject function is assigned to an internal argument. Only an internal argument that is marked [−r] can be selected as the subject, since one that is marked [+o] is not consistent with the featural specifications of the subject function. In (51a), then, since the embedded agent is an internal argument (being fused with the higher patient), it is intrinsically [−r] and can be the passive subject. In fact, it is the only possible choice for the subject, because, by the AOP, the embedded patient is intrinsically [+o] and therefore inconsistent with the subject function. On the other hand, when the embedded agent is not an internal argument of the complex structure, as in (51b), the [−r] intrinsic classification may be assigned to the base patient, which can then be the passive subject.

A language that lacks the AOP is predicted to differ from Chicheŵa with respect to passivization. Bresnan and Moshi (1990) have shown that Kichaga is a symmetrical language (i.e., it lacks the AOP). This means that both internal arguments in a causative based on a transitive verb can be [−r], and either can therefore be selected as the subject in a passive form. We correctly predict that causatives in Kichaga have a passive form where the causee is the subject, as in (40), and an alternative one where the base patient/theme is the subject, as in (38). The absence of the AOP in Kichaga, which was proposed in Bresnan and Moshi (1990) independently of causatives, accounts for the grammaticality of (38), whereas the corresponding form in Chicheŵa is impossible. The suppression of the external argument in passives allows an internal argument to be selected as

the subject. Since both internal arguments in (38) and (40) can be [− r] in Kichaga, either can be selected as the subject.[18]

The differences between the oblique and the object expressions of the causee follow from their different status as adjunct and argument, respectively. This immediately predicts that the *kwá*-phrase causee of sentences like (1a), being an adjunct, can be omitted (3), whereas the object causee, being an argument, cannot (4). The other asymmetries noted between the two forms of the causee also follow from this basic difference, as argued in section 1.[19]

The fact that the oblique causee and the demoted subject in passives are morphologically identical in some languages, but distinct in others, poses no problem. In cases like the Romance languages, or Shona and Swahili among the Bantu languages, where there is no morphological distinction between these two oblique forms, we can say that there is an adposition (*par* in French) that introduces an adjunct thematically bound to a suppressed logical subject: therefore, this adposition can be used in passives, where the suppressed argument is a logical subject, as well as in causatives, where the suppressed causee is the logical subject of the embedded argument structure. In languages like Chicheŵa and Malayalam, where the two oblique forms are morphologically distinguished, there is one adposition that introduces an adjunct thematically bound to a suppressed logical subject and a second that introduces an adjunct bound to a suppressed top logical subject (*kwá* and *ndí*, respectively, in Chicheŵa). Since the suppressed argument in passives is a top logical subject, the more specific form takes precedence over the more general one, by the Elsewhere Principle (Kiparsky (1973)). The less specific form (*kwá* in Chicheŵa) is effectively restricted to being used for suppressed causees, logical subjects that are not top logical subjects.

[18] Not all languages that show some symmetrical behavior are symmetrical in causative constructions. Japanese (see, for example, Baker (1988)) and the Bantu language Sesotho (Machobane (1989)) show symmetrical behavior in double object constructions involving a recipient or beneficiary object: either this object or the patient/theme can be the passive subject. However, they show asymmetrical behavior in causative constructions: only the causee can be the passive subject. In the present theory, this pattern follows from assuming that these languages have a restricted form of the AOP that is not triggered by just any two internal arguments; one of them must be a logical subject. In a construction with two internal arguments one of which is a logical subject, such as a causative, the AOP is activated; consequently, only one internal argument—the causee, according to the principles stated earlier—can be assigned the [− r] intrinsic classification, which will allow it to be a passive subject.

[19] The difference with respect to binding of reflexives in certain languages is also attributable to the argument/adjunct distinction. In Italian, for example (see Burzio (1986)), the fact that the object (but not the oblique) causee can antecede a reflexive follows from this distinction: if a reflexive must be bound by a coargument, then the object causee, being an argument, will qualify as a binder, but the oblique causee, being an adjunct, will not. The observation that the object causee can have subject properties with respect to binding (see, among others, Marantz (1984), Baker (1988)) can be recast in the present framework along the lines of Grimshaw (1990) and S. Rosen (1989): in some languages, a reflexive may take the most prominent argument in its argument structure as its antecedent (whether it is the subject or not), and that may include the causee.

6. Conclusion

In this article I have presented a theory of causatives according to which causative verbs in languages like Chicheŵa are formed at the level of argument structure. I argued that the causative predicate in such languages has an internal argument, a patient, which is semantically identified with an argument of the embedded caused event structure, creating a thematically composite argument. I provided conclusive evidence both for the claim that the causative predicate has a patient and for the claim that it forms a composite argument with an argument of the base predicate.

Theories that assume syntactic incorporation, such as those of Baker (1988) and Li (1990), claim to be especially well suited to explain the facts of causative constructions. However, not only do they fail to account for the generalizations that they assume, but they cannot account for the facts that reveal the thematically composite nature of the primary object of causatives. More importantly, the idea that causative constructions have a syntactic argument that bears one thematic relation to the causative predicate and another to the embedded predicate cannot be imported into the Incorporation theories (at least, given the basic architecture of the Government-Binding framework presupposed by these theories).

The only alternative is to assume that the causative predicate combines with another predicate at the level of argument structure to form a complex argument structure, and that the thematically composite role is assigned fully formed to one syntactic position. Such a treatment is required by a lexicalist theory like Lexical-Functional Grammar, which prohibits relation-changing operations such as those found in passives and causatives from taking place in the syntax. Within Lexical-Functional Grammar, the assumption that causatives of the type discussed here are formed at the level of argument structure is not merely an option, as it is in Government-Binding Theory, but the only possibility. Given the principles of correspondence between argument structure and syntax developed within Lexical-Functional Grammar (the lexical mapping theory of Bresnan and Kanerva (1989), Bresnan and Moshi (1990), and others), the syntax of causatives follows from their argument structure.

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