MAPPING MULTIPLE CAUSATIVES

by

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Abstract

In many languages a causative verb can be formed by adding a causative affix to the basic verb. The causative clause contains a causer, the entity initiating the caused event; a causee, the entity acted upon by the causer and carrying out the event; and (optionally, depending on the transitivity of the base verb) a theme, the entity acted upon by the causee. Some languages allow a second causative affix, yielding a clause with a double causative meaning. That is, the causer acts on an intermediary which in turn acts on the causee which in turn acts on the theme. Much has been published on single causatives but little on double causatives. I address this lacuna by presenting a typological and theoretical study of double causatives.

First, I present a typology of double causatives based on data from twelve genetically diverse languages. The data demonstrate that single causatives built on transitive verbs and double causatives built on intransitive verbs have exactly the same case array. The typology further shows that languages differ in whether their grammatical processes target the direct object or indirect object position. For example, in Turkish and Japanese (indirect object-centred languages), the causee in a double causative construction built on a transitive verb appears as an indirect object. But in Ilokano and Hungarian (direct object-centred languages), the causee appears in an oblique relation because no position beyond direct object is utilized. This difference conditions the range of possible causative constructions.

Second, I discuss causatives from the viewpoint of Mapping Theory [MT]. The architecture of MT makes crucial use of argument position thresholds and therefore accommodates the differences between direct object- and indirect object-centred languages.

I extend an earlier MT analysis of single causatives to double causatives. The key point is that the causative affix adds two arguments to the relational structure of the clause: a causer assigned the subject relation and a causee assigned an indirect object relation. In double causatives, two sets of arguments are added. This argument structure, together with normal MT assumptions about thresholds, straightforwardly predicts the case arrays in both single and double causatives.

Thus, Mapping Theory provides a constrained view of possible structures while at the same time accommodating the typological differences in double causative constructions found in the world's languages.

ACKNOWLEDGEMENTS

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LIST OF ABBREVIATIONS

ACC	accusative	REC	reciprocal
ADES	adessive	REFL	reflexive
ADV	advancement marker	RG	Relational Grammar
AFF.OBJ	affected object	S	subject
AGR	agreement	SG	singular
CH	case hierarchy	SOV	subject-object-verb
COMPL	completive	SUBJ	subject
CS	causative	SVO	subject-verb-object
DAT	dative	TEMP	temporal marker
D.CS	direct causative	TOP	topic
DET	determiner	TR	transitive
DIST.PST	distant past	VOS	verb-object-subject
DO	direct object	VSO	verb-subject-object
ERG	ergative		
GEN	genitive		
GR	grammatical relation		
GT	grammaticalization theory	1	first person
I.CS	indirect causative	2	second person
IMM.PST	immediate past	3	third person
IND	indicative		
INST	instrumental		
INTR	intransitive		
IO	indirect object		
M	masculine		
MAP	morphosyntactically licensed argument position		
MMC	multiple morphological causative		
MT	Mapping Theory		
NOM	nominative		
NP	noun phrase		
OBJ	object		
OBL	oblique		
OVS	object-verb-subject		
PART	partitive		
PERF	perfect		
PL	plural		
POS	possessive		
PP	prepositional phrase		
PRES	present		
PST	past		
PV	perfective		

INTRODUCTION: MULTIPLE CAUSATIVES

Causation is a subject much discussed by philosophers since Aristotle. By contrast, the linguistic aspects of causation have captured scholars' attention only more recently. However, since pivotal works in the 1960s and 1970s, that interest has been intense.[1] This thesis explores a small, understudied segment of the causative domain: multiple causatives; in particular, double causatives.

I confine myself to morphological causatives, i.e. those constructions in which causation is expressed through affixation to the verb.[2] For example, (1a) and (2a) are noncausative sentences with an intransitive and a transitive verb, respectively, while (1b) and (2b) are their morphological causative counterparts, formed through the affixation of a single causative morpheme to the predicate and an added nominal in the clause.

(1) Turkish (Comrie 1985:323f.)

  a. Hasan öl-dü
     Hasan die-PST
     '*Hasan died.*'

  b. Ali Hasan-ɨ   öl-**dür**-dü
     Ali Hasan-ACC   die-CS-PST
     '*Ali caused Hasan to die, killed Hasan.*'

(2) Ilokano (Gerdts in prep.)

  a. in-akan   ti   ubing   ti   linugaw
     PST-eat   det   child   det   porridge
     '*The child ate porridge.*'

  b. **p-in-a-**kan   diay   taraken   ti   linugaw   i-ti   ubing
     CS-PST-eat   det   maid   det   porridge OBL-det child
     '*The maid fed the child the porridge.*'

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[1]See especially Xolodovič (1969), Nedyalkov and Silnitsky (1973), Perlmutter and Postal (1974), Comrie (1975), Shibatani (1976), Aissen (1979) and Comrie and Polinsky (1993).

[2]While all languages are able to express causation analytically (syntactically) and lexically, morphological causatives are less common. English, for example, allows analytic causatives, i.e., 'Daryl made the ice melt' and lexical causatives, i.e., 'Daryl melted the ice'. But there is no affix which can be added to the main verb of an English sentence to derive a causative meaning.

Sentences (3) and (4) are multiple causative derivatives of (1) and (2) wherein a second causative morpheme is affixed and another nominal added. A double causative meaning ensues. Thus (3) and (4) are examples of **multiple morphological causatives**, hereafter, **MMCs**.

(3)   Turkish (Comrie 1985:323f.)

    Mehmet   Hasan-ɨ   Ali-ye   öl-**dür-t**-tü
    Mehmet   Hasan-ACC Ali-DAT   die-CS-CS-PST
    'Mehmet made Ali kill Hasan.'

(4)   Ilokano (Gerdts in prep.)

    p-in-a-i-pa-kan   ko   diay linugaw   ti   daydiay ubing
    CS-PST-AFF.OBJ-CS-eat   1GEN   det   porridge det   det   child

    ken   daydiay   taraken
    OBL   det   maid
    'I had the maid feed the child porridge.'

In (3), a double causative built on an intransitive verb, *Mehmet* is the causer, *Ali* is the intermediary and *Hasan* is the causee/theme. In (4), a double causative built on a transitive, *ko* 'I' is the causer, *taraken* 'maid' is the intermediary, *ubing* 'child' is the causee and *linugaw* 'porridge' is the theme.

Schematically speaking, the **causer** is the instigator of an event, and the **causee** the entity acted upon by the causer and which actually carries out the act predicated of the verb. The **theme** is the entity acted upon by the causee. In causatives of intransitives it is indistinguishable from the causee; indeed the causee **is** the theme (or patient, if we choose to reserve theme for inanimate entities). The **intermediary**, of which there may be more than one in MMCs, is the entity which acts on the causee, i.e. the intermediary is further from the caused act.

Now consider what happens if we build an MMC on a transitive verb.

(5)   Turkish (Özkaragöz 1986:216)

    Osman Sema-ya   ben-im vasɨtasiyle   Turhan-ɨ   öp-**tür-t**-tü
    Osman Sema-DAT   I-1SG   by means of   Turhan-ACC   kiss-CS-CS-PST
    '*Osman had Sema kiss Turhan by means of me.*'

In this example, *Osman* is the causer with Ø case marking indicating NOMINATIVE. *Sema* is

the causee marked DATIVE and Turhan is the theme (patient) marked ACCUSATIVE. The

intermediary *ben* 'I' is not case marked but rather bears the postposition *vasɨtasiyle* 'by

means of'. There are four nominals in this clause but only three of them are salient enough

to be case marked as 'core' or 'direct' terms: the intermediary is an 'oblique'.

But in referring back to the Ilokano example in (2b), we see that only two nominals

have core status; the causee *ubing* 'child' is overtly oblique. There is a different **threshold**

for term-hood in Turkish than in Ilokano. This asymmetry between languages is repeated

cross-linguistically. Both single causative and multiple causative constructions provide a

unique window on this type of alternation. The data suggest that the number of argument

positions available in a given language influences the variety of ways in which nominals

may appear in that language.

The relevance of argument positions is also demonstrated by intralanguage

symmetries in causative constructions. Example (6a) is an MMC based on an intransitive

verb while (6b) is a single causative based on a transitive verb.

(6)   Japanese   a = (Shibatani 1973:344)   b = (Miyagawa 1989:111)

    a. Taroo ga   Ziroo ni   Itiroo o   aruk-**ase-sase**-ta
       Taro   NOM   Jiro   DAT   Ichiro ACC   walk-CS-CS-PST
       '*Taro* [made/had] *Jiro make Ichiro walk.*'

    b. Hanako ga   Taroo ni   syokki o   araw-**ase**-ta
       Hanako NOM   Taro   DAT   dishes ACC   wash-CS-PST
       '*Hanako caused* [made/let] *Taro to wash the dishes.*'

Note that the case array is identical. Here then is further evidence from MMCs that

grammatical constructions target particular argument positions in the clause.

In this thesis I set out to identify MMCs in a range of languages, group those languages into a typology and analyze their causative constructions within a theoretical framework which explains the empirical differences. In Chapter 1, I begin by presenting a typology of MMCs from twelve languages. While I sought genetic and areal variety in my choice of languages, I was also influenced by the prosaic need for sufficient data on the under-reported MMC. I categorize these languages by dividing them first into those that can form MMCs on intransitive verbs only and those that can form such constructions on intransitive *and* transitive verbs. The latter category is further divided into case marking and non-case marking languages. I also discuss the MMC characteristics of the languages in my sample with respect to some broad typological features such as headedness and word order.

In Chapter 2, I introduce Mapping Theory (Gerdts 1993a,b,c,d), the theoretical framework I will use throughout to analyze causative constructions. Under this approach, two ways in which languages differ are crucial. First, the previously mentioned notion of *threshold* is considered. Languages divide into two classes: those which are direct object-centred and those which are indirect object-centred. The former have a lower threshold for conferring term status upon nominals than do the latter. Second, languages differ according to the *direction* in which nominals associate with argument positions in the clause. In order to accommodate all of the data, I extend and refine Mapping Theory practice as it relates to both single causatives and MMCs. Until now this theory has only examined direct object-centred languages; I expand the coverage to include indirect object-centred languages as well. The extension laid out here allows only those constructions which actually occur in natural language.

Although multiple morphological causatives are not common cross-linguistically, they are a good diagnostic for testing the comprehensiveness of competing linguistic theories. Chapter 3 compares the Mapping Theory approach to two other relationally-based accounts of causatives, that of Comrie (1975, 1976, 1989) whose case hierarchy model has been very influential, and that of Relational Grammar. Both of these accounts are found wanting. The Relational Grammar analysis overgenerates structures while the Case Hierarchy requires dubious stipulations to account for all of the relevant data. Mapping Theory emerges as demonstrably superior to these two accounts.

In Chapter 4, I summarize the key findings and address a handful of other issues including alternative semantics of MMCs, grammaticalization aspects of MMCs and iteration of the causative affix beyond doubling. An important theory-internal matter relating to the number of strata required in syntactic representation is also addressed.

CHAPTER ONE:
MULTIPLE CAUSATIVE CONSTRUCTIONS

In this chapter, I present the data that any theory of multiple causatives must address. Particular attention will be paid to the types of verbs on which MMCs may be formed, i.e. intransitives, transitives or both. A pattern that ultimately emerges from the data points to a key distinction among the 12 languages surveyed: some make crucial use in their grammars of the indirect object position [IO]; others do not, relying instead only on the direct object [DO] position.[3] The importance of the IO/DO split between languages will be made more clear in Chapter 2.

A frequently noted phenomenon involving causative affixes is that they are more productive with intransitive verbs than with transitive ones (Nedyalkov and Silnitsky 1973:7, Song 1991:76ff.). However, all the languages in my sample allow both intransitive and transitive verbs to be used in monocausative constructions. Only when we consider MMCs does the corpus split into two groups: those languages that allow MMCs on intransitive stems only (§1.1) and those that permit them on intransitive and transitive stems (§1.2). Within that latter group there is a variety of ways in which the causee is dealt with: it may be deleted, it may appear as a bare noun or it may be part of an adpositional phrase. In each group I will show first a singly, and then a doubly, causativized verb.

After I have laid out and discussed the relevant data, I summarize the range of causative constructions in §1.3. I also discuss some broad gauge typological measures such as headedness and word order and their relevance to MMC creation.

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[3]It is true that Comrie (1989:177) has noted a problem with legitimizing the grammatical relation 'indirect object' since it seems in many languages to be only the causative construction which requires it; specifically, for the causee in causative constructions built on transitive verbs. But since causative constructions **are** my concern, the use of that relation is validated for present purposes. I merely note, with Comrie (ibid.), that if the IO relation proves to be inapt as a GR, then some other way must be found to characterize nominals that fill that position.

1.1 LANGUAGES FORMING MMCS ON INTRANSITIVE VERBS ONLY

HIXKARYANA, a member of the Cariban family spoken in Northern Brazil, is noteworthy for being the first language known to demonstrate a bonafide unmarked OVS word order (Derbyshire 1977). Intransitive stems are causativized by the morpheme *noh* and transitives by *ho* (Derbyshire 1985:88f.). These are discrete affixes, not allomorphs. In (7a)–(9a) the component parts of the predicate become clearer if we abstract away from the morphophonological processes that give rise to the surface form. I show the 'exploded' view of these predicates in (7b)–(9b).

(7) a. b‡ryekomo horymamnohye wos‡
         boy   she.CS.him.to.grow up   woman
         '*The woman raised the boy.*'

    b. [Ø   -horymam‡   **-noh** -ye]   = horymamnohye
       3S3O   -grow up   -CS   -DIST.PST. COMPL

With a transitive verb the causee is only expressible by a postpositional *wya* phrase.

(8) a. b‡ryekomo yotahahono wos‡ t‡nyo   wya
         boy   she.CS.to hit.him woman her(REFL).husband by
         '*The woman caused her husband to hit the boy.*'

    b. [y   -otaha **-ho** -no]   = yotahahono
       3S3O   -hit   -CS   -IMM.PST

Intransitive verbs which have been causativized with *noh* may be further causativized with *ho*, yielding an MMC with a structure similar to that of the causativized transitive in (8).

(9) a. b‡ryekomo horymamnohpoye aworu   wos‡ wya
         boy   he.caused.to raise.him his.uncle woman by
         '*His uncle caused the woman to raise the boy.*'

    b. [Ø   -horymam‡   **-noh -ho** -ye]   = horymamnohpoye
       3S3O   -grow up   -CS   -CS   -DIST PST.COMPL

Derbyshire cites no examples of transitive or ditransitive verbs serving as bases for MMCs (although he does not outright say that they are impossible).

MALAYALAM is a Dravidian language spoken in Kersala state in India. The following examples are from Mohanan (1983:58f.).

(10) acchan   kuttiye   kařayiccu
     father.NOM   child.ACC   cry.CS.PST
     '*The father made the child cry.*'

(11) amma   kuttiyekonṭə   aanaye   ṇuḷḷiccu
     mother.NOM   child.ACC.with   elephant.ACC pinch.CS.PST
     '*Mother made the child pinch the elephant.*'[4]

An MMC may be created out of the causativized intransitive verb in (10).

(12) amma   acchanekkonṭə   kuttiye   kařay**ippiccu**
     mother.NOM   father.ACC.with   child.ACC   cry.CS.CS.PST
     '*Mother caused father to make the child cry.*'

This construction is structurally similar to the monocausative transitive in (11): identically positioned nominals carry identical case marking.[5]

Mohanan (1983) gives no examples of MMCs based on transitives. He does state, however, that Malayalam verb morphology permits three instances of the causative affix but the semantics allows only two (ibid.59). Thus *aar* 'become cold' → *aatt* 'make cold' → *aattikk* 'cause X to make Y cold' → *aattippikk* 'cause X to make Y cold' [same as previous meaning]. The meaning 'cause X to cause Y to make Z cold' is unavailable (ibid.60) because of a constraint barring two 'non-agentive' causers being associated with a single verb. That is, there apparently cannot be two nominals bearing the instrumental postposition (in this case 'X' and 'Y') in a single clause: there may only be one [+ direct] causer (agentive) and one [– direct] causer (non-agentive) per clause. In short, there is no

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[4]The causee *kuttiye* 'child' may be omitted; this is not possible with intransitives like (10).

[5]Example (12) provides an interesting contrast with the upcoming example (20), a Turkish MMC based on the same verb, 'cry'. In Turkish, the sentence is of doubtful grammaticality (Özkaragöz 1986:217):

    */?Ben   Turhan-a   Sema-yɨ   ağla-t-tir-dɨ-m
     I   Turhan-DAT   Sema-ACC   cry-CS-CS-PST-1SG
     ('*I made Turhan make Sema cry.*')

But the Malayalam example is completely unproblematical.

doubling on the oblique position. This reasoning would also explain the absence of MMCs

formed on transitives since there would again be two 'non-agentive' causers.

In the Kartvelian language **GEORGIAN**, the causative construction involves the use of

discontinuous affixes. Examples (13) and (14) are monocausative intransitive and transitive

constructions, respectively, (from Comrie 1976:282).

(13) Kališvil-i   çqal-s   **a-duǧ-eb-s**
     girl-SUBJ   water-DO   CS-boil-CS-PRES
     'The girl brings the water to the boil.'

(14) Mama   mdivan-s   çeril-s   **a-çer-ineb-s**
     father-SUBJ   secretary-IO letter-DO   CS-write-CS-PRES
     'Father makes the secretary write the letter.'

The following derivation from Harris (1981:71, 284) shows a doubly causativized

intransitive verb.[6]

(15) a. gela   cevs   taxtze
        Gela.NOM   he.lies.I.2   couch.on
        'Gela is lying on the couch.'

     b. mama   gelas   **açvens**   taxtze
        father.NOM   Gela.DAT   he.CS.lie.him.I.1   couch.on
        'Father makes Gela lie on the couch.'/'Father lays Gela on the couch.'

     c. bebia   mamas   **açveninebs**
        grandmother.NOM   father.DAT   she.CS.CS.lie.him.him.I.1

        gelas   taxtze
        Gela   couch.on
        'The grandmother makes the father let Gela lie on the couch.'

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[6]However, transitive verbs are not so accommodating when it comes to MMC creation, as the
following indicates (from Harris 1981:285).

*uprosma   vanos   daaçerinebina   çerili   mdivnis   mier/tvis
boss.ERG Vano.DAT   he.CS.CS.write. him.it.II.1   letter.NOM   secretary   by/for
('*The boss made Vano have the secretary write a letter.'*)

In Harris' analysis, this sentence is bad because the lowest clause of the would-be causative has too many terms
(in the Relational Grammar sense of that word). As Comrie (1976:270) notes, Georgian is one of the few
languages that excludes the possibility of an oblique constituent in these circumstances.

Note that the double causative reading must come about only through the presence of an 'extra' nominal in the clause, for there is nothing in the verb complex to distinguish it from the singly causativized verb in (14).

1.2 LANGUAGES FORMING MMCS ON INTRANSITIVE & TRANSITIVE VERBS

Georgian, Hixkaryana and Malayalam are the only languages in my sample which forbid MMCs on transitive verb stems. I turn now to the remainder of the languages, those which *do* permit MMCs on transitive stems.

I begin in §1.2.1 with case marking languages. This subgrouping includes Turkish, Japanese, Finnish, Hungarian and Hindi. The reason for dealing with these languages first is simply because the presence of morphological case makes the behaviour of the nominals rather more transparent than in the non-case marking languages. This is particularly helpful in determining the GR of the causee, an issue of perennial interest to linguists.

In §1.2.2, I move on to examine the non-case marking languages Oromo, Ilokano, Malagasy and Swahili. The lack of such marking makes an analysis of their GRs a tougher job. Other confounding factors are the particularly wide range of opinion on the grammaticality of various clauses in Malagasy and Swahili and the difficulty in providing a coherent account of the GR status of the nominals in Swahili and Oromo clauses.

1.2.1 CASE MARKING MMC LANGUAGES

TURKISH, a Turkic language, is well studied and frequently used as the paradigm of morphological causativization. There are two reasons for this. First, all verb types may be productively causativized: intransitives, transitives and ditransitives (Comrie 1989:175f., Aissen 1979:7). Second, Turkish is said to exemplify a perfect fit with the well known causee demotion, or case hierarchy, analysis of Comrie (1975, 1976, 1989), which I will

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discuss further in Chapter 3.[7]

The most productive causative suffixes are *DIr* and *t*, the choice being

phonologically determined. Typical examples are the following from Aissen (1979:7f.).

(16) Mehmet   Hasan-ɨ   öl-**dür**-dü
     Mehmet   Hasan-ACC   die-CS-PST
     'Mehmet killed Hasan.'/'Mehmet caused Hasan to die.'

(17) Hasan   kasab-a   et-i   kes-**tir**-di
     Hasan   butcher-DAT   meat-ACC   cut-CS-PST
     'Hasan had the butcher cut the meat.'

Causatives of ditransitives result in the causee appearing as an oblique object as in

the following example from Comrie (1989:176).

(18) Dişçi   Hasan-a   mektub-u   müdür   tarafɨndan   göster-t-ti
     dentist   Hasan-DAT   letter-ACC   director by   show-CS-PST
     'The dentist got the director to show the letter to Hasan.'

With respect to MMCs, Turkish allows—formally at least—unlimited iteration of

causative markers (Kulikov 1993:147). But there are critical differences between

intransitive verb classes. Examples (19)–(22) are from Özkaragöz (1986:216–20).[8]

(19) Sema   Turhan-a   kɨz-ɨ   kay-**dɨr**-t-tɨ
     Sema   Turhan-DAT   girl-ACC   slip-CS-CS-PST
     'Sema made Turhan cause the girl to slip.'

There are three arguments associated with the multiply causativized verb in (19). But in

(20), the same structure with another intransitive verb is questionable or ungrammatical.

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[7]This analysis is based on a hierarchy of GRs of the form subject > direct object > indirect object > oblique object. Thus, in a causative construction, the subject (of the non-causative clause) would be demoted along the hierarchy to the first available position on the right (in the causative clause). The former subject then is the causee. Causee status is one of the most contentious issues in the analysis of causative constructions. The demotion approach would provide a cogent formal solution were there not a number of exceptions to it. Furthermore, Turkish is not just the paradigm case, it is the only case that is a perfect fit (Song 1991:84), but cf. Palmer 1994:219).

[8]As pointed out earlier in the text, selection of the causative suffix is phonologically determined. Zimmer (1976:399) states that '-*t* occurs after polysyllabic stems ending in a vowel or a liquid and -*DIr* elsewhere'. This phonological rule accounts for the alternations seen in the selection of MMC suffixes.

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(20) */?Ben Turhan-a Sema-yɨ ağla-t-tir-dɨ-m
      I   Turhan-DAT Sema-ACC cry-CS-CS-PST-1SG
      ('I made Turhan make Sema cry.')

The intended gloss of (20) can only be stated using the postposition *vasɨtasiyle*, resulting in the following sentence having only two arguments.

(21) Ben Sema-yɨ Turhan vasɨtasiyle ağla-t-tir-dɨ-m
      I   Sema-ACC Turhan by means of cry-CS-CS-PST-1SG
      'I made Turhan make Sema cry.'/'I made Sema cry by means of Turhan.'

Zimmer (1976:410) claims that the difference between (19) and (20) is due either to the role distinction with respect to *kɨzɨ* 'girl' in (19) and 'Sema' in (20) or to something in the character of the verbs themselves. Özkaragöz (1986), in the spirit of Zimmer's latter suggestion, claims that the divergent behaviour is due to the unaccusative/unergative distinction:[9] unaccusative verbs allow two causative markers in a clause with three arguments, but unergative verbs allow only two arguments. She is unable to explain though why the facts should fall out this way and not the opposite way.

Transitive verbs pattern similarly to unergatives, as the following illustrates.

(22) Osman Sema-ya ben-im vasɨtasiyle Turhan-ɨ öp-tür-t-tü
      Osman Sema-DAT I-1SG by means of Turhan-ACC kiss-CS-CS-PST
      'Osman had Sema kiss Turhan by means of me.'

In MMCs built on transitives, the upper causee may be omitted where there would otherwise be a construction with two dative markers. According to Zimmer (1976:411f.), this does not result in ambiguity, a judgment confirmed by a native speaker I consulted.[10]

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[9]The distinction I refer to here arises from the Unaccusative Hypothesis first discussed within Relational Grammar (Perlmutter & Postal 1984) and since adopted in other theoretical frameworks (cf. also Pullum 1988 for historical background). In brief, this hypothesis claims there are two types of intransitive verbs. **Unergative** verbs like *run* or *talk* are claimed to have an underlying subject but no object while **unaccusative** verbs like *arrive* or *fall* have an underlying object only, which advances to subject in the final form of the clause. The distinction can sometimes be captured semantically insofar as the argument of an unergative verb is agent-like while that of an unaccusative verb is patient-like, but this claim is not tenable for all languages (Blake 1990:29–40). As Spencer (1991:260) has pointed out, the difference between the two types may be manifested syntactically (unaccusatives do not passivize), or morphologically (auxiliary selection in Italian).

[10]Serap Asar, a speaker raised in Istanbul.

(23) Müdür-e mektub-u ač-t<del></del>r-t-t<del></del>-m
   director-DAT letter-ACC open-CS-CS-PST-1SG
   'I had (someone make) the director open the letter.'
   (*'*I had the director (make someone) open the letter.'*)

It is possible to add further causative affixes with no diminution of grammaticality.

My consultant found three such affixes perfectly manageable, and while I was able to build

sentences with four and even five causative markers she was somewhat uncomfortable

with them, although she certainly found these clauses interpretable.

Causatives in **JAPANESE**, an (arguably) Altaic language, have been a subject of

longstanding interest to linguists, particularly the semantic characterization of the so-called

o and *ni* causatives (cf. Dubinsky 1994:48 and references therein).

Causativization is a productive process in Japanese; almost any basic verb can be

causativized (Dubinsky 1985, 1994). But there is ambiguity as to the degree of directness

of causation in clauses with transitives. First, consider the following intransitive example

from Miyagawa (1989:111).

(24) Isya wa kanzya o/ni   aruk-**ase**-ta[11]
   doctor TOP patient ACC/DAT walk-CS-PST
   '*The doctor caused the patient to walk.*'

For some time it has been claimed that ACC case marking means that the causee, viz.

kanzya 'patient' in (24), has little or no say in carrying out the caused act, whereas DAT

case marking accords the causee some measure of control. Thus, in intransitive clauses

there is a simple binary choice to be made and no ambiguity arises as to whether or not the

causee retains control. However, with transitive verbs, the only case marker available is

DATIVE *ni*, which **does** result in ambiguity. Example (25a) is from Miyagawa (1989:111).

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[11]The initial *s* of the Japanese causative morpheme *-sase* is dropped after a vowel. In MMCs this
morpheme *-(s)ase* is reiterated without the kind of alternation that we saw in Turkish where two discrete
causative morphemes are used in MMCs. This result follows from the conditions on allomorphy in the two
languages.

(25) a. Hanako ga   Taroo   ni   syokki   o   araw-**ase**-ta
       Hanako NOM Taro   DAT dishes   ACC   wash-CS-PST
       '*Hanako caused* [made/let] *Taro to wash the dishes.*'

   b. *Hanako   ga   Taroo   o   syokki   o   araw-**ase**-ta
       ('*Hanako made Taro wash the dishes.*')

The sort of ambiguity in (25a) is the same as that which arises in clauses with

intransitive verbs in MMCs, as is seen in the following example from Shibatani (1973:344).

(26) Taroo   ga   Ziroo   ni   Itiroo   o   aruk-**ase-sase**-ta
     Taro   NOM Jiro   DAT Ichiro   ACC   walk-CS-CS-PST
     '*Taro* **made/had** *Jiro make Ichiro walk.*'

While Japanese certainly allows MMCs, in the surface form only one causative morpheme is

likely to appear (Shibatani 1973:344). He adds that there is no 'competence limit' on

multiple causatives but 'double causatives seem to be the only actually occurring multiple

causatives'. Data I have collected from a native speaker[12] bears out this claim. However,

Farmer (1984) may offer a conflicting view. For example, Farmer (1984:42) has said that it

is 'theoretically possible to build the following sentence'.

(27) Yooko   ga   Taroo   ni   Hanako ni isya   ni/o   ko-**sase-sase-sase**-ta
     Yoko   Taro   Hanako   doctor   come-CS-CS-CS-PST
     '*Yoko made (let) Taro make (let) Hanako make/let the doctor come.*'

The native speaker who assisted me with the Japanese data felt that (27) was fully

grammatical. However, she hastened to point out that it was very awkward and would not

likely be seen or heard in day-to-day written or spoken discourse. This bears out

Shibatani's claim. She added, too, that the sentence would have been more acceptable if

Hanako were sentence-initial. What is of more interest here, however, is the question such

a sentence raises with respect to the status of *ni*. While it is certainly a dative marker in

some contexts, it has a variety of other postpositional (oblique) uses as well, such as '*in*',

'*at*', '*to*,' *from*', '*on*' and '*by*' (cf. Sadakane and Koizumi 1995). The obvious lack of

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[12]Kyoko Sato, a linguistics student at Simon Fraser University.

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constraint on the multiple appearances of *ni* in (27) leads one to conclude that it is being used as one of those oblique markers on at least one or two of the nominals unless it is possible to triple on the indirect object position—an otherwise unattested phenomenon.[13] Of course, another possibility is that *ni* is an oblique marker in all of its appearances in (27).

Furthermore, the behaviour of MMCs with transitive verbs raises other questions. Farmer (1984:31) considers (28) to be marginal.

(28) ??Taroo ga Hanako ni isya ni kodomo o koros-**ase-sase**-ta
     Taro   Hanako   doctor   child   kill-CS-CS-PST
     '*Taro made (let) Hanako make (let) the doctor kill the child.*'

The native speaker I consulted, however, felt that this sentence was fine, albeit awkward. Again, she would have preferred to see *Hanako* fronted to sentence-initial position thus highlighting the instrumentality of the upper causee. Instrumentality connotes oblique status, which is congruent with a claim that *ni* marking on *Hanako* is postpositional rather than DATIVE. This would in turn mean that *isya* 'doctor' was the sole IO and constitute evidence against claims of doubling on this position (cf. Comrie 1976:295f.).

Apparently it is also possible to have MMCs with ditransitive verbs. Farmer (1984:31) considers the following sentence grammatical despite the presence of the Kleene star.[14]

(29) *Taroo ga   isya ni Yooko ni Hanako ni kusuri o age-**sase-sase**-ta
     Taro   doctor Yoko   Hanako   medicine   give-CS-CS-PST
     '*Taro made (let) the doctor make (let)Yoko give the medicine to Hanako.*'

My consultant was of the opinion that (29) was not too objectionable. It was more awkward, to be sure, than a singly causativized ditransitive but by no means ungrammatical.

Japanese MMCs are thus widely available to speakers, although vague performance factors limit their use beyond doubling. Nevertheless, speakers are unable to name a

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[13]Farmer (1984) does not gloss the markers on the nominals in examples like (27).

[14]Farmer (1984:203) states that sentences so marked are not ungrammatical but at the same time are 'not without problems'.

specific cutoff point beyond which additional causative affixes render a clause inextricably bad; certainly there appear to be no formal constraints.

FINNISH is a Finno-Ugric language spoken in Finland and northwestern Russia. It has a very productive morphological causative. Causatives can be derived from intransitives and transitives (Sulkala & Karjalainen [S&K] 1992: 294ff.). The causative morpheme has a variety of allomorphs. The following examples show a causativized intransitive and transitive from S&K (296) and Comrie (1985:33), respectively.

(30) Opettaja   laulattaa   oppilasta
        teacher   sing.CS.3SG   pupil.PART
        'The teacher makes a pupil sing.'

(31) Minä   rakennut-i-n   talo-n   muurare-i-lla[15]
        I   build.CS-PST-1SG   house-DO   bricklayer-PL-ADES
        'I had the bricklayers build the house.'

MMCs can be formed from verbs of any class (ibid.); (32) is an example of one based on an intransitive verb (S&K 296); (33), from my consultant, is transitive verb-based.

(32) Opetajja   laulatuttaa   kuoronjohtajalla   oppilaitaan
        teacher   sing.CS.CS.3sg   choir-leader.ADES   pupil.PL.PART.3POS
        'The teacher makes the choir leader make his/her pupils sing.'[16]

(33) Minä   rakennatat-i-n   talo-n   työnjohtaja-lla
        I   build.CS.CS-PST-1SG   house-DO   manager-ADES
        'I had the manager make [someone, i.e. the bricklayers] *build the house.'*

It is also possible to have identical causative morphemes adjacent to one another 'underlyingly', but phonological processes obscure this fact on the surface. Thus, according to S&K, *tuotattaa* 'cause s.o. to cause s.o. to bring' consists of the stem plus *TTA-TTA* and the infinitive marker (ibid.295).

Pennanen (1986) discusses Finnish MMCs under the rubric **curativity**, a descriptive term apparently peculiar to Finnish linguistics. A curative causative is one where 'an

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[15]My Finnish consultant, Zita McRobbie, claims that the *e* in *muurare* is absent here on the surface.

[16]Note that S&K's citation protocol suppresses a variety of phonological processes at work on the reiterated causative morphemes.

initiator or *indirect agent* will cause the *actants* or *direct agents* to carry out a given activity' (ibid.163). He discusses at some length the degree of recursion which is permissible in these Finnish constructions. Prescriptive grammarians claim that a curative verb of three derivative steps, i.e., *teetätyttää* 'to make s.o. cause s.o. to have s.o. do smth.' [tee+TTA+TTA+U+TTA] is 'unacceptable in correct usage'. But according to Pennanen, based on the informal idiom of word play from the lumber camps (!), it is indeed legitimate to derive such forms (ibid.168).[17]

An especially interesting issue here is that Pennanen considers the Finnish curative's role to be more modal or aspectual [hence inflectional] than anything else (1986:173). This suggestion runs counter to the prevailing view on causativization which assumes that the process is a derivational one, plain and simple, while tense and aspect are inflectional.[18]

I turn now to the Ugric language, **HUNGARIAN**. Causatives in Hungarian are a fertile source of data for theories of linguistic causation. All classes of verbs—intransitive, transitive and ditransitive—may be causativized and there is variable marking on some types of intransitive causees. The causee of a transitive is marked by the INSTRUMENTAL suffix and the causee of an intransitive is usually marked as ACCUSATIVE, as the following examples from Ackerman (1994:537) show.

(34) A   mama   elaltatja   a   kisfiát
     the   mother.NOM   PV.sleep.CS.3SG   the   child.ACC
     '*The mother put her child to sleep.*'

(35) A   fiú   levágatja   a   borbéllyal   a   haját
     the   boy.NOM   PV.cut.CS.3SG   the   barber.INST   the   hair.ACC
     '*The boy had the barber cut his hair.*'

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[17]Pennanen (1986:168) adds that beyond this level a sentence may appear 'questionable'. Zita McRobbie, who assisted me with the Finnish data, feels that despite the prescriptivists, speakers are generally quite tolerant of extended constructions like MMCs.

[18]Dubinsky (1994:46) calls the Japanese causative morpheme *-(s)ase* an inflection without explaining why. The line between derivation and inflection is vague, but MMCs provide good evidence that causatives fall on the derivational side. The reason is this: uncontroversially inflectional features like tense do not usually accumulate the way some causative affixes can (Palmer 1994:231). However, as Anderson (1982) notes, what is derivational in one language may be inflectional in another.

There are also some intransitives that allow the causee to take either the ACCUSATIVE or the INSTRUMENTAL suffix (Hetzron 1976, Ackerman 1994:537). It is unclear what the constraints are on the verbs that participate in this alternation; Ackerman offers no hypothesis.[19] My own work with a native speaker linguist, Zita McRobbie, preliminarily shows that these intransitives do not split along the familiar unaccusative/unergative lines we have seen up until now. The following sentences from Ackerman (1994:537) are illustrative.

(36) a. Az   orvos   pisiltette   a   gyereket
          the   doctor.NOM   pee.CS.3SG   the   child.ACC
          The doctor made the child pee.

      b. Az   orvos   pisiltetett   a   gyerekkel
          the   doctor.NOM   pee.CS.3SG   the   child.INST
          The doctor had the peeing done by the child.

This phenomenon is suggestive of that which we saw with the variable causee marking on Japanese intransitive causees insofar as ACC marked causees have limited control whereas those bearing a 'lower' marking (DAT in Japanese; INST in Hungarian) retain some control over the causative event.[20] The difference is captured above in the glosses 'made' versus 'had'.

The causative morphology of Hungarian permits two markers on the verb to express double causation (Hetzron 1976:381). However, unlike Finnish, that seems to be as far as the process goes. Pennanen (1986:175f.) agrees, but adds that even though there are no causatives of three levels, 'that does not necessarily mean that after the second step the recursion is absolutely blocked.' For example, where Hetzron (1976:381) cites the doubly causativized *sétál* 'take a walk' → *sétáltattat* 'make somebody take somebody for a walk', Pennanen (1986:176) offers the alternate gloss 'to cause someone to make someone take

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[19]Ackerman (1994:537) states that the constraints are 'under investigation'.
[20]I use the word 'lower' in reference to a case hierarchy NOM > ACC > DAT > OBLIQUE.

somebody for a walk'.[21] In other words, triple causativization is available with double morphology. In the same vein, it is possible to express double causation with single causative morphology: *hord* 'carry'→*hordat* 'to have something carried' or 'to cause someone to have something carried' (ibid.). My consultant confirmed this claim.

There are two causative markers in each of (37a, b) from Hetzron (1976:381f.), giving both sentences a double causative meaning.

(37) a. A   tanár   dolgozatot   írattat   a   diákokkal
       The   teacher   composition.ACC   write.CS.CS   the   pupils.with
       '*The teacher has* [someone] *have the pupils write a composition.*'

     b. A   tanár   dolgozatot   írattat   a   helyettesitővel
       The   teacher   composition.ACC   write.CS.CS   the   replacer.with
       '*The teacher has the proctor have a composition written.*'

In (37a), the upper causee (*helyettesitő* 'the proctor'), the one receiving instructions directly from *tanár* 'teacher', is omitted while in (37b) it is the lower causee (*diákok* 'pupils'), the ones actually performing the task predicated of the verb, that is omitted. To mention both is 'stylistically objectionable' (ibid.382) but not ungrammatical, an unexpected result since mentioning both nominals would remove all possible ambiguity (on the assumption that word order would facilitate role interpretation, too).[22]

HINDI, an Indic language from North-Central India, presents many difficult issues for theories of linguistic causation. Not only are there two discrete causative affixes, but these interact with other markers which attach to the causee, yielding an array of semantic interpretations. Morphological causation is very productive in this language and 'applies to the overwhelming majority of verbs' (Saksena 1982a:1).

The Hindi linguistic literature (cf. Masica 1991:315f.) traditionally makes a

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[21]My consultant claims that a speaker **might** add a third causative marker and thus remove all doubt as to the presence of triple causation.
    [22]It is also an unexpected result in that both nominals would take oblique marking and languages do not usually throw up barriers to strings of obliques. Thus, even though there would be the same INST marker on both nominals, 'doubling' on this position is not uncommon (Comrie 1976:276ff.).

distinction between so-called First and Second Causatives. Thus, *-vaa* forms are 'double causatives' in a causative construction relative to *-aa* forms such that the subject of the latter (First Causative) is an 'intermediary' in the Second Causative. The following examples from Saksena (1982b:822) are representative.

(38) a. raam-nee   makaan   ban-**aa**-yee
          Ram-AGENT   house   build-D.CS-PST
          '*Ram built a house.*'

      b. māī-nee   raam-see   makaan   ban-**vaa**-yaa
          I-AGENT   Ram-INST   house   build-I.CS-PST
          '*I had Ram build a house.*'

The notable feature of the MMC in (38b) is that it is 'multiple' in name only, i.e. Second Causative. It is not of the form CAUSE (CAUSE V) that we have examined up until now[23] since there is palpably only a single causee. The label 'Second' derives from the fact that the First Causative is more a transitivizer of the base form *ban* 'get built' than it is a causativizer in the sense of a causer acting on a causee.

It is possible, too, to derive the same type of construction with *-aa* (or *ā*) as the following causativized transitive example from Comrie (1976:268) illustrates.

(39) Mām   ne   baccom̐ ko   gerhd   khilāī
      mother SUBJ children IO   ball   play.CS.PERF
      '*Mother made the children play ball.*'

In this case note that the causee bears indirect object [DAT] marking rather than oblique [INST] as in (38b).

The use of *-vaa* also supports the addition of a DATIVE-marked nominal, as in (40) from Saksena (1982a:121).[24]

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[23]Indeed Saksena (1980, 1982a,b) cites several reasons why the First Causative/Second Causative analysis lacks explanatory value. These reasons distil down to the claim that the contrastive suffixes *-aa* and *-vaa* do not carry the generalizations of First and Second Causative but rather causer involvement versus non-involvement (Saksena 1982b:830). This is clear in her glosses of these morphemes as 'Direct Cause' and 'Indirect Cause'. I will not probe the subtleties of Hindi linguistics here but rather adhere to the traditional characterization of First and Second Causative as used by Masica (1991), who does not cite Saksena.

[24]Only *-vaa* can be used in MMCs where there is an intermediary, i.e. a 'true' multiple causative.

(40) māī-nee   harkaaree-see siitaa-koo citthii   likh-vaa-ii
     I-AGENT   scribe-INSTR   Sita-DAT   letter   write-I.CS-PST
     '*I had the scribe write a letter to Sita.*'[25]

Saksena (1982a:120) claims that (40) is an example of a maximally extended causative in

that there are 'four semantically contrastive nominals'. But this constraint is apparently no

bar to MMCs where the causees are all marked INSTRUMENTAL. Consider (41) from

Saksena (1982:122).

(41) māī-nee   siitaa-see raam-see   naukar-see   peer kat-vaa-yaa
     I-AGENT   Sita-INST   Ram-INST   servant-INST tree cut-I.CS-PST
     '*I had Sita make Ram make the servant cut the tree.*'

However, it would then seem that where linear order can disambiguate the relationships

among the actors in Hindi MMCs there is no formal upper limit on the number of causees

that can be stacked up. Such a result counterexemplifies Saksena's thesis. This was

confirmed for me by a native Hindi speaker who was able to add more INST marked

nominals with no degradation in grammaticality. There is, however, a complication. For at

least some Hindi speakers the reading indicated by the gloss in (41) is unnatural. To them,

the better interpretation is 'I had Sita, Ram and the servant cut the tree'. That is, a

collective type of reading. To obtain the reading Saksena purports to give (41) requires the

use of a predicate such as *kat-koko-ha* 'told him to cut' and the elimination of *-vaa*. (My

consultant was unable to give a rendering of (41) using a DAT marked nominal). If this

'alternate' reading of (41) is valid, then Saksena may indeed be right in her claim about the

upper limit on Hindi causativization, but for a different reason than the one she proposed.

With Hindi I conclude my examination of case marking MMC languages. I turn now

to non-case marking MMC languages.

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[25]Saksena (1982a:120) claims that if *Sita* were absent then the causee *harkaaree* 'scribe' could be
marked DATIVE **or** INST. The native speaker I consulted, Shashi Bhushan, did not have this option in his
dialect; he would allow only INST marking in these circumstances.

1.2.2 NON-CASE MARKING MMC LANGUAGES

In this section I explore the non-case marking languages Oromo, Ilokano, Malagasy and Swahili. As I indicated earlier, the lack of case marking in these languages makes identification of grammatical relations a more difficult task. Other complicating factors include the diversity of opinion on the grammaticality of various clauses in Malagasy and Swahili and the problems in providing a coherent account of the GR status of the nominals in Swahili and Oromo clauses.

In **OROMO**, a Cushitic language of Ethiopia and Kenya, causatives are productively formed from intransitives and transitives using the morpheme -*s* in several allomorphic variations (Owens 1985, Dubinsky et al.1988). The following examples are from Lloret (1987:143f.) with the labelling of clause type taken from Hayward (1976).

(42) non-agentive intransitive

    Terfaa-n   muka   gog-s-e
    Terfa-NOM wood   be dry-CS-PST.3SG.M.
    '*Terfa dried the wood.*'

(43) agentive intransitive

    Terfaa-n   Gamteessaa   fiig-sis-e
    Terfa-NOM Gamtesa   run-CS-PST.3SG.M.
    '*Terfa made Gamtesa run.*'

(44) transitive

    Terfaa-n   Gamteessaa   annan   ɗug-siis-e
    Terfa-NOM Gamtesa   milk   drink-CS-PST.3SG.M
    '*Terfa made Gamtesa drink milk.*'

The language permits MMCs with a variety of verb bases, as in the following examples from Lloret (1987:144) based on (42)–(44) above.

(45) Terfaa-n   Toltuu   muka   gog-s-iis-e[26]
    Terfa-NOM Toltu   wood   be dry-CS-CS-PST.3SG.M.
    'Terfa made Toltu dry the wood.'

(46) Terfaa-n   Gamteessaa   Toltuu   fiig-sis-iis-e
    Terfa-NOM Gamtesa   Toltu   run-CS-CS-PST.3SG.M.
    'Terfa made Gamtesa make Toltu run.'

(47) Terfaa-n   Gamteessaa   Toltuu   aanan   ɗug-siis-is-e
    Terfa-NOM Gamtesa   Toltu   milk   drink-CS-CS-PST.3SG.M.
    'Terfa made Gamtesa make Toltu drink the milk.'

The speakers that Owens consulted (1985:4) considered sentences like (47) to be 'a bit marginal' pointing out that a periphrastic construction with the verb for 'make, force' is a better option (ibid.55). No example was presented of an MMC formed on a ditransitive.

Dubinsky et al. (1988) show that the distinction between (42, 43) and (45, 46) with regard to the frequency of -s hinges on the unaccusative/unergative distinction—the same distinction illustrated above in Turkish intransitives. That is, if the frequency of the morpheme -s correlates with the number of grammatical subjects, then an MMC formed on an unergative verb (46) will have one more -s than an MMC formed on an unaccusative verb (45).[27] But of more interest at this point is an example showing that a **third** causative marker is also possible (Dubinsky et al. 1988:490).

(48) Terfaa-n   Toltuu   Gamteessaa   tuwwee č'ab-s-iis-is-e
    Terfa-NOM Toltu   Gamtesa   pot   break-CS-CS-CS-PST.3SG.M.
    'Terfa made Toltu make Gamtesa break the pot.'

However, the same stem plus affix complex may have one less argument with a concomitant change in meaning.

(49) Terfaa-n   Toltuu   tuwwee   č'ab-s-iis-is-e
    'Terfa made [+INT] Toltu make the pot break.'

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[26]It is not clear to me how a principled distinction can be made between the causative *-siis* in (44) and *-s-iis* here in (45). That is, since these are homophonous, how does one know that the former is a single causative and the latter a double causative apart from the presence of an extra nominal in the clause? A similar situation obtains in (47)–(49). I will assume, however, that the distinction can be rightly made and trust the sources of this data.

[27]See footnote 9 for a discussion of these verb types.

Intensification [INT] refers to the forcefulness of the causer's action on the causee—a strengthening of causation—and not, in (49), to the breaking of the pot.[28] Dubinsky et al. (1988:491) claim that the causative-intensive construction does not **add** an independent causative morpheme but rather **reduplicates** the -s already on the causativized verb Alternate semantics of MMCs will be briefly discussed in Chapter 4.

ILOKANO is an Austronesian language spoken in the northern Philippines. A brief exposition of its morphological causatives is complicated by the topic marking strategies the language employs, viz., the topic of a sentence may be the causer, causee, object or some other relation (Silva-Corvalán 1978). Vanoverbergh (1955:174) puts it a bit differently when he states that 'the notion of order or permission may bear either on the action, or on the subject, or on the object.' The result of so many possibilities requires careful attention to the morpheme glosses.

The following example from Gerdts (in prep.) shows a single causative on an intransitive base.

(50) **p-in-ag-taray**   n-ak   ni   Juan
     CS-PST-INTR-run 3GEN-1NOM   det John
     '*John made me run.*'

The following is a single causative formed on a transitive base (ibid.).

(51) **p-in-a-kan**   diay taraken   ti   linugaw   i-ti   ubing
     CS-PST-eat   det maid   det   porridge   OBL-det child
     '*The maid had the child eat the porridge.*'

Double causatives can be built on top of singly causativized bases with a reduplicated morpheme *pa- -pa*. In the following example the upper causee, *taraken* 'maid', (subject of the lower clause) is a nonterm in the matrix clause while the lower

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[28]This type of 'double causative' has a meaning that is 'almost indistinguishable from that of coercive causation (i.e. 'to cause to do smth. by force') when added to a causative verb'(Kulikov 1993:128). One finds it as well in languages as diverse as Carib (Hoff 1981:152) and Turkish (Zimmer 1976:412). There do not appear to be any languages that allow the causative-intensive construction without also permitting the reiterated causative affix to mean 'true' double causation as well, i.e. 'to cause someone to cause someone to do something'.

causee/theme, *ubing* 'child', is the direct object and thus a term (from Gerdts 1993d:12).

(52) **p-in-a-pa**-turog ko diay ubing i-ti daydiay taraken
    CS-PST-CS-sleep 1GEN det child OBL-det det maid
    'I had the maid put the child to sleep.'

Double causatives are also possible on transitive bases as the following example

from Gerdts (in prep.) demonstrates.

(53) **p-in-a-i-pa**-kan ko diay linugaw ti daydiay ubing
    CS-PST-AFF.OBJ-CS-eat 1GEN det porridge det det child

    ken daydiay taraken[29]
    OBL det maid
    'I had the maid feed the child porridge.'

In this case *taraken* 'maid'—the upper causee—is again clearly marked as a nonterm. It is

not known to me whether MMCs beyond double can be constructed in Ilokano.

MALAGASY is an Austronesian language spoken in Madagascar. The following

examples from Dziwirek (1986:3ff.), formed on intransitive and transitive verb bases,

respectively, illustrate the single causative construction possibilities.

(54) N-**amp**-iasa azy aho
    PST-CS-work him I
    'I made him work.'

(55) M-**amp**-isotro ronono ny zaza ny reny
    PRES-CS-drink milk the child the mother
    'The mother is making the child drink milk.'

MMCs are also legitimate but when they are formed through strict adjacency of two

causative morphemes the result is of dubious grammaticality (ibid.26).

(56) %N-**amp-amp**-itomany zaza ahy izy
    PST-CS-CS-cry baby me he
    'He made me make the baby cry.'[30]

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[29]It is not necessary to deal with *-i-*, the 'affected object' marker, for present purposes.

[30]The proposition in (56) is preferably encoded in an analytic construction using *masaina* 'order'.
Randriamasimanana (1986) considers sentences like (56) to be ungrammatical. He claims that only where one
is dealing with 'the finite set of non-psychological root passives' like *vaky* 'broken' may an MMC be formed
(ibid.300). It is certainly suspect that such a limited class of predicates would be the only ones capable of
multiple causativization.

But when there is an intervening morpheme, the clause is fully grammatical. Example (57) from Dziwirek (1986:27) illustrates this.

(57) N-**amp**-if-**amp**-itomany zaza izy (ireo)
'*They made each other make the baby cry.*'

Such a result might be taken as proof that Malagasy grammar adheres to some principle such as the repeated morph constraint of Menn & MacWhinney (1984:591), viz. a prohibition against repetition of identical morphs due to the inconvenience for language processing. But Dziwirek (1986:27) also gives the following, which does not square with that notion.

(58) N-**amp-amp**-if-**amp**-izara vola ahy ho azy Maria
PST-CS-CS-REC-CS-share money me to them Maria
'*Maria ordered me to order them to cause each other to share money.*'

Here there are two plainly identical morphemes adjacent to one another with no adverse effects on grammaticality. However, while sentences like (58) can be created and understood by native speakers when specifically given the task, they are so artificial and remote from everyday usage that one has to doubt their grammaticality (Katarzyna Dziwirek, p.c.).

SWAHILI is a Bantu language spoken in central east Africa. It has a productive morphological causative which can be used with intransitive and transitive verbs. There is disagreement in the literature, however, as to how widespread multiple causativization is. The following derivation is representative (from Vitale 1981:166f.).

(59) a. maji ya-me-tokata
water it-PERF-boil
'*The water boiled.*'

b. Fatuma a-me-toko-s-a maji
Fatuma she-PERF-boil-CS water
'*Fatuma boiled the water.*'[31]

Driever (1976:43) gives an example of a causativized transitive verb.

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[31]Vitale (1981) does not gloss the final -*a* in the verb complex but elsewhere (1981:17) he calls it a mood suffix, i.e. indicative.

(60) Baba   a-li-m-fung-**ish**-a   mtoto   mlango
     father   he-TEMP-him-close-CS   child   door
     'The father made the child close the door.'

Scotton (1967) claims that the causee should be omitted in these cases but Driever's

(1976) consultants were only comfortable with that option under very restricted

circumstances. Most of the examples cited by Comrie (1976) show an overt causee

although he adds that it is readily omissible (p.292).

Claims about the existence of MMCs in Swahili are also the subject of differing

opinions. Vitale (1981:166) follows Scotton (1967) in stating that most speakers prefer

periphrastic forms to double morphological causatives, and that where the latter do occur,

it is usually with an intransitive base.

(61) Juma   a-me-m-toko-**s-esh**-a   Fatuma   maji
     Juma   he-PERF-her-boil-CS-CS   Fatuma   water
     'Juma made Fatuma boil the water.'[32]

Vitale (1981:176) does cite one example, though, of a double causative formed on a

transitive base.

(62) ?Hamida   a-na-m-pik-**ish-ish**-a[33]   Fatuma Halima ugali
     Hamida   she-PRES-her-cook-CS-CS Fatuma Halima porridge
     'Hamida is making Fatuma make Halima cook porridge.'

The speakers whom Driever (1976:103) consulted, however, were 'not quite clear' as to

whether this type of construction was legitimate. Comrie's speakers (1976:293), though,

were able to generate MMCs even with ditransitive verbs.

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[32]Vitale (1981:157) notes that the periphrastic counterparts of MMCs have different semantics, i.e. the causation is more direct. This claim runs counter to the iconic notion that morphological causatives are 'stronger' than their analytic counterparts (cf. Haiman 1980, Givón 1980, DeLancey 1984). That is, the formal distance between the verb stem and its affix is shorter in a morphological causative than the formal distance between two discrete verbs in a periphrastic causative. In iconic terms, this means that where a language employs both periphrastic and morphological causatives, the morphological causative expresses direct causation whereas the periphrastic causative allows the causee some measure of control. Korean fits this model (Lee 1985).

[33]The morpheme *m* was omitted in Vitale's rendering of the Swahili but he included its translation, 'her', in the interlinear gloss.

(63) Maria   a-li-m-lip-**ishiz**-a   Johni   watoto   pesa
     Mary   SUBJ-PST-OBJ-pay-CS.CS-IND John   children   money
     'Mary made John pay the money to the children.'

Since there is no obvious limit to the number of prepositionless objects that may follow the verb in simplex sentences (Comrie 1976:293), similarly there is no obvious limit to the degree of causative recursion.

With Swahili I conclude §1.2 and the display of the data that will form the basis of my analyses. In §1.3, I summarize this data and offer some typological observations on it.

1.3   DATA SUMMARY & TYPOLOGICAL FEATURES OF MMC LANGUAGES

Table 1, 'Typological Characteristics of Languages with MMCs', lays out the word order, relational visibility profile,[34] head/dependent marking status, and degree of iteration of MMCs in the 12 languages of my corpus. It shows that languages capable of MMCs have, in the main, SOV word order as at least one of their unmarked orders. But nothing turns on this.[35] Equally unfortunate is the plain fact that none of the other broad typological measures in Table 1 show any correlation with one another, viz., there is nothing in them predictive of either the occurrence of MMCs or of the degree of iteration when they do occur. This result is made even clearer by the characteristics of languages that are genetically related and areally proximate to the ones in my sample. Consider Estonian, a Finno-Ugric language; or Korean, an Altaic language; or Abkhaz, a Caucasian language. All three have affinities with languages in my corpus, Finnish, Japanese and Georgian, respectively. Yet none of them allows MMCs.

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[34]Following Gerdts (1990), this refers to the principal morphosyntactic means by which nominals are distinguished from one another. These means may include word order, case, agreement or some combination thereof.

[35]Despite frequent claims in the literature going all the way back to Greenberg (1966) that SOV and SVO languages are roughly in balance worldwide, recent estimates based on more sophisticated sampling techniques than those used by Greenberg show that there are nearly twice as many SOV as SVO languages (Bybee 1985:44). My own database of 12 languages reflects that relationship nicely, along with a few of the less common orders (OVS, SVO, VOS) added for balance.

More positively, however, Tables 2 and 3, showing nominal status in single and double causative constructions, respectively, do demonstrate something worth reporting: the case array for single causatives on transitive bases matches almost perfectly that for double causatives on intransitive bases. This result suggests that causativization targets particular argument positions within the clause. Consider the following Turkish examples.

(64) = (17) Hasan   kasab-a   et-i   kes-**tir**-di
           Hasan   butcher-DAT   meat-ACC   cut-CS-PST
           '*Hasan had the butcher cut the meat.*'

(65) = (19) Sema   Turhan-a   kɨz-ɨ   kay-**dɨr-t**-t
           Sema   Turhan-DAT girl-ACC   slip-CS-CS-PST
           '*Sema made Turhan cause the girl to slip.*'

In the singly causativized transitive in (64), the causee surfaces with DAT marking, just as it does in the doubly causativized intransitive in (65). Malayalam gives the same result.

(66) = (11) amma   kuṭṭiyekoṇṭə   aanaye   ṇulḷiccu
           mother.NOM   child.ACC.with   elephant.ACC   pinch.CS.PST
           '*Mother made the child pinch the elephant.*'

(67) = (10) amma   acchanekkoṇṭə   kuṭṭiye   kaṟayi**ppiccu**
           mother.NOM   father.ACC.with   child.ACC   cry.CS.CS.PST
           '*Mother caused father to make the child cry.*'

In these instances, both causees are marked with the INST postposition *koṇṭə* 'with' (although Mohanan's rendering of these morphemes immediately adjacent to the relevant nominal obscures their postpositional status). The better theory for explaining this behaviour will be the one which takes cognizance of morphosyntactic argument positions.

Tables 2 and 3 also illustrate very clearly that regardless of the type of causative construction—single or double; intransitive or transitive verb base—the theme's morphological status is almost invariant (cf. also Nedyalkov and Silnitsky 1973:31). It is virtually always a direct object. One lesson to be learned from the frequency of this occurrence is that it is the causer subject and the theme which 'frame' causative constructions. Less

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salient, generally speaking, are those relations which carry out the caused event. This generalization is put to use in Chapter 2 where I propose a theoretical model that accommodates all of the data we have looked at so far.

Table 1: Typological Characteristics of Languages with MMCs.

LANGUAGE	WORD ORDER (a)	RELATIONAL PROFILE: WORD ORDER/CASE/AGR (b)	HEAD/DEP MARKING (c)	DEGREE OF ITERATION
Hixkaryana	OVS	Agreement	Head	2
Malayalam	SOV	Case	Head	2
Georgian	SVO (SOV)	Case & Agreement	Dependent	2
Turkish	SOV	Agreement [subject], Case	Dependent	no formal limit
Japanese	SOV	Case	Dependent	no formal limit
Oromo	SOV	Word order, (Case)	Dependent	3 (or more?)
Finnish	SVO (SOV)	Agreement [subject], Case	Dependent	no formal limit
Hungarian (d)	SOV/SVO	Agreement [subject], Case	Dependent	2
Hindi	SOV	Agreement, Case	Dependent	2
Ilokano	VSO	Agreement	Head	2 (or more?)
Malagasy	VOS	Word Order, (Case)	Head	no formal limit
Swahili	SOV	Agreement	Head	no formal limit

(a) Turkish and Japanese are from Nichols (1986). Oromo, Hixkaryana and Georgian are from Nichols (1992). Malayalam, Ilokano, Malagasy and Swahili are from Tomlin (1986). Hindi is from Kachru (1994). Finnish is from Sulkala and Karjalainen (1992). See note **(d)** re Hungarian.

(b) The entries in this column indicate the principle morphosyntactic means by which languages identify grammatical relations (cf. Gerdts 1990). Case in Oromo and Malagasy is very limited, hence the bracketing of that term. Georgian, unusual among the world's languages, has case marking on subjects, DOs and IOs as well as agreement markers in the verb complex for those same terms. The case and agreement pattern of Hindi is complex but represents what Gerdts (1990:203) calls 'distributed': in the past tense the ergative is case marked while the absolutive agrees. Other languages in my sample which distribute case and agreement are Turkish, Finnish and Hungarian, in all of which the subject agrees but other nominals are case marked.

(c) Turkish, Japanese and Finnish are from Nichols (1986). Oromo, Hixkaryana, Hungarian and Georgian are from Nichols (1992). Malayalam, Malagasy, Ilokano, Swahili and Hindi are based on my own assessments using—as much as possible—the methodology of Nichols (1992) which examined headedness in the NP, PP and clause.

(d) My Hungarian consultant, a linguist, claims that the basic word order in Hungarian is SOV, as does Sherwood (1994). However, Tomlin (1986) and the sources therein state that the order is SVO. Horvath (1986) makes the same claim.

Table 2: Nominal Marking in Single Causative Constructions

| | SINGLE CAUSATIVES | | |
| | INTRANSITIVES | TRANSITIVES | |
	Causee/Theme status	Causee status	Theme status
Hixkaryana	Direct Object	Nonterm [post-positional phrase]	Direct Object
Malayalam	Direct Object [ACCUSATIVE]	Nonterm [INSTRUMENTAL]	Direct Object [ACCUSATIVE]
Georgian	Direct Object [DATIVE/NOMINATIVE]	Indirect Object [DATIVE] or postpositional phrase	Direct Object [DAT/NOM]
Turkish	Direct Object [ACCUSATIVE]	Indirect Object [DATIVE]	Direct Object [ACCUSATIVE]
Japanese	Direct Object [DATIVE/ACCUSATIVE]	Indirect Object [DATIVE]	Direct Object [ACCUSATIVE]
Oromo	Direct Object ['ABSOLUTIVE OBJECT']	['ABSOLUTIVE OBJECT'] Nonterm?	['ABSOLUTIVE OBJECT']
Finnish	Direct Object [ACCUSATIVE/PARTITIVE]	Nonterm [ADESSIVE]	Direct Object [ACC/PART]
Hungarian	Direct Object[ACCUSATIVE]/ Nonterm [INSTRUMENTAL]	Nonterm [INSTRUMENTAL]	Direct Object [ACCUSATIVE]
Hindi	Direct Object [DATIVE/ACCUSATIVE]	Indirect Object [DATIVE]/Nonterm	Direct Object [NOMINATIVE]
Ilokano	Direct Object	Nonterm	Direct Object
Malagasy	Direct Object	Nonterm	Direct Object
Swahili	Direct Object	Direct Object	Nonterm ['NOMINAL CONSTRUCTION']

Table 3: Nominal Marking in Double Causative Constructions

| | DOUBLE CAUSATIVES | | | | |
| | INTRANSITIVES | | TRANSITIVES | | |
	Intermediary status	Causee/ Theme status	Intermediary status	Causee status	Theme Status
Hixkaryana	Nonterm [post-positional phrase]	Direct Object	*	*	*
Malayalam	Nonterm [INSTRUMENTAL]	Direct Object [ACCUSATIVE]	*	*	*
Georgian (a)	Indirect Object [DATIVE]	Direct Object [DATIVE]	*	*	*
Turkish	Indirect Object [DATIVE]or [post-positional phrase]	Direct Object [ACCUSATIVE]	Omitted or [post-positional phrase]	Indirect Object [DATIVE]	Direct Object [ACC]
Japanese	Indirect Object [DATIVE]	Direct Object [ACCUSATIVE]	Nonterm [post-positional phrase]	Indirect Object [DATIVE]	Direct Object [ACC]
Oromo	['ABSOLUTIVE OBJECT'] Nonterm?	['ABSOLUTIVE OBJECT']	['ABSOLUTIVE OBJECT'] or Ø	['ABS. OBJ.'] or [INST.]	['ABS. OBJECT']
Finnish	Nonterm [ADESSIVE]	Direct Object [ACCUSATIVE]/ Omitted	Nonterm [INST]	Omitted	Direct Object [ACC]
Hungarian	Nonterm [INSTRUMENTAL]	Direct Object [ACCUSATIVE]	Nonterm, if expressed	Nonterm, if expressed	Direct Object [ACC]
Hindi	(b)	(b)	Nonterm [INST]	Nonterm [INST]	Direct Object [NOM]
Ilokano	Nonterm	Direct Object	Nonterm	Nonterm	Direct Object
Malagasy	Nonterm	Direct object	(c)	(c)	(c)
Swahili	Direct Object	Nonterm	Direct Object	Nonterm	Nonterm

* = does not occur. (a) only one example given by Harris (1976, 1981). (b) use of the 'Second Causative' *-vaa* presupposes a transitive base. (c) insufficient data.

CHAPTER TWO:
MAPPING THEORY AND MULTIPLE MORPHOLOGICAL CAUSATIVES

Mapping Theory [MT] is a rapidly evolving, relationally-based, morphology-driven theory of grammar developed in a series of papers beginning with Gerdts (1992) and continuing in Gerdts (1993a b,c,d). Originally conceived as adding a morphosyntactic argument component to Relational Grammar [RG], MT has proven to be a better alternative for a stating a variety of generalizations in what would otherwise be final grammatical relations [GRs] in RG. Successful treatments of applicatives in a variety of languages (Gerdts 1993a, Samkoe 1994), transitivity in Halkomelem (Gerdts 1993b), adversity passives in Javanese (Davies to appear), multiple datives in Polish (Dziwirek 1993) and GRs generally in Korean (Gerdts 1993c), testify to MT's explanatory capabilities. Its morphology-centred approach is an especially desirable distinction in light of recent increased awareness of the importance of morphology in the grammar of particular languages and hence in the architecture of universal grammar (Joseph & Janda 1988:206). However, the most profound advantage that MT offers over competing theories is its bistratal approach: there is not the luxury of complex multistratal derivations such as RG permits. A bistratal methodology severely limits the number of grammatical constructions available to a language.

In §2.1, I discuss the basic principles informing Mapping Theory and in §2.2 show how MT has handled causative constructions up until now. Work to date has explored a limited range of languages, specifically, those which pivot on the direct object position. I alter and expand MT's theoretical apparatus in §§2.3 and 2.4 while analyzing single and double causative constructions in a selection of the languages examined in Chapter 1. That chapter included both direct object-centred and some indirect object-centred languages.

Determining the DO-/IO-centredness for the selected prototypical languages will be undertaken throughout §§2.3 (IO-centred languages) and 2.4 (DO-centred languages) as well. In §2.5, I deal with the rest of the languages in my sample. Section 2.6 is a conclusion, which also summarizes my new approach.

2.1 THE BASICS OF MAPPING THEORY

A MAP is a morphosyntactically licensed argument position (Gerdts 1993a). Nominals associated with MAPs bear core or direct term marking (Gerdts 1991, cf. Everett 1988). This marking is based on what would be the nominals' final grammatical relations in a Relational Grammar framework. Core entities determine agreement, license structural (as opposed to inherent or semantic) case, and/or appear in a fixed word order. These nominals are also more accessible than unmapped nominals to a variety of syntactic processes. For example, in Nubian, core nominals antecede reflexives and raise (Abdel-Hafiz 1988); in Albanian, they float quantifiers (Hubbard 1985). Thus, in a so-called 2-MAP language, the core terms are the subject and the direct object and, in the unmarked situation, they associate to the A and B MAPs, respectively. To put it another way, the MAP threshold is 2. A 2-MAP language is the same as a direct object-centred language. But in some languages, the indirect object is a core nominal as well. These are indirect object-centred, or 3-MAP languages; the MAP threshold is 3. The indirect object associates to a C MAP in the unmarked situation, while the A and B MAPs associate with the subject and direct object (as in a 2-MAP language). The notion of threshold is critical in MT since this device puts strict limits on term-hood and hence on the range of grammatical constructions within a language. Threshold is a concept alien to other theories like Relational Grammar and goes a long way toward explaining the clustering of structures in particular languages. For example, as pointed out in Gerdts (1992), a given language will incline towards

advancements and demotions to the 2 GR or to the 3 GR, but not to both. This result follows from the language's MAP threshold, be it 2 or 3.

There are four components to an MT representation. In these representations, MT's roots in Relational Grammar are clear. Thematic relations align with grammatical relations (the latter level being comparable to initial GRs in Relational Grammar and ordered by the traditional hierarchy **1[subject] > 2[direct object] > 3[indirect object] > oblique**). The GRs link to MAPs up to the MAP threshold of the language at issue, i.e. in a 2-MAP language the A and B MAPs are linked while in a 3-MAP language the A, B and C MAPs are linked. MAPs are equivalent to the final GR level in RG. Finally, there is a presentation level which encodes language-specific information relating to case, agreement and so forth. An example from Korean, a 2-MAP language (Gerdts 1993c), is illustrative. The transitive clause in (68a) has the MT representation, or **grid** (as I will now call these representations), in (68b) (ibid.302).

(68) a. Ai-ka   chayk-ul   ilk-ess-ta
        child-NOM book-ACC   read-PST-IND
        'The child read the book.'

    b. thematic relations   agent   theme
        grammatical relations   1   2
                                             | |
        MAPs   A   B
        presentation   NOM   ACC

This is a straightforward example of the subject, an agent in this case, and the direct object, a theme, taking nominative and accusative case marking respectively. Unresolved at this point is whether or not both thematic and grammatical relations are essential in the grid. It is not necessary to solve this puzzle here; I will briefly return to it in Chapter 4.

A more interesting case is that of Turkish. In this language a pronominal subject does not have a case marker but instead is indexed on the verb. The direct and indirect

objects, however, are (structurally) case marked by accusative and dative morphemes (Özkaragöz 1986). Example (69a) is a ditransitive clause from Aissen (1979:23); its MT grid follows in (69b).

(69) a. Ali-ye   mektub-u   gösterdim
          Ali-DAT letter-ACC   show.PST.1SG
          '*I showed Ali the letter.*'

b. thematic relations	agent	theme	goal
grammatical relations	1	2	3
	|	|	|
MAPs	**A**	**B**	**C**
presentation	1 NOM/	ACC	DAT
	[AGR]		

MAP assignments are plainly affected by the threshold for the language and the semantic valence of the verb. However, MAP-reducing morphology (e.g. passive) and MAP-building morphology (e.g. applicative) may also play a part. And while some aspects of associating GRs to MAPs will be language-specific, there remains a set of universal principles, (70), conditioning such linking (Gerdts 1993a,b,c).

(70) **SATURATION PRINCIPLE**: every MAP must be linked to a GR or be cancelled.
      BIUNIQUENESS PRINCIPLE: a MAP is linked to at most one GR (except for
          coreferential multiattachment), and every GR is linked to at most one MAP.
      NO DELINKING PRINCIPLE: there are no 'delinkings'.

UNMARKED ASSOCIATIONS are represented in the grids (68b) and (69b). They arise through vertical, non-crossing, left-to-right linkings. But MARKED ASSOCIATIONS may also exist, triggered by a specific morphological form.[36] In these cases, the MT grid could contain non-vertical linkings, the linking of a nominal not subcategorized by the verb, the non-linking of a nominal or some stipulation regarding a nominal.

Applicatives are a good example of additive morphology giving rise to a marked association, specifically, non-vertical linking. Applicatives will add a MAP where they can

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[36]It is important to stress that the sense of 'marked' in this passage is to be taken literally, viz. marked by the morphology with some kind of overt morpheme. The reference here is **not** to markedness in the sense of infrequent or stylized or idiosyncratic.

but in any case will link to the lowest MAP. Gerdts (1993a:597) gives the following

example of a dative applicative from Halkomelem, a Coast Salish language.

(71) niʔ ʔa:m-əs-θámʔš-əs   ʔə   kʷθə pukʷ
     aux give-**ADV**-TR+1OBJ-3ERG obl   det book
     'He gave me the book.'

Since Halkomelem is a 2-MAP language, the A and B MAPs are available for linking. But

because the threshold is 2, the applicative cannot add a MAP. Yet the nominal referenced

by the applicative marker must link since the verb clearly encodes the applicative with the

morpheme -əs. The result is the following grid.

(72)   agent   theme   goal/ben
          1   2   **3/OBL**
          | ╱
          | ╱
          A   **B**╱

There is no mystery in the unmarked linking of the A MAP. However, the 2 does not link to

the B MAP; it is unlinked and licensed by the preposition glossed 'obl', while the applicative

takes the B MAP, creating the non-vertical linking.[37]

Gerdts (1993a,b,c) has frequently stated that the conditions on marked associations

and their effects on argument structure constitute MT's biggest challenge. Causatives also

result in marked linkings and therefore throw crucial light on the central issues confronting

MT, and indeed other theories of grammar as well.

2.2   PREVIOUS MAPPING THEORY TREATMENTS OF CAUSATIVES

An early MT foray into causatives dealt with the 2-MAP languages Halkomelem and

Ilokano (Gerdts 1993d). That analysis demonstrated that only intransitive verbs can be

causativized in Halkomelem; causatives of transitives are disallowed, as are multiple

causatives.[38] A representative example is from Gerdts (1993d:4) in (73a).

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[37]Applicatives in Mapping Theory are thoroughly examined in Samkoe (1994).

[38]It turns out that there are in fact double causatives in Halkomelem although only in very limited circumstances (Donna Gerdts, p.c.). But that discovery does not affect the use of this example for heuristic purposes.

(73) a. ni   naʔém-əstəxʷ-əs   kʷθə   swəyʔqeʔ   kʷθə   swiwʔləs
        aux   go-CS.TR.3OBJ-3ERG   det   man   det   boy
     '*The man made the boy go.'/'The man took the boy there.*'

The partial MAP grid (using Gerdts' nomenclature) is shown in (74).

(74)   causer   causee/agent
              1   2=1
              | |
              A   B

The traditional notion of an embedded clause in a causative is captured by recycling core GRs, thus permitting that level to remain monostratal. The grid in (74) shows that the causee remains a core term, viz. it is mapped. The claim then follows in Gerdts (1993d) that Halkomelem is subject to the **MAPPED CAUSEE CONDITION**: The 2=1 nominal, the causee/agent, must be mapped. Given this condition and the 2-MAP threshold for Halkomelem, the failure of transitives to causativize falls out readily since there are three nominals competing for only two MAPs. If the causer gets an A MAP and a theme the B MAP, then the causee will fail to map, given the BIUNIQUENESS principle. But that is an illicit result since Halkomelem is subject to the MAPPED CAUSEE CONDITION.

Multiple causatives fail by parity of reasoning. In (75) there are again three nominals competing for two MAPs and a grammatical association is impossible.

(75)   causer   causee/agent   causee/theme
              1   2=1   2=1
              | |
              A   B

But Ilokano, though also a 2-MAP language, is **not** subject to the MAPPED CAUSEE CONDITION. This predicts that causatives of transitives will be grammatical and that MMCs will be allowed. An example of the latter from (Gerdts 1993d:12) is shown in (76).

(76) **P-in-a-pa-turog** ko   diay ubing   i-ti   daydiay taraken
     CS-PST-CS-sleep   1GEN   det child   obl-det   det   maid
     '*I had the maid put the child to sleep.*'

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The MAP grid shows that only one of the 2=1 nominals is mapped and that is sufficient.

(77)   causer   causee/agent   causee/theme
             1   **2=1**   **2=1**
             |
             | _____
             | _____/
             A   **B**
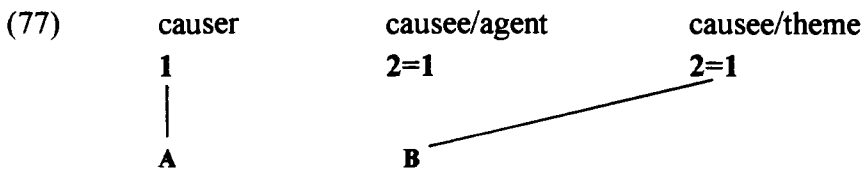
Therefore, on this view, languages can be divided into two groups: those that are, and those that are not, subject to the MAPPED CAUSEE CONDITION.

Other work on causatives in MT has dealt with interactions between the causative and constructions such as antipassive, reflexive, applicative, etc. (Gerdts 1993b,c,d). Davies and Martinez-Arbeliaz (to appear) deal successfully with Basque psych predicates and Culy and Davies (to appear) use an MT analysis on a variety of constructions, including causatives, in Fula. Davies (to appear) shows that an MT approach to adversity passives in Javanese is far superior to a Relational Grammar account which inevitably leads to a violation of one of that framework's most important laws.[39] Work by Samkoe (1994) has made a useful contribution to MT's ability to deal with applicative constructions (which are closely related to causatives in their valency-building capabilities) by showing their argument-extending properties and the relevance of person/animacy factors in determining which of two applicatives assumes direct object status.

Three issues arise from the pioneering MT research on causative constructions. First, what is the status of the 2=1 nominal, the causee? Second, how are 3-MAP languages and causatives of transitive verbs to be handled? Third. is the MAPPED CAUSEE CONDITION a useful insight into language behaviour?

Considering the first issue, the 2=1 label associated with the B MAP might seem to impart an assumption of biclausality in causative constructions—an issue upon which

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[39]The RG analysis leads to a violation of the 1-Advancement Exclusiveness Law which we need not go into here.

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opinion among linguists is divided. In a similar vein, an '=' sign denotes identity and it is

not the case that a nominal marked 2=1 is equal parts '1' and '2'. Indeed, sometimes that

nominal bears the marking of a 3, an indirect object. It is true that such a description, i.e.

2=1, captures the fact that sometimes the causee, though it may bear DO marking, still

retains subject, i.e. 1, properties as in, say, Japanese intransitives (Falk 1991:70f.,

Grimshaw 1990:168–73). But that similarity falls short of identity. If, out of a desire to

avoid this dilemma, one were to substitute a '+' sign for the '=' sign, the result would be
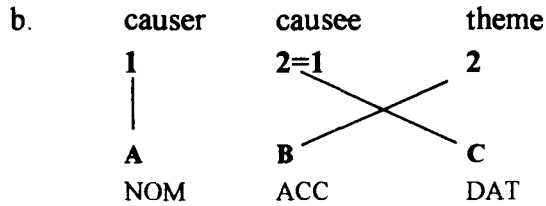
equally spurious.

One possible response to the anomalous 2=1 designation is to say that such a

nominal has double **function** (rather than it consisting of equal parts 1 and 2) as per the

model of Alsina (1992) wherein the arguments of the base predicate and the causative

event are concatenated (Gerdts 1993b). This reuse of core grammatical relations is

sanctioned by the traditional notion of an embedded clause and allows the GR level in the

grid to remain monostratal (Gerdts 1993d).

The foregoing explanation, however, is somewhat unsatisfactory since it leads to an

unwonted expansion of the number (and type) of entities on the GR level. This result in

turn allows for less constraint on the number of grammatical construction possibilities that

the theory allows.

Turning to the second point above, transferring the approach described in this

section to 3-MAP languages, and to causatives of transitive verbs, results in a map grid

with crossing lines, a result heretofore prohibited in MT.[40] The following Turkish example,

(78a), is from Comrie (1985:323) with its MT grid following in (78b).

(78) a. Dişçi   mektub-u   müdür-e   imzala-t-tɨ
           dentist   letter-DO   director-IO   sign-CS-PST
           'The dentist made the director sign the letter.'

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[40]Translating the Perlmutter and Rhodes (1989) approach to Ojibwa inverse constructions into MT
results in crossing lines. But see Samkoe (1993) for an alternative analysis of those constructions.

b.   causer   causee   theme

```
      causer      causee        theme
        1          2=1            2
        |           \            /
        |            \          /
        |             \        /
        |              \      /
        |               \    /
        |                \  /
        |                 \/
        |                 /\
        |                /  \
        A               B    C
       NOM             ACC   DAT
```

MT's assumption that crossing lines is prohibited is not new. This constraint is well known from autosegmental phonology, although of course in that domain linear order represents time, and line-crossing creates a temporal paradox. Here, linear order parallels (left-to-right) the sequence in which nominals are added to the relational structure of the clause. A better version of MT, therefore, is able to bar crossing lines on nonstipulative grounds.

Finally, a third area of causatives and MT that stands in need of refinement is the MAPPED CAUSEE CONDITION. As its name implies, this condition is relevant only to causative constructions. I will show that, under the approach I take to analyzing causatives, the MAPPED CAUSEE CONDITION is an artifact of another property of natural languages. This motivated claim thereby enables the capturing of a wider generalization.

2.3   A NEW APPROACH TO MT: CAUSATIVES IN 3-MAP LANGUAGES

By way of introducing a new approach, I propose that in a causative construction the causative morpheme adds two arguments to the relational structure of the corresponding noncausative clause: a causer assigned the subject relation and a causee assigned an indirect object relation. In a double causative construction, two sets of arguments are added. In brief, this argument structure, together with normal MT assumptions about thresholds, readily predicts the correct case arrays in both single and double causatives. A controversial aspect of this proposal, of course, is the positing of indirect object status for all causees.

The best way of supporting this proposal is to illustrate it in action. I will do so in

§§2.3.1 and 2.3.2 for two key 3-MAP languages: Turkish and Japanese, respectively. These subsections will also examine evidence for the claim that these languages **do** in fact have a 3-MAP threshold. The task of determining MAP threshold is not always an easy one—the lack of an ironclad evaluation metric is sometimes sorely felt. But frequently there is a preponderance of evidence that allows a confident conclusion as to whether one is dealing with a 2-MAP or a 3-MAP language. This step is crucial, for the decision on threshold will dictate the types of predictions one can make about the availability of various structures in the language at issue.

Now, though one might think that it would be both simpler and more explanatory to start with 2-MAP languages, in fact just the opposite is true. The reason is that where there are more MAPs, it is easier for every nominal to find a slot. With only two MAPs there is more competition among nominals since there are not enough MAPS for all of them to be linked. Constraining the various linking possibilities is more complicated than just allowing straight ahead filling of argument positions and will be dealt with in §2.4.

2.3.1 TURKISH

Turkish, frequently cited in discussions of causatives, has a combination of agreement (with subject) and case marking strategies (ACC for DOs and DAT for IOs) which together focus on three salient nominals in the clause. Working from a Relational Grammar analysis by Özkaragöz (1986), Turkish is a 3-MAP language, according to Gerdts (1993a). This claim follows from the presence in Turkish of constructions such as benefactive applicatives, which target the C MAP, rather than the B MAP.[41]

Beginning with a **single** causative built on an **intransitive** verb, consider (79a) from Özkaragöz (1986:111) and its proposed grid in (79b).

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[41]In Relational Grammar terms, Turkish has benefactive advancement to 3 but not to 2.

(79) a. Bebeğ-i   gül-**dür**-dü-m
        baby-ACC   laugh-CS-PST-1SG
        '*I made the baby laugh.*'

    b.   causer   causee/theme

$$\begin{array}{ccc} \mathbf{1} & [1_i] & 3_i \\ | & & \diagup \\ \mathbf{A} & \mathbf{B} & \langle c \rangle \end{array}$$
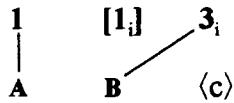
The subject is -*m* 'I' and the causee is *bebeğ* 'baby'.

The causative morpheme adds a causer subject which will always take the A MAP. But this causative morpheme also adds a second argument to the relational structure of the clause: a causee assigned the indirect object relation. This assignment is equivalent to treating the causee as an experiencer or other nominal which is less than maximally controlling or, to use the less apt but more familiar notion, agentive.[42] It also squares with Blake's (1994:145) observation that DATIVE-marked nominals (like the causee *kasab-a* 'butcher' in the Turkish example (17) above) are frequently IOs, one of the central roles of which is to be the target of an activity—as indeed causees are. Indirect objects are most frequently animate, usually human (Palmer 1994:33), and this fact is consistent with the nature of most causees as well. Perhaps it is simpler and more comprehensive to say that the class of roles which may be assigned to a given grammatical relation is open and that there is nothing in (initial) 3-hood antithetical to the role 'causee'. Finally, note too that the grid representation iconically matches the way causatives are built up with accretions onto a noncausative clause.[43]

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[42]The claim of indirect object-hood also fits with the observation of Comrie (1989:176), cited in Ch. 1 to the effect that it is only in causative constructions that, cross-linguistically, the IO seems to be necessary.

[43]In Song (1991) the causative clause is considered basic in its own right. Similarly, the causative verb (matrix clause) may be construed as able to take various complements but still remain 'basic' (Katarzyna Dziwirek, p.c.)—although it is hard to see how a clause with extra morphology can be considered basic. Palmer (1994) claims that the causative morpheme adds not a causer, but rather an object, i.e. causee, at least in some cases. The MT approach I adopt does not treat the ensuing mono/biclausal debates as particularly interesting. Following Gerdts (1993d), I claim that a lexical rule for morphological causatives also provides for the concatenation of the causative and base predicate arguments (cf. also Alsina 1991 and Falk 1991).

To continue, since the causee was the erstwhile subject of the noncausative clause, its prior 1-hood is captured by putting it in the bracketed lower (noncausative) clause and coindexing it via a subscript with the 3 in the matrix clause. The subscripted 1, [1$_i$], may be viewed as a sort of 'PRO'.[44] This approach avoids a proliferation of entities on the grammatical relations tier which would otherwise be encouraged by notations like 3=1. Note that the bracketed embedded clause [1$_i$] may itself be construed as the 2 of the matrix clause, borrowing classic Relational Grammar's view of causatives as union constructions.

Next, MAPs are linked to GRs (and through them to thematic relations). The causer subject takes the A MAP, a requirement consistent with the treatment of this nominal in other theories (i.e. the Final 1 Law in Relational Grammar). MAP assignment continues from the left looking first for noncoindexed arguments. Since one would not expect a PRO-like entity to take a MAP, viz. to be rendered morphosyntactically visible, the causee 3 is the only remaining choice and thus takes the B MAP. The C MAP, present because Turkish is a 3-MAP language, is cancelled (represented by the parentheses, lower case font and lack of bolding) since the PRO-like [1$_i$] is unavailable to map and a C MAP is unnecessary in the causative of an intransitive.

Turning now to a **single** causative construction built on a **transitive** verb, the MT grid for (80a) = (17) may be represented as shown in (80b).

(80) a. Hasan   kasab-a   et-i   kes-**tir**-di
          Hasan   butcher-DAT   meat-ACC   cut-CS-PST
          'Hasan had the butcher cut the meat.'

     b.   causer   theme   causee

          1   [1$_i$ 2]   3$_i$
          |
   A   B   C
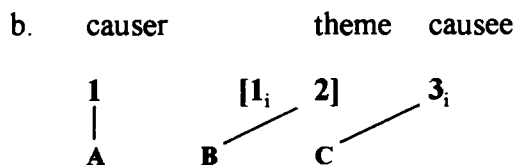
Hasan is the causer, *et* 'meat' is the theme and *kasab* 'butcher' is the causee.

---

[44]I use this term simply as shorthand for a former (and hence unmapped) subject NP which can be coindexed with another NP that is mapped. I do not expect this PRO to bear the theoretical freight it carries in Government and Binding theory.

In this case, the bracketed noncausative lower clause, [1$_i$ 2], consists of two

nominals, a subject and a theme. This embedded clause is itself the 2 of the matrix clause.

Once again the causer takes the A MAP (as it always will). Assuming a left-to-right

association rule as above, the B MAP looks for the first noncoindexed nominal and, finding

the theme 2, links. The C MAP remains to be assigned and so, on the next application of the

association rule, there being only coindexed arguments remaining, a principled decision

must be made regarding the criteria for this assignment. As in the case of the causative

built on an intransitive, one would not expect the PRO-like 1$_i$ to map and so the causee 3

takes the C MAP.

Having laid the basis for my analysis with the discussion of single causatives, I come

now to **double** causatives. The following example, (81a) = (19), is built on an **intransitive**

verb. Its MT grid is shown in (81b).

(81) a. Sema   Turhan-a   kɨz-ɨ   kay-**dɨr-t**-t
          Sema   Turhan-DAT   girl-ACC   slip-CS-CS-PST
          '*Sema made Turhan cause the girl to slip.*'

       b. causer   causee/theme   intermediary

           1   [1$_j$ [1$_i$]   3$_i$]   3$_j$
 |
           A   B   C
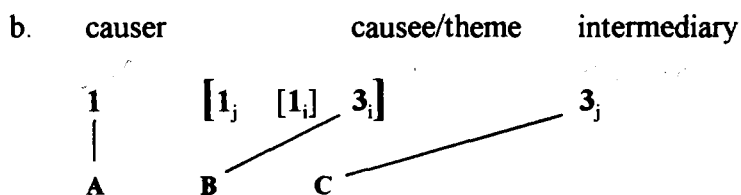
Sema is the causer, *kɨzɨ* 'girl' is the causee/theme and *Turhan* is the intermediary.

There is nothing mysterious about this representation once we recall how the single

causative works. The crucial difference here, of course, is that a second set of two

arguments is added. The original 1 in the noncausative clause (1$_i$, contained in the

unbolded, small square brackets) is coindexed with its counterpart in the matrix clause: a

causee 3. In accordance with the linking principles laid out above, the causer takes the A

MAP. Moving left-to-right, the first available nominal is the causee/theme which takes the B

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MAP and then the intermediary links with the C position. This example was based on an unaccusative verb; doubly causativized unergatives require the intermediary to be expressed in a postpositional phrase.[45] In this case only the A and B MAPs would be linked. The C MAP would be cancelled. An example is (82a) = (21) with its grid in (82b)
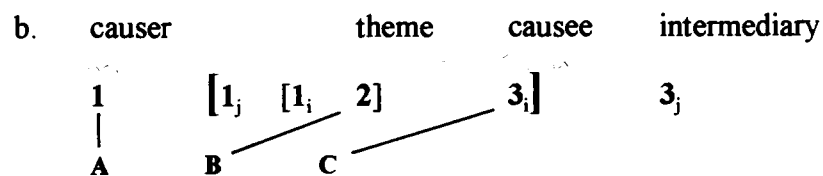
(82) a. Ben   Sema-yɨ   Turhan vasɨtasiyle   ağla-t-tir-dɨ-m
        I   Sema-ACC   Turhan by means of   cry-CS-CS-PST-1SG
        '*I made Turhan make Sema cry.'/'I made Sema cry by means of Turhan.'*

    b.   causer   causee/theme   intermediary

         1         $[1_j$ $[1_i]$ $3_i]$ 3_j
         |
         A   B   ⟨c⟩
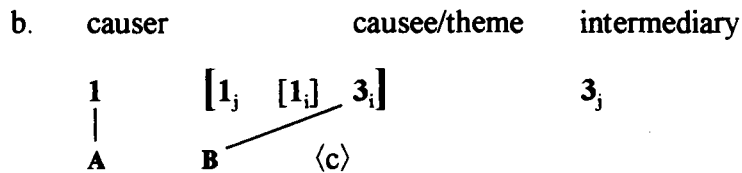
To the extent that (i) the Unaccusative Hypothesis is operative in Turkish (Özkaragöz 1986) and (ii) a semantic distinction underlies the difference between unaccusative and unergative verbs, this divergent behaviour neatly illustrates the point made by Comrie (1989:183) that only by considering both formal and semantic factors can adequate typologies of causative constructions be devised.[46]

A **double** causative formed on a **transitive** verb is shown in (83a) = (22) with its grid displayed in (83b).

(83) a. Osman   Sema-ya   ben-im   vasɨtasiyle   Turhan-ɨ   öp-tür-t-tü
        Osman   Sema-DAT   I-1SG   by means of   Turhan-ACC   kiss-CS-CS-PST
        '*Osman had Sema kiss Turhan by means of me.'*

    b.   causer   theme   causee   intermediary

         1         $[1_j$ $[1_i$ 2] $3_i]$ 3_j
         |
         A   B   C

---

[45]As I indicated in Ch. 1, it is not known why the facts fall out this way and not, for example, in just the opposite way, i.e., why do unaccusatives not require the intermediary to be expressed in a postpositional phrase? See especially Özkaragöz (1986) for more on this issue. Note that this variant behaviour between the the two verb classes is only apparent in double causative constructions.

[46]Note that the availability of two grids for Turkish intransitives in no way detracts from the generality of the MT model. If, and only if, there is no nominal available for linking (as is the case with unergatives) will a MAP be cancelled.

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Osman is the causer, *Sema* is the causee, *ben* 'I' is the intermediary and *Turhan* is the theme.

The causer, as usual, takes the A MAP. The B MAP links with the first available (going left-to-right) non-coindexed nominal, the theme. Continuing to link from the left results in the causee 3 taking the C MAP while the intermediary is unmapped, i.e. it is a nonterm and is presented in a prepositional phrase or may even be omitted. It is critical to point out here that Mapping Theory does not countenance the skipping of grammatical relations in these representations which might otherwise result in the intermediary being mapped and the causee being unmapped. Such constructions are ruled out and, indeed, do not seem to exist. To continue then, since (83) has four nominals and Turkish is a 3-MAP language, then (at least) one nominal must go unmapped. Example (84) = (23) shows a case where the option to omit the intermediary has been taken.

(84) Müdür-e   mektub-u   ač-t**i**r-t-t**i**-m
     director-DAT   letter-ACC   open-CS-CS-PST-1SG
     '*I had (someone make) the director open the letter.*'

In this section I have demonstrated how a new conception of causative constructions within Mapping Theory allows for a straightforward representation of these structures. I will examine closely one more 3-MAP language before turning to 2-MAP examples.

2.3.2 JAPANESE

Any study of causative constructions that aims at even a modest level of completeness must consider Japanese. This language's causatives have been keenly scrutinized in studies by Kuroda (1965), Kuno (1973), Shibatani (1973), Miyagawa (1989) and Dubinsky (1985,1994), just to name some of the more prominent recent works. This outpouring of scholarship has generated much data with which a comprehensive theory of causatives must attempt to deal. I begin by examining Japanese's MAP threshold.

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The case for 3-MAP status is not as clear-cut as for Turkish because some tests, e.g. possessor ascension, suggest 2-MAP status. On the other hand, psych constructions and benefactive applicatives plainly target the C MAP thus providing evidence for 3-MAP status (Gerdts 1993a, following the RG analyses by Dubinsky (1985, 1990)). There is also a particularly strong indication of 3-MAP status for Japanese in its lack of so-called 3-to-2 advancement constructions.[47] This diagnostic has proven unerringly accurate in assessments of at least twenty other languages (Gerdts 1993a).

As we saw in Chapter 1, another confounding factor is the case marker/postposition *ni*, the marker for DAT and a variety of adjunctive postpositional uses. Sadakane and Koizumi (1995) have demonstrated that of 31 different constructions, *ni* occurred as a case marker in only two of them. The remaining usages were either as postpositions or in rather shadowy categories devised by Sadakane & Koizumi (1995) such as '*ni* insertion' or 'form of the copula'. The use of *ni* in causative constructions was considered to be '*ni* insertion' (ibid.30), an analogue of English '*of* insertion' (following Takezawa (1987)). However, Sadakane and Koizumi did not test *ni* in double causative constructions where both the causee and intermediary are identically marked with that morpheme. If these two *ni*-marked nominals behave differently, such a result suggests that one is a core term (or at least more 'core-like') and the other is not, for we would not expect any differences if both were nonterms, i.e. obliques.

In tests I performed with my native speaker consultant, I found that topic marking favours the causee as a term over the intermediary.

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[47]A construction in RG in which an initial indirect object 'advances' to a final direct object. Direct objects target B MAPs in Mapping Theory; thus the lack of a crucial construction targeting this MAP points toward a MAP threshold of three rather than two.

(85) a. noncausative clause

        Dare ga   Ziroo ni   Taroo ni   heya o   soozis-**ase**-ta
        who NOM Ziro   Taro   room ACC clean-CS-PST
        '*Who made Ziro make Taro clean the room?*'

    b. causee topic

        Taroo (ni) wa   dare ga   Ziroo ni heya o   soozis-**ase**-ta
        Taro   (DAT) TOP who NOM Ziro   room ACC clean-CS-PST
        '*As for Taro, who made Ziro make him clean the room?*'

    c. intermediary topic

        *Ziroo (ni) wa   dare ga   Taroo ni heya o   soozis-**ase**-ta
        Ziro   (DAT) TOP who NOM Taro   room ACC clean-CS-PST
        ('*As for Ziro, who made him make Taro clean the room?*')

Another test, however, clefting, favours the intermediary as a term. We must bear in mind though that if clefting is sensitive to depth of embedding, a reasonable supposition, and the causee is one clause 'deeper' than the intermediary, then the results of this test are not unexpected.[48] In what follows I assume that termhood for the causee can be established.

I begin examining the data by considering a **single** causative formed on an **intransitive** verb, (86a) = (24), and its grid in (86b).

(86) a. Isya   wa   kanzya o   aruk-**ase**-ta
           doctor   TOP   patient ACC   walk-CS-PST
           '*The doctor made the patient walk.*'

    b.   causer   causee/theme

$$\begin{array}{lll}
1 & [1_i] & 3_i \\
| & & / \\
A & B & \langle c \rangle
\end{array}$$
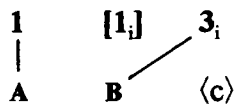
Isya 'doctor' is the causer and maps to A, while *kanzya* 'patient' is the causee/theme and maps to B. The C MAP is unlinked and therefore cancelled. Association is left-to-right as in Turkish.

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[48] A third test, object honorification, is inconclusive between the two options.

But now an important issue surfaces. It is an issue that arises whenever the causee may take alternate case marking. I chose the example in (86) because the link between ACC marking, 2-hood and the B MAP was familiar from the Turkish examples. But in fact the causee in (86) could have been marked with *ni* rather than *o*. The gloss of the sentence would then be 'The doctor let the patient walk.' Does this mean then that the causee links to the C MAP and the B MAP is cancelled?

Dubinsky (1994:51), in a Relational Grammar analysis, proposes a rule to deal with this situation: '2–3 Retreat-"Let" Linkage: If causative *-sase* has the 'let' interpretation, then the 1–2 revaluee demotes to 3'. Other analyses in different frameworks, e.g. Shibatani (1973) and Kuno (1973), also posit alternative syntax for the 'make' and 'let' interpretations. However, Takezawa (1987:162) is of the opinion that there is no reason to think 'such a subtle semantic (or even pragmatic) difference' is encoded by different syntactic structures. Mapping Theory is singularly well equipped to incorporate that claim by maintaining association of the causee to the B MAP and relegating case marking (and the semantic distinctions that it entails) to the language-specific presentation level of the MT grid. Doing so does not denigrate the importance of this kind of distinction but rather elevates it to another component of the grammar better equipped to deal with it.

A **single** causative on a **transitive** is shown in (87a) = (25a) and its MT grid in (87b).

(87) a. Hanako ga   Taroo   ni   syokki   o   araw-**ase**-ta
        Hanako NOM Taro   DAT   dishes   ACC   wash-CS-PST
        '*Hanako caused* [made/let] *Taro to wash the dishes.*'[49]

   b.   causer   theme   causee

        1   [1$_i$ 2]   3$_i$
        | /   /
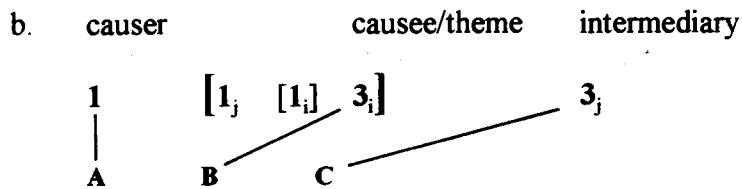   A   B   C

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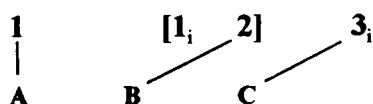
[49]The ambiguity between a 'made' and 'let' interpretation is not relevant to the discussion.

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Hanako is the causer, *Taroo* is the causee and *syokki* 'dishes' is the theme. The mapping

principles are by now familiar. The causer takes the A MAP and association proceeds left-

to-right. The first noncoindexed argument, the theme, takes the B MAP and the causee the

C MAP. Note that there is no option with respect to causee casemarking in (87a).

A **double** causative on an **intransitive** verb provides no surprises. Example (88a) =

(26) is followed by its grid in (88b).

(88) a. Taroo   ga   Ziroo   ni   Itiroo   o   aruk-**ase-sase**-ta
        Taro   NOM Jiro   DAT   Ichiro ACC   walk-CS-CS-PST
        '*Taro* **made/had** *Jiro make Ichiro walk.*'

    b.   causer   causee/theme   intermediary

$$1 \qquad [1_j \quad [1_i] \quad 3_i] \qquad\qquad 3_j$$

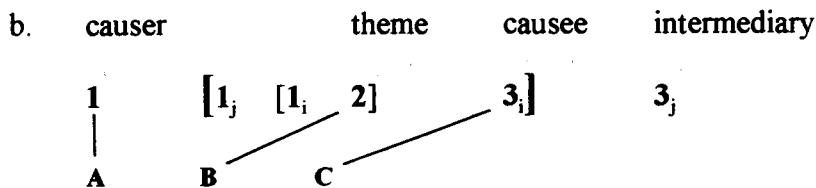with the mapping lines: $1 \to A$; $1_j \to B$; $[1_i]$ to C; 3_j connects to C.

Taroo, the causer, maps to A; *Itiroo*, the causee/theme maps to B and the intermediary

Ziroo takes the C MAP. Since the Unaccusative Hypothesis is not operative in Japanese

there is no optional grid for intransitives in which the C map would be cancelled, as we saw

happen in Turkish. Again, there is no choice as to causee casemarking.

A **double** causative formed on a **transitive** completes the section on Japanese.

Consider example (89a) = (28)[50] and its grid in (89b).

(89) a. ??Taroo ga   Hanako ni   isya ni   kodomo   o koros-**ase-sase**-ta
        Taro   Hanako   doctor   child   kill-CS-CS-PST
        '*Taro made (let) Hanako make (let) the doctor kill the child.*'

    b.   causer   theme   causee   intermediary

$$1 \qquad [1_j \quad [1_i \quad 2] \qquad 3_i] \qquad 3_j$$

with the mapping lines: $1 \to A$; $1_j \to B$; 1_i and 2 to C; 3_i connects to C.

Taroo is the causer, *Hanako* the intermediary, *isya* 'doctor' the causee and *kodomo* 'child'

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[50]Recall that while Farmer (1984:31) thought this sentence was marginal, the native speaker I consulted
was quite comfortable with it.

the theme. The intermediary is the unmapped nominal marked with postpositional *ni*.

Japanese and Turkish define prototypical or, to borrow Comrie's word, 'paradigm' cases for causatives of 3-MAP languages in MT. They demonstrate that Mapping Theory can accommodate causative data in a simple insightful way. In the next section I examine prototypical 2-MAP languages.

2.4 A NEW APPROACH TO MT: CAUSATIVES IN 2-MAP LANGUAGES

As I noted at the beginning of the previous section, 2-MAP languages present a special challenge to Mapping Theory because there is greater competition among the nominals at issue for a limited number of slots [MAPs]: only the A and B MAPS are available. But the theory is commensurate with the task, as I will demonstrate presently.

The two key languages I will examine in §§2.4.1 and 2.4.2 are Ilokano and Swahili, respectively. What adds to the interest is that unlike Turkish and Japanese which were very much alike in their mapping behaviour, Ilokano and Swahili are distinctly different. I will show that this difference falls out naturally from a single parameterized variable.

2.4.1 ILOKANO

According to Gerdts (1993a,d), Ilokano is a 2-MAP language. Unlike Turkish and Japanese, it lacks overt case morphology, so the search for confirmation of MAP threshold must begin elsewhere. Fortunately, the task is simplified by the fact that Ilokano uses only two agreement/clitic positions in the predicate. This observation is a strong indication that we are dealing with a 2-MAP language. Reinforcement comes from the fact that applicatives target the B MAP (and not the C MAP as we saw with 3 MAP languages).

Turning now to the causatives in Ilokano, I begin with a **single** causative built upon an **intransitive** verb. Example (90a) = (50) is followed by its MT grid in (90b).

(90) a. **p-in-ag-taray-n-ak**   ni   Juan
        CS-PST-INTR-run-3GEN-1NOM   det   John
        '*John made me run.*'

   b.   causer   causee/theme

$$\begin{array}{ccc} \mathbf{1} & [\mathbf{1}_i] & \mathbf{3}_i \\ | & \diagup & \\ \mathbf{A} & \mathbf{B} & \end{array}$$
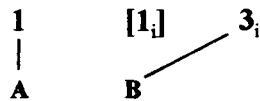
This grid is no different from (79b), the grid for single causatives formed on intransitives in 3-MAP languages. In the present example, *Juan* takes the A MAP as causer and *ak* the B MAP as causee/theme.

A **single** causative formed on a **transitive** verb is example (91a) = (51). Its grid follows in (91b).

(91) a. **p-in-a-kan**   diay   taraken   ti   linugaw   i-ti   ubing
        CS-PST-eat   det   maid   det   porridge   OBL-det child
        '*The maid had the child eat the porridge.*'

   b.   causer   theme   causee

$$\begin{array}{cccc} \mathbf{1} & [\mathbf{1}_i & \mathbf{2}] & \mathbf{3}_i \\ | & \diagup & & \\ \mathbf{A} & \mathbf{B} & & \end{array}$$
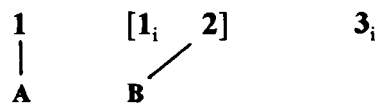
Apart from the obvious absence of the C MAP we have become used to from 3-MAP languages, there is not anything in this representation that is surprising. The causer *taraken* 'maid' associates to the A MAP. Proceeding left-to-right, the first nominal available for linking is the theme 2, *linugaw* 'porridge' (the pro-like 1_i being unavailable for previously stated reasons). There being no more MAPs in a 2-MAP language, the causee *ubing* 'child' is unmapped. This unmapped status is clear from its marking by the oblique determiner *iti*.

In a **double** causative on an **intransitive** such as (92a) = (52) and its MT grid in (92b), the result is again perfectly predictable.

(92) a. **p-in-a-pa**-turog ko diay ubing i-ti daydiay taraken
      CS-PST-CS-sleep 1GEN det child OBL-det det maid
      'I had the maid put the child to sleep.'

  b.   causer   causee/theme   intermediary

$$1 \quad [1_j \quad [1_i] \diagdown 3_i] \qquad 3_j$$

    |
    A   B
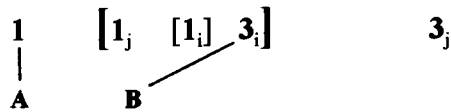
Here the intermediary *taraken* 'maid' is an oblique and must remain unmapped. The causer *ko* 'I' takes the A MAP and the causee/theme *ubing* 'child' the B MAP.

A **double causative** on a **transitive** verb is shown in (93a) = (53), its grid in (93b).

(93) a. **p-in-a-i-pa**-kan ko diay linugaw ti daydiay ubing
      CS-PST-AFF.OBJ-CS-eat 1GEN det porridge det det child

      ken daydiay taraken
      OBL det maid
      'I had the maid feed the child porridge.'

  b.   causer   theme   causee   intermediary

$$1 \quad [1_j \quad [1_i \diagdown 2] \quad 3_i] \qquad 3_j$$

    |
    A   B
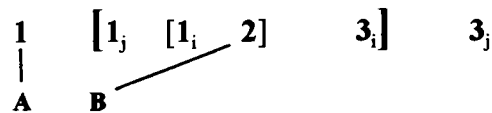
Determining relations in Ilokano can often be difficult because oblique markers are routinely dispensed with, but in (93a), the intermediary *taraken* 'maid' is plainly an oblique. The causer is an overt pronominal and thus maps to A. The theme *linugaw* 'porridge' is positioned next to that term and is considered a core nominal, i.e. direct object. In a left-to-right mapping it would associate to the B MAP. Therefore, the causee and the intermediary are not mapped, just as MT predicts.

In sum, Ilokano provides a clear case of how MT may be applied to the full range of causative constructions in a 2-MAP language where the MAPs associate in the standard left-to-right fashion. Swahili will give insight into how languages differ in building causatives.

2.4.2 SWAHILI

Swahili presents a reasonably transparent picture allowing a claim of 2-MAP status. First, goal applicatives target the B MAP. Second, there are two agreement marker positions on the verb, one for subject and the other for direct object. Against this, there is no antipassive, a feature sometimes found in 2-MAP languages. Moreover, it is possible to relativize on the nominal that follows the direct object. However, the status of that nominal has been problematical since at least Ashton (1947). Comrie (1976:290) offers the apt observation that such NPs occupy 'some kind of no-man's land.' Their relativizability is insufficient evidence to warrant overturning a decision for a 2-MAP threshold.

Beginning the analysis, as usual, with a **single** causative on an **intransitive** base, the following sentence (94a) = (59b) and its MT grid in (94b) show nothing unexpected.

(94) a. Fatuma   a-me-toko-s-a   maji
        Fatuma   she-PERF-boil-CS   water
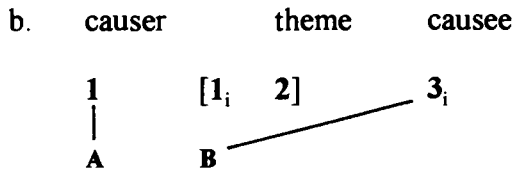   *'Fatuma boiled the water.'*

    b.   causer   causee/theme

$$1 \qquad [1_i] \qquad 3_i$$
$$| \qquad\qquad\qquad \diagup$$
$$A \qquad B$$
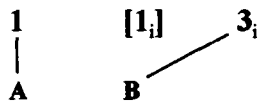
The causee/theme *maji* 'water' takes the B MAP. Direction of association would seem to be a matter of indifference in this example.

But with a single causative on a transitive base, a hitherto unseen construction occurs.

(95) a. Baba   a-li-m-fung-ish-a   mtoto   mlango   = (60)
        father   he-TEMP-him-close-CS child   door
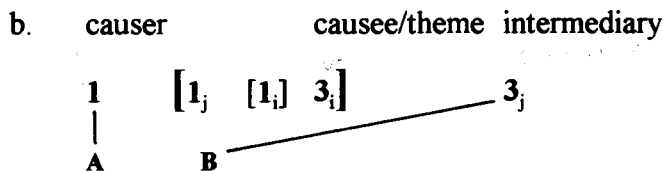   *'The father made the child close the door.'*

b.   causer   theme   causee

$$\begin{array}{ccc} \mathbf{1} & [\mathbf{1}_i \quad \mathbf{2}] & \mathbf{3}_i \\ | & & \\ \mathbf{A} & \mathbf{B} & \end{array}$$

Here the causee *mtoto* 'child' is the DO, as is evident from its position in the clause and the object marker in the predicate which usually targets animate nominals. Therefore the 3 must link to the B MAP leaving the theme unassociated as an oblique postverbal nominal of uncertain status.

This result falls out naturally if Swahili is construed as a language that has **right-to-left association** (once the causer is linked to A, a constant across all languages insofar as the causer is always the subject) of GRs to MAPs.[51] It is this difference between Ilokano-class languages and Swahili-class languages that the **MAPPED CAUSEE CONDITION** sought to explain. We now see that while this condition is descriptively adequate it is merely an artifact of a larger parameter: the direction of association. That is, while the Mapped Causee Condition is relevant only to causative constructions, directional phenomena occur in a variety of morphological and phonological processes (cf. McCarthy and Prince 1993.)

Further evidence of Swahili's right-to-left mapping association comes from **double causatives** on **intransitives**. Example (96a) = (61) and its grid in (96b).

(96) a. Juma   a-me-m-toko-**s**-**esh**-a   Fatuma   maji
        Juma   he-PERF-her-boil-CS-CS   Fatuma   water
        '*Juma made Fatuma boil the water.*'

b.   causer   causee/theme   intermediary

$$\begin{array}{ccc} \mathbf{1} & [\mathbf{1}_j \quad [\mathbf{1}_i] \quad \mathbf{3}_i] & \mathbf{3}_j \\ | & & \\ \mathbf{A} & \mathbf{B} & \end{array}$$

First the causer is linked to the A MAP and then further linking begins from the right. This

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[51]Though not part of my sample, Chamorro, an Austronesian language (Gibson 1980), and Babungo, a Grassfields Bantu language of the Benue-Congo family (Schaub 1985), also demonstrate right-to-left association in single causative constructions. These arguably 2-MAP languages do not appear to have MMCs.

procedure gives the correct result: the intermediary *Fatuma* is linked to the B MAP and the causee/theme *maji* 'water' remains unlinked. We know the intermediary is the core term here from the object marker *-m* in the predicate which can only refer to *Fatuma*.

A **double** causative on a **transitive** verb rounds out the picture.

(97) a. ?Hamida   a-na-m-pik-**ish-ish**-a   Fatuma Halima ugali   = (62)
        Hamida   she-PRES-her-cook-CS-CS Fatuma Halima porridge
        'Hamida is making Fatuma make Halima cook porridge.'

    b.   causer   theme   causee intermediary

$$1 \quad [1_j \quad [1_i \quad 2] \quad 3_i] \quad \underline{\quad} 3_j$$

$$\mathbf{A} \quad \mathbf{B}$$
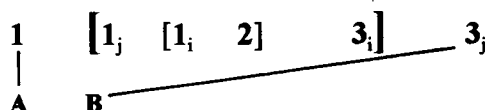
Again it is the intermediary that takes the B MAP, its preferred status indicated by the object marker and immediate postverbal position.

The plain difference between Ilokano and Swahili demonstrates that 2-MAP languages may display greater variation in their mapping behaviour than 3-MAP languages: none of the latter in my sample display anything other than left-to-right linking of nominals to MAPs. Right-to-left linking in 3-MAP languages would in fact appear to be ruled out by my approach since this would result in intermediaries taking B MAPs in double causative constructions and C MAPs only being able to link by crossing association lines. The data suggests that these things never happen nor would the theory predict them as I will show graphically in §3.1.

The last two sections, 2.3 and 2.4, have examined prototypical cases that define basic association rules in simple causative constructions. I turn now to the rest of the languages in my database; languages which sometimes differ from the central examples, and discuss their relevance to a Mapping Theory analysis of causatives. Despite their differences, they will be shown to provide no counterevidence to the MT model.

2.5 FURTHER EXAMPLES

2.5.1 3-MAP LANGUAGES

Only two 3-MAP languages remain to be dealt with from my sample. The first is

GEORGIAN. Evidence for its 3-MAP status is strong (Gerdts 1993a). First, there are 3

agreement markers on the verb. Second, Georgian has no 3-to-2 advancements; the B MAP

is not targeted. Third, it has oblique advancements-to-3 indicating the C MAP *is* targeted.

It differs in two notable ways from the Turkish/Japanese prototype as may be seen in

Tables 2 and 3. First, in single causatives in the perfect tense built on transitive verbs, the

causee appears in a postpositional phrase and thus is not mapped; the C MAP is cancelled.

This language-specific result is an aspect of so-called inversion constructions. It in no way

diminishes the generality of the causative analysis; Georgian simply has another option

lacking in the prototypical Japanese and Turkish.

Georgian's other distinction is its inability to form double causatives on transitive

verbs. The use of oblique marking, e.g. postpositions, cannot save these constructions,

which are simply barred. Consistent with that result is the fact that Georgian also disallows

single causatives of ditransitives. Even though this language has 3 MAPs plus nonterm

positions available, this 'morphosyntactic space' is still not enough to save doubly

causativized transitive constructions. Again, this is a language-specific constraint that is

not deducible from the causative model.

The other 3-MAP language to be discussed is HINDI, a challenging language for any

linguistic theory.[52] With respect to tests for MAP threshold, Masica (1991:367) has stated

that there is never indirect object advancement in Hindi. This is a strong indication of 3-

MAP status given this diagnostic's proven utility as discussed above in §2.3.2. Further

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[52]Hindi causatives are problematical for three reasons. First, they are very complex. Second, they
give rise to widely varying grammaticality judgments. Third, there are competing analyses, e.g. (Masica (1991),
Saksena (1980, 1982a,b)), the respective merits of which are not easily judged.

support comes from Masica's (1991:367) claim that the DATIVE marker, the 'proper' one for the IO, can also mark DOs (in certain aspects), experiencer subjects and certain adverbial adjuncts. This ability to mark relations that bear a variety of roles is a hallmark of a structural case. Thus DATIVE joins NOMINATIVE (which marks DOs) and AGENTIVE as markers of term nominals supporting the claim for 3-MAP status.

An unusual language-specific construction in Hindi occurs in MMCs on transitive verbs. As Table 3 indicates, both the intermediary and the causee are unmapped since both are nonterms marked INSTRUMENTAL. The DATIVE is not a possible marker in these causatives. There are no examples in the literature nor could I extract one from my consultant. The result is that the theme takes the B MAP—as the theory would predict in a left-to-right mapping—and the C MAP is cancelled. But since the nature of the 'second' causative morpheme is different in Hindi from that of the double causative morpheme in other languages, i.e., it is double only in the sense of indicating indirect causation and thus *facilitating* the presence of an intermediary rather than obligatorily *introducing* one, we should expect Hindi double causatives to display noncanonical characteristics.

Georgian and Hindi represent variations of the left-to-right association parameter in 3-MAP languages. A bigger sample of 3-MAP languages would provide much needed data on the frequency and type of these deviations. But for now, it is encouraging to see that nothing in the research on 3-MAP languages counterexemplifies the MT approach.

2.5.2 2-MAP LANGUAGES

Six 2-MAP languages remain to be examined. They all display left-to-right association but they are not without a few idiosyncratic variations.

HIXKARYANA is the first of the remaining 2-MAP languages. It is probably safe to assume that it is a 2-MAP language since, as Derbyshire (1986) notes, the verb obligatorily

agrees with only two nominals, subject and object. Futhermore, indirect objects appear with postpositions. Derbyshire himself, the preeminent authority on this language, has stated that 'The notion of 3 [IO] as a basic primitive for Hixkaryana syntax certainly seems unmotivated' (1986:144).

As far as causatives are concerned, Hixkaryana's mapping behaviour puts it squarely in the Ilokano-class. It deviates only in being unable to form multiple causatives on transitive verbs, not an uncommon occurrence cross-linguistically (Nedyalkov and Silnitsky 1973:7).

In MALAYALAM, we are faced with a dearth of solid evidence for determining the MAP threshold. One test, though, is passivization: in Malayalam only one non-subject nominal (the direct object) can passivize (Mohanan 1982:582). This result is suggestive of 2-MAP status since core or direct terms are more accessible to various syntactic processes than nonterms.

Case marking also aids in establishing a 2-MAP threshold. While case marking cannot always be relied on as a guide to grammatical relations, Mohanan (1982:537) is explicit that it can in Malayalam. Nominals (in any language) which carry structural or grammatical case may have widely different semantic roles. In Malayalam, NOM, for example, marks agents (subjects) or themes (objects). ACC marks direct objects; that case is unavailable for subjects. DAT subject marking is possible, however. Thus, if we follow Gerdts (1991:29) when she states that 'non-nominative subjects (in languages where subjects are otherwise marked nominative) always involve advancements to subject of a nominal otherwise eligible to license I-case' [non-structural case], then we may take DAT to signal a nonterm.

Another piece of evidence comes from the distribution of the DATIVE case; it is not available for the causee in causative constructions unlike its counterpart in Japanese or Turkish. The (nonsubject) DATIVE in Malayalam appears to mark beneficiaries and

recipients only, at least in all of the data cited by Mohanan (1982, 1983) and Bhat (1988). Thus it does not display the flexibility in marking a wide variety of roles that we would expect of a structural case.

The behaviour of the causee in constructions such as single causatives on transitive verbs and double causatives on intransitives also supports a claim of 2-MAP status, for as we saw in (11) and (12), the causee always surfaces as a nonterm. Only the A and B MAPs are targeted while the causee is an unlinked nonterm. This result is consistent with Ilokano-class languages. It is true that unlike Ilokano, Malayalam cannot form MMCs on transitive verbs, but that fact is certainly not inconsistent with a 2-MAP threshold.

OROMO presents an obdurate set of facts. There is only limited case marking in this language and agreement on the verb is exclusively with the subject. Moreover, in causative constructions, no use is made of a discrete IO position (Stan Dubinsky, p.c.), the very type of construction where one might think it **would** be used (cf. Comrie 1989:176). Word order is apparently important in disambiguating relationships in causative constructions and evidence for GRs is hard to come by.

Faced with a similar (but not identical) set of circumstances in Fula, a Niger-Congo language, Culy and Davies (to appear) opted to treat that language as 1-MAP, certainly a typologically rare phenomenon, if in fact that analysis is correct. One crucial difference between Oromo and Fula, however, is this: in Fula postverbal NP order varies in different construction types. Culy and Davies (ibid.) thus suggest that word order references thematic roles rather than grammatical relations.[53]

Thus, a decision about Oromo's status reduces to whether or not one is convinced of the possibility of a 1-MAP language. A claim of a 1-MAP threshold is tantamount to saying

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[53]Owens (1985) has also argued that 'the relational phenomena in Oromo can be handled in terms of a direct link between the semantic roles and the relational phenomena concerned' (p.63).

that a language has no transitive verbs, i.e. verbs which subcategorize for an object.[54]

However, no evidence has been presented for the lack of transitive verbs in Oromo. In fact Owens (1985:52), by way of contrast, has stated that there is a class of **ditransitive** verbs, although it is very small. In light of these differences between Oromo and Fula, the better motivated assumption is that Oromo is a 2-MAP language.

With respect to Oromo's causative construction mapping properties, it appears to be Ilokano-like in all categories except MMCs on transitive verbs. Within this class of verbs, and in limited circumstances, the causee bears INSTRUMENTAL marking and the intermediary is omitted. Owens (1985) deals with these matters and his presentation leaves considerable room for doubt as to the precise nature of the nominals involved. What is clear, however, is that any deviation from the Ilokano prototype is in the direction of less 'term-like' entities, viz. either through omission or overt nonterm marking.

FINNISH shows good evidence for a 2-MAP threshold. The Finnish case system has been intensively studied, allowing firm conclusions about GRs based on overt case morphology. NOMINATIVE and ACCUSATIVE are structural cases capable of marking a variety of roles.[55] NOMINATIVE, for instance, can mark both agents and themes. Other Finnish cases are adverbial or semantic cases (Nikanne 1993). Nominals appearing with a given semantic case share some semantic gestalt. For example, the ADESSIVE case marks location in the sense of 'at' or 'on' as well as instrumentality.

Mapping behaviour of Finnish causatives is Ilokano-like. Causees are linked to the B

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[54]Mel'čuk (1988) makes just this claim for Lezgian, an Eastern Caucasian language, but even he admits that some verbs are 'more intransitive' (p.241) than others. The **labile** verbs (verbs associated with two valence patterns) in Caucasian languages complicate matters a lot but it is clear that lability is not an issue in Oromo and cannot assist a claim of 1-MAP status.

[55]The literature on Finnish linguistics (cf. Holmberg and Nikanne, 1993, and articles therein) also speaks of PARTITIVE and GENITIVE as structural or 'grammatical' cases. GENITIVE, however, appears to be an alternative to NOMINATIVE in certain specific situations while PARTITIVE is a marked alternative to ACCUSATIVE 'regulated by a complex set of rules and lexical stipulations' (Holmberg and Nikanne 1993:15). In short, even if these are structural cases, they do not impact on the 2-MAP status of Finnish.

MAP in causatives based on intransitive verbs. As Comrie (1976:273) comments, Finnish never encodes causees as indirect objects. Once again, however, we see some slight variation on the Ilokano model in MMCs formed on transitives. As in Ilokano, the theme in Finnish MMCs is linked to the B MAP. The evidence suggests, however, that neither the causee nor the intermediary is a term. The intermediary may at least be overt while the causee is omitted, as illustrated in (98) from Pennanen (1986:167).

(98) Työnjohtaja veä-**tä-ttä**-ä   tukkeja   hevosmiehellä
       foreman.NOM haul-CS-CS-3SG   logs.PART   driver.ADES
       '*The foreman orders the driver to get the logs hauled (by the horse).*'

Here *tukkeja* 'logs' is structurally marked PARTITIVE, the intermediary *hevosmiehellä* 'driver' is semantically marked ADESSIVE and the causee 'horse' is omitted.

HUNGARIAN also appears to be a 2-MAP language. There are over two dozen semantically defined cases but only NOMINATIVE and ACCUSATIVE seem to be structural cases. As in Finnish, the IO position seems to play no separately defined role in this language.

The attributes of causative mapping put Hungarian squarely in the Ilokano-class of languages. In general, causees in causatives formed on intransitives and themes in causatives formed on transitives link to the B MAP. As pointed out in Chapter 1, example (36), there is also a semantically-induced alternation in single causatives formed on intransitives such that causee/themes are sometimes not mapped, but rather appear in the INSTRUMENTAL case. This option is not available in Ilokano.

A like situation arises in double causatives formed on transitives. Ilokano expresses both causee and intermediary as nonterms, but Hungarian prefers to express only one of those two nominals overtly. Hetzron (1976:382) claims that to mention both is not ungrammatical but only 'stylistically objectionable'. Hungarian thus parallels Finnish in not

allowing the expression of both the intermediary and the causee in double causatives.

The final language to be discussed is **MALAGASY**. Here we again face an equivocal situation similar to that found above in Oromo. Indeed, in this case the language is even closer in its behaviour to the putatively 1-MAP Fula discussed above for it is not uniformly possible to make a distinction among postverbal NPs on the basis of word order. There is again only limited case and no agreement marking to assist either. Therefore nominals must make reference to thematic relations rather than to GRs.

Taking the same conservative approach to Malagasy as I did to Oromo, I tentatively assume it is a 2-MAP language. In this way it is not necessary to make a final judgment on the (in)transitivity or ergativity of Malagasy clauses (cf. Mirto 1993).

Turning to causatives, we find that the theme in the causative of a transitive is mapped. But the status of the causee is controversial. Randriamasimanana (1986:664) first suggests that both the causee and the theme are direct objects. Malagasy would thus provide a case of what Comrie (1976:276ff.) calls 'object doubling', a rather suspect doctrine.[56] Randriamasimanana (1986:666) clarifies his earlier statement, however, and states that the causee is something between a direct object and an indirect object —whatever that might be. Dziwirek (1986:12) avers that this nominal is an indirect object. Given that indirect objects are not mapped in Malagasy, this latter claim would predict nonterm status for Malagasy causees in causatives built on transitives.

Mapping behaviour in Malagasy thus follows the Ilokano model insofar as single causatives and double causatives of intransitives are concerned. However, the data on MMCs formed on transitives is spotty and insufficient upon which to base conclusions.

With Malagasy I complete the examination of 2-MAP languages in my sample. I have shown that all of the 2-MAP languages in this section basically follow the Ilokano pattern.

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[56]But Keenan (to appear) claims that 'the double accusative paradigm is well established in Malagasy'.

Unlike Ilokano, however, Hixkaryana, Malayalam (and possibly Malagasy) do not allow double causatives on transitive verbs. Also, Oromo, Finnish and Hungarian show resistance to the expression of both the intermediary and the causee in double causatives of transitives. In Oromo, for example, the intermediary may be omitted while in Finnish it is usual to omit the causee.

In the next section I summarize this Chapter's findings and discuss their implications for the model of causative constructions I have been propounding.

2.6   SUMMARY & CONCLUSIONS

The new MT analysis of causative constructions is able to accommodate a wealth of data offered up in the languages of my sample in a clean, simple fashion. Where the former MT approach required the expedient of a 2 (or 3) =1 grammatical relation, my method utilizes only the well-motivated and long established relations familiar from RG: 1, 2, 3 and nonterm.[57] The key is that these may be coindexed with one another to graphically —and iconically—represent the 'building up' of the causative clause.

A significant fact emerging from the MT analysis of causatives is this: most languages create causatives through a left-to-right association of arguments to morphosyntactic argument positions up to a specified threshold. But some languages—only Swahili in my sample—associate arguments from right-to-left. These two patterns of what I will now call the ASSOCIATION PARAMETER are sufficient to define the range of mapping options at least with respect to this category of construction. This result is consistent with other recent work in phonology and morphology which pays close attention to constituent boundaries and the processes from those domains in which edges play a part (cf. especially

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[57]The use of 'nonterm' glosses over the fact that RG acknowledges both oblique and chômeur relations which have distinct syntactic behaviours. For the purposes of this paper, however, the collective term sacrifices no critical details.

McCarthy and Prince (1993) and their concept of 'generalized alignment').[58]

It is doubtful that the MAPPED CAUSEE CONDITION needs to be held over from earlier MT work on causatives since it evidently mirrors, in an attenuated way, the operation of the ASSOCIATION PARAMETER. Moreover, there is nothing in the CONDITION as it stands which would prevent it from applying to a 3-MAP language, yet this never seems to happen.

An important distinction among the languages in my sample is that some of them allow MMCs to be formed on transitive verbs while others do not. The question is, why? It would be convenient to assume that the MAP threshold was the sole arbiter of this option were it not for the fact that the data will not cooperate. For example, Georgian is a 3-MAP language yet it blocks double causatives on transitive verbs. Several 2-MAP languages, however, permit them (although the causee and/or the intermediary must be expressed as a nonterm or even omitted). In the same vein, it would be worthwhile to learn why a 2-MAP language like Hixkaryana bars double causatives on transitives entirely while another 2-MAP language like Ilokano permits them (with the causee and intermediary as nonterms). I suggest that the answers to these kinds of questions go far beyond mere causative construction behaviour to include nominal encoding strategies used throughout the language. The MAP threshold limits the possibilities, but it cannot be the entire answer.

As the mapping behaviour of the languages unfolded in this chapter, it was made plain that not all of them strictly followed the canonical strategies of Ilokano or Japanese. Deviations were seen to be particularly frequent in double causatives on transitive verbs. Variations take several forms. For example, in 2-MAP Finnish the causee in an MMC on a transitive verb is omitted whereas in 2-MAP Ilokano it is expressed as a nonterm. In other

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[58]I leave open the question of whether the ASSOCIATION PARAMETER is operating on an edge-in basis such that both edges of a domain, i.e. a clause, associate first, followed by a filling in of the centre (Yip 1988, Yip, Maling and Jackendoff 1987). This possibility was pointed out to me by Charles Ulrich.

languages certain nominals may either map or not. Thus in Hungarian single causatives formed on intransitives (cf. ex. 36), the causee may be mapped and carry ACCUSATIVE case marking or be unmapped and carry INSTRUMENTAL case marking, depending on the verb involved. In yet a third set of circumstances a nonterm may either be expressed as an oblique, i.e. nonterm, or be omitted. Such is the case of the intermediary in Turkish and Hungarian double causatives formed on transitive verbs (cf. exx. 22 and 36).

A common thread in the first two variations is that the alternative mapping strategies are in the direction of **underutilizing** the MAP threshold. In at least some of these instances, and perhaps most of them, the motivation is semantic. The Turkish (Unaccusative Hypothesis-related) and Hungarian (directness of causation-related) alternations appear to fall into this category even if the full explanation remains elusive. The alternation in causee mapping in Hindi and Georgian single causatives of transitives is conditioned by tense/aspect, with causee marking in the aorist different from that in the present. Crucially, these criteria do not impact on the MT causative model at all in the sense of counterexemplifying it. First of all, the model does not attempt to deal with (language-specific) semantic distinctions—at least to the point I have developed it. Second, competing syntactic motivations must also be worked out on a language-by-language basis. The important point is that MT can provide a workable alternative model when this is made necessary by other parts of a grammar; an alternative that does no violence to MT's integrity.

As far as the varying manifestations of nonterms is concerned, the theory has nothing to say. MT makes a distinction *between* mapped and unmapped nominals but not a distinction *among* the latter.

This concludes the Mapping Theory analysis of causative constructions. I have been

able to illustrate its ability to handle—with minimal assumptions and theoretical

apparatus—all of the relevant data. In Chapter 3, I discuss alternative analyses and show

the MT account to be demonstrably superior, particularly with respect to its handling of

double causative constructions.

In this chapter I examine the languages in my database within a Relational Grammar

[RG] framework (§3.1) and within Comrie's (1975, 1976, 1989) causee demotion or case

hierarchy framework (§3.2). Both of these approaches are able to deal effectively with

some of the same material as MT. But, unlike MT, neither can predict the limited range of

causative constructions that occur in natural languages (§3.3). This result demonstrates

that Mapping Theory offers the most constrained account of these constructions.

3.1   A RELATIONAL GRAMMAR ACCOUNT

A few preliminary words are required here by way of definitions. The RG approach I

use employs the traditional features of that theory: 1, 2 and 3 correspond to **subject**,

direct object and **indirect object**, respectively, and are considered terms. Other nominals

are nonterms which I represent in the tables with N.[59] The laws of RG license certain

revaluations of terms in certain constructions, e.g. causatives. For example, a simplex

sentence based on an intransitive might have the schematic form X VERB PHRASE. The

causativized version would be Y CAUSE X VERB PHRASE. The term X, a 1 in the simplex

sentence, might be revalued in the causative to a 2 or a 3. This result is demonstrated

schematically in the stratal chart (99c) based on the Turkish clauses in (99a, b) = (1).

(99) a. Hasan   öl-dü
         Hasan   die-PST
         'Hasan died.'

      b. Mehmet   Hasan-ɨ   öl-**dür**-dü
         Memet   Hasan-ACC   die-CS-PST
         'Mehmet killed Hasan'/'Mehmet caused Hasan to die.'

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[59]I abstract away from the distinction between the nonterms 'chômeur' and 'oblique' which is not
relevant for present purposes.

c.   1   P
    P   1   2
    cause   Mehmet Hasan   die

Each row in the stratal chart represents a new 'predicate [hence P] sector' (Davies and

Rosen 1988). Causatives, in this representational mode, may thus be considered

monoclausal, in the RG sense of having a single clausal node. Example (99c) shows that the

first row, or stratum, is the noncausative clause 'Hasan died', while the second row is the

causative clause 'Mehmet caused Hasan to die.'

In the tables to follow, constructions above the double line are built on intransitive

bases; those below are built on transitive bases. The cells in the table are filled in with the

final grammatical relations.Some logically possible constructions are omitted and the

reasons for doing so will be discussed in the appropriate subsection. To aid the reader in

referring to the Mapping Theory counterparts in Chapter 2, I have labelled each con-

struction with a mnemonic indicating the language class whose MT structure provides the

exemplar. Thus, **I-class** refers to Ilokano and the languages that (in the main) pattern like

it. **J-class** refers to Japanese (or Turkish would have done just as well here). **S-class** is

Swahili and **H-class** is Hindi.[60]

3.1.1 2-MAP LANGUAGES: SINGLE CAUSATIVES

In (100) I show the single causative construction possibilities that a 2-MAP language

may generate and the GRs of the nominals involved.[61] The 'flying finger' indicates that the

construction is attested in at least one of the languages in my database. The **bold** stratum

in the stratal charts corresponds to the referenced row in the summary charts.

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[60]Although Hindi was not one of the languages I examined in depth in Chapter 2, it is the sole repre-
sentative (in my sample) of certain RG constructions. In other cases, it patterns with the I-class, i.e. CONST. I
in (100).

[61]One construction possibility not included in (100) is causer: 1, causee/theme: N. That is an anti-
passive construction. I have chosen to exclude such complications which detract from the focus on plain
causatives.

(100)

2-MAP single causatives	CAUSER	CAUSEE	THEME
☞Construction I: **I-class**	1	2	
☞Construction II: **I-class**	1	N	2
☞Construction III: **H-class**	1	2	N

An example of Construction I is Malayalam, (101a) = (10). Its stratal chart follows.

(101) a.　acchan　　　　kuṭṭiye　　kaṟayiccu
　　　　father.NOM　　child.ACC　cry.CS.PST
　　　　'The father made the child cry.'

　　　b.
```
                        1      P
        P    1    2                    = Construction I
      cause father child  cry
```

What happens here is straightforward. The subject, 1, of the noncausative clause, *kuṭṭiye*

'child', revalues to 2 in the matrix clause. Hixkaryana (7) is another instance of this

Construction.

Construction II is seen in this causativized transitive from Hungarian, (102a) = (35).

(102) a.　A　　fiú　　　levágatja　　　a　　　borbéllyal　　a　　haját
　　　　　the　boy.NOM　PV.cut.CS.3SG　the　barber.INST　the　hair.ACC
　　　　　'The boy had the barber cut his hair.'

　　　b.
```
                         1     2     P
        P    1    N     2                = Construction II
      cause boy barber hair  cut
```

In this case, the subject of the noncausative clause, *borbéllyal* 'barber', cannot revalue to 2

because *haját* 'hair' is already a 2. Instead it surfaces as a nonterm with INSTRUMENTAL

marking. This is a common pattern cross-linguistically and can be seen in Finnish (31) and

Hixkaryana (8).

Construction III represents the converse of the preceding since the causee retains

termhood and the theme, the 2 of the noncausative clause, is demoted. Chamorro, an

Austronesian language, demonstrates this construction. Example (103a) from Gibson

(1980:140) is followed by its stratal chart.[62]

(103)a. Ha   **na'**-taitai   häm   i   ma'estru   ni   esti   na   lebblu
         3SG CS-read   1PL   the   teacher   OBL   this   LINKER   book
         'The teacher made us read this book.'

   b.   1   2   P
          P   **1**   **2**   **N**   = **Construction III**
          cause   teacher   us   book   read

Here *lebblu* 'book' surfaces with oblique marking and *häm* 'us' is the DO. Swahili, part of

my sample, and Babungo (Schaub 1985) display this construction as well but the

Chamorro example is particularly noteworthy because this language first showed clearly

that the Union Law of Perlmutter and Postal (1974) was not universally valid. That is, the

1 of the complement clause, *häm* 'us', does not revalue to 3 as predicted by the Union

Law but rather revalues to 2, rendering the existing 2 a nonterm, as seen clearly in the

stratal chart. This fact is captured in 'The Union Parameter' of Gibson and Raposo

(1986:303f.) which states, in part, that the 1 nominal of the complement clause bears an

Object relation (i.e. 2 or 3) in the matrix clause, the precise relation being specified by

language-specific rules.[63]

All three possibilities for single causatives in 2-MAP languages are thus attested in

natural languages. The RG approach effectively deals with them. But as I shall show in the

next section, double causative constructions highlight a weakness in RG methodology.

3.1.2 2-MAP LANGUAGES: DOUBLE CAUSATIVES

In (104), I chart the constructions for 2-MAP languages when there is an additional

nominal introduced by a second causative affix.

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[62]Chamorro was not part of my original sample because it does not, to my knowledge, have MMCs.

[63]The other important part of Gibson and Raposo (1986) is their 'Inheritance Principle' which states, in brief, that any GR (other than 1) in the complement clause either inherits that relation in the matrix clause or becomes a nonterm; there is no revaluation of these nominals.

(104)

2-MAP double causatives	CAUSER	INTERMEDIARY	CAUSEE	THEME
☞Construction I: **S-class**	1	2	N	
☞Construction II: **I-class**	1	N	2	
☞Construction III: **S-class**	1	2	N	N
☞Construction IV: **I-class**	1	N	N	2
Construction V	1	N	2	N

Construction I is attested in Swahili, (105a) = (61). Its stratal chart is in (105b).

(105) a. Juma   a-me-m-toko-**s-esh**-a   Fatuma   maji
          Juma   he-PERF-her-boil-CS-CS   Fatuma   water
          '*Juma made Fatuma boil the water.*'

b.
```
                                          1      P
                   P              1        2
      P            1       2      N                  = Construction I
    cause        cause    Juma   Fatuma   water    boil
```

Here the causee/theme progressively revalues to final nonterm status while the inter-

mediary retains termhood.

Turning to Construction II, a clause where the intermediary is a nonterm and the

causee/theme a 2, there is abundant evidence attested in my sample. The following

example, (106a) = (32), is from Finnish. Its stratal chart appears in (106b).

(106) a. Opetajja   laula**tuttaa**   kuoronjohtajalla   oppilaitaan
          teacaher   sing.CS.CS.3SG   choir-leader.ADES   pupil.PL.PART.3POS
          '*The teacher makes the choir leader make his/her pupils sing.*'

b.
```
                                          1      P
                   P              1        2
      P            1       N      2                  = Construction II
    cause        cause   teacher  choir leader  pupils  sing
```

Further examples are Hixkaryana (9) and Malayalam (12). In these languages the causee/

theme revalues only to 2; it is the intermediary that assumes final nonterm-hood.

Construction III, a transitive counterpart of Construction I, is also attested in

Swahili. Examples (107a, b) show a sample clause and its stratal chart, respectively.

(107) a. ?Hamida   a-na-m-pik-**ish-ish**-a   Fatuma Halima ugali
        Hamida   she-PRES-her-cook-CS-CS Fatuma Halima porridge
        '*Hamida is making Fatuma make Halima cook porridge.*'

b.

				1	2	P	
	P		1	2	N		
P		1	2	N	N		=Construction III
cause	cause	Hamida	Fatuma	Halima	porridge	cook	

Again the theme demotes to a final nonterm but, interestingly, the intermediary retains

termhood as a 2 while the causee, like the theme, is a final nonterm.

There is only one 'pure' example of Construction IV in my sample: Ilokano.

Consider (108a) = (53) and its chart in (108b).

(108) a. **p-in-a-i-pa-kan**   ko   diay linugaw   ti   daydiay ubing
        CS-PST-AFF.OBJ-CS-eat   1GEN det   porridge det   det   child

        ken   daydiay taraken
        OBL   det   maid
        '*I had the maid feed the child porridge.*'

b.

				1	2	P	
	P		N	1	2		
P		1	N	N	2		=Construction IV
cause	cause	I	maid	child	porridge	eat	

In this case, only the causer and the theme have final term status; both the intermediary

and the causee are nonterms. In both Hungarian and Finnish, it is true, the causer and

theme do indeed have term status, as expected in an I-class language, but one or the other

of the intermediary or the causee must be omitted. The omitted nominal is not a 'nonterm'

under these circumstances: it is no kind of term at all since it is covert. In other 2-MAP

languages like Hixkaryana and Malayalam, on the other hand, MMCs on transitive verbs are

prohibited. RG can accommodate the Ilokano-type double causative if it is possible to claim

that the intermediary *taraken* 'maid' never has term status but begins its life as a nonterm

[oblique] of some description and therefore cannot inhibit revaluation or inheritance for other terms. I have illustrated this possibility in the stratal chart in (108b).

Construction V is unattested in my sample and I did not find examples of it in an informal survey of languages outside my sample. In this construction, the causee is a 2 and both intermediary and theme are nonterms. MT effectively bars this construction. Under the mapping principles laid out in Chapter 2 it would be possible to have either theme and causee, or causee and intermediary, as nonterms, but **not** intermediary and theme. An RG approach, however, would predict that this latter exists.

(109)   [UNATTESTED]

				1	2	P
	P		1	2	N	
P	1	N	2	N		= Construction V
cause	cause	causer	intermediary	causee	theme	verb

Thus only four of the five possibilities that RG would predict for double causatives in 2-MAP languages actually exist.

With that I conclude the RG analysis of 2-MAP languages. That approach was able to account for the attested single causative constructions but overgenerated when it came to double causatives. Moreover, the RG analysis needed multistratal derivations and theory-internal adjustments to work. I turn now to a similar approach for 3-MAP languages which reveals further RG shortcomings.

3.1.3 3-MAP LANGUAGES: SINGLE CAUSATIVES

First I show in (110) the causative construction possibilities in a 3-MAP language where there is a single causative marker. Discussion follows and I then turn to double causatives in 3-MAP languages.[64]

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[64]Again, certain logically possible constructions are omitted. These include, first, cases where the (causee)/theme would be a 3. Any alleged 3-hood of this nominal comes either from initial 3-hood or arises from 2-to-3 retreat. I assume the more standard situation (which follows from the Inheritance Principle in a Davies and Rosen (1988) type of account) in which the theme is a 2. Second, causer: 1, causee: 2, theme: N

(110)

3-MAP single causatives	CAUSER	CAUSEE	THEME
☞Construction I: **J-class**	1	2	
☞Construction II: **J-class**	1	3	2
☞Construction III: **H-class**	1	N	2

Construction I, in which the causee/theme is a direct object, is common cross-linguistically. Example (111a) = (24) is from Japanese; the stratal chart is in (111b).

(111) a. Isya   wa   kanzya o   aruk-**ase**-ta
doctor TOP patient ACC walk.CS.PST
'*The doctor caused* [made] *the patient to walk.*'

b.
```
                       1    P
    P     1     2                      = Construction I
  cause  doctor patient walk
```

Here the causer takes the 1 GR and the causee revalues to 2. Other examples are Turkish (16) and Hindi (Saksena 1982:42). This type of structure is no different from its counterpart in a 2-MAP language, e.g. example (101).

Construction II is common cross-linguistically. The next example, (112a) = (25a), is from Japanese; its stratal chart follows in (112b).

(112) a. Hanako ga   Taroo ni   syokki o   araw-**ase**-ta
Hanako NOM Taro   DAT dishes ACC wash-CS-PST
'*Hanako caused* [made/let] *Taro to wash the dishes.*'

b.
```
                     1    2    P
    P     1     3    2                 = Construction II
  cause Hanako Taro dishes wash
```

The subject of the noncausative clause, *Taroo* 'Taro', is demoted to 3 in the matrix clause of the causative while the theme, *syokki* 'dishes', retains object-hood. Turkish (17) and Georgian (14) also offer examples of this type.

---

only occurs in 2-MAP languages. Third, causer: 1, causee 3, theme, N is a violation of a key RG law, the Motivated Chômage Law, since the 2 would reduce to nonterm status while nothing has usurped its position.

Construction III, in which the causee is a non-term and the theme a direct object is exemplified by Hindi. Example (113a) is from Saksena (1980:819); its chart is in (113b).

(113) a. māī-nee   raam-see   peeṛ   kaṭ-aa-yaa
        I-AGENT   Ram-INST   tree   cut-D.CS-PST
        '*I made Ram cut the tree.*'

   b.   1   2   P
        P   **1**   **N**   **2**   **= Construction III**
        cause **I**   **Ram**   **tree**   **cut**

Comrie (1985:339) gives an example from Sanskrit, also arguably a 3-MAP language, in which the case marking is clearer.

(114)   Rāmaḥ   bhṛtyena   kataṁ   kārayati
         Rama.NOM   servant.INST   mat.ACC   prepare.CS
         '*Rama made the servant prepare the mat.*'

As with single causative constructions in 2-MAP languages, so it is with single causative constructions in 3-MAP languages: an RG analysis is able to accommodate the relevant data. That consistency, however, cannot be sustained.

3.1.4 3-MAP LANGUAGES: DOUBLE CAUSATIVES

In this final section, which examines double causative constructions in 3-MAP languages, an RG analysis again generates too many constructions. The chart in (115) lays out the possibilities. As discussed in §3.1.3, causative clauses in which the theme surfaces as a 3 or as a nonterm are omitted on the principled grounds described there.

(115)

3-MAP double causatives	CAUSER	INTERMEDIARY	CAUSEE	THEME
☞Construction I: **J-class**	1	3	2	
☞Construction II:Turkish only	1	N	2	
☞Construction III: **J-class**	1	N	3	2
☞Construction IV: **I/H-class**	1	N	N	2
Construction V	1	3	N	2

Construction I is common. The Turkish example, (116a) = (19) illustrates, followed

by its stratal chart in (116b).

(116) a. Sema   Turhan-a   kɨz-ɨ   kay-**dɨr-t**-t
       Sema   Turhan-DAT   girl-ACC   slip-CS-CS-PST
       '*Sema made Turhan cause the girl to slip*'

b.
```
                                    1      P
                P            1      2
    P           1            3      2          = Construction I
  cause       cause        Sema   Turhan     girl    slip
```

In this case the intermediary revalues to a 3 when the causer 'Sema' is introduced. The

theme inherits 2-hood in the final stratum. Further examples are Japanese (26) (on the

assumption that *ni* marks a 3 and not a nonterm) and Georgian (15c).

Construction II is seen with doubly causativized unergative verbs in Turkish, as in

(117a) and chart (117b).

(117) a. Ben   Sema-yɨ   Turhan vasɨtasiyle   ağla-**t-tir**-dɨ-m
       I   Sema-ACC   Turhan by means of   cry-CS-CS-PAST-1SG
       '*I made Turhan make Sema cry.*'/'*I made Sema cry by means of Turhan.*'

b.
```
                                    1      P
                P            1      2
    P           1            N      2          = Construction II
  cause       cause         I    Turhan     Sema    cry
```

Here the intermediary does not retain term-hood while the causee/theme inherits 2-hood in

the final stratum. The difference between the Turkish constructions in (116) and (117) is a reflex of the Unaccusative Hypothesis discussed in previous chapters.

Construction III is attested in the following Japanese example, (118a) = (28); its chart follows in (118b).

(118) a. ??Taroo ga   Hanako ni isya   ni kodomo   o koros-**ase-sase**-ta[65]
          Taro   Hanako   doctor   child   kill-CS-CS-PST
          '*Taro made (let) Hanako make (let) the doctor kill the child.*'

b.
				1	2	P		
		P		1	3	2		
P			1	N	3	2		= **Construction III**
cause	cause	Taro	Hanako	doctor	child	kill		

Here the theme does not revalue at all, the causee is a final 3 and the intermediary a nonterm.[66] Turkish (22) is another example.

Construction IV occurs in Hindi, and possibly in Hungarian, if one is able to live with the scruples of Hetzron (1976:382) who dubbed (119a) 'stylistically objectionable' although not ungrammatical. Its stratal chart follows in (119b).

(119) a. ?A   tanárral   dolgozatot   írattattam   a   diákokkal
          The teacher.with   composition.ACC   I.write.CS.CS   the   pupils.with
          '*I had the teacher have the pupils write a composition.*'

b.
			1	2	P		
	P		1	N	2		
P		1	N	N	2		
cause	cause	I	teacher	students	composition	write	

The Hindi counterpart, (41), is somewhat suspect for reasons I pointed out in my Chapter 1 discussion of that language. But still, both it and the Hungarian clause remain attested in the literature and nothing in RG would ban them.

Construction V is unattested in my sample. This result is not good news for RG which would predict that it exists. In this construction the theme is a 2 throughout; the

---

[65]Farmer (1984:31) thought this sentence marginal but my consultant felt it was fine.

[66]I assume here that a distinction can be drawn between the causee and the intermediary with respect to term-hood versus nonterm-hood.

causee is a final nonterm and the intermediary a final 3. The chart in (120) illustrates.

(120)　　[UNATTESTED]　　　　　　　　　　1　　2　　P
　　　　　　　　　P　　　　　1　　　　3　　2
　　　　P　　　1　　3　　　　　　N　　2
　　　　cause　cause　causer　intermediary　causee　theme　verb

A Mapping Theory analysis can easily predict this construction's nonoccurrence despite appearances to the contrary. Thus, even if there is apparently an option for the association of the C MAP to the intermediary, similar to what we saw in 2-MAP Swahili when the intermediary took the B MAP and left the causee/theme unmapped, this cannot happen in 3-MAP languages. First, if we map right-to-left along the GR tier (as in Swahili), the intermediary will link to the B MAP, yet we know it is the theme that takes the B MAP.

(121)　　causer　　　　　theme　　causee　　intermediary

$$1 \quad [1_j \quad [1_i \quad 2] \quad 3_i] \quad 3_j$$
$$A \quad B \quad C$$
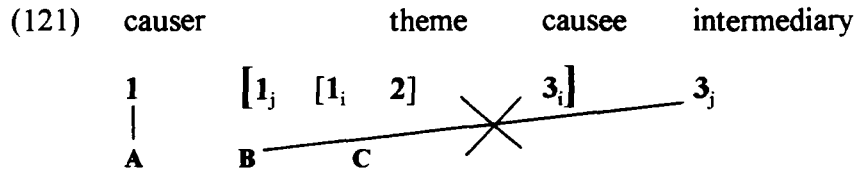
Second, if we map left-to-right, certainly the theme will get the B MAP, but then only the causee should link to the C MAP: there can be no 'skipping' of nominals such that the causee could be overlooked and the intermediary mapped in its stead, as (122) shows.

(122)　　causer　　　　　theme　　causee　　intermediary

$$1 \quad [1_j \quad [1_i \quad 2] \quad 3_i] \quad 3_j$$
$$A \quad B \quad C$$
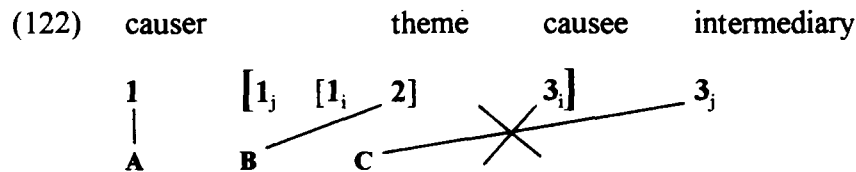
RG has no way of achieving this result without ad hoc stipulations.

3.2　COMRIE'S CASE HIERARCHY ACCOUNT

I turn next to another influential model of causative constructions developed in Comrie (1975, 1976, 1989). His model advocates a hierarchy of grammatical relations in causatives that defines a 'paradigm case'. Transplanting work done on relative clauses

(Keenan and Comrie 1972, 1977, 1979), Comrie (1989:176) claims that the subject of a noncausative clause is demoted to the right along the hierarchy in (123) to the first unoccupied position in a causative clause.

(123) subject > direct object > indirect object > oblique object

Turkish is the prize example of the 'case hierarchy' [CH] at work. Song (1991) has vilified Comrie's analysis with its numerous exceptions, but it nevertheless accounts for a considerable amount of data. In any case, exceptions may be more apparent than real since the hierarchy is a strictly formal account of causatives and no one, including Comrie, has ever claimed that *only* syntactic factors can explain or predict the numerous manifestations of these constructions. For example, consider the alternation in Hungarian, (124) = (36).

(124) a. Az   orvos   pisiltette   a   gyereket
         the   doctor.NOM   pee.CS.3SG   the   child.ACC
         '*The doctor made the child pee.*'

      b. Az   orvos   pisiltetett   a   gyerekkel
         the   doctor.NOM   pee.CS.3SG   the   child.INST
         '*The doctor had the peeing done by the child.*'

The sentence in (124a) is predicted by the case hierarchy approach: the subject of the noncausative, *gyereket* 'child', is the DO in the causative, viz., it is the ACC-marked causee. However, in (124b) the same term surfaces with INST marking. There is nothing in the CH methodology that would predict this 'extended demotion' as Comrie (1976:266) calls it. Nothing in the RG and MT analyses would predict it either. However, factoring in semantics shows an obvious difference in meaning between (124a) and (124b), reflected in the alternate marking of the causee. The former clause shows direct causation with the causee having little or no control over the situation. The latter allows the causee some measure of control; causation is less direct.[67]

---

[67]It seems that if the sentences in (124) were in the present tense, the control distinction would not be so obvious (Zita McRobbie, p.c.); the reason remains unknown to me.

Cole (1983) cites many examples of meaning differences being encoded by variable causee marking. To impugn the CH approach for not accommodating this data is misguided. However, there remain real problems with the hierarchy that an MT analysis is able to remedy.

First, in the CH approach, languages like Finnish are a mystery. Note (125) = (31).

(125)   Minä   rakennut-i-n   talo-n   muurare-i-lla[68]
        I   build.CS-PST-1SG   house-DO   bricklayer-PL-ADES
        'I had the bricklayers build the house.'

The **only** possible exponency of the causee *muurarei* 'bricklayers' is as an oblique in the ADESSIVE case. Why is the IO position bypassed? Mapping Theory has a ready answer: Finnish is a DO-centred language, i.e., it is a 2-MAP language. With a MAP threshold of two, the only choice left to Finnish grammar is to use an unmapped oblique for leftover nominals once the A and B MAPs are linked.

Second, and related to the preceding, a CH analysis is unable to offer a sound explanation of Swahili-class languages wherein the causee does not demote but rather retains core status while the theme is reduced to a nonterm. Consider again (126) = (60).

(126)   Baba   a-li-m-fung-ish-a   mtoto   mlango
        father he-TEMP-him-close-CS   child   door
        'The father made the child close the door.'

It is quite disingenuous to say that both *mtoto* 'child' and *mlango* 'door' are direct objects and that this construction is an example of 'doubling' on the direct object position (Comrie 1985:338). In fact, the DO marker in the predicate, *m*, can **only** refer to *mtoto* 'child'.[69] The other nominal, *mlango* 'door' is a nonterm, the result expected on an MT analysis of Swahili as a 2-MAP language. What appears to be doubling is the result of Swahili's ASSOCIATION PARAMETER set to proceed right-to-left rather than left-to-right, as I

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[68]See footnote 15 for a comment on the correctness of this example re the *e* in *muurare*.

[69]The object marker *m* usually selects an animate referent. Moreover, the placement of *mtoto* immediately adjacent to the verb complex aids in identifying this nominal as the direct object.

demonstrated in Chapter 2.

The weakness of a doubling explanation becomes abundantly clear when double causatives are considered. Recall (127) = (62).

(127)   ?Hamida   a-na-m-pik-**ish**-**ish**-a   Fatuma   Halima   ugali
         Hamida   she-PRES-her-cook-CS-CS   Fatuma   Halima   porridge
         '*Hamida is making Fatuma make Halima cook porridge.*'

Though Comrie does consider double causatives (1976:293, 1985:324) he avoids drawing the conclusion that his analysis would force him into, i.e. that in constructions like (127) there is **tripling** on the DO position. Instead he contents himself with stating that 'clearly there is room for further work here' (ibid.).

Mapping Theory has done the work. It predicts exactly what occurs: the intermediary *Fatuma* is the DO and associates to the B MAP, as I showed in Chapter 2. The MT approach is particularly satisfying in this last case since even a semantic analysis would have a hard time predicting the greater salience of the intermediary over the causee, an infrequent pattern cross-linguistically.

I have now explored two alternative analyses of causatives. In this chapter's last section I recapitulate the results and highlight the advantages of a Mapping Theory explanation of these constructions.

3.3   RELATIONAL GRAMMAR, CASE HIERARCHY & MT: ENVOI

In this chapter, I have shown that Relational Grammar does an adequate job of accommodating the data from single causatives. But when double causatives are considered, RG predicts the existence of certain constructions that all of the available evidence suggests never occur. Of course, one could graft on stipulations that would bar these nonexistent constructions, but it is not clear that these add-ons would be relevant in domains other than causatives. Even assuming that hurdle could be overcome, there would

remain the insuperable fact that double causative derivations in RG require representations containing at least three strata—a theory that allows multiple strata like this is going to always generate more possible structures than one that does not.

Enter Mapping Theory. MT shares many basic assumptions with RG, but one of its unique contributions—the notion of natural languages having two or three morpho-syntactically licensed argument positions[70]—allows it to be only a bistratal theory. That is, where RG allows a number of distinct strata of GRs, MT has only a single layer of GRs and a single layer of MAPs. The manner in which these two link, i.e. left-to-right or right-to-left, has been shown to be the sole parameter which distinguishes Swahili-class languages from others. Nothing further needs to be stipulated. The representation of causatives within MT is also iconically consistent with the progressive embedding that is evident in the surface form of these constructions. The claim of this thesis, that the causee is always a 3 GR, also proves its utility since generalizations about that nominal's behaviour can be captured across different language types and verb classes, viz. intransitive and transitive, while staying comfortably within the two strata MT provides.

Insofar as Comrie's case hierarchy method manages to explain the same data as RG, the two are notational variants of one another. But while RG overgenerates, the CH comes to grief in (i) its inability to account for Swahili-class double causatives in a satisfactory manner and (ii) its difficulty in accounting for languages that obligatorily 'skip' the IO position in expressing the exponency of the causee. These issues relate to two controversial aspects of the CH, doubling and extended demotion, respectively.

The CH's theoretical bind is rooted, like RG's, in not having a formal notion of languages' argument positions and how nominals associate with these positions. Mapping

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[70]I leave open the possibility that there may be 1-MAP languages (cf. Culy and Davies to appear and their analysis of Fula) and 4-MAP languages (cf. Gerdts 1993a:593 on Kinyarwanda).

Theory is built upon the concept of argument positions and how the threshold for these varies cross-linguistically. Once it is acknowledged that languages may be classed as direct object-centred [2-MAP] or indirect object-centred [3-MAP] then variant behaviour in like constructions is predictable. Swahili-class languages seem enigmatic within the CH framework because no distinction is drawn between the two types. With no concept of argument position there can be no notion of associating nominals to these positions.

We see then that although MMCs—specifically double causatives—are a fairly marginal phenomenon, they are able to expose flaws in theories that otherwise seem perfectly serviceable. A theory of syntax that is only workable in the easy cases is less desirable than one that handles both those constructions and the ones on the edges of grammar. Mapping Theory is such a theory.

CHAPTER FOUR:
MULTIPLE MORPHOLOGICAL CAUSATIVES REPRISED

This chapter presents both a review (§4.1) of the main findings of this thesis and new discussion related both to the theoretical framework in which it was conducted (§4.2) and to its empirical findings (§4.3). Specifically, §4.2 addresses the possibility of achieving greater economy of representation in the MT grids by eliminating one of the tiers. Section §4.3 is an examination of the semantics of MMCs including discussions of grammaticalization, iteration beyond doubling and alternative meanings for the iterated affix.
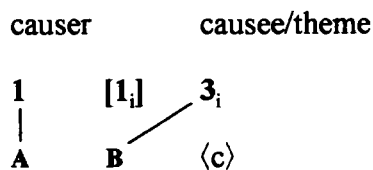
4.1 THE SYNTAX OF MMCs

In this thesis I set out (1) to devise a typology of multiple morphological causative constructions based on data from twelve languages, (2) to give a syntactic analysis of those twelve languages' causative constructions within Mapping Theory and (3) to compare the MT approach with two other relationally-based accounts of causatives.

Chapter 1 met, in part, the first aim. It displayed data showing three things. First, the case array for single causatives formed on transitive verbs matched almost exactly the array for double causatives on intransitive bases. This result suggested that causative constructions target particular **argument positions** in the clause. The second point of Chapter 1 was confirmation of the claim by Nedyalkov and Silnitsky (1973:31) that the morphological status of the theme is almost always the same: a direct object. The data herein show that this exponency of the theme also occurs in MMCs. Languages of the Swahili-class were found to be an exception to this generalization, however. The third finding of Chapter 1 was the demonstration of no obvious connection between the major typological parameters of the languages in my database, e.g. word order, head/dependent marking status, relational visibility profile, and the allowable degree of iteration of the causative morpheme in a given language.

Chapter 2 completed the typological work and also achieved the thesis' second aim. It offered a new analysis of causatives within a Mapping Theory framework. This theory demonstrated that differences in causative construction behaviour among languages derive from two notions: the **ASSOCIATION PARAMETER**—the direction in which nominals link up to morphosyntactic argument positions [**MAPs**] in the clause—and languages' MAP **thresholds**. A vital contribution of this chapter was conceiving of the causee as an indirect object which could ultimately map (or not map) to different argument positions and which was coindexed with the subject of the the the noncausative clause. In sum, it was claimed that a causative morpheme added two arguments to the relational structure of the clause: a causer subject and a causee indirect object.
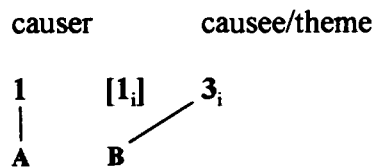
The following is a programmatic recap of the canonical MAP grids from Chapter 2 for both single and double causative constructions. I include with these grids the MMC languages from my sample that exemplify them. The sample languages accompanying the double causative grids include some not otherwise mentioned in this thesis.

(128)   a.   single causative on an intransitive verb: 3-MAP languages

$$\text{causer} \qquad \text{causee/theme}$$

$$\begin{array}{ccc} \mathbf{1} & [\mathbf{1}_i] & \mathbf{3}_i \\ | & & \diagup \\ \mathbf{A} & \mathbf{B} & \langle \mathrm{c} \rangle \end{array}$$

EXAMPLES: Georgian, Turkish, Japanese, Hindi.

   b.   single causative on an intransitive verb: 2-MAP languages

$$\text{causer} \qquad \text{causee/theme}$$

$$\begin{array}{ccc} \mathbf{1} & [\mathbf{1}_i] & \mathbf{3}_i \\ | & & \diagup \\ \mathbf{A} & \mathbf{B} & \end{array}$$
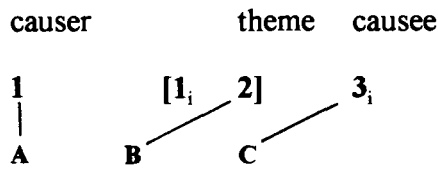
EXAMPLES: Hixkaryana, Malayalam, Oromo, Finnish, Hungarian, Ilokano, Malagasy, Swahili.

As discussed in the body of the paper, all languages form single causatives on intransitives
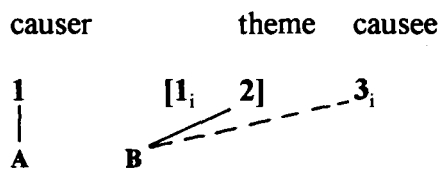
in the same way.

(129) a. single causative on a transitive verb: 3-MAP languages[71]

        causer   theme   causee

$$
\begin{array}{ccc}
1 & [1_i \quad 2] & 3_i \\
| & \diagup & \diagup \\
A & B \quad C &
\end{array}
$$

EXAMPLES: Turkish, Japanese, Georgian, Hindi.

b. single causative on a transitive verb: 2-MAP languages

        causer   theme   causee

$$
\begin{array}{ccc}
1 & [1_i \quad 2]\;\text{---}\text{-}3_i \\
| & \diagup \\
A & B
\end{array}
$$

EXAMPLES: *Solid line*: Hixkaryana, Malayalam, Oromo, Finnish, Hungarian, Ilokano, Malagasy. *Broken line*: Swahili, Chamorro (Gibson & Raposo 1986), Babungo (Schaub 1985), Waurá (Derbyshire 1986:506).[72]

The wide dispersion of Swahili, Chamorro, Babungo and Waurá (an Amazonian language) shows that the right-to-left association pattern is not peculiar to a narrowly defined range of languages or language families.

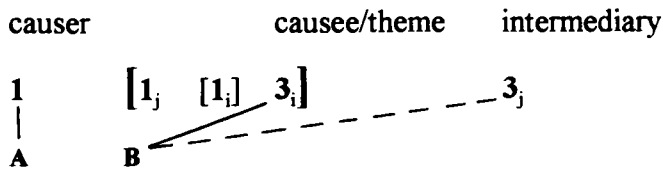(130) a. double causative on an intransitive verb: 3 MAP languages

        causer   causee/theme   intermediary

$$
\begin{array}{ccc}
1 & [1_j \quad [1_i] \quad 3_i] & 3_j \\
| & \diagup & \\
A & B \quad C &
\end{array}
$$
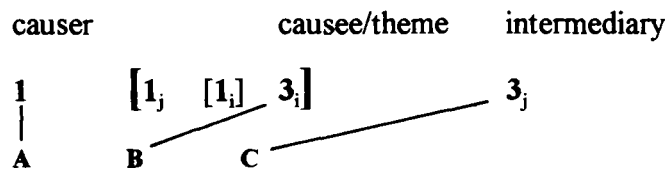
EXAMPLES: Turkish, Japanese, Georgian, Tuvan (Kulikov 1993:127—may be a 2-MAP language; insufficient data).

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[71]Choctaw is a 3-MAP language for which there *may* be evidence that the causee links to the B MAP (Donna Gerdts, p.c.). This suggests a right-to-left setting of the ASSOCIATION PARAMETER, a result not otherwise encountered in 3-MAP languages. The relevant data requires much careful scrutiny.

[72]I depart from my plan to include only languages that are able to form MMCs by including here languages that follow the Swahili-class ASSOCIATION PARAMETER but yet do not appear to allow multiple causatives. It is important to demonstrate that the Swahili pattern is attested cross-linguistically.
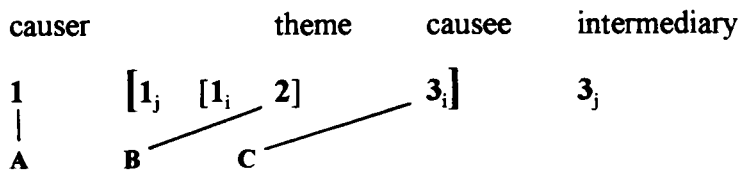
89

b. double causative on an intransitive verb: 2 MAP languages

$$\text{causer} \qquad\qquad \text{causee/theme} \qquad \text{intermediary}$$

$$\begin{array}{c} \mathbf{1} \\ | \\ \mathbf{A} \end{array} \qquad \begin{array}{c} [\mathbf{1}_j \quad [\mathbf{1}_i] \quad \mathbf{3}_i] \quad \text{---} \, \mathbf{3}_j \\ \mathbf{B} \end{array}$$

EXAMPLES: *Solid line*: Ilokano, Hixkaryana, Malayalam, Oromo, Finnish, Hungarian, Malagasy, Cochabamba Quechua (Kulikov 1993:126), Huallaga Quechua (Weber 1989:164), Apalai (Koehn and Koehn 1986: 49ff.). *Broken line*: Swahili.

It is a great disappointment to me that I unearthed no Swahili-class languages—other than the class namesake—that have MMCs. Clearly, more research is needed here.
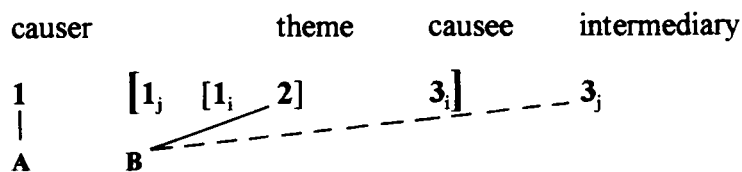
(131)   a. double causative on a transitive verb: 3 MAP languages

$$\text{causer} \qquad\qquad \text{theme} \quad \text{causee} \qquad \text{intermediary}$$

$$\begin{array}{c} \mathbf{1} \\ | \\ \mathbf{A} \end{array} \qquad \begin{array}{c} [\mathbf{1}_j \quad [\mathbf{1}_i \quad \mathbf{2}] \quad\quad \mathbf{3}_i] \quad\quad \mathbf{3}_j \\ \mathbf{B} \qquad\quad \mathbf{C} \end{array}$$

EXAMPLES: Turkish, Japanese.

(In Hindi, as discussed in §2.5.1, only the causer and the theme are mapped.)

b. double causative on a transitive verb: 2 MAP languages

$$\text{causer} \qquad\qquad \text{theme} \quad \text{causee} \qquad \text{intermediary}$$

$$\begin{array}{c} \mathbf{1} \\ | \\ \mathbf{A} \end{array} \qquad \begin{array}{c} [\mathbf{1}_j \quad [\mathbf{1}_i \quad \mathbf{2}] \quad\quad \mathbf{3}_i] \text{ --- } \mathbf{3}_j \\ \mathbf{B} \end{array}$$

EXAMPLES: *Solid line*: Oromo, Finnish, Hungarian, Ilokano, Megheb Dargwa (Kulikov 1993:142f), Tsez (ibid.). *Broken line*: Swahili.

Chapter 3 met my third goal: a comparison of an MT approach to causatives with that of two other relationally-based accounts, a Relational Grammar analysis and Comrie's case hierarchy system. The former allowed constructions that do no exist. The latter could not readily handle Swahili-class constructions like (131b). Since neither RG nor the CH has

any notion of argument positions, they foundered. The MT approach was superior in being able to account for all of the multiple morphological causative data from Chapter 1 without ad hoc stipulations.

4.2   IS THE GR TIER NEEDED IN MAPPING THEORY GRIDS?

A final point I wish to address concerning the architecture of MT is the possibility of achieving a massive economy of representation (and explanation) by eliminating a tier in the MT grid, i.e., is the grammatical relations component necessary when there is an adequately refined thematic relations tier? This issue, of course, goes back to a similar one in RG where at one time it was felt that intial grammatical relations related to semantic roles in a universal fashion (Perlmutter and Postal 1984): the Universal Alignment Hypothesis. Rosen (1984), however, in the context of discussing unaccusativity and unergativity, demonstrated that a strict version of the hypothesis was untenable. The most that could be hoped for in her view was a universal relation between initial GRs and semantic roles *for a given predicate*.

In Mapping Theory, Gerdts (1993a:614f.) cites three reasons for maintaining the level of GRs. First is the uncertainty created by the equivocal status of the Universal Alignment Hypothesis: GRs are still useful. Second, in the absence of an agreed upon θ-hierarchy, the GR hierarchy is indispensible to MT needs. Third, up to the time of Gerdts (1993a), only monoclausal phenomena had been examined within MT and there was a concern that multipredicate phenomena like causatives would present new difficulties, rendering the elimination of the GR tier premature.

As far as the third reason above goes, this thesis has demonstrated that revaluation phenomena like causatives need not present any problems for MT. The first and second reasons distil down to the fact that θ-roles are notoriously difficult to pin down in a cross-linguistically valid fashion, i.e. how many are there?, what is their content? But there are

grounds for optimism here as well. For example, in all of the MT grids I have posited, the causer invariably associates with the A MAP. The presence of the 1 on the GR tier adds nothing to this generalization. But do we want to add 'causer' to an already bloated list of dubiously universal θ-roles? That may not be necessary, for following Smith (1994) and Dowty (1991), thematic relations may be construed simply as argument types selected by sets of entailments. The issue then reduces not to what is in the 'causer' that makes it associate with the A MAP, but rather what is in the A MAP that selects causer-type arguments. Under this view, GRs become derived, rather than primitive entities, and a totally monostratal grammar is possible. Many subtle and important issues remain, however.[73]

4.3 THE SEMANTICS OF MMCs

Unfortunately, there are many semantic facets of MMCs which time and space have prevented me from addressing. In the remainder of this chapter, I will briefly discuss the most salient of these matters including grammaticalization of the causative morpheme, iteration of the causative affix beyond doubling and alternative semantics of MMCs.

The causative affixes in Turkish, Japanese and Hungarian derive from earlier lexical items in those languages meaning 'make' or 'do' (Hetzron 1976:377ff.). That is, the morphological causative has derived from the periphrastic one, an observation consistent with the claims of grammaticalization theory [GT] which posit 'verbal clines' wherein a lexical verb develops into an affix (Hopper and Traugott 1993:108).[74]

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[73]Two important—and unresolved—issues are (i) does the MT approach advocated in this paper extend to analytic causatives and (ii) does the conflation in MT of equi union ('I made John do X') and union ('I made X happen') lead to problems? With respect to the latter, so far I see no difficulties; cf. the concept of 'generalized union' in Fauconnier (1983). With respect to the former, I am unable to say; but I note that the distinction between French (nonmorphological causatives) and Chamorro (morphological causatives) falls out naturally in an MT analysis from the difference between French as a 3-MAP language and Chamorro as a 2-MAP language (Katarzyna Dziwirek, p.c.).

[74]A concise encapsulization is Givón's (1971:413) well-known dictum that 'Today's morphology is yesterday's syntax.'

The more interesting point is that the aforementioned morphemes, specifically, *-Tĭr* in Turkish, *-sase* in Japanese and *-tat/-tet* in Hungarian are themselves morphologically double causatives (cf. generally Hetzron 1976). Thus, Turkish *-Tĭr* consists of *-T* and *-Ir*, both of which originally had a causative meaning. Japanese *-sase* is a reduplicative form of *su-* 'do' and the Hungarian morpheme reduplicates the original causative *-t* 'make, do'.

A key question now arises. What sanctions this cross-linguistic tendency toward double morphology being used to express single causation? Superficially, such a result seems to run counter to a basic tenet of GT, i.e. the unidirectionality of change (Hopper and Traugott (1993:94ff.), Heine et al. 1991:212)). That is, since the cline from lexical item to affix is considered to be one way, the prediction is that a single morpheme, rather than a concatenation of two morphemes, would come to represent the causative.

I suggest that a simple answer to this conflict lies in the nature of the original lexical items. Verbs meaning 'make' or 'do' are causative only in the sense of causing something to occur; they are not causative in the sense of an entity acting on another entity to cause something to occur. To achieve that meaning, iteration of the basic morpheme, or the addition of a synonymous one as in Turkish, seems well motivated and consistent with GT.

Also noteworthy in this context is the ability I found in speakers of the three languages being discussed here to indicate multiple causation with only a single (synchronically speaking) causative morpheme in the predicate. Indeed, in Japanese, Shibatani (1973:344) cites a positive resistance to reduplicating *-sase*. This result is striking confirmation of a grammaticalization process overriding a competing motivation embodied in the iconic notion of 'one form, one meaning'.[75] Economy of expression seems

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[75]Consider the cline of Givón (1979:208f.) where a lexical item may devolve through the affix stage and finally disappear.

discourse > syntax > morphology > morphophonemics > zero

I suggest that this cline captures the fate of reiterated causative morphemes: they vanish. Once a multiply causative process is signalled by a single causative morpheme, a second (or third...) marker is redundant.

to win out over other factors when a single causative marker can represent any degree of causation. This result also puts the lie to Jespersen's claim that 'progress' in language is represented by movement away from the synthetic toward the analytic (1962[1949]:384).

In spite of the foregoing, however, Table 1 shows that in a number of languages from my sample, iteration of the causative marker even beyond doubling is certainly possible. Consider the Japanese example (132) = (27).

(132)   Yooko ga   Taroo ni   Hanako ni isya   ni/o ko-**sase-sase-sase**-ta
          Yoko   Taro   Hanako   doctor   come-CS-CS-CS-PST
        'Yoko made (let) Taro make (let) Hanako make/let the doctor come.'

The native speaker assisting me found (132) fully grammatical, albeit remote from everyday use (but comprehensible even with a single *-sase*).

Pennanen (1986:174) goes further and gives an ostensibly grammatical Turkish example (predicate only, not a complete clause) with four causative morphemes. The native speaker assistant I worked with, however, preferred a periphrastic form at this advanced degree of recursion. Three causative morphemes though was felt to be fine, and even commonplace.

It is not possible at this stage of the research to say what variables limit or bar multiple iteration. Performance factors cannot be defined rigorously and are a poor metric (Hopper and Traugott 1993:64). Yet the answer cannot be entirely formal for otherwise very similar languages, e.g. Finnish and Estonian, would not vary so diametrically in their tolerance for MMCs. Perhaps the answers can be determined only after a thorough examination of reduplicative constructions occurring elsewhere in the grammars, and not just in causative constructions. Alternatively, languages may vary along a synthetic/analytic cline and the freedom to create MMCs be just one manifestation of a tendency toward greater synthesis. This distinction captures the difference between Finnish and Estonian, the latter being much more analytical than the former (Tauli 1966).

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My approach in this thesis has been to push a certain formal model as far as it could go. Unfortunately, this focus led to an attenuated consideration of the semantic apects of MMCs. In fact, the appearance of a second (or third...) causative morpheme can signal a variety of functions and not just the addition of other causers.

In footnote 28, I pointed out cases where the addition of another causative morpheme could add an **intensive** or **coercive** meaning in languages like Turkish, Carib and Oromo. According to Kulikov (1993:128), this type of meaning is the most common semantic accretion. But the possibilities do not stop there.

Carib also allows a reiterated causative morpheme to indicate the **plurality** of participants in a causative construction or a **permissive** aspect of the act. The latter is shown in (133) from Hoff (1981:153) wherein the causative affix -*po* is doubled.

(133)   pu:si etïhto**po:po**yan
         '*He let the cat be brought down through (by means of) a number of people.*'

Kulikov (1993) also cites **assistive**, **distant** and **iterative** examples, the last showing a particularly transparent case of iconicity between the nature of the proposition and the nature of its encoding. Example (134) is from the Turkic language Tuvan (ibid.132).

(134)   ašak   Bajyr-ga   inek-ti   dile-**t**-tir-**t**-ken
         old man Bajyr-DAT cow-ACC look for-CS-CS-CS-PST
         '*An old man caused Bajyr to look for the cow [many times]*.

The important point to note is that in no case, either in or out of my sample of languages, did I find an instance of a reiterated causative morpheme *exclusively* adding a semantic component without also being available to indicate multiple causation. In short, semantic additions are supervenient upon the basic syntactic modality of the causative morpheme.

REFERENCES

Abdel-Hafiz, Ahmed S. 1988. *A Reference Grammar of Kunuz Nubian*. Ph.D. dissertation. SUNY, Buffalo.

Ackerman, Farrell. 1994. 'Entailments of Predicates and the Encoding of Causees.' *Linguistic Inquiry* 25.535–547.

Aissen, Judith. 1979. *The Syntax of Causative Constructions*. New York and London: Garland Publications.

Alsina, Alex. 1992. 'On the Argument Structure of Causatives.' *Linguistic Inquiry* 23.517–56.

Anderson, Stephen R. 1982. 'Where's Morphology?' *Linguistic Inquiry* 13.571–612.

Ashton, E. O. 1947. *Swahili Grammar (Including Intonation)*. London: Longmans.

Bhat, D. N. S. 1988. *Grammatical Relations in Indian Languages*. [An Introduction to Indian Grammars 1]. Report to the Central Institute of Indian Languages, Mysore, India.

Blake, Barry J. 1990. *Relational Grammar*. London: Routledge.

Bybee, Joan L. 1985. *Morphology*. Amsterdam/Philadelphia: John Benjamins.

Cole, Peter. 1983. 'The Grammatical Role of the Causee in Universal Grammar.' *International Journal of American Linguistics* 49.115–33.

Comrie, Bernard. 1975. 'Causatives and Universal Grammar.' *Transactions of the Philological Society* 1974.1–32.

Comrie, Bernard. 1976. 'The Syntax of Causative Constructions: Cross-Language Similarities and Divergences.' In *The Grammar of Causative Constructions* [Syntax and Semantics 6], ed. by Masayoshi Shibatani, 261–312. New York: Academic Press.

Comrie, Bernard. 1985. 'Causative Verb Formation and Other Verb-Deriving Morphology.' In *Language Typology and Syntactic Description*, Volume III, ed. by Timothy Shopen, 309–48. Cambridge: Cambridge University Press.

Comrie, Bernard. 1989 [2nd edition]. *Language Universals and Linguistic Typology*. Chicago: University of Chicago Press.

Culy, Christopher and William D. Davies. to appear. 'Mapping Theory and Fula Verbal Extensions.' In *Grammatical Relations: Theoretical Approaches to Empirical Questions*, ed. by Clifford S. Burgess, Katarzyna Dziwirek and Donna B. Gerdts. Stanford: CSLI.

Davies, William D. to appear. 'Javanese Adversatives, Passives, and Mapping Theory.' *Journal of Linguistics.*

Davies, William and Carol Rosen. 1988. 'Unions as Multi-predicate Clauses.' *Language* 64.52–88.

Davies, William D. and Asuncion Martinez-Arbelaiz. to appear. 'Mapping Basque Psych Verbs.' In *Grammatical Relations: Theoretical Approaches to Empirical Questions*, ed. by Clifford S. Burgess, Katarzyna Dziwirek and Donna B. Gerdts. Stanford: CSLI.

DeLancey, Scott. 1984. 'Notes on Agentivity and Causation.' *Studies in Language* 8.181–213.

Derbyshire, Desmond C. 1977. 'Word Order Universals and the Existence of OVS Languages.' *Linguistic Inquiry* 8.590–9.

Derbyshire, Desmond C. 1985. *Hixkaryana and Linguistic Typology.* Dallas: The Summer Institute of Linguistics and The University of Texas at Arlington.

Derbyshire, Desmond C. 1986. 'Comparative Survey of Morphology and Syntax in Brazilian Arawakan.' In *Handbook of Amazonian Languages*, Volume 1, ed. by Desmond C. Derbyshire and Geoffrey K. Pullum, 469–566. Berlin: Mouton de Gruyter.

Dowty, David. 1991. 'Thematic Proto-Roles and Argument Selection.' *Language* 67. 547–619.

Driever, Dorothea. 1976. *Aspects of a Case Grammar of Mombasa Swahili.* [Hamburger Philologische Studien 43]. Hamburg: Helmut Buske Verlag.

Dubinsky, Stanley. 1985. *Japanese Union Constructions: A Unified Analysis of -sase and -rare.* Ph.D. dissertation. Cornell University, Ithaca, New York.

Dubinsky, Stanley. 1990. 'Japanese Direct Object to Indirect Object Demotion.' In *Studies in Relational Grammar 3*, ed. by Brian D. Joseph and Paul M. Postal, 49–86. Chicago: University of Chicago Press.

Dubinsky, Stanley. 1994. 'Predicate Union and the Syntax of Japanese Causatives.' *Journal of Linguistics* 30.43–79.

Dubinsky, Stanley; Maria-Rosa Lloret and Paul Newman. 1988. 'Lexical and Syntactic Causatives in Oromo.' *Language* 64.485–500.

Dziwirek, Katarzyna. 1986. 'Malagasy Causatives.' Ms.

Dziwirek, Katarzyna. 1993. 'Is There a Multiple Dative Restriction in Polish?: RG vs. Mapping Theory.' Paper delivered at LSA Annual Meeting, Los Angeles, California.

Everett, Daniel L. 1988. 'Clitics, Case, and Word Order in Yagua.' *SIL/UND Work Papers* 32.93–142.

Falk, Yehuda N. 1991. 'Causativization.' *Journal of Linguistics* 27.55–79.

Farmer, Ann Kathleen. 1984. *Modularity in Syntax*. Cambridge, MA: MIT Press.

Fauconnier, Gilles. 1983. 'Generalized Union.' *Communication and Cognition* 16.3–37.

Gerdts, Donna B. 1990. 'Relational Visibility.' In *Grammatical Relations: A Cross-Theoretical Perspective*, ed. by Katarzyna Dziwirek, Patrick Farrell and Errapel Mejías-Bikandi, 199–214. Stanford: CSLI.

Gerdts, Donna B. 1991. 'Outline of a Relational Theory of Case.' *Working Papers in Linguistics*, Volume 1, 25–53. Simon Fraser University Linguistics Department.

Gerdts, Donna B. 1992. 'Morphologically-Mediated Relational Profiles.' *BLS* 18.322–337.

Gerdts, Donna B. 1993a. 'Mapping Halkomelem Grammatical Relations.' *Linguistics* 31.591–621.

Gerdts, Donna B. 1993b. 'Mapping Transitive Voice in Halkomelem.' *BLS* 19S.22–33.

Gerdts, Donna B. 1993c. 'Mapping Korean Grammatical Relations.' In *Harvard Studies in Korean Linguistics V*, ed. by Susumu Kuno et al., 299–318. Seoul: Hanshin Publishing.

Gerdts, Donna B. 1993d. 'Mapping Halkomelem Causatives.' Paper presented at the Western Conference on Linguistics, Seattle, Washington.

Gerdts, Donna B. in prep. *An Ergative Analysis of Philippine Languages*.

Gibson, Jeanne D. 1980. *Clause Union in Chamorro and in Universal Grammar*. Ph.D. dissertation. University of California, San Diego.

Gibson, Jeanne and Eduardo Raposo. 1986. 'Clause Union, the Stratal Uniqueness Law and the Chômeur Relation.' *Natural Language and Linguistic Theory* 4.295–331.

Givón, Talmy. 1971. 'Historical Syntax and Synchronic Morphology: An Archaeologist's Field Trip.' *CLS* 7.394–415.

Givón, Talmy. 1979. *On Understanding Grammar*. New York: Academic Press.

Givón, Talmy. 1980. 'The Binding Hierarchy and the Typology of Complements.' *Studies in Language* 4.333–77.

Greenberg, Joseph L. 1966. 'Some Universals of Grammar with Particular Reference to the Order of Meaningful Elements.' *Universals of Grammar*, ed. by Joseph L. Greenberg [2nd edition], 73–113. Cambridge, Massachusetts: MIT Press.

Haiman, John. 1980. 'The Iconicity of Grammar: Isomorphism and Motivation.' *Language* 56.515–40.

Harris, Alice C. 1976. *Grammatical Relations in Modern Georgian*. Ph.D. dissertation. Harvard University, Cambridge, Massachusetts.

Harris, Alice C. 1981. *Georgian Syntax: A Study in Relational Grammar*. Cambridge: Cambridge University Press.

Hayward, R. J. 1976. 'A Question in Oromo Morphophonology.' *Folia Orientalia* 17.29–40.

Heind, Bernd, Ulrike Claudi and Friederike Hünnemeyer. 1991. *Grammaticalization: A Conceptual Framework*. Chicago: University of Chicago Press.

Hetzron, Robert. 1976. 'On the Hungarian Causative Verb and its Syntax.' In *The Grammar of Causative Constructions* [Syntax and Semantics 6], ed. by Masayoshi Shibatani, 371–98. New York: Academic Press.

Hoff, B. J. 1981. 'De Caraïbische causatief als produktief en iteratief procédé.' *Forum der Letteren* 22.148–58.

Holmberg, Anders and Urpo Nikanne. 1993. 'Introduction.' In *Case and Other Functional Categories in Finnish Grammar* [Studies in Generative Grammar 39], ed. by Anders Holmberg and Urpo Nikanne, 1–20. Berlin: Mouton de Gruyter.

Hopper, Paul J. and Elizabeth Closs Traugott. 1993. *Grammaticalization*. Cambridge: Cambridge University Press.

Horvath, Julia. 1986. *FOCUS in the Theory of Grammar and the Syntax of Hungarian* [Studies in Generative Grammar 24]. Dordrecht: Foris.

Hubbard, Philip L. 1985. *The Syntax of the Albanian Verb Complex*. New York: Garland.

Jespersen, Otto. 1962 [1949]. 'Efficiency in Linguistic Change.' In *Selected Writings of Otto Jespersen*, 381–466. London: George Allen & Unwin.

Joseph, Brian D. and Richard D. Janda. 1988. 'The How and Why of Diachronic Morphologization and Demorphologization.' In *Theoretical Morphology: Approaches in Modern Linguistics*, ed. by Michael Hammond and Michael Noonan, 193–210. Orlando, Florida: Academic Press.

Kachru, Yamuna. 'Hindi.' *International Encyclopedia of Linguistics*, Volume 2, ed. by William Bright, 123–27. New York: Oxford University Press.

Keenan, Edward L. to appear. 'Predicate-Argument Structure in Malagasy.' In *Grammatical Relations: Theoretical Approaches to Empirical Questions*, ed. by Clifford S. Burgess, Katarzyna Dziwirek and Donna B. Gerdts. Stanford: CSLI.

Keenan, Edward L. and Bernard Comrie. 1972. 'Noun Phrase Accessibility and Universal Grammar.' Paper delivered at LSA Annual Meeting, Atlanta, Georgia.

Keenan, Edward L. and Bernard Comrie. 1977. 'Noun Phrase Accessibility and Universal Grammar.' *Linguistic Inquiry* 8.63–99.

Keenan, Edward L. and Bernard Comrie. 1979. 'Data on the Noun Phrase Accessibility Hierarchy.' *Language* 55.333–51.

Koehn, Edward and Sally Koehn. 1986. 'Apalai.' In *Handbook of Amazonian Languages*, Volume 1, ed. by Desmond C. Derbyshire and Geoffrey K. Pullum, 33–127. Berlin: Mouton de Gruyter.

Kulikov, Leonid I. 1993. 'The "Second Causative": A Typological Sketch.' In *Causatives and Transitivity*, ed. by Bernard Comrie and Maria Polinsky, 121–54. Amsterdam/ Philadelphia: John Benjamins.

Kuno, Susumu. 1973. *The Structure of the Japanese Language*. Cambridge, Massachusetts: MIT Press.

Kuroda, S.-Y. 1965. 'Causative Forms in Japanese.' *Foundations of Language* 1.30–50.

Lee, Hyo Sang. 1985. 'Causatives in Korean and the Binding Hierarchy.' *CLS* 21.138–53.

Lloret, Maria-Rosa. 1987. 'The Morphophonology of the Causative in Oromo.' *Journal of African Languages and Linguistics* 9.141–56.

McCarthy, John J. and Alan Prince. 1993. 'Generalized Alignment.' In *Yearbook of Morphology 1993*, ed. by Geert Booij and Jaap van Marle, 79–153. Dordrecht: Kluwer Academic Publishers.

Masica, Colin P. 1991. *The Indo-Aryan Languages*. Cambridge: Cambridge University Press.

Mel'čuk, Igor A. 1988. *Dependency Syntax: Theory and Practice*. Albany: State University of New York Press.

Menn, Lise and Brian MacWhinney. 1984. 'The Repeated Morph Constraint.' *Language* 60.519–41.

Mirto, Ignazio M. 1993. 'Ergativity in Malagasy.' *Cornell Working Papers in Linguistics*, Volume 11, ed. by E. Rubin and M. Bernstein, 73–95. Ithaca, New York: Cornell University.

Miyagawa, Shigeru. 1989. *Structure and Case Marking in Japanese*. [Syntax and Semantics 22]. San Diego: Academic Press.

Mohanan, K. P. 1982. 'Grammatical Relations and Clause Structure in Malayalam.' In *The Mental Representation of Grammatical Relations*, ed. by Joan Bresnan, 504–89. Cambridge, Massachusetts: MIT Press.

Mohanan, K. P. 1983. 'Move NP or Lexical Rules? Evidence from Malayalam Causativization.' In *Papers in Lexical-Functional Grammar*, ed. by Lori Levin, Malka Rappaport and Annie Zaenen, 47–111. Bloomington: Indiana University Linguistics Club.

Nedyalkov, Vladimir P. and Georgy G. Silnitsky. 1973. 'The Typology of Morphological and Lexical Causatives.' In *Trends in Soviet Theoretical Linguistics* [Supplementary Series volume 18], ed. by Ferenc Kiefer, 1–32. Dordrecht: D. Reidel.

Nichols, Johanna. 1986. 'Head-marking and Dependent-marking Grammar.' *Language* 62.56–119.

Nichols, Johanna. 1992. *Linguistic Diversity in Space and Time*. Chicago: University of Chicago Press.

Özkaragöz, İnci Zühra. 1986. *The Relational Structure of Turkish Syntax*. Ph.D. dissertation. University of California (San Diego).

Owens, Jonathan. 1985. *The Oromo Causative: Lexical Grammar Without Lexical Rules*. Bloomington: Indiana University Linguistics Club.

Palmer, Frank R. 1994. *Grammatical Roles and Relations*. Cambridge: Cambridge University Press.

Pennanen, Esko V. 1986. 'On the So-called Curative Verbs in Finnish.' *Finnisch-ugrische Forschungen* 47.163–82.

Perlmutter, David M. and Paul M. Postal. 1974. *Lectures in Relational Grammar*. LSA Summer Institute, University of Massachusetts, Amherst.

Perlmutter, David M. and Paul M. Postal. 1984. 'The 1-Advancement Exclusiveness Law.' In *Studies in Relational Grammar 2*, ed. by David M. Perlmutter and Carol G. Rosen, 81–125. Chicago: University of Chicago Press.

Perlmutter, David M. and Richard Rhodes. 1989. 'Thematic-Syntactic Alignments in Ojibwa: Evidence for Subject-Object Reversal.' Paper delivered at LSA Summer Institute, Tucson, Arizona.

Pullum, Geoffrey K. 1988. 'Topic...Comment: Citation Etiquette Beyond Thunderdome.' *Natural Language and Linguistic Theory* 6.579–88.

Randriamasimanana, Charles. 1986. *The Causatives of Malagasy*. [Oceanic Linguistics Special Publications No. 21]. Honolulu: University of Hawaii Press.

Rosen, Carol G. 1984. 'The Interface Between Semantic Roles and Initial Grammatical Relations.' In *Studies in Relational Grammar 2*, ed. by David M. Perlmutter and Carol G. Rosen, 38–80. Chicago: University of Chicago Press.

Sadakane, Kumi and Masatoshi Koizumi. 1995. 'On the Nature of the "Dative" Particle *ni* in Japanese.' *Linguistics* 33.5–33.

Saksena, Anuradha. 1980. 'The Affected Agent.' *Language* 56.812–26.

Saksena, Anuradha. 1982a. *Topics in the Analysis of Causatives with an Account of the Hindi Paradigms*. [University of California Publications in Linguistics 98]. Berkeley: University of California Press.

Saksena, Anuradha. 1982b. 'Contact in Causation.' *Language* 58.820–31.

Samkoe, Lori M. 1994. *Mapping Multiple Applicatives*. M.A. thesis. Simon Fraser University, Burnaby, British Columbia.

Schaub, Willi. 1985. *Babungo*. London: Croom Helm.

Scotton, C. M. M. 1967. 'Semantic and Syntactic Subcategorization in Swahili Causative Verb Shapes.' *Journal of African Languages* 6.249–267.

Sherwood, P. 1994. 'Magyar.' *Encyclopedia of Language and Linguistics*, ed. by R.E. Asher and J.M.Y. Simpson, 2344–6. Oxford: Pergamon Press.

Shibatani, Masayoshi. 1973. 'Semantics of Japanese Causativization.' *Foundations of Language* 9.327–73.

Silva-Corvalán, Carmen. 1978. 'The Ilokano Causative in Universal Grammar.' *BLS* 4. 223–237.

Smith, Henry. 1994. ' "Dative Sickness" in Germanic.' *Natural Language and Linguistic Theory* 12.675–736.

Song, Jae Jung. 1991. 'Causatives and Universal Grammar: An Alternative Interpretation.' *Transactions of the Philological Society* 89.65–94.

Spencer, Andrew. 1991. *Morphological Theory*. Oxford: Basil Blackwell.

Sulkala, Helena and Merja Karjalainen. 1992. *Finnish*. London: Routledge.

Tauli, Valter. 1966. *Structural Tendencies in Uralic Languages*. The Hague: Mouton.

Takezawa, Koichi. 1987. *A Configurational Approach to Case-Marking in Japanese*. Ph.D. dissertation. University of Washington, Seattle.

Tomlin, Russell. 1986. *Basic Constituent Orders: Functional Principles*. London: Croom Helm.

Vanoverbergh, Morice. 1955. *Iloko Grammar*. Baguio City, Philippines: Catholic School Press.

Vitale, Anthony J. 1981. *Swahili Syntax*. [Publications in Language Sciences 5]. Dordrecht: Foris Publications.

Weber, David John. 1989. *A Grammar of Huallaga (Huánuco) Quechua*. [University of California Publications in Linguistics, Volume 112]. Berkeley & Los Angeles: University of California Press.

Xolodovič, A. A. (ed.) 1969. *Tipologija kauzativnyx konstrukcij: morfologičeskij kauzativ*. Leningrad: Nauka.

Yip, Moira. 1988. 'Template Morphology and Direction of Association.' *Natural Language and Linguistic Theory* 6.551–77.

Yip, Moira, Joan Maling and Ray Jackendoff. 1987. 'Case in Tiers.' *Language* 63.217–50.

Zimmer, Karl E. 1976. 'Some Constraints on Turkish Causativization.' In *The Grammar of Causative Constructions* [Syntax and Semantics 6], ed. by Masayoshi Shibatani, 399–412. New York: Academic Press.