
CAUSATIVE CONSTRUCTIONS

Causative constructions have played an important role in the recent history of linguistics, not only from a typological viewpoint, and also represent an important area of convergence between linguistics and such adjacent disciplines as philosophy (the nature of causation) and cognitive anthropology (human perception and categorization of causation). Internally to linguistics, causative constructions are important because their study, even within a single language, but perhaps more clearly cross-linguistically, involves the interaction of various components of the over-all linguistic description, including semantics, syntax, and morphology. Outside typology, the study of causative constructions was crucial in, for instance, the development of generative semantics. In the present chapter, however, our concern will be primarily with universals of causative constructions and typology of causative constructions, although this study does on occasion indicate why some of the questions posed by generative semanticists, on the basis usually of English data alone, remained unresolved within this framework.

In this chapter, we are concerned with various linguistic expressions of causation, and a useful starting point is a characterization of the causative situation (event) as a whole. Any causative situation involves two component situations, the cause and its effect (result). Let us imagine the following scene: the bus fails to turn up; as a result, I am late for a meeting. In this simple example, the bus's failing to turn up functions as cause, and my being late for the meeting functions as effect. These two micro-situations thus combine together to give a single complex macro-situation, the causative situation. In this case, it would be natural to express the macro-situation in English by combining the two clauses together, e.g. as *the bus's failure to come caused me to be late for the meeting*, or *the bus didn't come, so I was late for the meeting*, or *I was late for the meeting because the bus didn't come*. Very often, however, the expression of one of the micro-situations, usually the cause, can be ab-

breviated, giving rise to sentences like *John caused me to be late*: here, the effect is clearly that I was late, but the expression of the cause has been abbreviated, so that it is not clear what particular piece of behaviour by John caused me to be late. We may therefore generalize our definition of cause somewhat to allow that *John* in such a sentence can be treated as an instance of cause.

The characterization of cause given above is essentially independent of structural parameters, and there are in fact a number of ways of expressing such a causative situation in English and other languages, such as the use of causative or resultative conjunctions (*because, so that*) or prepositions (*because of, thanks to*), the use of a separate predicate of causation (e.g. the verb *to cause* or *to bring it about that*), or of a predicate that includes within itself the notion of cause, as in *John killed Bill* (which can be decomposed into a cause – some action of John's, not further specified – and an effect – Bill's death). Linguistically, however, it turns out that certain of these causative expressions are of greater interest than others, largely independently of whether the interest is primarily typological or not. In particular, most attention has been devoted to causative constructions where the notion of causation is contained in the predicate, either with a separate predicate of causation like English *cause* or French *faire* 'to make', or with causation as one semantic component of the predicate, as with English *kill* or Turkish *öл-dür* 'kill, cause to die' (cf. *öл* 'die'). It is with predicational causation of these kinds that we will be concerned in the present chapter.

As indicated above, one of the reasons for the recent intense interest in causative constructions is that their study involves the interaction of formal syntax and semantic analysis, and in many instances the correlation of formal and semantic parameters. In section 8.1 we will outline the major relevant parameters, turning in section 8.2 to their interaction on the basis of examples from a range of languages.

8.1 PARAMETERS IN THE STUDY OF CAUSATIVE CONSTRUCTIONS

8.1.1 FORMAL PARAMETERS

One of the main formal parameters, indeed often the only one found in early discussions of causative verbs, is the formal relationship between the expression for the causative macro-situation and the resultant micro-situation, i.e. the relationship between, for instance, *cause to die* and *die*, or between *kill* and *die*. On this morphological parameter, we can make a three-way typological distinction, although, as with many typological distinctions, forms in languages do not always fit neatly into one or other of

these three types, rather a number of intermediate types are found. The continuum as a whole ranges from analytic causatives through morphological causatives to lexical causatives.

The prototypical case of the analytic causative is where there are separate predicates expressing the notion of causation and the predicate of the effect, as in English examples like *I caused John to go*, or *I brought it about that John went*, where there are separate predicates *cause* or *bring it about* (cause) and *go* (effect). Although such constructions are widely used by linguists, especially in glossing other construction types, in terms of frequency of occurrence cross-linguistically and even in terms of naturalness of use within individual languages, such pure analytic causatives are relatively rare. In Russian, for instance, it would be possible to say *ja sdelal tak, čtoby Džon ušel*, literally 'I did thus, so that John left', but this would be a very unnatural construction; the nearest natural constructions all express much more than simple causation, e.g. *ja zastavil Džona ujti* 'I forced John to leave', which implies direct coercion, and would be inappropriate, for instance, if *John* were to be replaced by an inanimate noun phrase.

Turning now to morphological causatives, the prototypical case has the following two characteristics. First, the causative is related to the non-causative predicate by morphological means, for instance by affixation, or whatever other morphological techniques the language in question has at its disposal. A simple example is provided by Turkish, where the suffixes *-t* and *-dır* (the latter with vowel harmony variants) can be added to virtually any verb to give its causative equivalent, e.g. *öl* 'die', *öl-dür* 'kill', *göster* 'show', *göster-t* 'cause to show'. The second characteristic of the prototypical morphological causative is that this means of relating causative and non-causative predicates is productive: in the ideal type, one can take any predicate and form a causative from it by the appropriate morphological means. Turkish comes very close to this ideal, since as indicated above one takes pretty well any verb and form a causative from it, and can even form causatives of causatives: from *öl* 'die' we can form *öl-dür* 'kill', but we can then take *öl-dür* as the basis for this same process and form *öl-dür-t* 'cause to kill'. However, there are limitations on the iterativity of this process, so that long chains of causative suffixes, though occasionally found illustrated in manuals, are of marginal acceptability in the language. In this sense, there is probably no language that illustrates the pure prototypical morphological causative, with unrestricted iterativity of the relevant morphological process.

In the examples given in the previous paragraph, it was invariably the case that the causative predicate was formed from the non-causative, in the particular Turkish examples chosen by suffixation. However, it is also

possible to find examples with the inverse derivational relation, where the predicate expressing the effect has more morphological material than the causative predicate, as in Russian *lomat'* 'to break' (transitive) versus *lomat'sja* 'to break' (intransitive), in which the suffix *-sja/-s'* derives the non-causative from an inherently causative simplex verb. Such derived non-causatives are sometimes referred to as anti-causatives. In Russian, then, we have pairs of sentences like the following:

Palka slomala-s'. (1)
 'The stick broke.'

Tanja slomala palku. (2)
 'Tanya broke the stick.'

In yet other cases, it is difficult or impossible to speak of any direction of morphological derivation. In Swahili, for instance, the intransitive verb 'boil' is *them-k-a*, while the transitive verb, 'cause to boil', is *chem-sh-a*: here the effect verb and the causative verb simply have different suffixes, so that both are, in a derivational morphological sense, equally complex. Similar lack of directionality is found with suppletive pairs like English *die* and *kill*: while one may argue whether *kill* should be derived syntactically from *die* or not, morphologically the two forms are completely unrelated. In terms of the relation between expression of the effect micro-situation and the causative macro-situation, however, all of these subtypes can be treated together, although they will differ in degree of productivity (for instance, while the genuine derived causative may be a productive process, the derived anti-causative will not be, since one cannot iteratively reduce the degree of transitivity of a predicate: once it is intransitive, that is necessarily the end of the process).

Introducing the *die/kill* relationship in the preceding paragraph has brought us to the third type of causative in morphological terms, namely the lexical causative, i.e. examples where the relation between the expression of effect and the expression of causative macro-situation is so unsystematic as to be handled lexically, rather than by any productive process. The clearest examples here are of suppletive pairs, like English *kill* as the causative of *die*, or Russian *ubit'* 'to kill' as the causative of *umeret'* 'to die'. Suppletion forms the clearest instance of lexical causatives in that there is, by definition, no regularity to the formal relationship between the two members of the pair.

Although there are many instances in languages that instantiate these ideal types, or come very close to doing so, there are also many constructions that fall between the adjacent types on the continuum. An excellent

example of a type intermediate between analytic and morphological is the French construction with *faire*, as in *j'ai fait courir Paul* 'I have made Paul run'. At first sight, this would seem to be a straightforward analytic causative, since we have separate predicates *faire* expressing cause and *courir* 'to run' expressing the effect. However, as soon as one compares this construction with other constructions where there are clearly two predicates, the apparent clarity of this example dissolves. In general, where there are two predicates in French, each will take its own set of noun phrase arguments, as in *j'ai demandé à Paul de courir* 'I have asked Paul to run' or *j'ai demandé à Paul de manger les pommes* 'I have asked Paul to eat the apples'. The verb *demande* 'to ask' takes, in addition to its subject, an indirect object with the preposition *à*. In the infinitive construction, as usually in such constructions in French, the subject of the infinitive is omitted, but any objects required or allowed by the verb in the infinitive remain: *courir* is intransitive, but with the transitive verb *manger* 'to eat' we find the direct object *les pommes* 'the apples' in the above example. The *faire* construction is very different in that, despite the presence of two words *faire* and the dependent infinitive, this complex behaves for most purposes as a single compound predicate. For most speakers, it is not possible to insert noun phrases between the two components, so that even though one might expect a priori that *Paul* of *j'ai fait courir Paul* would be either object of *faire* or subject of *courir*, this noun phrase cannot intervene between *faire* and *courir*, even though an object of *faire* would be expected immediately to follow it, and a subject of *courir* immediately to precede it. In our example, the phrase *faire courir* behaves as a single complex, and *Paul* is the direct object of this whole complex, therefore quite naturally follows the complex as a whole. This becomes even clearer, as we shall see in more detail in section 8.2, when we consider transitive infinitives after *faire*, because the grammatical relation of the causee (the entity caused to do something) has to adjust to accommodate to the valency of the compound predicate *faire plus infinitive* as a whole. Since a transitive verb already has a direct object of its own, the causee in fact appears as an indirect object, as in *j'ai fait manger les pommes à Paul* 'I made Paul eat the apples'. Contrast this with the behaviour of the *demande* construction, where the person asked to carry out the action is invariably an indirect object, as required by the valency of the main clause verb *demande*.

In purely morphological terms, as we saw in section 2.3, the distinction between analytic and synthetic is a continuum rather than a clear-cut distinction, and here we see that even where, in purely formal terms, a construction may seem to belong clearly to one or the other type, further investigation of its behaviour may show it rather to be intermediate. More generally, one could typologize causative constructions in terms of the

degree of reduction of the two separate predication (cause and effect) into a single predication, ranging from such pedantically explicit renderings as *I brought it about that John left via I caused John to leave via I had John leave* to French constructions of the *faire* type and so on to morphological causatives in the strict sense.

Likewise, there are constructions intermediate between the ideal morphological type and the ideal lexical (suppletive) type, in particular examples where there is a clear formal relationship between the predicates used to express effect and to express causation, but no regularity to this formal relationship. A good illustrative example here is Japanese, which has both canonical morphological causatives and causatives using a less productive morphological relationship. The canonical morphological causative uses the suffix *-(s)ase*, as in *sin-ase-* 'cause to die' (cf. *sin-* 'die'), *tomar-ase-* 'cause to stop' (cf. *tomar-* 'stop', intransitive), *ori-sase-* 'cause to come down' (cf. *ori-* 'come down'). In addition, however, many verbs also have a non-productively related causative, so that alongside *tomar-ase-* there is also *tome-* 'stop' (transitive), and alongside *ori-sase-* there is also *oros-* 'bring down'. In Japanese, such non-productive causatives behave like canonical lexical causatives, e.g. like *korns-* 'kill' as a lexical causative of *sin-* 'die'. In other languages, however, there is often a difference in behaviour between suppletive and non-productive non-suppletive causatives. In English, for instance, many causatives can be formed without any morphological change to the verb, as with *melt* (transitive and intransitive). The relation between transitive and intransitive *melt* is not quite the same as that between members of a suppletive pair like *kill* and *die*, as can be illustrated by the following pair of sentences, where (3) is much more natural than (4):

John tried to melt the glass, but it wouldn't (sc. melt). (3)

**John tried to kill Mary, but she wouldn't (sc. die).* (4)

Thus the existence of a formal relationship, even though not productive, does facilitate identification of the causative and non-causative members of the pair for purposes of retrieval of omitted information.

As with other lexical relations, the semantic relation between putative causative and non-causative verbs is sometimes idiosyncratic, for instance with English *fall* and *sell*, the latter being much more restricted in meaning than 'cause to fall' – in non-metaphorical usage, *sell* is restricted to causing trees to fall. However, there are sufficient examples cross-linguistically of canonical and close-to-canonical lexical causatives where the meaning relationship is regular to make possible the inclusion of such causatives within a general typological study of causative constructions.

In addition to the classification into analytic, morphological, and lexical causatives, there is one further formal parameter that turns out to be crucial in the cross-linguistic comparison of causative constructions, and this is the grammatical encoding of the semantic relation causee in the causative construction, i.e. of *John/the tree/the vase* in *I caused John/the tree/the vase to fall* and in other ways of expressing the same basic meaning. As this is a fairly complex parameter, interacting closely with parameters to be discussed in section 8.1.2, a whole section, namely 8.2, has been devoted to this area of interaction, and discussion of the encoding of the causee is postponed until then.

8.1.2 SEMANTIC PARAMETERS

In this section, we will be concerned with two major semantic parameters, namely the distinction between direct and indirect causation and the problem of the degree of control retained in the causative macro-situation by the causee. There are also other semantic distinctions that can be made within causative constructions, but on which we will not concentrate here. One such parameter is, however, deserving of mention, namely the distinction between true causation and permission. In English, these two types are kept apart by the use of different main verbs in the usual analytic constructions, as in *I made the vase fall* (true causative) versus *I let the vase fall* (permissive). In many languages, however, especially in languages with a morphological causative, the same construction ranges over both true causative and permissive senses, as in Georgian:

<i>Mama švil-s</i>	<i>çeril -s</i>	<i>a-çer</i>	
father	son	DATIVE	letter
		ACCUSATIVE	write
		-in-eb-s.	
		3SINGULAR	(5)
'Father makes/helps/lets his son write the letter.'			

(In this example, the prefix *a-* and the suffix sequence *-in-eb* marks the causative.) It is easy to see the relationship between true causative and permissive, in terms of our initial characterization of (true) causative. In both constructions, the anterior event (or its agent) has some control over whether or not the effect is realized: with the true causative, the anterior event/agent has the power to bring the effect about; in the permissive, the anterior event/agent has the power to prevent the effect from coming about. In both types, the realization of the effect is, at least partially, within the control of the causer/permitter.

In discussing semantic distinctions within causative constructions,

much as in our earlier discussion of semantic roles in general in section 3.1, we are concerned solely with those semantic distinctions that have grammatical relevance in at least some languages. Since we are thus interested primarily in correlations between semantic and formal parameters, in the discussion below we will frequently refer back to the formal distinctions made in section 8.1.1, and forward to the discussion of formal-semantic interactions in section 8.2.

The distinction between direct and indirect causatives is concerned with the mediacy of the relationship between cause and effect. On the one hand, there are instances where cause and effect are so close to one another temporally that it is difficult to factor the macro-situation physically into cause and effect, even though it remains possible to do so conceptually. Thus if I am walking past the sideboard and catch the vase with my hand, thus causing it to fall from the sideboard, the relation between cause (my catching the vase) and effect (the vase's falling off the sideboard) is very direct. In other instances, however, the relation between cause and effect may be much more distant, as in the following scenario: the gunsmith, knowing that the gunfighter has a crucial fight coming up, ensures that the gun, which has been entrusted to him for repair, will fail to fire; some hours later, the gunfighter goes out for his fight and, since his gun has been tampered with, he is killed. The relation between cause and effect is very indirect, although nonetheless, there is an inevitable flow of events between the cause (the gunsmith's tampering with the gun) and the effect (the gunfighter's death).

Many languages have a formal distinction correlating with this distinction between direct and indirect causatives. Moreover, the kind of formal distinction found across languages is identical: the continuum from analytic via morphological to lexical causative correlates with the continuum from less direct to more direct causation. Thus if one were forced to establish different situations correlating with the difference between English *Anton broke the stick* and *Anton brought it about that the stick broke*, or their Russian equivalents *Anton slomal palku* and *Anton sdelal tak, čtoby palka slomalaš'*, then one would probably do so by inventing, for the second example in each language, a situation where Anton's action is removed by several stages from the actual breaking of the stick. Similarly, in Nivkh, the lexical and morphological causatives of the verb *če-* 'dry' (intransitive) can be distinguished semantically:

If lep seu-d'. (6)
he bread dry

If lep če -gu -d'. (7)
he bread dry CAUSATIVE

In Nivkh, the morphological causative has the suffix *-gu*; in this particular example, the lexical causative involves a non-productive derivational process of initial consonant alternation. Example (6) simply states that he dried the bread, and would be most appropriate for a situation where the person in question deliberately set about drying the bread, for instance by putting it in the oven. Example (7), however, corresponds rather to 'he caused the bread to get dry' or even 'he let the bread get dry', implying, for instance, that he forgot to cover the bread, as a result of which the bread dried.

It must be emphasized that the distinction between direct and indirect causation is one of degree along a continuum. It is very difficult, and perhaps even impossible, to construct examples which clearly allow only a direct causation or only an indirect causation interpretation. But when one contrasts different causative constructions that differ on the analytic-morphological-lexical continuum, then it becomes clear that the construction closer to the analytic end is more appropriate for the distant (indirect) causative, while the one closer to the lexical end is more appropriate for the direct causative. Failure to recognize this has engendered much unnecessary controversy over the relation between English *kill* and *die*, with participants arguing back and forth as to whether *kill* and *cause to die* are or are not synonymous. To be sure, it is difficult to invent situations where one or other of these expressions would be excluded, but it is easy to invent situations, and more especially pairs of situations, where one of the two variants is more appropriate than the other.

The second semantic parameter that we wish to discuss is the degree of control retained by the causee in the causative construction. Since this semantic parameter interrelates in particular with the formal expression of the causee in the causative construction, most of the discussion of the formal-semantic interaction will be retained until section 8.2. Where the causee is an inanimate entity, as in *John caused the tree to fall*, this causee in general has no potential for exercising any control over the macro-situation, so that the question of control does not arise. Where, however, the causee is animate, there is the potential for a continuum of degree of control retained by that causee. If one takes an English sentence like *I brought it about that John left*, then this leaves quite unexpressed whether I got John to leave by direct coercion (e.g. by knocking him unconscious and carrying him out when he was in no position to resist), or whether I subtly played upon his deeper psyche in an attempt, ultimately successful, to persuade him to leave – in either case, I did something (cause) which had as its ultimate result that John left (result). Of course, in English it is possible to express such distinctions, by suitable choice of matrix verb, as in the difference between *I compelled John to leave*, *I made John leave*, *I*

imposed on John to leave, I persuaded John to leave. In many languages, however, differences along this continuum can be expressed by varying the case of the causee. For the moment, we will content ourselves with an illustrative example, from Hungarian:

Én köhögtem a gyerek-et. (8)
I caused-to-cough the child ACCUSATIVE

Én köhögtem a gyerek-kel. (9)
I caused-to-cough the child INSTRUMENTAL

Example (8), with the accusative of the causee, implies low retention of control, and would be appropriate, for instance, for a situation where I slapped the child on the back, thereby inducing him to cough whether he wanted to or not. Sentence (9), with the instrumental, leaves greater control in the hands of the causee, implying, for instance, that I got the child to cough by asking him to do so. We leave open the philosophical question of whether the causee does in fact retain more of his own free will when he is persuaded to do something, rather than being forced to do it: at least, language does make this distinction concerned with degree of retention of control.

8.2 VALENCY CHANGES IN MORPHOLOGICAL CAUSATIVES

From a typological viewpoint, perhaps the property of causative constructions that has most interested linguists in recent years has been the valency of morphological causatives, in particular the grammatical encoding of the causee. There are two basic viewpoints that can be opposed on this question, although, as we shall suggest below, an over-all analysis of causative constructions seems to require aspects of both of these opposing viewpoints. The first viewpoint can be referred to as syntactic, and would argue that all, or at least much, of the problem to hand can be handled in purely syntactic terms, without recourse to semantics. The second viewpoint is semantic, and would argue that all, or at least much, of the problem to hand requires statement in semantic terms, with syntax playing a correspondingly smaller role.

Before turning to evidence for and against each of these opposing viewpoints, we may first note some of the universals of causative constructions that these two viewpoints address themselves to. We are concerned here

with universal tendencies in the syntax and semantics of causative constructions, rather than with absolutes, but when one considers the logically possible range of variation that one might have found across languages, then the fact that the actual range of variation is so much smaller does stand out significantly.

The morphological causative normally has a valency one higher than that of the corresponding non-causative, since in addition to the arguments of that non-causative predicate there is also the causer. With analytic causatives this introduces no problems, since each of the two predicates, expressing cause and effect, retains its own set of arguments. With the morphological causative, however, the arguments of both semantic predicates have to be combined together into one single set of arguments on a single predicate. Cross-linguistically, this problem of valency increase is almost invariably solved by altering the expression of the causee. One simple solution is simply to omit mention of the causee from the causative construction, and this is particularly frequent as a possibility cross-linguistically in dealing with causatives of transitive verbs, as in the following example from Songhai:

Omission of the causee does, of course, result in loss of information – in (10) it is simply unclear who was made to eat the rice – and no language seems to have this as its only possibility across a wide range of causative sentence types. Rather what happens is that the grammatical exponency of the causee is altered to fit in with the new over-all pattern of valency of the morphological causative predicate.

The pattern that emerges as the norm across languages here can be illustrated with examples from Turkish. In a non-causative Turkish sentence, the noun phrase corresponding to the causee is subject in the nominative, as in examples (11), (13), and (15) below. In the corresponding causative, the subject slot is already occupied by the causer, and since Turkish, like most languages, does not permit two subjects in a single clause, the causee cannot also be subject. Where the non-causative verb is intransitive, as in (11), then the causee appears as a direct object in the accusative, as in (12):

- Hasan öl -dü.* (11)
Hasan die PAST
'Hasan died.'

- Ali Hasan-i öl -dür -dü.* (12)
 Ali Hasan ACCUSATIVE die CAUSATIVE PAST
 'Ali caused Hasan to die, killed Hasan.'

Where the non-causative verb is transitive, the direct object slot is already occupied by the direct object of the non-causative verb, so the causee cannot appear as direct object in a language like Turkish that permits only one direct object per clause, rather it appears as an indirect object in the dative:

- Müdür mektub-u imzala-di.* (13)
 director letter ACCUSATIVE sign PAST
 'The director signed the letter.'

- Dişçi mektub-u müdür -e*
 dentist letter ACCUSATIVE director DATIVE
imzala-t -ti. (14)
 sign CAUSATIVE PAST
 'The dentist got the director to sign the letter.'

Where the non-causative verb already has an indirect object, then this slot is also unavailable to the causee – with reservations to be made below – and in Turkish, in such instances, the causee appears as an oblique object with the postposition *tarafindan*:

- Müdür Hasan-a mektub-u göster-di.* (15)
 director Hasan DATIVE letter ACCUSATIVE show PAST
 'The director showed the letter to Hasan.'

- Dişçi Hasan-a mektub-u müdür*
 dentist Hasan DATIVE letter ACCUSATIVE director
tarafindan göster-t -ti. (16)
 by show CAUSATIVE PAST
 'The dentist got the director to show the letter to Hasan.'

When the Turkish data are set out in this way, the formal solution to accounting for this distribution is clear. It requires the establishment of a hierarchy of grammatical relations, as follows: subject > direct object > indirect object > oblique object. The grammatical encoding of the causee proceeds as follows: the causee occupies the highest (leftmost) position on this hierarchy that is not already filled. Thus in (14), since subject

is already occupied by the causer, and direct object by the direct object of 'sign', the highest remaining position is indirect object, and this is indeed how the causee is encoded. Although we will note below some counterexamples to this generalization, and some points that are not explained by this formal approach, it does still, we would maintain, remain the case that a wide range of properties of morphological causatives are explained by this hierarchy that are not captured by alternative accounts.

The hierarchy is very similar to that proposed in chapter 7, where we noted that accessibility to relative clause formation is determined by a hierarchy: subject > direct object > non-direct object > genitive. Clearly, the genitive is irrelevant to the discussion of valency of causative verbs, since it is an argument of a noun phrase, not of a verb. The only difference would then be the inclusion of indirect object in the causative hierarchy. Moreover, there is some, albeit slight, evidence from relative clause formation that indirect object should be included in the hierarchy, between direct and oblique object, which would then make the relevant parts of the hierarchy identical. (Note that we are using the term non-direct object to subsume both indirect object and oblique object.) There are, however, some problems with establishing this identity between the two hierarchies. First, there is the general problem of establishing indirect object as a valid grammatical relation: in Turkish, as far as we are aware, there is no independent evidence (i.e. other than the behaviour of causative constructions) for separating off indirect objects from the other non-direct objects. In many languages, it seems that causative constructions would be the only ones where indirect object is a relevant grammatical relation, and, as discussed in section 3.3, the language-internal justification of a grammatical relation really requires a number of logically independent parameters. Secondly, even if we assume the existence of a grammatical relation of indirect object, it turns out that the evidence for this position as relevant to relative clause formation is very marginal indeed: hardly any languages have indirect object as a clear cut-off point. Yet, in the cross-linguistic study of causative constructions, indirect object seems to be one of the best justified positions, the use of indirect objects to express the causee in the causative of a transitive verb being extremely widespread across the languages of the world. So, for present purposes, we will take a more cautious line, noting that there are close similarities between the relative clause and the causative hierarchies, without there necessarily being identity between them; moreover, we note that, if it should turn out that indirect object is not a grammatical relation in languages that use this construction for the causative of a transitive, then some other way (i.e. other than as a grammatical relation) must be found of characterizing this position on the hierarchy.

The next problem to consider with regard to the formal approach outlined above is that many languages allow doubling on one of the positions in this hierarchy. In Sanskrit, for instance, it is in fact impossible to express the causee in the causative of a transitive verb in the dative case, rather it must appear either in the instrumental (discussed below) or in the accusative, giving rise to constructions with two accusatives:

<i>Rāmaḥ</i>	<i>bhr̥tyam</i>	<i>katam</i>
Rama-NOMINATIVE	servant-ACCUSATIVE	mat-ACCUSATIVE
<i>kārayati.</i>		
	prepare-CAUSATIVE	
'Rama makes the servant prepare the mat.'		(17)

It turns out, however, that nearly all languages allowing this possibility in causative constructions are languages that otherwise allow clauses to have two accusative objects – it is even conceivable that one should say ‘all languages’ rather than ‘nearly all languages’, although there are some languages with this causative construction for which we have been unable to find evidence concerning non-causative constructions with two direct objects. When, however, we turn to indirect objects, then the possibilities for doubling are much more widespread, indeed it seems to be the case that every language that allows the causee to be expressed in the causative of a ditransitive verb construction allows doubling on indirect object in this position, so that even in Turkish we have, as an alternative to (16):

Dişçi müdür-e mektub-u Hasan-a göster-t-ti. (18)

In some languages, such examples may be ambiguous (though in Turkish, the first dative is interpreted as causee), or stylistically infelicitous for other reasons in certain instances, but there is no doubt that they exist as possible constructions. The possibility of doubling on indirect objects in this way does not correlate with any possibility of having two indirect objects in a single clause, and is thus more directly a counterexample to the formal universal of causative construction formation as an absolute universal.

Although this universal cannot remain as an absolute universal, it does still remain as a strong universal tendency. Indeed, the claim can even be strengthened beyond this. As we noted in the previous discussion, doubling on subjects is unknown in causative constructions; doubling on direct objects is attested, but restricted; doubling on indirect objects is very widespread. In other words, the possibilities for doubling on a given grammatical relation increase as one descends the hierarchy. Presumably, no

language that has oblique objects places a restriction of the kind that only one oblique object per clause is permitted.

In the discussion so far, when we have referred to oblique objects we have simply referred to them as a single undifferentiated class, but clearly, even for the restricted purposes of discussing causative constructions, this is inadequate. It is not the case in Turkish, for instance, that the causee in the causative of a ditransitive verb can stand as any arbitrary kind of oblique object, rather it must take the postposition *tarafından*. Likewise in French, such a causee must take the preposition *par* 'by':

J'ai fait écrire une lettre au directeur par Paul. (19)
 'I have made Paul write a letter to the director.'

Not only is the choice of oblique not random within a given language, there is also a high degree of correlation across languages: the oblique object chosen is typically that used to express the agent in the passive construction, as with Turkish *tarafından* and French *par*. This obviously suggests an alternative explanation, other than the hierarchy, for the appearance of this particular oblique object in the causative construction, namely that the oblique object arises not through demotion down the hierarchy, but rather by the application of passive in the derivation of the causative construction. Both suggestions have a degree of initial plausibility. In what follows, we will argue that, although the passive analysis may indeed be appropriate for certain languages, it is not a general solution to all such cases, i.e. that demotion down the hierarchy must remain, at least for the present, as a possibility.

The possible validity of the passive analysis can be illustrated by using French data. First, we should note that with the causative of a transitive verb (i.e. even with a verb lacking an indirect object), French allows the causee to be expressed with *par*:

Jean a fait manger les pommes par Paul. (20)
 'Jean made Paul eat the apples.'

This is therefore in violation of the formal hierarchy explanation as an absolute universal, which would predict demotion to indirect object only (which is an alternative possibility in French). The passive analysis, however, would predict the existence of sentences like (20), since in general in French any transitive verb can be passivized. The argument would thus run that the subordinate clause *Paul manger pommes* 'Paul to eat apples' is passivized to give *pommes manger par Paul* 'apples to eat by Paul', in which *pommes* is now subject of an intransitive construction. Construction (20) is thus causative of

an intransitive, and by the regular demotion procedure the causee, *pommes*, ends up as direct object of the causative construction as a whole. One problem for the passive analysis is that, in French and virtually all languages that have a morphological causative, there is never any trace of passive morphology in the causative verb, i.e. it is impossible to say:

**Jean a fait être mangées les pommes par Paul.* (21)
 ‘Jean has made the apples be eaten by Paul.’

However, in many languages there are close correlations of detail between the passive construction and the possibility of a passive agent-like expression in causative constructions, down to idiosyncratic lexical restrictions on passivization, so that one might be prepared to overlook the morphological problem. And, indeed, for French, at least, the passive solution does have considerable plausibility.

There are, however, also some problems for the passive analysis. First, some languages, such as Hungarian and Finnish, allow the use of an oblique object for the expression of the causee even though they lack any passive constructions, or at least any passive construction that would express the agent in the same case as is used in the causative construction. This would require setting up a passive that occurs only in the causative construction, thus destroying any possible independent motivation for the passive analysis of causative constructions. More damaging to the passive analysis as a universal solution to oblique objects in causative constructions, however, is the fact that in some languages, of which Turkish is an excellent example, the expression of the causee as an oblique object is restricted to causatives of ditransitive verbs, whereas passive applies freely to the whole range of transitive verbs. In Turkish, it is not possible to replace the dative of (14) by a prepositional phrase with *tarafından*:

**Dişçi mektub-u müdür tarafından imzala-t-tı.* (22)

In Turkish, then, demotion to the bottom position on the hierarchy takes place only when it is required to avoid two occurrences of a given grammatical relation; there is no such constraint on passive, which means that passive cannot be used, on its own, to account for the distribution of grammatical expressions of the causee.

Above, we noted exceptions to the demotion analysis as an absolute universal whereby the causee appeared in a position higher on the hierarchy than predicted, giving rise to doubling on some position. There are also exceptions occasioned by the appearance of the causee lower down the hierarchy than predicted. Some of these we have already noted, for in-

stance French example (20), in connection with the passive analysis. In addition, some languages do not use the indirect object position on the hierarchy, but have a straight choice between direct object and oblique object for the expression of the causee. When we look at other violations of the absolute interpretation of the hierarchy, especially instances where alternative expressions of the causee are possible, then the relevance of semantic considerations becomes much more apparent. Before, therefore, looking at the data in more detail from both a formal and semantic viewpoint, we may outline how a semantic approach to the grammatical encoding of the causee might proceed.

The essential factor involved here is the degree of control exercised by the causee. As we noted in section 8.2, differences of control are most perceptible with animate causees. In many languages, there is, in addition to any correlation between morphological case and grammatical relation, also a fairly high correlation, often mediated by grammatical relations, between morphological cases and semantic roles. For instance, the accusative, as the basic morphological encoding of the direct object, typically refers to an entity with a very low degree of control. On the other hand the instrumental, or whatever case is used for passive agents, is frequently used for an entity with a high degree of control, especially in passive constructions, or elsewhere when the interpretation of the semantic role instrument is excluded. Dative, as the typical exponent of experiencer or recipient, occupies an intermediate position: experiencers are indeed low in control, though they still differ from patients in that they must be sentient; recipients even more clearly are intermediate, since in the situation *John gave the book to Mary*, while Mary clearly has less control than John (since John is the prime initiator), she does have some control, e.g. in being able to refuse the gift, whereas the book has none. One could thus establish a hierarchy: instrumental > dative > accusative, in terms of the degree of control (from greatest to least), a hierarchy which is remarkably similar to the formal hierarchy proposed above (for expository purposes, the two hierarchies are presented in reverse order).

Turning now to the expression of the causee: in general, the subject of a transitive verb has more control than the subject of an intransitive verb; many intransitive verbs express situations over which the subject has no control (e.g. *John is tall*), although there are of course many potentially controllable intransitive actions (e.g. *John went*); conversely, although there are subjects of transitive verbs with low degree of control (e.g. *John underwent an operation*), these are far less typical than those with control exercised by the subject. The fact that causees in causatives of intransitives go into the accusative, whereas causees in causatives of transitives go into the dative (or instrumental, in languages that do not use the dative) at least

correlates very highly with the hierarchy given above: for the causee exercising greater control, choose the case higher on the hierarchy.

This viewpoint finds further confirmation when one looks at alternative expressions for the causee independent of the valency of the non-causative verb. The formal explanation based on the syntactic hierarchy has no explanation here: at best, it allows such alternatives as violations of what is, after all, only a tendency rather than an absolute universal. We find this kind of alternation with intransitive verbs, as for instance in the following Hungarian examples, where, as already discussed (see (8)–(9)), use of the instrumental rather than the accusative implies greater retention of control by the causee:

Én köhögtem a gyerek-et (ACCUSATIVE). (23)

Én köhögtem a gyerek-kel (INSTRUMENTAL). (24)

'I made the child cough.'

A similar distinction is found in Japanese, where *o* marks the accusative case; since Japanese uses *ni* for both indirect objects and passive agents, no formal distinction is possible here between the two:

Taroo ga Ziroo o ik-ase-ta. (25)

'Taroo made Ziroo go.'

Taroo ga Ziroo ni ik-ase-ta. (26)

'Taroo got Ziroo to go.'

The distinction is also found with transitive verbs in many languages. In Kannada, for instance, we find a contrast between the dative (less control) in (27) and the instrumental (greater control) in (28):

Avanu nanager biskeṭannu tinnisidanu. (27)

he-NOMINATIVE I-DATIVE biscuit eat-CAUSATIVE

'He fed me a biscuit.'

Avanu nanninda (INSTRUMENTAL) *biskeṭannu tinnisidanu.* (28)

'He got me to eat the biscuit.'

Examples of this kind, where there is a consistent cross-linguistic correlation between alternative expressions and different meanings concerned with degree of control, make it clear that semantics must play some role in the cross-linguistic study of causative constructions, especially for linguists interested in universals and typology. However, this does not mean that this semantic explanation, at least to the extent that it has been elaborated to

date, supersedes the syntactic account of causative constructions given above. There are still many aspects of the syntax of causative constructions that are not accounted for by the semantic explanation. For instance, there are languages like Turkish where semantic factors seems completely irrelevant to the expression of the causee: in the causative of an intransitive verb, it must be accusative; in the causative of a monotransitive verb, it must be dative; in the causative of a ditransitive verb, it may be either dative or with the postposition *tarafindan*, though without any apparent difference in degree of control. There are many instances where there is no variation within a given language: for instance, variation between two expressions for the causee in the causative of an intransitive verb, though clearly attested in such languages as Hungarian and Japanese, is by no means a widely available choice in a wide range of languages, and even in these two languages there is no corresponding choice with causatives of transitives: here, Hungarian must use the instrumental for the causee, Japanese must use the postposition *ni*.

Another piece of evidence in favour of retaining at least some of the validity of the formal explanation for tendencies concerning cross-linguistic restrictions on the syntax of causative constructions is that the same morphology as is used to indicate causative in many languages is also used as a general indicator of increase in valency (and, likewise, anti-causative as a general indicator of decrease in valency), without any necessary connection with the semantic parameters of causative constructions. In Wolof, for instance, the suffix *-al* can indicate a causative:

<i>Di</i>	<i>naa</i>	<i>toog-al</i>	<i>nenne bi.</i>	(29)
FUTURE ISINGULAR sit CAUSATIVE child the				
'I will make the child sit.'				

However, it is also used to increase the valency of a monotransitive verb to ditransitive, e.g. to enable inclusion of an indirect object in the valency of the verb *dyàng* 'read':

<i>Mungi dyàng-al eleew yi</i>	<i>tééré-ém.</i>	(30)
he read pupil the-PLURAL book his		
'He is reading his book to the pupils.'		

Thus perhaps the main lesson of work on typology of causative constructions, in addition to specific results and methodological indications, is that any detailed approach to language typology, or indeed to any aspect of language, must combine formal and semantic viewpoints if it is to uncover all of the relevant factors.

NOTES AND REFERENCES

Two collections of articles providing a variety of data and viewpoints on causative constructions are Shibatani (1976a) and Xolodovič (1969). The introduction by Shibatani (1976b) in the former is a useful introduction to the whole area.

The general characterization of causative constructions given here is based on Nedjalkov & Sil'nickij (1969a). Discussion and exemplification of the morphological typological parameters is given by Nedjalkov & Sil'nickij (1969b). The Japanese examples are from Shibatani (1976b, 17). The Nivkh example is from Nedjalkov *et al.* (1969, r83).

The formal syntactic approach to valency change in causative constructions is introduced in Comrie (1975), and elaborated in Comrie (1976); many of the examples cited are from these sources. The importance of the semantic approach has become particularly clear to me through discussion with Peter Cole (University of Illinois at Urbana-Champaign); for Hindi data, see also Saksena (1980), and for more general information Shibatani (1976b). An earlier attempt to synthesize the two approaches, with rather different emphases, is Comrie (1985). The Songhai examples are from Shopen & Konaré (1970). The Hungarian examples are from Hetzron (1976, 394), though not all speakers accept (9). The Kannada examples are from Peter Cole (University of Illinois at Urbana-Champaign) and S. N. Sridhar (State University of New York at Stony Brook); for some discussion, see Sridhar (1976, 137–40) and Cole & Sridhar (1977), the latter arguing in particular against a passive analysis for the instrumental causee. The Wolof examples are from Nussbaum *et al.* (1970, 390–1).

More recent work on causative constructions has tended to concentrate on their formal properties; see, for instance, Baker (1988, 147–228) and references cited there.