Synchrony and diachrony of English periphrastic causatives: a cognitive perspective

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Contents

Abbreviations

Below I list the abbreviations used in the interlinear morpheme translations. They are based on the ones used in the Framework for Descriptive Grammars project (Bernard Comrie, Bill Croft, Christian Lehmann and Dietmar Zaefferer) in 1991. For more information see e.g. Croft (2001:xxiv).

1	First Person
2	Second Person
3	Third Person
ACC	Accusative
ALL	Allative
CAUS	Causative
CONJ	Conjunction
DAT	Dative
DEF	Definite
DO	Direct Object
ERG	Ergative
HAB	Habitual
IND	Indicative
INST	Instrumental
IO	Indirect Object
LGR	Level-pitch Grade
M	Masculine
NEG	Negative
NOM	Nominative
NPRS	Nonpresent
NP_x'	Referent of NP_x
OBL	Oblique
PST	Past
PURP	Purposive
SG	Singular
SUBJ	Subjunctive

Abstract

This thesis offers a cognitive linguistic, usage-based (cf. e.g. Bybee 1985, Langacker 1987, Croft 2000) account of various aspects of the synchrony and diachrony of English periphrastic causatives. Most attention is paid to *get, have* and *make* with an infinitival complement. *Cause, force, persuade* are also discussed, as are the now obsolete constructions based on *do* and *gar* and the permission/enablement constructions featuring *allow*, *let* and *permit*. The historical and synchronic dimensions are often combined and integrated, yielding a "panchronic" perspective.

Whilst not ignoring standard handbooks (e.g. Visser 1973), grammars (e.g. Quirk et al. 1985) and dictionaries (*MED, OED*), where possible I also use corpus data (Corpus of Middle English Prose and Verse, Helsinki Corpus, FLOB Corpus, British National Corpus), which are subjected, where appropriate, to tests of statistical significance. Throughout, the emphasis is on English but the study is grounded in typological universals of causatives and complement clause constructions more generally (e.g. Wierzbicka 1975, Talmy 1976, 1985, 1988, 2000a, 2000b, Givón 1980, 1990, Dixon 2000) — in fact, a number of new implicational universals are proposed.

A cognitive viewpoint often goes hand in hand with a constructional perspective, on which constructions are seen as form-meaning pairings (cf. e.g. Langacker 1987, Lakoff 1987, Goldberg 1995, Croft 2001, Cruse & Croft 2003) — it does so, too, in this study. The issues that are dealt with concern various aspects of the form-meaning pairings that are periphrastic causatives, notably, their semantic representation, the ways in which this motivates their formal/structural properties (synchronically and diachronically) and the effects of language *use* (in particular, frequency considerations; see e.g. Bybee 1985, the studies in Bybee & Hopper 2001, Cruse & Croft 2003) on the form-function mapping. More specifically, chapters 2 through 6 deal with the psychological status of different interpretations of *make*, the rise of periphrastic causative *have*, the rise of *get*, the semantics of causatives from the viewpoint of passivisation/transitivity, and the variation, synchronic and diachronic, in infinitival complementation (i.e. bare v. *to*-infinitive).

In addition to analysing the facts of English the thesis has more general implications. Owing to the typological orientation the suggestions concerning the form-function mapping in causatives have a potentially universal relevance (cf. Croft 2001:107 for the suggestion that intralinguistic research can be used to discover typological universals). And abstracting away from the level of particular constructions to linguistic theory in general, some of the main questions raised concern the assessment of the psychological status of different uses of *constructions*, as opposed to isolated lexical items (the monosemy-polysemy debate, see e.g. Croft 1998, Sandra 1998, Gibbs & Matlock 1999, Tuggy 1999). Further problems arise in connection to several tenets of the usage-based model, for instance those related to type/token frequency, similarity and schema abstraction, which on being pressed into service in a diachronic context turn out to suffer from a lack of sufficiently precise definition.

Causative constructions are sometimes seen as an ideal testing ground for theoretical frameworks. The improvements this thesis represents over some previous work merit the conclusion that the broad functional perspective taken here is promising. At the same time, the questions raised along the way suggest that further research is still desirable, particularly as regards the cognitive/usage-based conception of language change.

Declaration

The corpus research (Corpus of Middle English Prose and Verse) on which Chapter 3 is based has been submitted in support of my application for the degree of Master of Arts at the University of Manchester.

Copyright statement

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Chapter 1. Introduction

1. Preliminaries

In view of the title of this thesis two issues should be discussed at the very outset: (i) how (English) periphrastic causatives are defined and (ii) what synchronic and diachronic aspects of these constructions will be discussed. I deal with these questions in turn.

In discussing the nature of periphrastic causative constructions, two dimensions are important: their form and their function. As regards the formal dimension, i.e. their structural properties, I will be referring to the construction type that is exemplified by (1-3), below:

(1) The police got him to confess to the crime. (BNC HXG 799)
(2) He had his secretary order some coffee, then closed the door and sat down behind his desk. (BNC ECK 2589)
(3) She had not made Dan go, he had practically run out of her life. (BNC FAB 4183)

In other words, the topic of this study is constructions that consist of a noun phrase, a causative verb, another noun phrase and an infinitive. The first noun phrase is the subject of the causative verb (*get, have*, or whatever), the second, of the infinitive. Periphrastic causatives are often opposed to morphological causatives, such as *en-large* or *broad-en*, and to lexical causatives, e.g. *kill*, *break*.

Functionally, the constructions I will deal with share the property of describing a causative situation. The notion of causation has been discussed extensively in the literature (e.g. Shibatani 1976:1-2, Frawley 1992:159, Song 1996:12, Dixon 2000:30-1, Talmy 2000a:475ff.). From the perspective of the present study the small differences obtaining between the various definitions are not very relevant, though Talmy's description seems clearer than some of the others. Talmy first distinguishes between causation as a *scientific* notion, and causation in a *linguistic* context, i.e. "semantic causation" (2000a:475). Scientifically speaking, the situation whereby water pours out from a tank is causative, in that it is caused by gravitation. However, from a linguistic point of view it is only (5) not (4) that is causative:

(4) Water poured from the tank. (Talmy 2000a:475)
(5) Gravitation caused water to pour from the tank.

The two sentences may refer to the same situation, but in (4) the water's pouring out is portrayed as an autonomous event.

Talmy goes on to argue that a causative situation can be analysed into two subevents: a causing and a caused event. In example (1) the causing event consists of *the police* interacting in some way with *him*; the caused event, of his confessing.

Talmy also points out that the caused event must follow causally from the causing event. He intends this to mean two things (see Talmy 2000a:478-9):

i. the caused event would not occur if the causing event did not occur
ii. the caused event does indeed occur

As regards (i), this explains why (1), above, would be inappropriate if the confession would occur regardless of any effort on the part of the police, consider e.g. the following hypothetical exchange:

(6) A. The police got him to confess.
B. No, that's not true: he surrendered himself to the police with a signed confession in his hands.

(ii) explains why (1) cannot be uttered in a context where the referent of *him* did not confess. In those circumstances, (7) would be more appropriate:

(7) The police failed to get him to confess to the crime.

In the functional-typological literature the term causative is sometimes used more widely than would seem to be allowed by Talmy's condition (ii), i.e. to refer also to constructions based on verbs like *advise*, *ask* or *beg*:

(8) I advised Jeanne to take Moby to as wide a variety of different places as possible and encourage him to meet many more people and dogs. (BNC A17 1454)
(9) As I left I asked Marcus to remove his dark glasses so I could look at his face. (BNC A08 1213)
(10) He begged Coghill to keep the matter to himself. (BNC A7C 219)

Sentences (8-10) do not entail the occurrence of the lower clause events, see e.g.:

(11) He begged Coghill to keep the matter to himself, but Coghill told everyone.

These constructions are called "nonimplicative" causatives (e.g. Shibatani 1976); they are opposed to "implicative" causatives, where there is an entailment relation:[1]

[1] Debra Ziegeler (p.c.) suggests that in Singapore English *ask* can actually be used implicatively. The history of this use is unclear but Song's (1996:67-8) account of how in Latin implicativity developed from

(12) *The police got him to confess to the crime, but he didn't confess.

This thesis is mainly concerned with implicatives; reference to nonimplicative causatives will only be made occasionally.

Periphrastic causatives, in English and elsewhere, have been extensively studied. Song, referring to causatives in general, argues that this is because they provide an ideal testing ground for linguistic frameworks (1996:1). The main reason for the theoretical challenges posed by causatives lies in the complications involved in analysing the mapping between the (complex) function and the (potentially complex) form.

The amount of scholarship is so vast that a comprehensive literature review is not feasible: full-length studies such as Pederson's (1991) thesis and Song's (1996) monograph tend to bring up and summarise relevant studies as they proceed through their arguments and chapters. For the most part it will be convenient for me to do the same. A few studies on models of causation (Talmy 1976, 1985, 1988, 2000, Cole 1983, Song 1996, Dixon 2000) are so basic to a number of my chapters, however, that I will summarise them below, in section 3.

Large though the body of scholarly work on causatives is, various holes and shortcomings inevitably remain. This thesis sets out to identify and amend some of these. Getting back to the title, I will now explain the specific issues that will be addressed. The first issue is synchronic. Above, I explained the notion of semantic causation, which is sufficient for a coarse-grained understanding of the function of periphrastic causatives. On a more fine-grained level, however, there are different types of causative situations, and a given causative does not always describe the same type. Compare (3), above, to (13):

(13) The sense of panic about over-population that had swept across England in the late sixteenth century, and had made emigration look like the answer to problems of poverty and disorder, had died down and there were even suggestions that a substantial population helped economic expansion (BNC CS5 536)

Both instantiate periphrastic causative *make* but they differ in certain ways, e.g. the causer and causee are human in (3) but inanimate in (13). In connection with the debate, in semantics, as to whether different uses are generally best accounted for in terms of monosemy or polysemy (see e.g. Croft 1998, Sandra 1998, Gibbs & Matlock 1999, Tuggy 1999), Chapter 2 investigates the psychological status of the different readings of *make*.

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nonimplicativity in certain constructions (see further below), and is doing so in present-day Korean, may be relevant.

(Other causatives may display a different range of readings than *make*, but my approach is generally applicable.)

Not only is there nonuniformity in the way a *particular* causative is used, there are also semantic differences *across* constructions. *Have* for example, is not synonymous with *make*; consider:

(14) *The sense of panic about over-population that had swept across England in the late sixteenth century, and had had emigration look like the answer…

There is a lack of precision in previous scholarship on English causatives in this regard; a detailed study of the meaning of causative *have* is of fundamental importance in Chapter 3, which is a historical semantic study of the construction, in particular of its emergence, in late Middle English.

The concern with diachrony persists through Chapter 4, which sets out to account for the rise of periphrastic causative *get*. I will argue that in reconstructing this development there are considerable benefits to be had from adopting the framework that is known as the *usage-based model* (Bybee 1985, Langacker 1987, Croft 2000, Cruse & Croft 2003, Ch.12).

While Chapters 3 and 4 differ from 2 in being primarily historical, Chapter 5 marks a partial return to synchrony, combining and integrating as it does the diachronic and synchronic dimensions. In present-day English some causatives, such as *have* and *make*, take a bare infinitive, while others, for instance *get* and *cause*, occur with a *to*-infinitive; see e.g. (1-3) and (5) above. Historically, there was not only variation across constructions, but also on the level of the individual causatives. The regulation process whereby infinitival complementation crystallised in the way it is today, was completed by around 1800. Drawing on Givón's (1980) concept of binding as well as on insights concerning the effects of frequency from the grammaticalisation and usage-based literature, I argue that the variation — synchronic and diachronic — is functionally motivated. The crosslinguistically supported nature of binding and the universality of frequency effects allow me to treat English as just an instantiation of the relation between (certain aspects of) the form-function mapping in causatives in the languages of the world. This relation is described in terms of a set of implicational universals.

Throughout the thesis many suggestions are made concerning the semantics of the various English periphrastic causatives. Chapter 6 bundles these hypotheses together. In an attempt to capture the crossconstructional semantic differences (and similarities) in a semantic map — an increasingly important approach to semantic

representation, especially in functional-typological linguistics (Croft 2001:92-104, Haspelmath 2003; see also my Ch. 2) — I study the constructions from the viewpoint of differences in passivisation. Compare again *have* and *make*:

(15) *His secretary was had to order some coffee (by him).
(16) Dan had been made to go (by her).

Contrasts such as the one between (15) and (16) are accounted in terms of transitivity, as defined by Hopper & Thompson (1980); for the connection between transitivity and passivisability cf. also Rice (1987). The account being grounded in crosslinguistically valid semantic parameters, I am able again to abstract away from English and hypothesise a set of implicational universals concerning the correlation between the semantics of causative constructions in a given language, and their relative degrees of passivisability.

Chapter 7 concludes the thesis with a few brief remarks regarding the extent to which my analyses have been meaningful contributions to the field, and concerning the ways the present study points to questions for future research.

1.1 Methodology

Section 1.1.1 deals with general methodology, 1.1.2, with one specific concern: the need for some degree of statistical sophistication in corpus-based research.

1.1.1 General methodology

The selection of topics covered in this thesis is motivated by the chosen perspective on English periphrastic causatives. This perspective can be analysed into three main components. First, in line with the increasing importance of electronic corpora in linguistics, I set out, as much as possible, to use corpora of English, both present-day (British National Corpus, Freiburg-LOB)[2] and historical (Helsinki Corpus, Corpus of Middle English Prose and Verse).[3] These are supplemented with examples from dictionaries — Oxford English Dictionary (*OED*) and Middle English Dictionary (*MED*) — and traditional handbooks (e.g. Visser 1973). Occasionally examples are taken from the internet as well, where care is always taken that the author be a native speaker of English.

[2] The BNC is a 100 million word corpus of spoken and written Present-day Emglish; for more information see e.g. Aston & Burnard (1998). The FLOB corpus is a 1 million word collection of Present-day British English newspaper prose; for more information see e.g. http://khnt.hit.uib.no/icame/manuals/ [17 August 2003].
[3] The Helsinki Corpus (diachronic part) is a 1.5 million word corpus covering the period from c750 to 1710; a description can be found in e.g. Kytö (1991). The Middle English texts that make up the CME run to a total of c3.7 million words; for more information see http://www.hti.umich.edu/c/cme/.

The commitment to corpus data adds weight to my analyses throughout, as they are based on real language (as opposed to examples specifically made up to support my hypotheses). I subject my corpus data to statistical tests (e.g. *t*-test) where appropriate and possible (i.e. if the numbers are not too low); for the importance of this see further §1.1.2 below.

The second dimension is the typological one. My analyses of English are intended to be responsible to universals of causatives. In practice, this means that formal and functional properties of English causatives are described in crosslinguistically valid ways. Without doing extensive crosslinguistic research this approach allows me to discover certain universals in the relation between the form and function of causatives (cf. Croft 2001:107). The great advantage of the typological orientation of the present study lies in correlation between the extent to which an analysis of some linguistic phenomenon can be crosslinguistically supported on the one hand, and the psychological plausibility of that analysis, on the other.

My concern with psychological plausibility extends to the third pillar of this thesis as well: cognitive linguistics and construction grammar (Lakoff 1987, Langacker 1987, Goldberg 1995, Croft 2001). The approach is explained more fully in §1.2, below. Suffice it to say for now that within the cognitive linguistic framework very detailed and subtle semantic analyses are possible, more so, perhaps, than with any formal model (see Ch.3 for an example). This is an asset if one is dealing with constructions from a single functional domain.

This study thus integrates three dimensions: my cognitive, construction-based analyses are corpus-driven and they are grounded in typologies of causatives and related constructions. It is through taking this integrated perspective on English periphrastic causatives that one becomes aware of the shortcomings in the literature that are addressed in the chapters of this thesis.

1.1.2 Importance of statistics: a case study

This section sets out to argue for the importance of statistical analysis with reference to what is sometimes called the Helsinki School of (socio-)historical corpus linguistics (see e.g. Kytö et al. 1994). Some studies to come out of this School suffer from a lack of sophistication in this regard. This criticism is not commonly explicitly expressed, so let me illustrate the issue by means of a concrete example.

Out of several studies that could be cited to make this point, the focus here will be on Kytö's (1993) paper on the third-person indicative present singular verb-inflection in Early Modern British and American English. The study is based on Helsinki

Corpus British English (BE1: 1500-1570, BE2: 1570-1640, BE3: 1640-1710) and American English (AE1: 1620-1670, AE2: 1670-1720) data. There are three variants in the period in question: zero, *-th* and *-s*. The zero ending is in decline in both varieties; the article concentrates on the replacement of *-th* with *-s* (Kytö 1993:113). It has sometimes been suggested in English historical linguistics that American English is characterised by a degree of conservatism as compared to British English; this is known as the colonial lag hypothesis (see e.g. McKnight 1925, Marckwardt 1958; for a recent critical view see Montgomery 2001). Now the most interesting conclusion drawn by Kytö is that "[c]ontrary to what has usually been attributed to the phenomenon of "colonial lag", the rate of change was more rapid in the colonies than in the mother country" (1993:113).

Statistically speaking, this conclusion is suspect. To see that this is so, first consider that the way Kytö deals with the different periodisation of the British and American subcorpora is questionable. She compares BE2 to AE1 and BE3 to AE2 (Kytö 1993:129). Figure 1 represents the various British and American subcorpora as regions on a time axis. In order to reflect that the "texts from the first [American] subperiod are primarily from the 1640s [and] the texts from the second subperiod are primarily from the 1680s and 1690s" (Kytö:1993:116), I have given extra emphasis to the periods 1640-1650 and 1680-1700 on the American part of the axis:

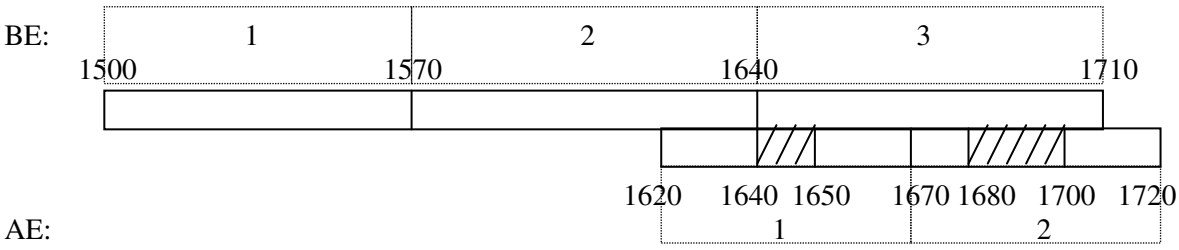

FIGURE 1. THE SUBCORPORA BE1, BE2, BE3, AE1 AND AE2 (THE SHADED PARTS OF THE TIME AXIS REPRESENT THE "MAIN" AMERICAN PERIODS)

This figure suggests that Kytö's choice to compare BE2 to AE1 and BE3 to AE2 is not the most natural one. It seems better to compare the results obtained for BE3 to the pooled results of both American subcorpora. This yields more overlap between the compared BE and AE subcorpora. Moreover, the periods that furnish the main source for the American data, 1640-1650 and 1680-1700, both fall within the limits of the last British subcorpus, which covers the years 1640-1710. (Note that in Kytö's way of comparing the subcorpora, BE2 does not include the most important years of the American period that it is compared to, to wit, the years 1640-1650 of AE1.)

Pooling the results of AE1 and AE2 makes it difficult to draw conclusions about the comparative *rate* of change, since the diachronic dimension disappears in the process. It may still be revealing to study the situation synchronically, i.e. to compare the frequencies of the competing *–s* and *–th* variants in British (BE3) and American English (AE1+AE2). Table 1 presents the frequencies of all verbs (Kytö also has statistics on the individual verbs *have* and *do* but for the present purpose it is unnecessary to tease the data apart any further):

	-s	*-th*	total
BE	445 (76%)	140 (24%)	585 (100%)
AE	981 (68%)	460 (32%)	1441 (100%)

TABLE 1. THE *-S* AND *-TH* ENDINGS IN BRITISH ENGLISH 1640-1710 AND AMERICAN ENGLISH 1620-1720 (ADAPTED FROM KYTÖ 1993:121, TABLE 3)

Chi-square analysis (which is not used by Kytö at any point in her discussion) reveals that the skewing of the distribution of the new *–s* ending in favour of British English is very highly significant ($p \leq .001$).

To sum up, the colonial lag hypothesis cannot be dismissed on the basis of the data presented by Kytö. More generally, the importance of careful quantitative analysis of corpus data is evident.

2. Cognitive linguistics and construction grammar

Cognitive linguistics and construction grammar are not the same. Many linguists subscribe to both, but it is possible to accept the hypotheses associated with one but not the other. For example, at the Second International Construction Grammar Conference in 2002 it became clear that many linguists working in head-driven phrase structure grammar (HPSG, see e.g. Pollard & Sag 1994) regard themselves as construction grammarians, although HPSG is not normally seen as a cognitive linguistic framework. Conversely, it is possible to carry out cognitive linguistic research, for example on lexical semantics, without necessarily committing oneself to the construction-based view. This brief exposition follows some of the leading figures in cognitive linguistics/construction grammar, Langacker (1987), Lakoff (1987) and Cruse & Croft (2003), in not keeping the two strictly apart.

Cruse & Croft (2003, Ch.1) point out that cognitive linguistics arose in the late 1970s/early 1980s as a reaction to generative grammar and truth-conditional (logical) semantics. They suggest that the three main hypotheses of the cognitive approach are:

i. language is not an autonomous cognitive faculty
ii. grammar is conceptualisation
iii. knowledge of language emerges from language use

The first hypothesis contrasts with the modularity hypothesis in generative grammar, i.e. the idea that language is a separate component functioning separately from the rest of cognition (Chomsky 1980, Fodor 1983). The cognitivist alternative implies that linguistic knowledge and language processing are to be accounted for in terms that are not essentially different from those appropriate for nonlinguistic cognition. As for linguistic knowledge, which encompasses function (semantics-pragmatics) and form (phonology, morphology and syntax), the suggestion is thus that it is basically *conceptual* structure. As for language processing, i.e. production and comprehension, this is to be seen as on a par with other cognitive tasks, such as visual perception, reasoning or motor activity; as such it appeals to the same general inventory of cognitive abilities as the ones used in these latter tasks (Cruse & Croft 2003, Ch.1).

One sense in which the first hypothesis has had an impact on cognitive linguistic research is that cognitive psychology has often been drawn on. Cognitive semantics and construction grammar are two important cases in point.

One of the main ways in which cognitive semantics is grounded in cognitive psychology lies in its acceptance of the model of categorisation known as prototype theory (see e.g. Rosch 1973, 1978, Rosch et al. 1976; particularly elaborate discussions in relation to linguistics are Lakoff 1987 and Taylor 1995). The suggestion here is that category members are not equal in their degree of centrality (i.e. in the category in question). One textbook example concerns the category [BIRD], where robins are seen as more central than for instance ostriches. As a simple example of the application in semantics consider the polysemous word *fork*. In a neutral context this will be taken to describe the item of cutlery. But in the context of roads, as in *We came to a fork in the road*, a metaphorical sense will be activated. This gives rise to the hypothesis that the cutlery meaning is the prototypical (presumably most frequent) one. Another metaphorical meaning can arise in the context of chess, where a 'fork' is an attack by one piece (usually a knight) on two pieces at the same time. The latter sense is available only to people who play chess. To the extent that chess is more or less important to them, the latter sense may be more or less

central than the one exemplified by *a fork in the road* (though it is unlikely ever to replace the cutlery sense as the prototype).

Construction grammarians have extended the prototype-based from words to more complex constructions, e.g. the so-called *way* construction (represented by Goldberg as [$SUBJ_i$ [V [$POSS_i$ way] OBL]], cf. e.g. *Frank dug his way out of prison* (1995:199)). The suggestion here is that "certain senses of constructions [are] more basic (or prototypical) than others" (Goldberg 1995:218). I will say more about construction grammar below.

The notion of the semantic frame is another important consequence of cognitive semanticists' commitment to anchoring their theories in psychology. Frame semantics (Fillmore 1975, 1982, 1985) is a reaction against the more traditional feature-based and truth-conditional models of semantic representation. The word *bachelor* is a classic example. A feature-based analysis of its semantics would be [+male] and [+unmarried]. Yet not all speakers would readily apply the label *bachelor* to The Pope, Tarzan, an adult male living with his girlfriend or a male homosexual. As Cruse & Croft put it, "the concept BACHELOR is profiled against a frame which does not accommodate the variety of actual social statuses found in the real world" (2003, Ch.2). They go on to say that this frame "represents an idealized version of the world", and point out that "Lakoff calls such a frame an *idealized cognitive model* (*ICM*; Lakoff, chapter 4)" (Cruse & Croft 2003, Ch.2). The notion of ICM is particularly important in my chapter on *have*.

The second hypothesis, that grammar is conceptualisation, "refers to a more specific hypothesis about conceptual structure, namely that conceptual structure cannot be reduced to a simple truth-conditional correspondence with the world" (Cruse & Croft 2003, Ch.1). One and the same objective situation may be *construed* in different ways, and language allows speakers to express these different conceptualisations in different terms, for instance by choosing one construction over another. Compare example (3), above, to (16); the passive construction used in the latter throws a different perspective on the situation than the active, used in the former (e.g. reduced salience of the agent participant in the passive).

The third tenet holds that linguistic knowledge emerges from language use, i.e. "categories and structures in semantics, syntax, morphology and phonology are built up from our cognition of specific utterances on specific occasions of use" (Cruse & Croft 2003, Ch.1). Thus, utterances such as *John kills Bill* and *Bill kills Mary* may give rise to the more abstract construction [Sbj kill Obj]. This, in its turn, may together with other transitive constructions such as [Sbj love Obj], [Sbj hate Obj], etc. give rise to the even

more abstract English Transitive construction, [Sbj TrVerb Obj]. At an even higher level of organisation the English Transitive and some other equally abstract constructions may yield a Clause schema, thus yielding the following (partial) taxonomic network of constructions (cf. also Cruse & Croft 2003, Ch.10):

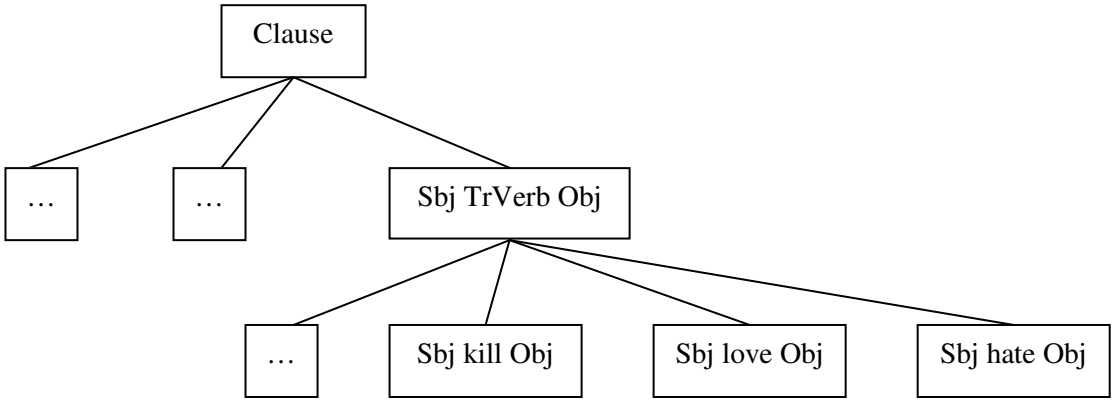

FIGURE 2. A NETWORK REPRESENTATION OF SOME ENGLISH CONSTRUCTIONS OF VARIOUS DEGREES OF SCHEMATICITY/SPECIFICTY

As these increasingly abstract/schematic knowledge structures arise, the lower-level representations are not necessarily lost, even if it should be possible to predict their properties using the higher-level schemas. The emergence of schemas in our knowledge of language is grounded in cognitive psychological models of generalisation and abstraction; the hypothesis that low-level, specific structures tend to remain is based on the nonreductionist view on knowledge representation taken in cognitive psychology (see e.g. Anderson 2000:153).

This thesis postulates such constructions as [Sbj get Obj Stem/Inf], [Sbj have Obj Stem/Inf], [Sbj make Obj Stem/Inf] as well as the more abstract schema [Sbj V_{cause} Obj Stem/Inf]. I find it convenient to use a slightly different notation, i.e. [NP_1-GET-NP_2-STEM/INF], [NP_1-HAVE-NP_2-STEM/INF], etc.,[4] but this is of no theoretical consequence. The STEM v. INF distinction requires some explanation. Langacker (e.g. 1987) refers to bare infinitives as stems, reserving the term infinitive for *to*-infinitives. In Present-day English periphrastic causatives are generally fixed in terms of the type of infinitival complement (*get* never takes a bare infinitive, *have* is incompatible with an overtly marked infinitive, etc.) but, as I already suggested above, this was not always so, causatives up until c.1800 sometimes occurring with a bare, sometimes with a *to*-infinitive

[4] In my chapter on *get* the indexes on the noun phrases are (rough) indications of their syntactic roles, e.g. [NP_S-GET-NP_{DO}-STEM/INF].

(for more information see especially my chapter on infinitival complementation). My labels reflect this diachronic variation.

It is important to realise that constructions are not just syntactic templates, but instead form-meaning pairings — *symbolic* units, in Langacker's (e.g. 1987) terms. The meaning is at least partly arbitrary and (therefore necessarily) conventional. The symbolic nature of constructions represents the main distinction between construction grammar and more traditional models (including generative grammar) that see syntax and the lexicon as separate components of the grammar. Cruse & Croft suggest:

> The central difference between componential syntactic theories and construction grammar is that the symbolic link between form and conventional meaning is internal to a construction in the latter, but is external to the syntactic and semantic components in the former (i.e. as linking rules) (Cruse & Croft 2003, Ch.10)

Cruse & Croft represent the symbolic character of a construction as follows:

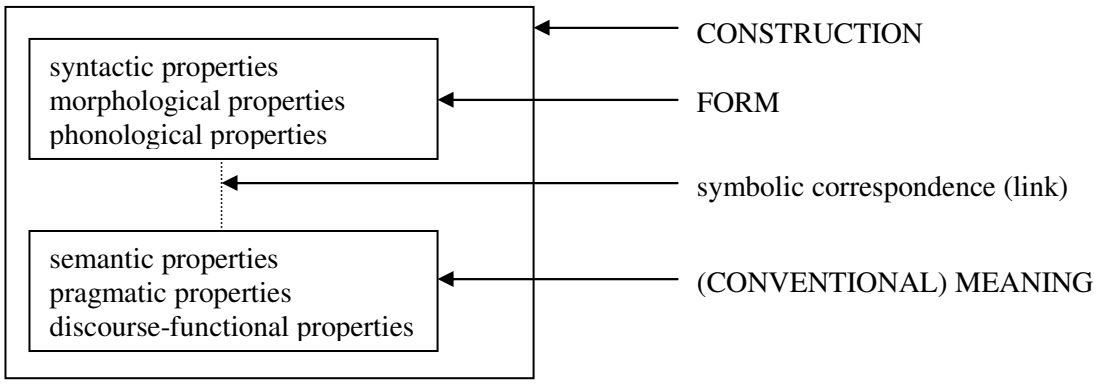

FIGURE 3. THE SYMBOLIC STRUCTURE OF A CONSTRUCTION (AFTER CRUSE & CROFT 2003, CH.10)

Cruse & Croft are among the construction grammarians who take a usage-based perspective on linguistic knowledge and use (cf. also Langacker, e.g. 1987). The usage-based approach emphasises the role played in the (dynamic) organisation of linguistic knowledge[5] by the meaning of constructions in actual use and by their frequency. This approach will take centre stage in my chapter on periphrastic causative *get*, to which the reader is referred for more details.

[5] Cruse & Croft (2003, Ch.11, fn.1) suggest that the version of construction grammar associated with Charles Fillmore and Paul Kay, which is sometimes called Berkeley Construction Grammar (Kay & Fillmore 1999, Fillmore et al. in prep.), is *not* grounded in usage-based considerations.

3. Models of causation

Throughout this thesis I refer to semantic typologies of causatives. This section briefly summarises the main models: Cole (1983), Song (1996), Dixon (2000) and Talmy (1976, 1985, 1988, 2000a, 2000b).

3.1 Cole (1983)

Various authors have observed that crosslinguistically in periphrastic causatives lower clause subjects are often coded as direct objects if they occur with intransitive verbs, while there is a tendency for them to appear as indirect objects if they are subjects of transitive verbs. (Aissen 1974, Comrie 1975, 1976 and Perlmutter & Postal 1974, cited in Cole 1983:116, cf. also 126). This has given rise to the suggestion that there is a causal relation between the presence or absence of a lower clause direct object on the one hand, and the coding of the causee participant as an indirect or direct object of the matrix clause verb, on the other. Cole gives the following examples from Italian:

(17) Maria fa scrivere Gianni (DO)
Maria makes to write Johnny
'Maria makes Johnny write' (Cole 1983:126)

(18) Maria fa scrivere la lettera (DO) a Gianni (IO)
Maria makes to write the letter to Johnny
'Maria makes Johnny write the letter' (ibid.)

Instead of taking a (syntactic) transitivity perspective, Cole accounts for the differences in case marking in semantic terms. He argues that if a language displays variation in case marking on the causee, then direct object type marking on the causee portrays low agency on the part of that participant, indirect object type marking, relatively high agency. Languages such as Italian represent the grammaticalisation of agency, subjects of transitive verbs prototypically being agents, of intransitive verbs, patients (Cole 1983:127, 132). Compare (19-21) to (22-4), all of which are taken from Cole (1983:127):

(19) John threw the ball.
(20) The child hugged his mother.
(21) Mary looked at the print.
(22) The boy fell.
(23) Binny is sleeping.
(24) The patient was still alive.

Japanese exemplifies the prior stage in the grammaticalisation process, in which pure (as opposed to grammaticalised) agency was still the determining factor. Consider:

(25) Taroo ga Ziroo o ik-ase-ta
Taro NOM Jiro ACC caused to go
'Taro caused Jiro to go' (Cole 1983:125)
(26) Taroo ga Ziroo ni ik-ase-ta
Taro NOM Jiro DAT caused to go
'Taro caused Jiro to go' (ibid.)

(25) describes a situation in which "the subject of the matrix clause is indifferent to whether the complement subject consents to go" (Cole 1983:125), while (26) "may be used when the complement willingly carries out the action in question" (ibid.).[6]

Kannada, Modern Hebrew and Hungarian display similar patterns to Japanese (see Cole 1983:120-4); an especially interesting case is Bolivian Quechua (117-9). Cole argues that this language makes *three* coding distinctions, again according to the degree of agency of the lower clause subject. The following sentence pair illustrates the most and least agentive situations:

(27) nuqa Fan-ta rumi-ta apa-či-ni
I Juan-ACC rock-ACC carry-cause-1SG
'I made Juan carry the rock' (Cole 1983:118)
(28) nuqa Fan-wan rumi-ta apa-či-ni
I Juan-INST rock-ACC carry-cause-1SG
'I had Juan carry the rock' (ibid.)

Cole suggests that (27) is appropriate "if Juan is directly under the speaker's authority and has no control over whether he will carry the rock", while in (28) "the causee retains control over his actions and submits voluntarily to the speaker's wishes" (1983:119).

The intermediate degree of causee agency, coded by the dative postposition *-man*, is attested with an apparently language-specific verb class called verbs of experience, "which includes predicates like 'eat', which are not analyzed as verbs of experience universally" (Cole 1983:119):

(29) nuqa runa-man rik^{h}u-či-ni
I man-DAT see-cause-1SG
'I showed it to the man' (Cole 1983:119)
(30) nuqa wawa-man yaca-či-ni
I child-DAT know-cause-1SG
'I taught it to the child' (ibid.)

[6] One of the conclusions implicit in my research on the semantics of English periphrastic causatives is that typologists' translations are often less than fully appropriate. In examples (25-6), for instance, *cause* is awkward because it typically portrays indirect causation, and is also not prototypically associated with human causers (see especially my chapters on passivisation and infinitival complementation). In relevant citations I will not attempt to suggest better translations but simply stick to the original.

(31) nuqa warmi-man mik^{h}u-či-ni
I woman-DAT eat-cause-1SG
'I fed it to the woman' (ibid.)

On the basis of these data Cole (1983:119) proposes the following agency hierarchy:

agent<experiencer<patient

He suggests that theoretically there are actually four degrees of animacy (1983:119, fn.6). The agent role is analysable into "highly agentive" and "agentive" (ibid.:131, Table 1), where a highly agentive causee is one that affects the objects (e.g. by *killing* him/her), while a normal agentive causee does not affect the patient (e.g. he/she may make him/her *watch* something). Bolivian Quechua representing the most coding distinctions in his sample, Cole has no data to support this distinction, yet he "should not find it surprising (…) if there are languages with four degrees of agency" (1983:119).

3.2 Song (1996)

Song proposes a functionally based typology of causatives based on a sample of 408 languages (1996:8).[7] It distinguishes between two basic types, the so-called AND type and the PURP type. The former originates in a coordinated biclausal structure, the latter in a combination of a main and purpose clause (with an overt purpose marker). The Vata (Kru) example (32), below, exemplifies the AND type (*le* is the general coordinating device, being used to coordinate NPs, PPs or Ss (Koopman 1984:24-5, cited in Song 1996:36)). Example (33), from the Lhasa dialect of Tibetan, illustrates the PURP type: "[t]he PURP marker *–ru* has the same shape as the case marker that encodes direction toward an entity" (Hannah 1973:78-9)" (Song 1996:54).

(32) n gbā le yÒ-Ò lī
I speak CONJ child-DEF eat
'I make the child eat' (Song 1996:36)

(33) nɛɛ qhō lɛɛqa che-ru cūù-pəyīī
I him work do-ALL cause-1SG.PST
'I made him work' (Song 1996:54)

Both (biclausal) types can, given time, grammaticalise to become what Song calls the COMPACT type (1996:11 and *passim*; for more details cf. especially 80-

[7] Song's (2000) monograph also includes a chapter on causatives; since it does not contain substantially new insights the main text refers exclusively to the (1996) study.

106), so called to reflect the "contiguity or compactness of [Vcause] and [Veffect]" (ibid.:21). This monoclausal type incorporates morphological causatives (cf. e.g. (25-6), above) as well as the limiting case of compactness, lexical causatives (e.g. English *kill*).

In the Balawaia (Austronesian) example below the causative verb *kala* is still a free morpheme. It is less compact than morphological and lexical causatives, but citing Kolia (1975:130) Song suggests that "[Vcause] and [Veffect] (…) form a single grammatical unit" in that "[t]he unit as a whole attracts all pronominal and pronominal-cum-tense affixes" (1996:29).

(34) gita bae bite-kala-gabagaba-ria
we pig we.NPRS-make-shout-them
'We made the pigs squeal' (Song 1996:29)

The Romance languages French, Spanish and Italian furnish a further step back from the maximally compact end of the scale. While the COMPACT type prototypically does not allow any elements to intervene between the causative and dependent verb (Song 1996:21 and *passim*) Song, referring to Comrie (1976:296-303), states that it is possible under certain circumstances for adverbs to do just this in these languages:

(35) Je fais toujours partir Jean
I make always leave John
'I always make John leave' (Song 1996:34)

The same holds true for the French negating element *pas* (Song 1996:34).

Song does not discuss English periphrastic causatives in this connection but in view of the absence of any trace of a coordinating device and the presence of *to* in many of them (even more if medieval varieties are considered; cf. especially my chapter on infinitival complementation) they would presumably be classified as the PURP type. The fact that the infinitive marker can hardly be said to carry purposive meaning in these constructions (see again the chapter on infinitival complementation) would probably be interpreted by Song as a sign of grammaticalisation, i.e. towards the COMPACT end of the scale. In English the causee constituent always intervenes between the two verbs (at least in the active voice), however, which would imply that in English causatives are still further removed from the COMPACT end of the continuum than in French.

Semantically, Song argues that the AND and PURP strategies differ in what aspects of the causative situation they highlight. The concept of causation is analysed as

consisting of three elements, viz. GOAL, EVENT and RESULT (1996:146), or, more fully:

(i) perception of some desire or wish
(ii) a deliberate attempt to realize the desire or wish
(iii) accomplishment of desire or wish

(Song 1996:142)

These elements occur in the order (i) → (ii) → (iii). Song suggests that "[i]n the AND type, (ii) and (iii) are highlighted, whereas (i) is suppressed [while] in the PURP type (…) (i) and (ii) are highlighted, and (iii) is suppressed" (1996:142). Schematically:

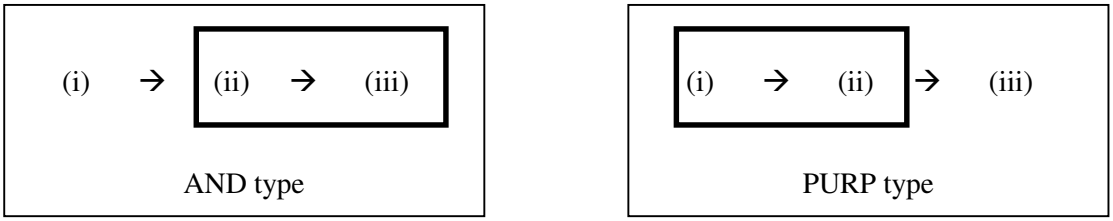

FIGURE 4. SEMANTIC DIFFERENCE BETWEEN SONG'S (1996) AND AND PURP TYPES

Song's notion of highlighting must be understood in terms of implicativity: the AND type is inherently implicative, the PURP type may be implicative, but need not be (Song 1996:104, 134-8). The grammaticality of the Korean example, below, illustrates the latter point (Song does not give an example to show that the caused event in the AND type is necessarily entailed):

(36) kiho-ka cini-ka wus-ke ha-əss-ɨna
Keeho-NOM Jinee-NOM smile-PURP cause-PST-but
cini-ka wus-ci=an-əss-ta
Jinee-NOM smile-NEG-PST-IND
'Keeho caused Jinee to smile, but she didn't smile' (Song 1996:13)

Given time, nonimplicative PURP types may develop into implicatives "due to semantic neutralization of the term PURP" (Song 1996:67). Song goes on to explain: "By the semantic neutralization is meant that the original meaning of goal or purpose encoded in the term PURP is weakened or lost, whereby originally nonimplicative causatives become partially or fully implicative" (1996:67). Latin is a case in point. Following Woodcock (1959/1985:100) Song argues that the PURP marker, i.e. the lower clause subjunctive, was neutralised, which led to the rise of implicativity (1996:67-8). Song argues that the Korean PURP type periphrastic causative (which consists of a higher

verb *ha-* 'do' plus a complementiser *–ke* that marks the embedded clause) is also developing implicativity (1996:68 and especially Ch.4).

One wonders to what extent semantic neutralisation *per se* provides an adequate account of the emergence of implicative meaning. It seems to me that it alone is not enough: presumably, one would want to investigate why the PURP meaning got lost. If it did because there was frequently an inference of implicativity, then the diachronic process would make more sense. Song does not discuss this.

Song implies that the rise of implicative meaning often goes hand in hand with compacting processes (1996:68). But the development of full implicativity does not always occur when a PURP causatives is compacted; consider the COMPACT causative based on the causative prefix *p-* in Kammu (or Khmu; Mon-Khmer):

(37) kəə p-ŋmɔɔŋ nàa, nàa pəə mɔɔŋ
he CAUS-sad she she not sad
'He tried to make her sad, but she didn't become sad' (Song 1996:68)[8]

Song stresses that his typology is really binary not ternary: the COMPACT type being the "diachronic residue" (Song 1996:134) of the AND and PURP types, it is not on a par with these latter two types, as it has no independent semantic basis.

3.3 Dixon (2000)

Dixon's (2000) typology involves three dimensions: formal marking (his §2), syntax (§3) and semantics (§4). Here we are only concerned with the semantics of causation. Dixon proposes that causatives may differ according to nine semantic parameters.

Parameters 1 and 2 are said to relate to the verb. To see what he means by "the verb", consider that Dixon analyses causatives as involving "the specification of an additional argument, a causer, onto a basic clause" (2000:30). The verb, in this context, is the verb of the basic clause.

1. State/action. Does a causative mechanism apply only to a verb describing a *state*, or also to a verb describing an *action*?
2. Transitivity. Does it apply only to *intransitive* verbs, or to both intransitive and simple *transitive* verbs, or to all types of verbs — intransitive, simple transitive and also *ditransitive*?

(Dixon 2000:62, emphasis original, as in citations below)

[8] Song does not explain why he uses the verb *try* in the translation of this example, but not in that of the Korean example (36), above.

Properties 3 through 5 apply to the causee:

> 3. Control. Is the causee *lacking control* of the activity (e.g. if inanimate, or a young child) or normally *having control*?
> 4. Volition. Does the causee do it *willingly* ('let') or *unwillingly* ('make')?
> 5. Affectedness. Is the causee only *partially affected* by the activity or *completely affected*?
>
> (Dixon 2000:62)

Parameters 6 through 9, finally, are said to relate to the causer, though I take naturalness to be connected to the causee as well (see my polysemy chapter):

> 6. Directness. Does the caused act *directly* or *indirectly*?
> 7. Intention. Does the caused achieve the results *accidentally* or *intentionally*?
> 8. Naturalness. Does it happen *fairly naturally* (the causer just initiating a natural process) or is the result achieved only *with effort* (perhaps, with violence)?
> 9. Involvement. Is the causer also *involved* in the activity (in addition to the causee) or *not involved*?
>
> (Dixon 2000:62)

It would go beyond the scope of this thesis to cite Dixon's examples of how the parameters are reflected in coding differences across languages. Suffice it to illustrate the idea for one parameter here, state/action. (I will have more to say about some others elsewhere in this thesis, especially in the polysemy chapter.) Citing Amberber (2000), Dixon suggests that in Amharic (Semitic) the causative marker *a-* is prefixed only to "verbs of state and change of state, e.g. 'stand', 'melt' (but not 'dance' or 'laugh')" (Dixon 2000:63); the *as-* causative prefix, by contrast, attaches to all kinds of verbs (ibid.; cf. Amberber 2000:317-20 for more elaborate discussion).

In summarising Dixon's semantic typology it is important to point out that he leaves open the possibility that his parameters may need to be reorganised in the light of further data, and that his list may be incomplete (2000:73). In various places in this thesis I will indeed argue that there is more overlap between some of Dixon's parameters than is perhaps desirable (see e.g. the discussion of control and volition in the polysemy chapter) and that there are more relevant properties (e.g. the sphere of control frame or ICM; see especially the chapters on *have*, passivisation and infinitival complementation).

3.4 Talmy (1976, 1985, 1988, 2000a, 2000b)

Talmy's work on causatives and force-dynamics (which is a generalisation over causation; see e.g. 2000a:428) is not strictly speaking typological in the sense of being based on

extensive crosslinguistic research. However, his model is intended to be universal, and it is often used in the typological literature (e.g. Croft 1991, Pederson 1991).

The basic idea in Talmy's model is that causative and other force-dynamic situations are conceptualised in terms of very basic force-dynamic situations, where one force entity, which he calls the antagonist, bears some force-dynamic relation to another entity, the agonist. Both the agonist and the antagonist have some intrinsic force tendency, the possibilities being towards rest and towards motion. Depending on whether or not the agonist and antagonist are opposed, and their relative strengths, the resultant situation will be either rest or action.

Talmy has developed an elegant system of diagramming the various types of force-dynamic interaction. For the basic symbols, corresponding to the concepts I have just described, see Figure 5:

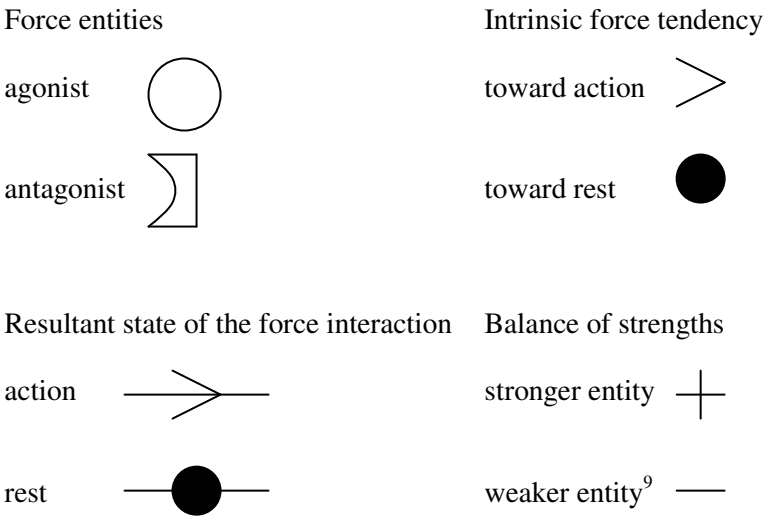

FIGURE 5. BASIC SYMBOLIC INVENTORY OF TALMY'S FORCE-DYNAMICS (AFTER TALMY 2000A:414)

Talmy's model is very rich and sophisticated. A full discussion of all the subtypes of force dynamic interaction is not necessary for the purpose of this thesis; I will restrict myself to the most essential distinctions; a few more will be introduced at appropriate points in other chapters (cf. e.g. the discussion of the "divided self" in Chapter 6).

The first important distinction is between steady-state and shifting force dynamic patterns. Two examples of the former are:

[9] In practice often only the stronger entity is marked.

(38) The ball kept rolling because of the wind blowing on it. (Talmy 2000a:416)[10]
(39) The log kept lying on the incline because of the ridge there. (ibid.)

Talmy diagrammatically represents the corresponding situations as follows:

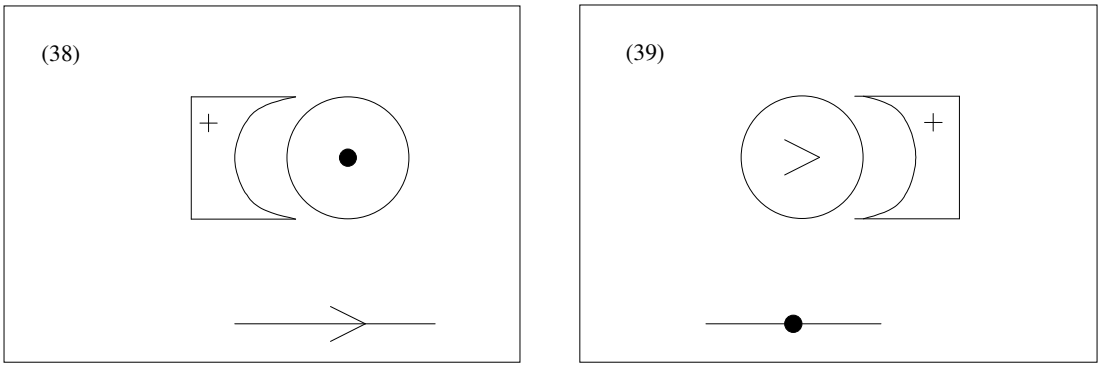

FIGURE 6. DIAGRAMMATIC REPRESENTATION OF EXAMPLES (38-9) (AFTER TALMY 2000A:415)

English periphrastic causatives portray shifts in the state of impingement. *Get*, *have*, *make*, etc. describe a situation in which an antagonist (causer) enters into a relation of impingement on the agonist (causee). Two of Talmy's examples of this type of causative situation are:

(40) The ball's hitting it made the lamp topple from the table. (Talmy 2000a:418)
(41) The water's dripping on it made the fire die down. (ibid.)

'Let'-type causation, by contrast, refers to "cessation of impingement" (Talmy 2000a:419).

(42) The plug's coming loose let the water flow from the tank. (Talmy 2000a:418)
(43) The stirring rod's breaking let the particles settle. (ibid.)

In the situations corresponding to (40-3) the agonist moves from rest to action or vice-versa. They are diagrammatically represented as follows (where the arrow stands for the antagonist entering or leaving a relation of impingement, and the axis at the bottom for the transition from initial state to resultant state):

[10] Talmy uses this example to illustrate the notion of causee resistance; in my polysemy chapter I will discuss this idea in some detail.

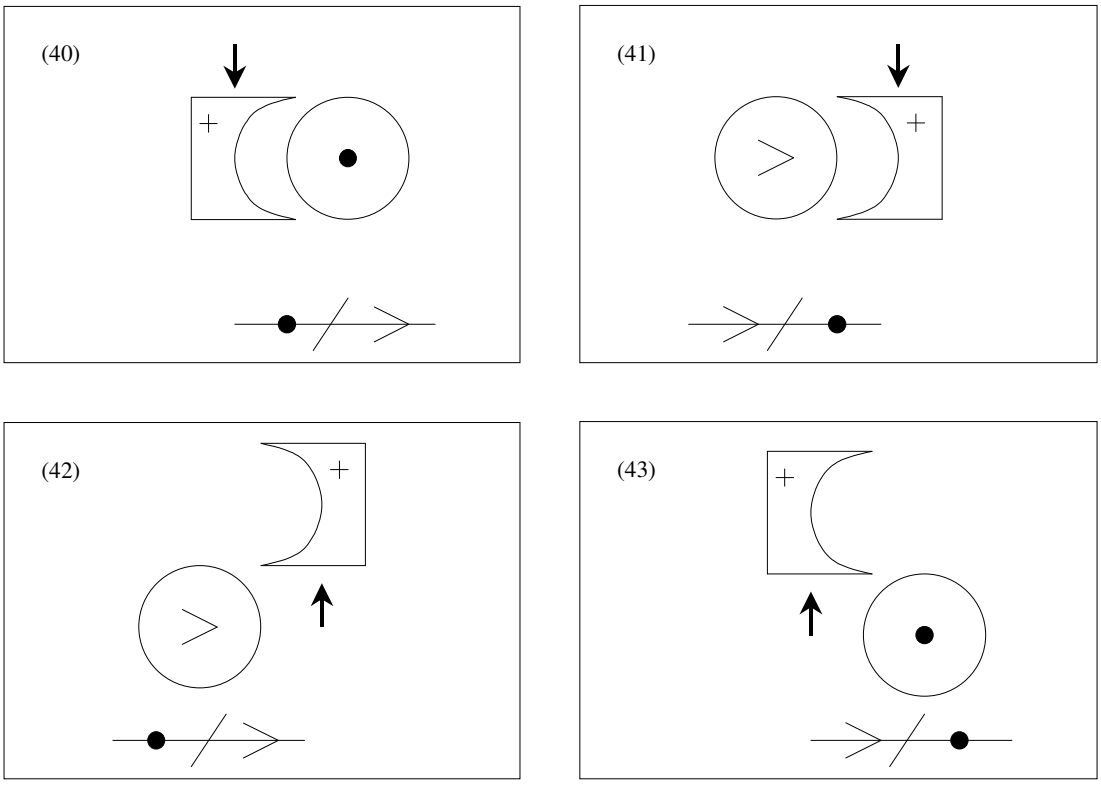

FIGURE 7. DIAGRAMMATIC REPRESENTATION OF EXAMPLES (40-3) (AFTER TALMY 2000A:418)

The last important distinction made by Talmy to be mentioned here is that between mental entities (i.e. humans, or at least animates) and physical objects. The corpus examples below exemplify the four possible configurations, whose respective labels are physical, affective, volitional and inducive causation:

(44) The jacket was very fitted and single-breasted, cutting in sharp at the waist -- which *made* the trousers balloon right out. (BNC A6E 452)

(45) The damp wind blowing in at the open door *made* him shiver and he went to wake the others. (BNC A0N 2165)

(46) A scion is the growth that arises from an implanted bud or graft, whereas the stock -- sometimes referred to as the root- stock -- is the host plant that receives the bud or graft, with its own top growth removed so that its sap and energies are *made* to support the new guest. (BNC CMM 696)

(47) Sunday nights have always been a problem for the serious cinemagoer, since this is the night that brings out the lads whose parents don't *make* them go to bed early before a fresh week at school begins. (BNC A6C 1299)

Croft has proposed a useful way to represent the four types diagrammatically; see Figure 8, below, where the bent arrow in inducive causation reflects the fact that direct mind-to-mind interaction is impossible (i.e. humans cannot communicate telepathically):

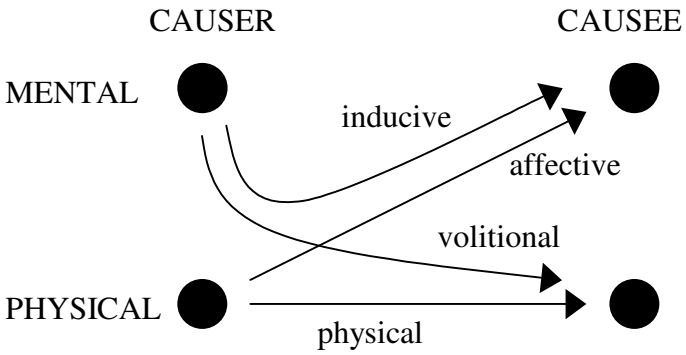

FIGURE 8. TALMY'S FOUR-WAY CLASSIFICATION OF CAUSATIVE EVENTS (AFTER CROFT 1991:167)

Chapter 2. Periphrastic causative *make*: a case of constructional polysemy?

1. Preliminaries

I mentioned in Chapter 1 that cognitive linguistics/construction grammar rejects the componential view of grammar. This implies that periphrastic causatives are analysed as *meaningful constructions*. The present chapter turns to the question as to what exactly is the meaning of these constructions. The semantics of English periphrastic causatives runs like a thread through this thesis; the present chapter focuses on *make*, which in some intuitive sense is the most basic infinitival causative. Indeed, Dixon speaks of "the misconception that *cause* is the prototypical causative verb in English" (2000:36, see 1991:194, 294 for similar statements). He continues: "It is not; *make* is. *Cause* is a causative verb but it has a more specialized meaning (implying indirect causation) than *make*" (Dixon 2000:36-7; corpus evidence to support Dixon's suggestion is provided in my Ch.5). Now it seems to make sense that a discussion of the semantics of English periphrastic causatives should start with the most basic member of the category.

My starting point is the apparent conflict between Dixon's statement that [NP_S-MAKE-NP_{DO}-STEM/INF] is the most "neutral" causative on the one hand, and an observation by Talmy on this construction, on the other. In view of the grammaticality of (1a), below, versus the ungrammaticality of (1b), he suggests that "[*m*]*ake* seems to specify that the causing is done by means of threats (i.e., contingent assurances of pain)" (Talmy 1976:107):

(1) a. I made him clean the garage by threatening to cut his allowance (if he didn't). (Talmy 1976:107)
b. *I made him clean the garage by promising to raise his allowance (if he did). (ibid.)

To see that this use of *make* indeed does not refer to "neutral" causation, one could consider that the (a) sentence is paraphrased reasonably accurately by replacing *made* with *forced* (if the causation had been neutral *caused* would have given a more suitable paraphrase).

Although this might at first sight seem to run counter to Dixon's suggestion that *make* is the most neutral causative verb, that is not necessarily the case. If one assumes that [NP_S-MAKE-NP_{DO}-STEM/INF] can simply be used in a number of different ways

then Dixon and Talmy may *both* be right. Indeed, Talmy's example (2), below, shows that he recognises that *make* does not always involve threats.

(2) The wind made the aerial topple in blowing the branches down upon it (Talmy 2000a:502)

The question then arises as to the psychological status of the different uses. Two answers come to mind immediately. First, the construction in question may be underspecified with regard to the type of causation, the interpretation of the causative being a matter of "contextual modulation", to put it in traditional lexical semantic terms (cf. e.g. Cruse 1986:52-3; cf. also Cruse & Croft 2003, Ch.5, who use the contrast *My best friend married my brother* v. *sister* to show that depending on the context *friend* can receive 'female friend' and 'male friend' construals, even though it does not display polysemy between these readings).

The second possibility is that the different interpretations constitute separate senses, i.e. that [NP_S-MAKE-NP_{DO}-STEM/INF] is polysemous. This chapter sets out to determine which view is the most plausible: monosemy or polysemy.

The discussion is structured as follows. Section 2 gives an overview of how past scholarship on [NP_S-MAKE-NP_{DO}-STEM/INF] has dealt with this issue. Section 3 evaluates the evidence that may be brought to bear on the monosemy v. polysemy question. While I will suggest that there is at least some evidence — typological in nature — that goes some way toward narrowing down the possible polysemy proposals, I will need to conclude the discussion in section 4 on the somewhat pessimistic note that the issue cannot be completely resolved here, given the state-of-the-art in cognitive semantics. At the same time, I will show how very recent work in that area, in particular Cruse's notion of "microsenses" (Cruse 2002, Cruse & Croft to appear, Ch. 5), gives rise to an attractive, *third* possible answer to the question as to the status of the different readings. The concept of microsenses also raises more questions for future research.

2. *Previous scholarship on the meaning(s) of periphrastic causative* make

With regard to the question as to the psychological status of the different uses of [NP_S-MAKE-NP_{DO}-STEM/INF] previous scholarship can be classified into three groups. First, there are many scholars who do not discuss the different uses or do not commit themselves

to either the monosemy or the polysemy view. Second, there are a few scholars who argue for polysemy. Third, at least one author, Duffley (1992), seems to argue for monosemy.

2.1 Scholarship neutral vis-à-vis the status of the different uses

Synchronic and diachronic studies that classify *make* with an infinitival complement as "causative" but do not comment on the neutral v. 'force' distinction — often because they have nothing to say about the semantics of the construction to begin with — are Zeitlin (1908:47), Royster (1922), Poutsma (1926:430, 1929:798-9, 820), Kruisinga (1931:151-2), Jespersen (1946:290-1), Mustanoja (1960:533, 601-2), Visser (1973:2261-2), Baron (1974),[1] Talmy (1976, 2000a, Ch.8), Quirk et al. (1985:1205),[2] Inoue (1992) and Moreno (1993). Most of these authors exemplify both uses without commenting on the semantic difference. Baron and Talmy do suggest that there is a meaning difference. Examples from Talmy were already presented in section 1: (1-2); Baron discusses the difference with reference to (*inter alia*) the following examples:

(3) The leader made his gang swear life-long allegiance (Baron 1974:425)
(4) A good hostess always makes guests feel at home (ibid.)

The first example is said to feature the "presence (…) of force" (Baron 1974:425), while the second one instantiates "'non-force' causative action" (ibid.). Crucially, though, neither Baron nor Talmy discusses whether the difference is due to contextual modulation or polysemy.

The only member of this group to talk about polysemy is Inoue. However, he does so not with reference to the semantic distinction we are concerned with here. Thus, he does not note any distinction between (5) and (6):

(5) John made it happen (Inoue 1992:139, fn.9)
(6) John deliberately made the prisoners march in the hot sunshine (ibid.:134)

Instead, he contrasts the semantics of these examples to:

(7) John made Mary happy (Inoue 1992:136)

[1] Baron's position in her (1977) monograph is different; see §2.2.
[2] Quirk et al.'s decision to label the group of verbs *let*, *have* and *make* as "verbs of coercive meaning" (1985:1205) is a bit misleading: examples such as *They made him understand* (Quirk et al. 1985:1206) cannot involve 'coercion' in the literal sense. Presumably, the term has to be taken rather loosely.

He suggests that "we must admit two senses for *make*". In the spirit of Jackendoff (e.g. 1983), he describes the semantics of examples (5-6) as CAUSE([$_{Thing}$ Z], [$_{Event}$ E]) — where CAUSE symbolises the causative function, and the variables Z and E stand for the cause and the event, respectively. By contrast, Inoue represents (7) as CAUSE([$_{Thing}$ JOHN], [$_{Event}$ GO([$_{Thing}$ [MARY], [$_{Path}$ TO([$_{State}$ HAPPINESS])])])] (1992:136) — where GO is the 'change of state' function and TO represents the goal.[3] The causative situation in (5-6) is indeed different from that in (7) but this difference is not relevant for present purposes: (5-6) exemplify [NP_S-MAKE-NP_{DO}-STEM/INF], (7) is an instance of a different (though obviously related) construction, [NP_S-MAKE-NP_{DO}-AP]. This chapter solely focuses on the former.

2.2 Scholarship in favour of a polysemy view

The most prominent proponent of the polysemy view is the *OED*. Both in the second edition (1989) — henceforth OED_2 — and in the draft version of *make* for the third edition (2000) — henceforth OED_3 — the editors list the neutral and the 'force' uses as separate senses. OED_2 defines the neutral sense as follows: "To cause a person or thing to do something; to have something done to a person or thing" (*make*, v.1, s.v. 53), the 'force' meaning, as: "To constrain (a person) *to do* something, by an exercise of influence, authority, or actual or threatened violence; to compel, force" (s.v. 54.a). The definitions in OED_3 are almost identical: "to cause (a person or thing) to do something" (*make*, v.1, s.v. 39) as against "To constrain (a person, etc.) to do something, by an exercise of influence, authority, or actual or threatened violence; to compel, force" (s.v. 40.a).

The examples given in OED_2 show a considerable time gap — more than 400 years — between the rise of the neutral and the 'force' meanings, the earliest instance of the former dating from c1175 (cf. 8, below), the latter first being attested in 1592 (cf. 9-10):

(8) Swa makeþ þe halie gast þe Mon bi-halden up to houene (*Lamb. Hom.* 159)
'So the holy ghost makes the man look up to heaven'

(9) I'le make him send me half he has, & glad he scapes so too. (Marlowe *Jew of Malta* IV. iv)

(10) I will make thee do me homage. (Greene *Upst. Courtier* Wks. (Grosart) XI. 227)

[3] To understand why Inoue captures 'change of state' in terms of the GO TO functions one should realise that he works within the localist framework (cf. e.g. Gruber 1965, Ikegami 1970), which assumes that conceptualisation proceeds largely in terms of spatial relations.

The draft entry for OED_3 suggests that the gap is smaller. (8) is still presented as the earliest example of the neutral sense. However, it is now not dated c1175 but a1225(OE?). More importantly, the 'force' sense is now dated c1395 — 200 years earlier than in OED_2:

(11) Thou shalt make him couche as doth a quaille. (Chaucer *Clerk's Tale* 1150)

Despite the fact that the gap between the rise of the neutral and 'force' uses has thus been reduced by 200 years, it still seems considerable enough that it may furnish support for the polysemy hypothesis. After all, if the semantic difference were merely due to contextual modulation, one would not expect any time gap between the two uses. Instead, one would expect to find both from the very outset. I will have more to say about this gap in §3.1.2 and §3.2.3.

Terasawa (1985) is convinced by the *OED*'s suggestion that there is polysemy. In his synchronic description of periphrastic causative *make* he suggests that there are two types, a "pure causative" (also "*Cause*-type" (Terasawa 1985:135)) and an "agentive causative" ("*Force*-type" (ibid.)), respectively exemplified by (12) and (13), below. Terasawa suggests that these two types are typologically grounded, about which more later (§3.2.2).

(12) You made me forget my misfortune. (Terasawa 1985:134)
(13) John made Mary do the dishes. (ibid.:133, adapted from his ex. (3))

(12) is a case of what has been referred to above as neutral causation, while (13) looks like 'force' causation (indeed, Terasawa uses many examples involving the verb *force* to illustrate his "agentive causative" type). Terasawa goes on to suggest that in its 'neutral' causative use *make* has a 2-place argument structure (an NP subject and a sentential complement), while the 'force' use is 3-place (an NP subject and two complements, one an NP, the other, a sentence (1985:135)); see Figure 1, below. For discussion see §3.2.1.

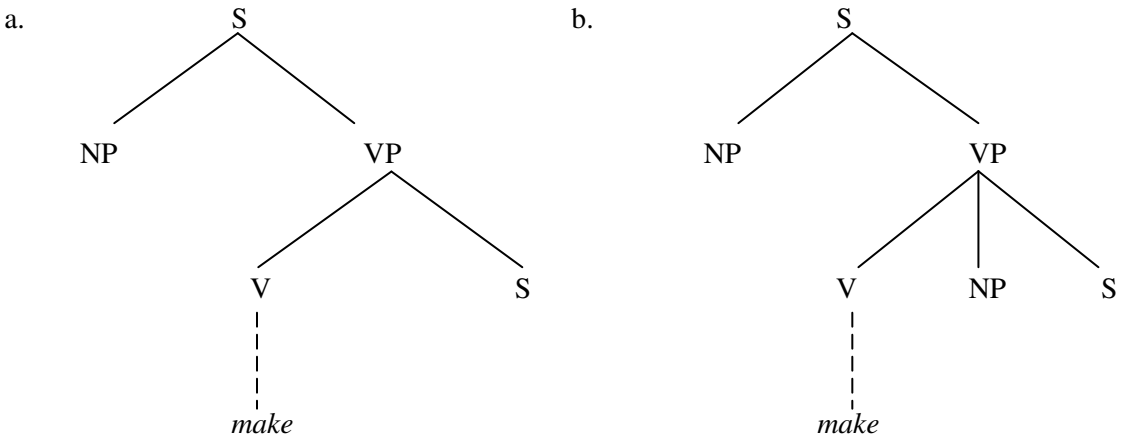

FIGURE 1. SYNTACTIC STRUCTURE OF NEUTRAL V. 'FORCE' TYPE *MAKE* ACCORDING TO TERASAWA (ADAPTED FROM 1985:135)

Terasawa then cites the earliest example of 'pure' / *Cause*-type / 'neutral' type from the *OED*[4] (1985:135) and states that "the "coercive" meaning (i.e. "to force a person to do something by an exercise of influence, authority, or violence") did not develop until much later" (ibid.), citing the relevant examples from the *OED* ((9-10), above). Terasawa's use of the word "meaning" is an important indication that he takes a polysemy view.

For the sake of completeness I note that while Terasawa puts forward this clear polysemy proposal in the main text, he confuses matters a little in a footnote:

> The terms "agentive causative verb" and "pure causative verb", are merely convenient labels. Strictly speaking, they had better be called the "agentive causative" and "pure causative" *use* of a verb respectively. The verb *make*, for example, can be used in either way in modern English. (Terasawa 1985:142, fn.3, emphasis added)

This suggestion seems to undercut the polysemy hypothesis in that the term "use", in a lexical semantic context, is often opposed to "sense"/"meaning". It seems best to concentrate on his position in the main text.

Interpreting Baron (1977) is less straightforward. I have included her here but one could also argue that she ought to be seen as neutral with regard to the monosemy v. polysemy issue, or perhaps even as a supporter of monosemy. The reason I include her here is that she brings in the historical dimension: "Although *make* + noun + infinitive is first documented as a syntactic type at the end of the 12th century, the "force" interpretation did not develop until much later" (Baron 1977:74). She cites the earliest example of the

[4] In view of the year in which Terasawa's paper was published it is clear that he used the first edition of the *OED*.

neutral use from the *OED* (Baron 1977:72, ex. 25; cf. (8), above) as well as the two earliest examples of the 'force' use (cf. (9-10), above). Now although this close adherence to the *OED* seems strong evidence that she favours a polysemy view, strictly speaking she does not describe the 'force' use as a separate sense but opts for the more neutral term "interpretation" instead (Baron 1977:74). This could indicate that she does not wish to commit herself to any firm position on the issue. Such a reading of Baron's discussion would be supported by the neutral stance she takes in her (1974) paper (see §2.1, above). And confusingly, in using the term "interpretation" Baron may even be expressing a monosemy view. Despite these difficulties, allegiance to the polysemy view still seems the best interpretation of her study, as one could expect any scholar who has had access to the historical data to answer, or at least raise, the question as to how to account for the massive time gap between the earliest examples provided by *OED*. Baron does not, nor does she contest the *OED*'s classification.

The last scholar to favour a polysemy view is Givón. In his (1975) paper he suggests that "*make* [is] an ambiguous causative verb" (63).[5] Givón is not very elaborate, nor does he flesh out his claim by means of contrastive sentences. My understanding of him starts from his suggestion that he argues for polysemy because "while a person may *accidentally* 'make' a state or an event come into being, he can *only deliberately* 'make' another person perform an *active* action" (Givón 1975:63, emphasis original).

The question arises as to what are active actions. Givón's comments on a number of sets of causative sentences involving the lower clause predicates *pick up her books and run*, *lose her balance* and *drop her books*. While the first of these is "unambiguously active", the second is "stative" and the third is ambiguous between the two (Givón 1975:62). An "active action" corresponds, then, to an event whose subject is an agent. Conversely, "state" and "event" refer to (different types of?) events whose subject is not agentive (but e.g. a patient or experiencer); see also Givón's characterisation of "stative expressions" as "expressions in which the subject is not the agent" (Givón 1975:71) and his "stative" example (14):

(14) John lost his temper. (Givón 1975:71)

[5] The keyword here is of course "ambiguous". Theoretically opposed to "vagueness", "ambiguity" was the most common label before the surge in popularity, in the 1990s, of the term "polysemy" (though ambiguity covers not only polysemy but also homonymy), cf. the titles of the following lexical semantic studies: Binnick (1970), *Ambiguity and vagueness*; Lakoff (1970), *A note on vagueness and ambiguity*; Kooij (1971), *Ambiguity in natural language: an investigation of certain problems in its linguistic description*; Catlin & Catlin (1972*), Intentionality: a source of ambiguity in English?*; Cruse (1982), *On lexical ambiguity*.

Givón's proposal can thus be restated as the hypothesis that [NP_S-MAKE-NP_{DO}-STEM/INF] is polysemous between what Talmy (1976, 2000a) has called "caused agency" and cases where the causee does not agentively engage in the caused event. It is interesting to note that Givón's semantic descriptions of 'making a state/event come into being' v. 'making another person perform an active action' seem to be implicit in Terasawa's 2-place v. 3-place syntactic analysis, though that is not to say that Givón agrees with this analysis; see §3.2.1. (The *OED* does not seem to commit itself to any statement about the syntax of the different uses of this construction.)

2.3 Scholarship in favour of a monosemy view

The only scholar arguing for monosemy (contextual modulation) is Duffley (1992). He observes that there is a semantic difference between the use of [NP_S-MAKE-NP_{DO}-STEM/INF] in (15) and that in (16):

(15) …beautiful canvases of mountains and forms. He even makes the city look like one of Thoreau's handouts (BUC P10 1260 8 [Duffley 1992:64])

(16) What's the matter, Joe, you scared of me? Think I'm going to make you introduce a drunk as your wife? (BUC P19 1580 2 [ibid.])

(15), which corresponds to what has been called the neutral meaning, is a case "where the object is felt to be completely under the sway of the subject and to have no initiative of its own" (Duffley 1992:64).[6] (16), an instance of the 'force' use, involves "a form of coercion" (ibid.:63). In discussing the difference between these uses, Duffley never speaks of different meanings, at one point rather more cautiously opting for the term "expressive effect" (Duffley 1992:64). Moreover, at another point he states that the "[c]ontexts in which (…) *make* is possible fall into two types" (Duffley 1992:63). This amounts fairly clearly to the suggestion that the semantic difference results from contextual modulation.

3. Psychological status of the 2 uses

In order to establish the extent to which the senses hypothesised in the various polysemy proposals are distinct, it is desirable first to get a clearer idea as to the way in which the meanings are defined.

[6] As a minor point of criticism, I note that Duffley's use of the word "sway" in his description of the second "expressive effect" is somewhat unfortunate. In normal usage the word seems to suggest a relation between two human (or at least animate) beings — not, as in ex. (15), between a man and a painting.

3.1 The classification of the *OED*, Terasawa and Givón

The definitions of the neutral and 'force' senses offered by the *OED* and Givón (cf. §2.2) are brief; in order to get a clearer idea of the proposed sense distinctions it is useful to study their examples.

Terasawa is more elaborate. He describes the distinction in terms of a difference in focus. As I discuss in §3.2.2 he analyses the notion of causation as consisting of an ACT ON and a RESULT component and suggests that while the neutral type focuses on both components, the 'force' type only foregrounds RESULT (1985:133, cf. my figure 4, below). Apart from the questionable validity of analysing causation into these components (cf. §3.2.2), one may object that it is often not clear whether a particular example focuses on both components, or just the final one. For instance, in what sense does the 'force' type example *I made him go there* (Terasawa 1985:134) exclusively foreground RESULT, but neutral *What caused Mary to act like that?* (ibid.) both ACT ON and RESULT? Terasawa's semantic distinction may also become clearer when considered in the light of his examples.

In discussing the different uses of causative *make* Baron (1977) does not present any examples of her own; her viewpoint is subsumed under the *OED*.

§3.1.1 discusses differences in the participant role of the causee, where the relevant distinction is agent v. other (with respect to the caused event). While this parameter underlies Givón's distinction, it does not adequately capture the classifications of the *OED* and Terasawa: their sense distinctions must be understood relative to the degree to which the causee cooperates with the causer willingly or puts up resistance (§3.1.2).

3.1.1 Causee agentivity

Regarding the 'force' sense, one might expect that the kind of causative situation associated with it would always involve an agentive causee. After all, that is the semantic role of the NP complement in the verbs *compel* and *force* — which the *OED* suggests may paraphrase 'force' *make* (cf. §2.2) — when they take an infinitival clause:

(17) Hunger compelled him to surrender (Green *Short Hist.* iii. 139 [*OED*, compel, *v.*, s.v.1.a])

(18) Every knight was forced to arm himself with coat of mail. (Green *Short Hist.* ii. §8 [*OED*, force, *v.*1, s.v. 4.a])[7]

[7] Cases such as *As they could not persuade they tried to compel men to believe* (Robertson *Chas. V*, III. XI. 335 [*OED*, compel, *v.*, s.v. 1.a]) do not invalidate the claim that with these verbs the subject of the infinitival

This expectation is borne out by Terasawa's examples of the 'force' type (1985:133-4). Furthermore, he states overtly that it always has "an agentive causer (subject) capable of performing a causative action" (Terasawa 1985:133).

By contrast, the *OED* lists the following example as instantiating the 'force' sense:

(19) Man can neither make him to whom he speaks, to hear what he says, or believe what he hears. (Fuller *Wounded Consc*. 311 [*OED*, make, *v*.1, s.v. 54.a])

Now although *believe* (the second infinitive dependent on *make*) allows for a construal that renders it compatible with an agentive subject (cf. also fn. 7), the same can hardly be said about *hear*. Of the following two adaptations of (19), (20a) sounds fine, but (20b) is ungrammatical.[8]

(20) a. I forced him to listen to what I said.
b. *I forced him to hear what I said.

OED$_3$ lists yet another example (without an overt infinitive) where the causee is not agentive:

(21) If of her selfe shee will not Love, Nothing can make her… (J. Suckling *Aglaura* IV. 23 [*OED*3, make, *v*.1, s.v. 40.b])

Having concluded that to the *OED* (as opposed to Terasawa) causee agentivity is not a necessary feature of the 'force' use, I note that, conversely, not all neutral examples have nonagentive causees. The causee in the earliest example, presented above as (8) and reproduced here as (22), is agentive; see also (23-4), from 1380 and 1650:

(22) Swa makeþ þe halie gast þe Mon bi-halden up to houene (*Lamb*. *Hom*. 159)
'So the holy ghost makes the man look up to heaven'
(23) At Knaresburgh be nyhtes tuo The kinges Moder made him duelle. (Gower *Conf*. I. 202 [*OED*, make, *v*.1, s.v. 53.a])
'At K. for two nights the king's mother made him dwell'
(24) What made Peter deny his Lord? (Baxter *Saints' R*. IV. (1651) 36 [ibid.])

---

clause is always agentive. This example merely shows that 'believing' is not necessarily something that one only experiences, but can be construed as something that one can volitionally, intentionally engage in.

[8] Admittedly *Hear what I have to say!* is acceptable, but presumably this is because imperative mood represents such a strong coercion to construe the (implied) subject as agentive that a verb's normal semantics can be overridden.

Interestingly, while for Terasawa causee agentivity is a necessary property of 'force' type, it cannot be a sufficient feature, as some of his neutral causation examples also have agentive causees:

(25) What caused Mary to act like that? (Terasawa 1985:134)
(26) What made you do so? (ibid.)

As for Givón, finally, in §2.2 I suggested that his polysemy proposal is exactly along the lines of what this subsection has covered so far, i.e. a distinction depending on whether the causee is agentive or not.

The role of causee agentivity in the respective classifications of the *OED* and Terasawa's study can be diagrammed as in Figure 2, below, which is inspired by the semantic map approach. Semantic maps are increasingly popular in typology, where they are used to represent variation in form-function mapping (see e.g. Croft 2001:92-104, Haspelmath 2003). More specifically, the idea is that one first devises a conceptual space (e.g. of different types of causation). This space is intended to reflect how the concept at hand is represented in the mind (conceptually closer notions being represented as physically closer); as such, it should be universal. Onto this universal representation of conceptual structure one then plots the semantic regions occupied by various constructions, either intralinguistically (to show how constructions overlap/compete) or crosslinguistically (to show how form-function mapping may vary across languages, and how this variation may be constrained). The result is called a semantic map. (For examples see also my Ch.6.)

I take the idea of representing the semantics of different constructions (in different languages) as regions in a conceptual space and use it to illustrate visually how different *scholars* have analysed the meaning of a *single* construction: periphrastic causative *make*:

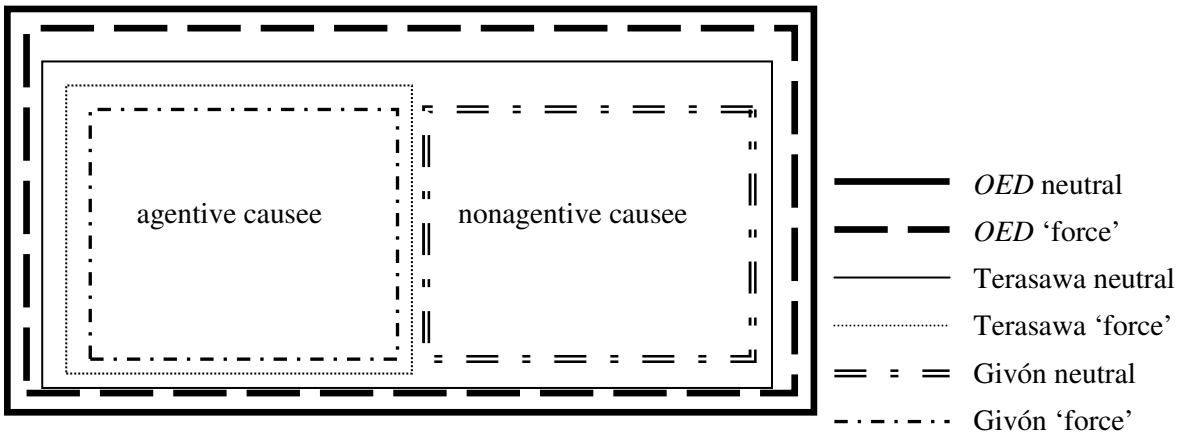

FIGURE 2. THE ROLE OF CAUSEE AGENTIVITY IN THE 'NEUTRAL' V. 'FORCE' CLASSIFICATION OF *MAKE* ACCORING TO *OED*, TERASAWA (1985) AND GIVÓN (1975)

3.1.2 Causee resistance

At this point two questions may be raised. First, if for the *OED* causee agentivity is not the criterial attribute in distinguishing neutral from 'force' *make*, what is? Second, how does Terasawa distinguish between the two types in cases where the causee is an agent? These questions will be answered in turn.

With regard to the *OED*, examples are seen as being of the 'force' type to the extent that the causer must overcome *resistance* in the causee before the latter will comply. This notion goes back to Talmy's analysis of examples such as (27-28), below. The causers have to overcome causee resistance; the ball in (27) and the molecule in (28) are both portrayed as being naturally inclined towards stasis (i.e. with regard to the caused event):

(27) The ball kept rolling because of the wind blowing on it. (Talmy 2000a:416)
(28) To get the molecule to react, you have to add energy to overcome its resistance. (ibid.:458 [overheard from a chemist speaking])

Now while the causees in these examples are inanimate objects, and resistance is therefore literal (i.e. physical), the idea is that instances with reluctant human (or animate) causees are conceptualised in similar terms. (Pragmatically, there is a correlation between causee resistance and the degree to which their attitude/evaluation/judgment of the event in question is negative.)

Resistance is best thought of not as an all-or-nothing affair but as a *gradient* notion. If the ball in (27) is a bowling ball the degree of resistance is higher than if it is a tennis ball, which, in its turn, resists the wind more than a ping-pong ball. Likewise, in

interpersonal causation the causee may put up more resistance to the causer to the extent that they are more tired, have many other things to attend to, do not like the causer, or whatever.

On a related note, any instance of categorisation relative to the resistance continuum is a function of one's (subjective) appraisal of the situational context. (This is not to deny that certain situations may very strongly favour a maximal or minimal resistance construal, e.g. if they are typically seen as very unpleasant or pleasant to carry out/undergo.)

Terasawa does not discuss resistance explicitly but the notion seems to be present in his analysis as well.[9] The infinitival complements in examples of the 'force' type describe events such as 'doing one's homework'/'doing the dishes' (Terasawa 1985:133, his exx. (1-2)), which will usually provoke resistance in the causee. In addition, they are sometimes formed not with *make* but with *force* (cf. e.g. Terasawa 1985:133, exx. (1, 4)), which also typically implies some degree of resistance. Instances of the neutral type, on the other hand, feature infinitive phrases such as *act like that* (1985:134), *do so* (ibid.) and *forget my misfortune* (ibid.), all of which refer to actions which are not normally construed as likely to lead to resistance in their subjects; 'forgetting one's misfortune' is probably even a positive thing.

It his harder to recognise a resistance component in Givón's account. Some of the infinitival clauses in the 'force' type are likely to feature a high degree of resistance, e.g. *do the dishes, go and get examined by the committee* (1975:62, 67, his exx. 17b, 36b), but he also includes an example with *pick up her book deliberately* (63, ex. 18b), where resistance is not so plausible (at least without further context). He seems to argue, then, for a distinction purely in terms of causee agentivity v. lack thereof.

Integrating the information about the *OED* and Terasawa's use of causee resistance with what was previously discovered about causee agentivity, Figure 2 can be modified as follows:

[9] This is not to say that this is the sole criterion on which Terasawa's analysis depends. In contradistinction to the *OED*, he considers causee agentivity as well (§3.1.1).

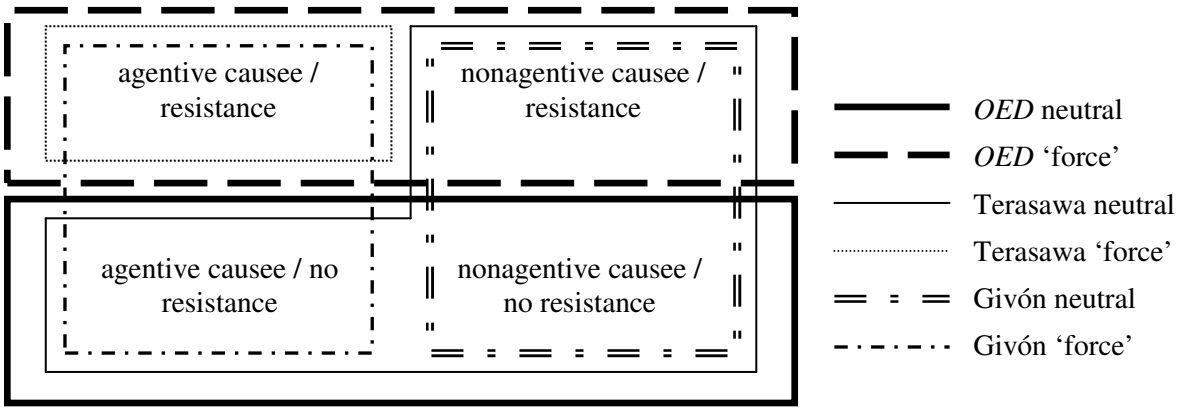

FIGURE 3. THE ROLE OF CAUSEE AGENTIVITY AND RESISTANCE IN THE 'NEUTRAL' V. 'FORCE' CLASSIFICATION OF *MAKE* ACCORDING TO *OED*, TERASAWA (1985) AND GIVÓN (1975)[10]

Having introduced the notion of resistance, I can now come back to the remarkable difference between OED_2 and OED_3 in the reconstructed dates of origin of the 'force' meaning. Recall how, between the two editions, the reconstructed time gap separating the rise of the two types dropped from around four hundred to around two hundred years, owing to example (11), above, reproduced as (29), below.

(29) Thou shalt make him couche as doth a quaille.

In view of the time and effort that goes into the preparation of the *OED* one wonders how the editors could have missed out on (11)/(29) in preparing the second edition, especially given the source text of the c1395 example: Chaucer's *Clerk's Tale*. It would be hard to imagine that the editors of OED_2, in composing the entry for *make*, failed to look at the *Canterbury Tales*, and indeed this is not the case: the entry in the second edition features examples from the *Canon's Yeoman's Tale* (*make*, v.1, s.v. 2.a), *Squire's Tale* (s.v. 9.a), *Parson's Tale* (s.v. 23, 48.a, 53.b), *Knight's Tale* (s.v. 49.d) and the *Summoner's Tale* (s.v. 52). Moreover, the citation from the *Clerk's Tale* is not the only example in OED_3 predating the earliest instance in OED_2: there are three more, from ?c1450, 1520 and 1546.

Rather than arguing that the editors of OED_2 were less thorough than the ones of OED_3 I suggest that the time gap be understood in the light of the gradient, context-dependent nature of resistance: the early 'force' examples in OED_3 had

[10] Terasawa does not state explicitly that the 'nonagentive causee/resistance' use belongs to the neutral type, but this is implicit in his suggestion that the 'force' type features agentive causees (see discussion above). It cannot be objected that perhaps Terasawa is not aware of the existence of the nonagentive causee/resistance use: cf. examples such as *Thousandes his hondes maken deye* 'His hands cause thousands (i.e. of people) to die' (Chaucer *Troilus and Criseyde* 5.1802 [1985:139]).

presumably been analysed as neutral for OED_2. (Indeed, the degree of resistance in the examples in question is open to discussion.)

3.2 The neutral v. 'force' distinction from a syntactic and typological perspective

The differences between the polysemy proposals of the *OED*, Terasawa and Givón render the monosemy v. polysemy question more complicated: not only is it necessary to look for evidence either for or against polysemy *tout court*, but in case there is evidence for polysemy one also has to establish whether the senses conform to the *OED*'s suggestions, Terasawa's, or Givón's. I will consider the issue from the perspective of syntax (§3.2.1), typology (§3.2.2) and diachrony (§3.2.3).

The main reason for considering syntax lies in Terasawa's suggestion that the neutral type is 2-place, the 'force' type, 3-place. The semantic implication is that the neutral type represents a causative situation that is conceptualised as a causer (the matrix clause subject) simply bringing about some state of affairs (the lower clause subject plus the infinitive). The 'force' type, by contrast, portrays the matrix clause subject as impinging on the lower clause subject, which then results in the occurrence of the infinitival event. Regarding resistance, Terasawa would perhaps argue that in the neutral type the syntactic incorporation of the causee into the caused event reflects his/her cooperative nature; in the 'force' type, the causee's syntactic status as direct object mirrors their (unsuccessful) resistance to engaging in the infinitival event.

As for typology, if there are separate senses one would expect this to be reflected in coding differences in at least some other languages. In suggesting that the neutral v. 'force' distinction constitutes (part of) a typology of causatives Terasawa (1985:133) in fact explicitly claims that this is the case.

Diachronic data, finally, are considered because polysemy is more likely to the extent that there is a significant interval between the rise of the different senses.

One might feel that the field of lexical semantics, with its arsenal of ambiguity tests, should have something to contribute, too. However, from the perspective adopted here these tests are not very useful. Quite apart from the problem that they do not always yield unambiguous results and may thus not be reliable tools to begin with (cf. especially Geeraerts 1993), one should be aware that they have been designed for illuminating the semantics of *individual lexical items* (cf. e.g. Cruse 1986, Cruse & Croft 2003, Chs. 5-9). The present study, by contrast, takes a constructional approach (Lakoff

1987, Fillmore et al. 1988, Langacker 1987, 1991b, Goldberg 1995, Croft 2001). As such it is not concerned with causative *make* as an isolated verb, or as a verb potentially taking an infinitival complement (the perspective taken in most previous scholarship), but instead, with the syntax-semantics of the construction [NP_S-MAKE-NP_{DO}-STEM/INF] *as a whole*. The polysemy whose likelihood of existence I am trying to determine is thus not of the run-of-the-mill lexical type, but would instead be a case of "constructional polysemy" (cf. Goldberg 1995:32-39, 161-4, 210-2, 218, 225 for discussion and examples).

Tests designed for individual lexical items are less than helpful in a study of *constructional* semantics. One of the examples of lexical polysemy in Cruse & Croft (2003, Ch. 5) is *light*. A good indication that senses are antagonistic is the so-called identity constraint. (30), below, cannot mean that Mary's coat was 'not dark', and Jane's, 'not heavy' (or vice-versa). Compare this with *friend*: (31) does accept an interpretation on which Mary brought a male friend, and Jane, a female friend (or vice-versa); these construals of *friend* are therefore not separate senses.

(30) Mary was wearing a light coat; so was Jane.
(31) Mary brought a friend to the party; so did Jane.

Now the problem with periphrastic causative *make*, and indeed complex constructions in general, is that they tend to be too unwieldy to be embedded in such diagnostic frames.

3.2.1 Syntax

Terasawa claims that his 2 v. 3-place analysis of periphrastic causative *make* is not new: "[t]he point has been discussed and demonstrated convincingly by Quirk et al. (1972:839-840), F.R. Palmer (1974:180-185, 197-199) and Givón (1975:74) and the argument will not be repeated here" (1985:135). Apart from any problems one may have with the very concept of a (sharp) distinction between 2 and 3-placeness (cf. e.g. Quirk et al. 1985:1219, fig. 16.67), one may object that while the scholars referred to have indeed made some observations on complementation patterns of various verbs, causative and/or otherwise, it is strictly speaking incorrect to say that they have made the specific suggestion that *make* features in the two relevant syntactic configurations.[11]

[11] This is the reason why I did not refer to the studies in question in the section that discusses polysemy proposals in previous scholarship (§2.2). For the sake of completeness let me note that in the version of the generative framework adopted by Palmer (1974) structural differences in complementation patterns were not seen as indicative of polysemy but, instead, homonymy (i.e. a number of different verbs; cf. 192-4). This is to be seen against the background of the general rejection of, or at least reluctance to accept, polysemy in the generative tradition.

Quirk et al. (1972:839-40) do not discuss *make* at all. Palmer does, but he does not suggest that there are two syntactic possibilities, merely stating that "MAKE occurs with construction 3 [i.e. the 3-place configuration that Palmer represents as NP_1 V NP_2 [(NP_2) V][12]]" (1974:199). Compare this to his treatment of e.g. *cause* — which he does say "occur[s] with constructions 2 [i.e. NP_1 V [NP_2 V]] and 3 and seem[s] to be simultaneously [a member] of both the WANT and PERSUADE class" (Palmer 1974:197). Concerning Givón (1975), finally, in §2.2 I observed a parallel between his semantic description of *make* and Terasawa's syntactic analysis. However, Givón does not himself offer a 2 v. 3-place syntactic hypothesis. The tree representation he provides instead has periphrastic causative *make* as a 3-place verb (Givón 1975:74, his (63)). Admittedly he bases this analysis on examples with clearly agentive lower clause subjects, i.e. his 'force' type. As for the neutral type, the generative semantic perspective he adopts leads him to argue that a neutral type example with an inanimate causee such as *The confusion made the room appear much smaller (to us)* actually derives from some deep level representation like *The confusion made us perceive the room as much smaller*. But again the tree structure he proposes has *make* taking 2 complements: the causee argument (*us*) and the string representing the caused event (Givón 1975:75, his (66)). Givón's syntactic analysis is thus parallel to Palmer's.

A more subtle sense in which Terasawa misrepresents the studies he refers to is that the criteria used by Palmer and Quirk et al. do not yield unambiguous evidence for a 2 v. 3-place structure of *make*. The first way in which Palmer (1974:181) differentiates between *want* and *persuade* is by trying to passivise sentences such as (32a-b), yielding ungrammaticality in the case of *want* but not *persuade*:

(32) a. I wanted the doctor to examine the boy. (Palmer 1974:181)
b. I persuaded the doctor to examine the boy. (ibid.)
(33) a. *The doctor was wanted to examine the boy. (ibid.)
b. The doctor was persuaded to examine the boy. (ibid.)

The idea here is that passivisability depends on the possibility of turning an active object into a passive subject. The object of *persuade* (i.e. *the doctor*) is at the same time the lower clause subject (the verb is 3-place), while that of *want* it is not (the verb is 2-place).

[12] Palmer uses round brackets to indicate "the unstated subject" (1974:181); the index of (NP_2) shows that the unstated subject of the lower verb is coreferential with the matrix verb object.

For some of Terasawa's examples this criterion would indeed indicate that neutral causative *make* is 2-place, while the 'force' type is 3-place: (34a) can be passivised, while (35a) cannot:

(34) a. John made Mary do the dishes. (Terasawa 1985:133, adapted from his ex. (3); cf. also (13), above)
b. Mary was made to do the dishes (by John).
(35) a. Cold weather made me shiver. (Terasawa 1985:134)
b. *I was made to shiver (by cold weather).

However, it is possible to come up with examples of the neutral type that are not particularly resistant to passivisation. In fact, Terasawa himself presents an example which, when passivised, is hardly ungrammatical:

(36) a. You made me forget my misfortune. (Terasawa 1985:134)
b. I was made to forget my misfortune (by you).

(36b) may sound slightly strained but I did a brief search of the British National Corpus for similar cases, and found plenty of passive examples that Terasawa would nevertheless classify as neutral:

(37) We are made to feel that the reversed meaning is wrong. (BNC A05 224)
(38) One law for the rich and another for the poor, as the two systems can be made to seem, are laid down together in a book which commemorates a desertion, on the author's part, of the rich for the poor. (BNC A05 265)
(39) They are words that can be made to mean different things, and are applicable as such to the story of Jaromil's poetic progress from private to public, which can also be recognised as a simultaneity of the two, based on an enduring self-engrossment. (BNC A05 662)
(40) As long as you look after them, heavy soils will never let you down in a drought, will be naturally fertile and can be made to suit the widest range of plants. (BNC A0G 916)
(41) Mr Shaw said that a jury's task in awarding damages would be very difficult: "It is probably a unique case, with a unique plaintiff, whom they probably felt shouldn't be made to suffer any more. (BNC A2P 327)
(42) This arrangement was made to work, albeit with increasing tension, between 1962 and 1966. (BNC A6M 83)
(43) During Mr John Major's brief tenure he was made to look foolish on his one co-starring trip — the Commonwealth conference in Kuala Lumpur — by the Prime Minister's repudiation of the South African statement he had negotiated. (BNC A95 329)

Now apart from objecting that the test fails to distinguish between the hypothesised neutral and 'force' types, passivisation is not a reliable test for objecthood to begin with. Consider the difference in acceptability between the passive versions of (44a)

and (45a); despite the ungrammaticality of (44b) *a new doctor* in (44a) is still the object of *want*.

(44) a. I wanted a new doctor.
b. *A new doctor was wanted (by me).
(45) a. I persuaded the doctor.
b. The doctor was persuaded (by me).

The question arises as to what differences in passivisability *are* indicative of. I agree that there is a correlation with transitivity, but rather than positing a sharp distinction between intransitive and transitive, I would follow functional-typological linguists such as Hopper & Thompson (1980) and Rice (1987) in analysing transitivity as a gradient, multi-dimensional (semantic) notion. From this perspective intransitive clauses are not diametrically opposed to transitives. Rather, there is a *continuum* ranging from minimal to maximal transitivity, on which objectless clauses are placed at the least transitive end. In the light of this continuum cases where two transitive clauses display a difference in passivisability do not present a problem. (In Hopper & Thompson's model the difference in passivisability of (32a) as against (32b), for instance, is due to the fact that an act of persuasion is an action (i), which is telic (ii), and in which the object is affected (iii) — all of which are values associated with a high degree of transitivity. Merely *wanting* someone to do something, by contrast, is none of these things.) My Ch.6 discusses the functional-typological analysis in more detail, with special reference to transitivity in causatives.

Palmer's second test (1974:181-2, cf. also Quirk et al. 1972:839) involves the semantic consequences of passivisation of the complement clause, the operation yielding a significantly different meaning in the case of 2-place verbs, but not with 3-place verbs. Compare (32a-b), above, to (46a-b), below:

(46) a. I wanted the boy to be examined by the doctor. (Palmer 1974:181)
b. I persuaded the boy to be examined by the doctor. (ibid.)

(46a) is a reasonable paraphrase of (32a), but (46b) is very different from (32b): the boy not the doctor is persuaded. While this test seems fine for *want* and *persuade*, it is problematic when applied to causative *make*. If Terasawa were correct one would expect a parallel meaning difference between the neutral and 'force' types. What we get, instead, are sentences which are in both cases of very doubtful grammaticality:

(47) ??You made my misfortune be forgotten by me. (cf. (40a))
(48) ??John made the dishes be done by Mary. (cf. (34a))

Moreover, to the extent that they are still marginally acceptable it is clear that not only the neutral type but also the 'force' type is directly related to the original sentence. This would seem to indicate that the 'force' type is 2-place.

To sum up, the syntactic evidence for Terasawa's distinction between the 2-place neutral type and the 3-place 'force' type is not convincing. First, the scholars he refers to as having conclusively proven the point have not actually done so for [NP_S-MAKE-NP_{DO}-STEM/INF]. Second, the test of passivising the whole sentence fails to distinguish between the two supposed types. Third, with regard to the same diagnostic, one may argue that what it actually tests for is something else than the type of complementation (i.e. the transitivity of the whole situation described, which is a gradient property). Fourth, the second test (passivisation of the complement clause) does not yield very natural sentences (cf. (47-8)). Fifth, even if one should be prepared to derive conclusions from marginally acceptable sentences, then the evidence would not support the 3-place analysis of the 'force' type.

3.2.2 Typology

From the viewpoint of psychological plausibility crosslinguistic evidence to support (or contradict) the neutral v. 'force' type polysemy is important: the stronger the crosslinguistic evidence for the hypothesised distinction, the more likely its existence in the mind as separate senses.

Of the polysemy proposals made by the *OED*, Terasawa (1985) and Givón (1975) only Terasawa claims explicitly that the distinction has crosslinguistic validity, referring to it as a "typological dichotomy" (1985:133). The two types are to be seen against the background of a three-way typology of causatives, based on the different possibilities of foregrounding parts of the causative situation:

> The causative verbs can be classified, in terms of the causative action (ACT ON) and the result of causation (RESULT), into three types: those which focus both on ACT ON and RESULT (Type I); those which focus on ACT ON rather than RESULT (Type II); those which focus on RESULT rather than ACT ON (Type III).
>
> (Terasawa 1985:133)

Terasawa suggests that the 'force' type corresponds to Type I, the neutral type, to Type III. Terasawa's typology, and the place of *make* therein, may thus be

represented as the following diagram, where the boxes enclose the focused aspect(s) of the causative situation:

FIGURE 4. TERASAWA'S TYPOLOGY OF CAUSATIVES AND THE PLACE THEREIN OF NEUTRAL AND 'FORCE' TYPE *MAKE*

Terasawa's polysemy claim would increase in plausibility if this 3-way typology were valid, but this is far from certain. Given his bicomponential analysis of the concept of causation it is true that the typology covers the logically possible types. But that does not mean that it is correct. Certain typologists working on causatives would contest his analysis of causation into ACT ON and RESULT components — see for example Song's tricomponential analysis, involving GOAL, EVENT and RESULT (1996:146; cf. also my Chapter 1). In addition, typological studies tend to suggest that there are other factors apart from the different ways of focusing on the components of the causative situation. Dixon's (2000) more complex semantic typology of causatives, for instance, involves as many as nine semantic parameters (see my Ch. 1; cf. also the multidimensional semantic analyses in my chapters on infinitival complementation and passivisation, which are framed in terms of binding and transitivity, respectively).

The main objection to Terasawa, however, is that he does not provide any crosslinguistic evidence for his suggestions. Nor does he ground his typology in other studies that do offer such evidence. What matters in typological work is not what proposals linguists can come up with in logic-driven analyses of a single language but, instead, what speakers actually *do*, crosslinguistically; in the absence of such evidence Terasawa's proposal cannot be said to furnish a "typology" in any truly empirical sense.

Let us therefore move on to studies on causatives that do involve crosslinguistic evidence. The amount of typological scholarship on causatives is vast. However, the typological studies directly relevant to the issue of the potential polysemy of [NP_S-MAKE-NP_{DO}-STEM/INF] are only few. Typologists, especially in the 1970s, have primarily been interested in lexical and morphological causatives and not so much in periphrastic constructions. Cole (1983), Song (1996) and Dixon (2000) do discuss periphrastic constructions at length. These studies were summarised in Chapter 1; below, I focus only on the aspects that are relevant to the present chapter. I deal with them in order of increasing usefulness.

3.2.2.1 Song

Song's (1996) AND v. PURP v. COMPACT type classification does not have a bearing on the polysemy issue, for three reasons. First, while Song is aware that there is variation in the formal-functional properties of causees he observes that these properties are not unique to causative situations, and proceeds to argue that one should really study causatives *on their own terms*, i.e. focusing more or less exclusively on what sets causation/causative constructions apart from other situation types/constructions. Thus, he cites the Japanese examples (49-50), below (from Shibatani 1990:309) and suggests that the contrast in case marking on the causee is due to the low degree of control exercised by the causee in (49) as against the relatively high degree in (50). He then asks "what [in the light of this suggestion] can be discovered about causation *per se*" (Song 1996:6), and answers: "[n]ot much, since, clearly, (…) semantic parameters such as control (…) are to be found equally, if not more, relevant to grammatical phenomena other than the causative (e.g. case marking, grammatical voice, etc. (…))" (ibid.). Song explicitly states that his study "does not deal with" (1996:7) this semantic-pragmatic notion (along with several other issues that have been discussed in the literature on causatives).

(49) Hanako ga Ziroo o ik -ase -ta (Song 1996:5)
Hanako NOM Ziroo ACC go -CAUS-PST
'Hanako made Ziroo go'

(50) Hanako ga Ziroo ni ik -ase -ta (ibid.)
Hanako NOM Ziroo DAT go -CAUS-PST
'Hanako got Ziroo to go'

Incidentally, Song's description based on control is related to causee resistance: the accusative-marked causee in (49) displays relatively much resistance as compared to the dative-marked one in (50). (The other constructions mentioned by Song may also be amenable to characterisation relative to the notion of resistance, cf. e.g. Lakoff's (1971) study on the *get*-passive.)

The second reason why Song's typology is irrelevant is that his main distinction, between the AND and PURP types, is simply not attested in English. As I suggested in Ch.1, one may argue that causative *make* and other English causatives taking (bare and *to*-)infinitival complements represent (more or less grammaticalised instances of) the PURP type, but neither *make* nor any other causative construction goes back to a coordinate structure. And the grammaticalisation path of the PURP type — i.e. the process whereby it may become more, or exclusively, associated with implicativity (Song 1996:67-

8) — bears no relation to the issue of the status of the different readings of periphrastic causative *make*, as they are all equally implicative.

The third sense in which the relevance of Song's study is compromised lies in the restricted perspective he takes on causation. His typology depends on the presence of "some desire or wish" (Song 1996:142). Now while certain instances of [NP_S-MAKE-NP_{DO}-STEM/INF] indeed involve a desire or wish on the part of NP_1' for the event described by the complement clause to happen (see e.g. most of the examples in section 1, above), this is not always the case. For instance, in example (51) the wind clearly does not 'desire' that the glass should tip over. The same goes for cases such as (52).

(51) The wind's blowing on it made the glass tip over.
(52) My clumsy brother made the glass tip over.

A typology that can adequately capture the semantic difference between neutral and 'force' causation would require a more inclusive view of what constitutes a causative situation.

3.2.2.2 Dixon

Dixon (2000) defines causation more broadly than Song (1996). Since to Dixon "a causative construction involves the specification of an additional argument, a causer, onto a basic clause" and "[a] causer refers to someone or something (which can be an event or a state) that initiates or controls the activity" (2000:30), examples like (51-2) are straightforwardly categorised as causative.

3.2.2.2.1 The relevant parameters

Dixon's typology involves three dimensions: formal marking, syntax and semantics. As the different uses of [NP_S-MAKE-NP_{DO}-STEM/INF] are formally identical but differ only in meaning, only Dixon's semantic parameters are relevant.

Out of the total of nine parameters — state/action, transitivity, control, volition, affectedness, directness, intention, naturalness, involvement (see my Chapter 1) — only three are potentially related to the neutral v. 'force' distinction. These are the ones that involve the relevant aspects of the semantics of the causee: control, volition and naturalness. Dixon's short definitions of the three relevant parameters are repeated below for the sake of convenience. Causee affectedness is also linked to the semantics of the

causee but is irrelevant here as it does not have a bearing on the semantic distinctions presently discussed, viz. those proposed by Givón, Terasawa and the *OED*. Naturalness is not presented by Dixon as related to the semantics of the causee but actually it is, since effort/violence will often be correlated with causee resistance.

1. Control: "Is the causee *lacking control* of the activity (…) or normally *having control*?" (Dixon 2000:62 [emphasis Dixon's, as in citations below])
2. Volition: "Does the causee do it *willingly* (…) or *unwillingly* (…)?" (ibid.)
3. Naturalness: "Does it happen *fairly naturally* (the causer just initiating a natural process) or is the result achieved only *with effort* (perhaps, with violence)?" (ibid.)

3.2.2.2.2 Usefulness of Dixon's parameters

At first sight Dixon's typology might seem very useful for describing the difference between the neutral and 'force' uses of [NP_S-MAKE-NP_{DO}-STEM/INF]. Consider example (1a), reproduced here as (53):

(53) I made him clean the garage by threatening to cut his allowance (if he didn't).

It is clear that the causee here acts reluctantly. This corresponds to a negative value on volition. So far so good. But if we turn to control, things become more complicated. First of all, Dixon's only example of a causative that involves a causee lacking control is the Creek marker *–ic*, which is described by Martin as "possibly (…) being an unwilling partner in the event" (2000:395). Control thus displays some overlap with volition.

Moreover, with reference to (53), it is not obvious to what extent the referent of *him* should be analysed as having control or lacking it. Dixon's exemplification of this parameter does not help. He argues that Creek uses different constructions corresponding to the distinction between feeding someone as against making someone eat:

(54) honánwa-t istocí-n hómpeyc-ís
male-NOM baby-OBL eat:direct.CAUS:LGR-IND
The man is feeding the baby (as by spooning the food into the baby's mouth) (Martin 2000:397)

(55) honánwa-t istocí-n hómp-ipeyc-ís
male-NOM baby-OBL eat-make:LGR-IND
The man is making the baby eat (perhaps by commanding the baby) (ibid.)

Now while there is indeed a notional difference here, the 'feed' v. 'make eat' contrast is special: there are only a few causative situations where the causee may be in control or not. Apart from *eat* and *drink* (Levin's 'eat' verbs (1993:213)), posture verbs (cf. alternations

such as *sit* v. *set* and *lie* v. *lay*), some manner of motion verbs (*walk*, *drive*, etc.) and the verbs *bathe* (cf. Cole 1983:121), *bleed* and *burp* (cf. Levin 1993:32)[13] one would be hard pressed to find many more examples. The question then arises to what extent this distinction can be extended to causation as a whole.

Turning to naturalness, Dixon presents examples from Russian to demonstrate the positive and negative values:

(56) on na-poi-l menja vinom
3SG.M preverb-drink.CAUS1-SG.M.PST 1SG.ACC wine.INST.SG
He got me to drink wine (and I didn't resist) (Dixon 2000:72)

(57) on za-stavi-l menja pitj vino
3SG.M preverb-CAUS2-SG.M.PST 1SG.ACC drink wine.ACC.SG
He forced me to drink wine (e.g. by threats or blows) (ibid.)

The morphological causative in (56) describes "something that happens *naturally*" while the periphrastic construction in (57) portrays the causative situation as involving "*violence or force* (which can include moral force)" (Dixon 2000:71). Parameter overlap arises here as well. Given that the degree of violence/force applied will tend to correlate with the degree to which the causee is unwilling, there is overlap with volition — and hence, with control.

As far as I can tell, the naturalness parameter is unique to Dixon's (2000) typology — unlike some of the other notions, such as volition, which have been more widely discussed in the typological literature (e.g. Givón 1975, Cole 1983). Dixon would have to supply more persuasive evidence than just one set of examples (56-7) that naturalness represents a worthwhile addition to established typologies.

The volition parameter is not without problems either. While it can be applied straightforwardly to cases with human (or more generally animate) causees, it is not clear how it relates to *inanimate* ones. Thus, considering example (2), above, reproduced below as (58), one wonders whether the aerial should be analysed as unwilling, the rationale being that this object does not 'desire' to topple. If so, then Dixon's typology would support Terasawa's polysemy analysis, the 'force' type featuring agentive, resistant causees, the neutral type representing all other kinds of causees.

(58) The wind made the aerial topple in blowing the branches down upon it (Talmy 2000a:502)

[13] Consider the semantic difference between *making someone burp* and *burping someone* (e.g. a baby). This distinction is also discussed by Smith (1970:107).

Interesting though this may be, the problem with such an analysis is that precisely because objects cannot, except metaphorically, be said to 'want' things, perhaps it makes little sense to think of these causees in terms of volition to begin with. If that is true, then Dixon's volition is useful only for a restricted set of causative situations.

To sum up, Dixon's parameters, while generally not representing evidence *against* a polysemy analysis of periphrastic causative *make*, are of only limited value in evaluating the relative merits of the proposals made by Givón, Terasawa and the *OED*, the main problem with Dixon's parameters being the extent to which they overlap.

In view of this overlap, one wonders whether Dixon's amalgam of parameters can be subsumed under the notion of resistance. This seems an attractive analysis. Resistance can account for the examples Dixon uses to illustrate the different values for control and naturalness: (54) and (56) are accurately described as representing a low degree of causee resistance as compared to their counterparts, (55) and (57). The same goes for the Swahili sentences Dixon cites (from Vitale 1981:156-7) in order to demonstrate how a situation involving willing (i.e. unresisting) causees can be coded differently from a situation with unwilling (i.e. resisting) causees; cf. respectively, (59) and (60):

(59) mwalimu hu-wa-som-esha wanafunzi kurani
teacher HAB-3PL-study-CAUS students Koran
'The teacher teaches the students the Koran' (they want to study it) (Dixon 2000:66)

(60) mwalimu hu-wa-lazimisha wanafunzi wa-som-e kurani
teacher HAB-3PL-force students 3PL-study-SUBJ Koran
'The teacher forces the students to study the Koran' (they do not want to study it) (ibid.)

On this interpretation of Dixon's data, Givón's version of the polysemy hypothesis is relatively incomplete, since it does not take account of causee resistance.

3.2.2.3 Cole

Cole (1983) provides fairly solid crosslinguistic support for a distinction between the neutral and 'force' types, though again, which of the versions of the polysemy proposal (viz. Givón's, Terasawa or the *OED*'s) is the most plausible, depends on one's interpretation of his examples.

His data from Bolivian Quechua, Kannada, Modern Hebrew, Hungarian and Japanese lead Cole to observe that agentive causees are coded differently from nonagentive

ones, the former occurring in cases that are associated with agentivity or animacy ("potential agency", Cole (1983:117)) such as instrumental, the latter, in cases associated with nonagentivity, usually the accusative. Consider the following examples from Bolvian Quechua:

(61) nuqa Fan-ta rumi-ta apa-či-ni
I Juan-ACC rock-ACC carry-cause-1SG
'I made Juan carry the rock' (Cole 1983:118)

(62) nuqa Fan-wan rumi-ta apa-či-ni
I Juan-INST rock-ACC carry-cause-1SG
'I had Juan carry the rock' (ibid.)

For a proper understanding of Cole's distinction between agentive and nonagentive causees, it is worth considering that Langacker takes Cole's conclusion that "the instrumental is appropriate when the subject [of the lower clause] is viewed as agentive, and the accusative when the subject is nonagentive" (1983:119) and modifies it, pointing out that "clearly, carrying a rock is inherently agentive, whether one does it under coercion or by consent" (1991a:260). Langacker continues:

> This content [i.e. the inherent agentivity of carrying a rock] is not overridden by the case marking on the pivot [i.e. the causee], but rather provides the frame with respect to which the cases are semantically construed. Hence the ACC ending on 'Juan' in [61] does not cancel its basic agentivity; it does however indicate that the pivot is only minimally agentive relative to the circumstances, i.e. that Juan exercises no independent judgment or volition, being an agent only from the standpoint of physically executing the activity. In [62], on the other hand, the INSTR suffix specifies that to some degree Juan also manifests the mental aspects of agentivity.
>
> (Langacker 1991a:260)

Cole notes that while Kannada, Modern Hebrew and Hungarian distinguish only between two degrees of agentivity, Bolivian Quechua has one more. In addition to agentive causees and patient-like ones, there are complements with experiencer subjects. These are in between agents and patients on the agentivity hierarchy (see also Ch. 1) in that owing to their animateness they are "potentially agentive" (Cole 1983:119):

agent<experiencer<patient

In fact, following Langacker's characterisation of an experiencer as a participant who "generat[es] the cognitive activity through which an internal representation is produced or mental contact is otherwise established" (1991b:327), one may even ascribe a degree of

actual initiative to this participant role (cf. also the discussion on the semantics of 'affecting event' *have* in my Ch.3).

Cole's examples of (dative) experiencer causees were already presented in Chapter 1; they are reproduced below (the patient and agent points on the hierarchy are illustrated by the respective examples (61) and (62), above):

(63) nuqa runa-man rik^{h}u-či -ni
I man-DAT see-cause -1SG
'I showed it to the man' (Cole 1983:119)

(64) nuqa wawa-man yaca-či -ni
I child-DAT know-cause -1SG
'I taught it to the child' (ibid.)

The implication for English is that periphrastic causative *make* may actually display not two-way but three-way polysemy. Some examples presented earlier in this chapter illustrate the three semantic variants of the construction, the causee in (65) being a patient, in (66), an experiencer and in (67), an agent:

(65) The wind made the aerial topple in blowing the branches down upon it. (= ex. (2))
(66) A good hostess always makes guests feel at home (= ex. (4))
(67) John made Mary do the dishes. (= ex. (13/34a))

Coming back to (61-2), above, I suggest that another way of interpreting Cole's data would be to say that the differences in case marking reflect different degrees of causee resistance, the accusative in (61) representing a reluctant causee, the instrumental in (62), a cooperative one. (63-4) are intermediate on the resistance continuum, the animateness of the causees giving them the potential to resist.

The implication of interpreting Cole's data relative to the notion of resistance is that the polysemy proposals of Terasawa and the *OED* come to the fore once more, at the expense of Givón's account, which ignores resistance. As for the relative merits of Terasawa's suggestion as against the *OED*'s, one must consider whether, having brought in resistance, one should still take participant role as such into account as well. If one should not, then the *OED*'s version is more plausible than Terasawa's.

It seems to me that causee participant role is not independent of resistance, and that they are best analysed as a single property. Consider for instance that a causee who puts up a lot of resistance, which is overcome by the causer using a lot of force, is thereby made into a patient.

In proposing a single, integrated parameter one must be careful with one's definition of 'agents': this category is restricted to *willing* agentive participants; participants that intentionally carry out some activity only *reluctantly*, as in (1a), above, fall into the patient category. This would also include example (13/34a/67). A clearly nonreluctant agentive causee is found in the following example (from a web site called *Unlikely Stories*, a collection of short stories by various American writers):

(68) His vanity made him buy the hairpiece.
(http://www.flash.net/~unlikely/articles/sardine0103.html)

An advantage of this integrated perspective on the issue is that the fact of crosslinguistic variation in case marking is not unexpected, given that conceptually speaking, resistance is not binary, ternary, or whatever, but *gradient*. The languages in Cole's survey (cf. also Dixon's data, §3.2.2.2) may indicate that on this continuum there are at least two cluster points, corresponding to what we may call a high v. a low degree of causee resistance. These points may be thought of as causation *prototypes*, relative to which we construe causative situations in general. Bolivian Quechua may indicate that in conceptualising causative situations cases where the causee is an experiencer may constitute a third prototype.

The exact number of overtly coded cluster points in a given language is presumably determined by various factors, the inventory of overt case markers prominently among them (languages with many case distinctions related to agentivity/resistance can potentially make more distinctions in terms of causee resistance than languages with only few). The hypothesised resistance continuum, along with the participant role/resistance level prototypes, can be represented as in Figure 5, below:

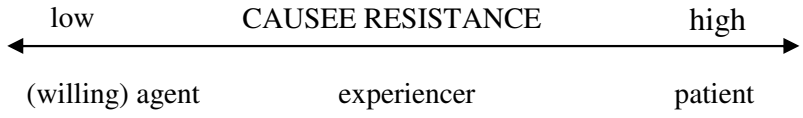

FIGURE 5. THE CAUSEE RESISTANCE SCALE AND THE CAUSEE RESISTANCE LEVEL/PARTICIPANT ROLE PROTOTYPES

3.2.3 Diachrony

I observed in §3.1 that from the very outset [NP_S-MAKE-NP_{DO}-STEM/INF] could occur with agentive causees, see ex. (8/22), from c1175, which would be positioned towards the low resistance end of the continuum (cf. the *OED*'s classification as an example of the

neutral type). To find out whether there is historical evidence for a separate sense involving a high degree of resistance, I carried out a search of the Helsinki Corpus. In contradistinction to the *OED*'s suggestion that this sense is a relatively late development, I found that resistant (nonagentive) causees actually already occurred from the first ME subperiod (1150-1250), cf. (69-70), below. Regarding (69) one might object that it is impossible to resist being woken up. However, waking up at midnight from wailing and weeping sounds is hardly something one normally engages in willingly.

(69) wanunge. & wepunge þe schal abute midniht. makie þe to iwakien. (M1 IR RELT HMAID 155)
'wailing and weeping will make you wake up around midnight'

(70) … hu ha þt balefule wurm & þt bittre beast makede to bersten. (M1 NN NIL MARGME 72)
'how they that made that baleful snake and that cruel beast burst'

There is thus no historical support for a polysemy position that distinguishes between a maximally resistant (nonagentive) causee and a minimally resistant (agentive) causee.

In view of the possibility of three-way polysemy (§3.2.2) I investigated when the *experiencer* causee use arose. The *OED* contains one early example, from a1225, represented below as (71). A search of the Helsinki Corpus yielded some further tokens from the earliest ME subcorpus; (72) contains two instances:[14]

(71) Of þen oðer holie monne þet he makede uorte ileuen þet he was engel (*OED*, make, *v*.1, s.v. 53.b)
'From then he made other holy men believe that he was an angel'

(72) We (…) Makien ham to þenchen þohtes þer-to-ȝeines. (…) & makieð ham forte lose lust. (M1 NN JULME 111)
'We (…) make them think thoughts against that (…) and make them lose lust'

The absence of diachronic data to support distinct senses does not amount to evidence *against* the polysemy hypothesis. It may be that from the very outset speakers have stored two or three prototypes for periphrastic causative *make*, different in terms of the level of causee resistance.

[14] One could argue that the causee *þe* in (69) is also slightly experiencer-like, in that the process of waking up is not purely physical but also involves a *mental* process.

4. Concluding remarks

The discussion has yielded an interesting though ultimately not fully complete perspective on the issue at hand. The fact that we are dealing with a complex construction as opposed to a single lexical item renders standard lexical semantic tests more or less useless, which I have tried to make up for by studying some syntactic properties that might have reflected polysemy, as well as typological and diachronic evidence bearing on the issue. The picture that has emerged is one in which Talmy's notion of resistance is central. It seems that causative situations represented by periphrastic causative *make* (and presumably causatives more generally, but that is beyond the scope of this chapter) are evaluated relative to a continuum of causee resistance, and that while resistance is essentially gradient, there are a number of prototypes.

In some languages, such as the ones Cole investigated in his (1983) study, these prototypes likely function as separate senses (syntactic differences being strong evidence for polysemy). For English this is not obvious, but that does not mean that the monosemy view (*à la* Duffley 1992; cf. §2.3, above) must be correct. Assuming monosemy simply because the evidence for separate senses is not conclusive would be to fall into the trap that Croft calls the "generality fallacy" (1998:156-8; cf. also Sandra 1998:366, Tuggy 1999:344): the fact that it is possible to come up with a single, general causative meaning that is neutral between distinctions related to causee resistance (or whatever), does not exclude the possibility that speakers, in the process of language acquisition and use, store the different uses of [NP_S-MAKE-NP_{DO}-STEM/INF] as separate (though of course related) constructions. As Croft puts it: "Speakers do not necessarily make the relevant generalizations, even if clever linguists can" (1998:168).

Recent work in lexical semantics, specifically by Cruse, suggests another possible approach to the psychological status of the different uses of English periphrastic causative *make*. Discussion here will be necessarily brief; the main idea is that sense boundaries cannot be divided into very sharp on the one hand, and nonexistent, on the other: the autonomy of sense units is not an all-or-none affair, but *gradient* (see e.g. Cruse & Croft 2003, Ch. 5).

Examples of sharp boundaries are cases like the homonymy of $bank_1$ 'margin of river' v. $bank_2$ 'financial institution' or the polysemy of $mole_1$ 'small animal that lives underground' v. $mole_2$ 'skin defect' v. $mole_3$ 'industrial spy'. One good indication that the senses are autonomous ("antagonistic") is the so-called identity constraint: in processing (73-4), below, only a single sense can be activated. Thus, (73)

cannot mean that John reached the margin of the river and Mary, the financial institution (or vice-versa). Similarly, (74) cannot mean that John hates the small animals, while Mary hates the skin defects (or vice-versa; cf. also (30), above):

(73) John reached the bank; so did Mary.
(74) John hates moles; so does Mary.

An important aspect of these full sense units is that they cannot be unified; Cruse & Croft (2003, Ch. 5) argue that it is impossible to see them as specific instances of some more general class; with reference to *bank* they point out that it will not do to suggest a superordinate category such as 'entity' or 'location', because those categories include much more than just margins of rivers and financial institutions. A similar argument can be constructed for *mole*.

A clear example of uses that do not correspond to autonomous sense units at all is *cousin*$_1$ 'male child of uncle/aunt' v. *cousin*$_2$ 'female child of uncle/aunt'. The identity constraint does not hold in (75), below: the cousins John and Mary are visiting are not necessarily of the same sex (cf. also (31), above) — except of course if John and Mary are related and are visiting the same cousin. Nor is it impossible to unify the two notions: the concept 'cousin' includes the male and female readings and excludes everything else.

(75) John is visiting his cousin; Mary is visiting hers.

Cruse & Croft argue that there are various types of cases where the interpretations have intermediate autonomy; the type relevant here is labelled "microsenses". The word *knife* exemplifies the idea. In (76-7), below, different types of knives are referred to. In (76) *knife* contrasts with other items of cutlery, such as forks and spoons; in (77) it contrasts with other weapons, such as guns.

(76) John called the waiter over to his table and complained that he had not been given a knife and fork. (Cruse & Croft 2003, Ch. 5)
(77) The attacker threatened the coupe with a knife. (ibid.)

Cruse & Croft suggest that these two different uses of *knife* are different in status from the male and female readings of *cousin*: when we encounter the word *knife* in isolation we assume that a *specific* type of knife is meant (i.e. the type that is an item of cutlery, the type that is a weapon, and so on, other microsenses including knives used by surgeons and as DIY tools). By contrast, the word *cousin* without further context evokes

the *general* notion of 'child of uncle/aunt', which is neutral with respect to gender. In Cruse & Croft's terminology, words displaying microsense behaviour show "default specificity", words whose different construals do not display any degree of autonomy do not — some analogous label such as "default generality/neutrality" seems appropriate.

An indication that the default specificity analysis is correct is that in order to get the general construal in the case of *knife* a special context is required:

(78) You can buy any kind of knife here. (Cruse & Croft 2003, Ch.5)

The fact that you can get a general sense *at all* is also crucial to the notion of microsenses: this sets it apart from cases of full sense boundaries, e.g. *bank* and *mole*, whose different uses are impossible to unify in any way (see above).

A microsense analysis is attractive for periphrastic causative *make* as well: the crosslinguistic data strongly suggest that it is natural for a number of causative situation-types to develop a certain degree of autonomy. And just as in the case of *knife*, so too it may be less natural to think of 'making' (in the causative sense) in general terms, than to think of some more specific type of 'making' causation, such as forcing one's will onto some resistant party. The tentative suggestion arising from this is that periphrastic causative *make* has two or perhaps three microsenses, associated with different degrees of causee resistance.

The problem with a microsense analysis of a complex construction is that, once more, it less than obvious how to collect relevant evidence, since the diagnostics have been developed for simple words. Research on sense boundaries from a wider, construction-based perspective is clearly called for. (On such an approach, lexical items would represent the limiting case of zero constructional complexity.)

One avenue that it may be interesting to pursue in this connection is the crosslinguistic one: to the extent that *knife* (and periphrastic causative *make*) displays microsense behaviour one would expect the different construals involved to be acknowledged in coding variation across languages more often than the different construals of *cousin*, but less often than textbook cases of full antagonism such as *bank*, *mole*, *light* (i.e. 'not dark' v. 'not heavy') and so on.

Language acquisition data could furnish a further, related line of investigation: there may be a correlation between the degree of autonomy of two (or more) senses and the interval separating their acquisition by the child language learner. (Of course one would have to take account of complications related to differences in average

age of exposure to a concept; consider for instance that most children will be exposed to the animal the mole considerably earlier than to spies.)

Pursuing these avenues would take me far beyond the scope of the present project. In the remainder of this thesis I will rest content with the conclusion that the matter of the status of the different construals of *make* (as well as other English periphrastic causatives) cannot as yet be conclusively resolved.

Chapter 3. The rise of periphrastic causative *have*: a case of form-function reanalysis

1. Introduction

In this chapter I investigate the rise of the periphrastic causative *have*, i.e. [NP_1-HAVE-NP_2-STEM/INF]:[1]

(1) John had his daughter tidy her bedroom.

Scholarship on this development has been thin on the ground. The most relevant study is Baron (1977). Following Trnka (1924) she suggests that it "historically derives (…) from active subordinate clauses, e.g. (…) *he would have it that* [*I help him*]" (Baron 1977:86, emphasis added). Baron also refers to Macháček's (1969) hypothesis that the source consruction is causative *have* with a past participial complement (e.g. *The candidate* had *his name* cleared (Baron 1977:51)), but (without further motivation) suggests that this is less plausible.

The main objection to both these scenarios is that when periphrastic causative *have* arose, in late Middle English, there was another construction available that was formally much closer to it — identical in fact. The construction in question is Brugman's (1996) "affecting event type", see (2) below. It is close to its causative counterpart with respect to its semantics as well, as I will explain below.

(2) I had my dog die (on me). (Brugman 1996:35)

Baron also suggests that "the extensive use of Old French *faire* + infinitive" may have helped the spread of the construction (1977:86). While this cannot be excluded, some scepticism is appropriate. First, the French construction is a 'make' verb not a 'have' verb. Second, by the time the construction arose there were also plenty of English

[1] As explained in Ch.1, this label follows Langacker in referring to bare infinitives as "stems" and reserving the term "infinitive" for *to*-infinitives. In PDE the construction only occurs with a bare infinitive, but at least in ME/eModeE the complement clause could also have a *to*-infinitive (*OED* s.v. have, v. 17.b, Visser 1973). Criticising suggestions by e.g. Kaartinen & Mustanoja (1958) Fischer (e.g. 1995, 1997a) has shown that absence v. presence of the infinitival marker in complement clauses has semantic-pragmatic implications. For the purpose of the present chapter the functional differences will be ignored but Fischer's suggestions are elaborately discussed, and complemented, in my Ch.5.

constructions around to facilitate the propagation through the speech community (see further below).

My hypothesis is that periphrastic causative *have* developed out of the affecting event construction. Compared to the proposals associated with Trnka, Macháček and Baron, this proposal is more in line with the commonplace suggestion in (functionally oriented) historical linguistics that language change is *gradual* (see e.g. Croft 2000, §3.2.3 and references therein). Causative *have* with clausal and past participial complements — as well as several other related constructions — presumably did play a role, but only a facilitating one.

The reconstruction will be framed in terms of Croft's (2000) notion of form-function reanalysis. As discussed in Chapter 1 the construction-based perspective analyses constructions as form-meaning pairings. Form-function reanalysis, then, is the idea that innovation in language may consist of a change in the way speakers associate some piece of formal structure with some semantic structure: the string [NP_S-HAVE-NP_{DO}-STEM/INF] started out as being associated with the affective event meaning but it then came to be mapped onto the causative meaning as well (while the afecting event meaning also remained available, see ex. (2)), thereby giving rise to a new construction.

My account of this process of form-function reanalysis will heavily depend on a hypothesised I(dealised) C(ognitive) M(odel) (Lakoff 1987, see also my chapter 1) that I will call the "sphere of control ICM". The basic hypothesis here is that the construal that periphrastic causative *have* imposes on a causative situation is such that the causer is seen as somehow inherently superior to (or in control of) the causee. Affecting event *have*, by contrast, portrays lower clause subject and what happens to it (the infinitival event) as being within the "sphere of interest" of the (experiencer) matrix clause subject.

Section 2 answers two questions that are important from the point of view of the plausibility of the proposed reconstruction, i.e. the relative chronology of the affecting event and causative uses of *have* with an infinitival complement and the semantic similarity between them. Section 3 provides a detailed look at the reanalysis process itself. Section 4 wraps up the discussion with some brief concluding remarks.

2. Historical and semantic plausibility of the reconstruction

Prior to the reconstruction of the development of causative [NP_1-HAVE-NP_2-STEM/INF] from the affecting event construction in the light of the notion of form-function reanalysis, it first has to be established that the development is historically plausible (in terms of the

relative chronology of the two constructions) and that it does not conflict with the historical-semantic insight that meaning changes proceed in relatively small steps. Subsection 2.1 presents evidence that affecting event [NP_1-HAVE-NP_2-STEM/INF] is indeed older than the causative construction, while §2.2 suggests that they display considerable semantic overlap.

These matters have not been satisfactorily dealt with in previous scholarship. Kruisinga (1931:377, 388) and Visser (1973:2269-70) mention periphrastic causative *have* and supply some examples, but do not explain its rise. Poutsma (1926, 1929), Jespersen (1946) and Mustanoja (1960) only discuss other periphrastic causatives, e.g. *make* and *let*.

More recent publications discussing the *have* construction are Givón (1975), McCawley (1976), Shibatani (1976a), Talmy (1976), Comrie (1976), Baron (1977), Cole (1983), Kemmer & Verhagen (1994), den Dikken (1997) and Ritter & Rosen (1997). All of these except Baron (1977) and Kemmer & Verhagen (1994) are synchronic. Baron's study was the starting point of the introductory section. Kemmer & Verhagen's article also has some implications for the rise of the construction (as it has for all other perihrastic causatives in English and elsewhere: the account is intended to be crosslinguistically valid). Using a large crosslinguistic database they analyse case-marking on the causee (NP_2). This analysis leads them to suggest that

> causatives of intransitive predicates (e.g. *I made Mary cry*) are (…) modelled on simple two-participant clauses (like *I ate the cake*), and causatives of transitive predicates (e.g. *He had the servant taste the food*) are (…) modelled on simple three-participant clauses (like *I gave Mary a flower*, or *She broke it with a hammer* — i.e. mainly ditransitive and instrumental clause types).
>
> (Kemmer & Verhagen 1994:115)

This is certainly an interesting empirical generalisation about the structure of periphrastic causatives across different languages. Following Bybee (1988), one could label it a "principle". Bybee argues that a principle, or crosslinguistic generalisation, constitutes a step in the process towards explanation, but that it is not in itself a real explanation yet. And indeed, pointing out the parallels between instances of causative [NP_1-HAVE-NP_2-STEM/INF] and simple two- or three-participant clauses cannot count as a historical explanation of the rise of individual causatives. Regarding periphrastic causative *have*, for example, Kemmer & Verhagen's suggestions cannot explain why it arose in the early 15th century (cf. §2.1). Neither do they provide a detailed picture of the form-function reanalysis that was involved in the innovation in question.

2.1 Relative chronology: standard handbooks and corpus evidence

The evidence that the affecting event construction predates its causative counterpart is taken from standard sources such as the *MED*, *OED*, Jespersen (1949), Visser (1973) and a collection of electronic texts.

This electronic corpus consists of 37 texts from 1350-1500 from the on-line *Corpus of Middle English Prose and Verse* (*CME*), which is based on the collection of texts that has been used by the editors of *MED*. It is relatively large: the texts used for this study run to a total of almost 3.3 million words. (By comparison, the Helsinki Corpus only consists of around 2 million words, even though it spans a considerably longer period of time: from 850 to 1720.) By means of lexical search (using MonoConc) all tokens of *have* (variant spellings included) were elicited and analysed.

Based on these sources I suggest that the first attested example of periphrastic causative *have* dates from c1440:

(3) And when Alexander saw that þay walde one na wyse speke wit hym, he hadd a certane of his knyghtes nakne þam & swyme ouer þe water to þe castell.
(*Prose life of Alexander*[2] [also, with less context, *MED*, s.v. haven, v. 10.(a)])
'And when A. saw that they would in no way speak to him, he had one of his knights strip naked and swim over the water to the castle'

This sentence is clearly causative: it describes a situation in which Alexander the Great deliberately causes one of his knights to undress and swim to the castle that he is besieging. Since this example is from written text — a literary text at that — which tends to be conservative compared to the spoken language, it is reasonable to assume that the construction had already been around for a while — perhaps from c1425.

The electronic corpus contains only two more examples of causative [NP_1-HAVE-NP_2-STEM/INF]. This could indicate that initially the construction spread very slowly.[3] The two examples are reproduced as (4) and (5). Both date from the second half of the 15th century.[4] Visser lists another ME example (from c1457), reproduced as (6), below:

[2] In this chapter references to texts from the electronic corpus just consist of the title and the name of the author (if known). Titles and names are spelt exactly as they are on the *CME* web page. A full list of the texts used is given in the Appendix.
[3] The literature reports on other instances of changes with an apparently relatively leisurely take-off phase; cf. e.g. Hopper & Traugott (1993:37-8, 77).
[4] Scholars have been unable to date the works more precisely; cf. Ikegami (1983:lxiii) for the date of *The Lyfe of Ipomydon*; for *Gesta Romanorum*, cf. Weld (1973:vi).

(4) I haue a sone þat me ys dere, / That shall be eyre of all my lande. / I wille ye haue hym to understand / And to teche hym in all manere, / Lyke as he thyne owne were.

(Hue de Rotelande, *The Lyfe of Ipomydon*)

(5) And so lange she played wit the Balle, that the Iogeler came before her to the marke; and so he had her *to be* his wyf.

(*Gesta Romanorum*)

(6) Ha not to fight a knyght vnexercised.

(Knyghthode & Bataile (EETS) 2175 [Visser 1973:2269])

Examples (4) and (6) are clearly causative. The speaker in (4), king Hermones, instructs a knight of his (*ye*) to educate his son. Example (6) advises military leaders against sending their knights onto the battlefield if they are not well trained.[5]

Had in example (5) could be possessive, but the context renders a causative reading possible as well. The *Iogeler* is actually the devil, who has disguised himself because he wants to marry the princess (*she*, *her*). While the devil is described as "wyly" earlier in the text, the princess is portrayed as extremely naïve. The devil's strategy for getting the girl to marry him crucially involves a magic *Balle* which has the following sentence inscribed on it: "who that playet wit me, shall never be full of my playe". In accepting the ball the girl is doomed to marry the devil. In this way he causes/manipulates her to become his wife.

Regarding affecting event [NP_1-HAVE-NP_2-STEM/INF] the sources consulted suggest that the first example dates from c1385:

(7) how able he is for to have … the thriftyeste To ben his love.

(Chaucer, Troil. II, 736 [Visser 1973:2268])

This instance of *have* might at first sight look causative, but Visser's decision to categorise it as an example of the affecting event meaning seems to be based on a correct appreciation of the context. The sentence is uttered by Criseyde and is part of a soliloquy about Troilus (*he*). Criseyde is considering whether or not she should respond positively to his courtship. In this example we see her saying that Troilus is very worthy[6] of having (i.e. experiencing) the love of her, *the thriftyeste* (which in Chaucerian English often has the now obsolete meaning of "[w]orthy, worshipful, estimable, respectable, well-living" (*OED*, s.v. *thrifty* μ 2.a)).

[5] At several points in this and other chapters I discuss examples from Visser (1973). The original sources of these examples, which I often consulted to study the context, are not included in my bibliography; the reader is referred to Visser's study.

[6] Cf. Visser's observation that other manuscripts have "he is *worthy* to have … the thriftyeste" (1973:2268, emphasis added).

Since this is again an example from the inherently comparatively conservative written (literary) language it seems sensible to suggest that the construction had been part of the spoken language for some time before 1385 — maybe from the 1360s/1370s. Whatever the exact dates of origin of affecting event and causative [NP_1-HAVE-NP_2-STEM/INF], the evidence suggests that the former indeed predates the latter.

Incidentally, the spread of the affecting event construction does not seem to display the same slow take-off phase as its causative counterpart. It was often combined with the verb *will* (with a volitional sense):

(8) Do as ye thynk best, and as ye wyll haue me to do send me your avyse and I shall accomplyshe it to my power
(*Paston letters and papers of the fifteenth century, Part I*)

Visser suggests that this combination was "very frequent" (1973:2266) in ME. Indeed, the considerable number of examples in the sources that were consulted initially appear predominantly with *will*. Some further examples from the fifteenth and later centuries are discussed in §2.2.

The reconstruction of the relative chronology of affecting event and causative *have* with an infinitival complement has so far supported the hypothesis that the former arose earlier than the latter. This subsection concludes with the discussion of an example that might at first sight seem to endanger the hypothesis. Contrary to evidence from the *MED* (which lists example (3) as the first instance) and my *CME* data, the *OED* suggests that the first example is considerably earlier, from 1390 (Baron 1977:85 follows the *OED* in this regard):

(9) We have had den Johne of Aclyff .. at spekyn wyth the byschof of Sant Andrew.
(Robt. III. in *Records Priory Coldingham* (Surtees) 67 [*OED*, s.v. have, v. 17.b])

Without further context this example could indeed be analysed as causative, although a possessive/experiential interpretation is equally possible (i.e. 'We have had J. of A. *here*…'; with the infinitival clause functioning as an adjunct). In order to check whether the context disambiguates the situation, I studied the (1841) Surtees Society edition of the source text. The example occurs in a letter that was signed by "Le Count de la Marche". The count writes that dean *Johne of Aclyff* went to visit the bishop of St. Andrews.[7] The

[7] I am grateful to Alexander Rumble for identifying the Count de la Marche as George Dunbar, Earl of March (1368-), and the bishop of St. Andrews as Walter Tyrel (1386-1401), see further Fryde et al. (1986:321, 507).

bishop made some demands on his visitor. John thereupon said that he would not obey without "consail of yhow", that is, the addressee of the letter. Believing the bishop's demands to be "richt resonable", the count advises his addressee to tell John to obey the bishop; or else legal action will be taken. One may reasonably infer that the recipient is a powerful person — powerful enough to give instructions to a dean. Since the count addresses him as "Reverend fader in Cryst" it seems that he held a very senior position in the church, maybe that of archbishop.

This information seems to render a causative reading quite unlikely. After all, if one assumes that the people who *we* refers to can instruct *den Johne* to go and speak to the bishop, then it follows that these people should be John's superiors. This might not seem impossible, given that among the group of people in question was the letter-writer, the "Count de la Marche" — no doubt a prominent member of society. However, the reason why it is nevertheless improbable that the dean had to obey this group of people is that apparently they are not in a position to make him obey the bishop of St. Andrews. Now it does not seem very likely that they could make him go and see the bishop, but at the same time could *not* make him do as the bishop says. It thus seems best *not* to analyse the sentence as exemplifying the causative construction.

2.2 Semantic similarity (and difference)

The hypothesis that causative [NP_1-HAVE-NP_2-STEM/INF] was derived from its affecting event counterpart may be supported by a high degree of semantic overlap. It is a commonplace in historical linguistics that semantic change does not proceed in radical leaps, but in small steps. It is notoriously difficult to establish exactly how small the semantic steps have to be for speakers to be able to take them. Nonetheless, the rest of this subsection sets out to support the hypothesised development. The semantic similarities (and dissimilarities) are described in cognitive semantic terms, in particular with reference to Talmy's force-dynamics model (1976, 1985, 1988, 2000a, 2000b); see Chapter 1 for a brief discussion of the basic ideas.

The [NP_1-HAVE-NP_2-STEM/INF] construction, both in its affecting event and causative guise, is syntactically and semantically quite complex. In Generative Grammar — at least in the incarnation that was current in the mid-1970s/early 1980s, when most studies on syntactic causatives were published (for some references cf. above) — this complexity is described in terms of two underlying clauses. In the first, NP_2 is the direct object of *have*. In the second, NP_2 is the subject of the caused event. The surface

structure is arrived at by Predicate Raising and Lexical Insertion (cf. e.g. Shibatani 1976:5-6).

Cognitive linguistics does not posit underlying structures or transformations. In his discussion of causative [NP_1-MAKE-NP_2-STEM/INF] — which is obviously quite similar to causative [NP_1-HAVE-NP_2-STEM/INF] — Langacker states that the causative verb has "two nonsubject complements, one of them a direct object nominal [i.e. NP_2] and the other a relational complement [i.e. the lower clause] having the direct object as one of its participants" (1991a:185). The same would hold true for affecting event [NP_1-HAVE-NP_2-STEM/INF]. Langacker thus decomposes the syntactic and semantic complexity into the following two aspects:

i. NP_1' engages in conceptual relations with both NP_2' and with the event that is described by the complement clause as a whole
ii. NP_2 plays a "double role": it is the object of the matrix clause verb and the subject of the complement clause verb

The nature of the connections between NP_1' and NP_2' *per se* on the one hand, and the infinitival event event as a whole, on the other, will now be investigated in some detail. The affecting event and causative constructions are discussed in their chronological order.

With regard to the meaning of affecting event [NP_1-HAVE-NP_2-STEM/INF] a first approximation might be to suggest that the construction refers to a situation in which NP_1' experiences the event that is captured by the infinitival clause. But this is not precise enough: compare example (2), reproduced below as (10), to an alternative representation such as (11):

(10) I had my dog die (on me).
(11) My dog died.

Now while these two sentences may refer to the same objective experiential situation, it is nonetheless clear that there is a difference in meaning. Consider for example the following contextualisation, which makes (2)/(10) sound decidedly odd, but yields a perfectly acceptable utterance in the case of (11):

(12) ?I had my dog die (on me), but I couldn't care less.
(13) My dog died, but I couldn't care less.

Concerning the semantics of the affecting event construction Jespersen already realised that the rather neutral notion of experience does not yield a fully

satisfactory description, for he states that here *have* is used "in a special sense, *nearly* = experience" (1946:281, emphasis added). Brugman suggests that the construction "is used to express a situation in which some event [i.e. the infinitival event] *is seen as affecting* NP_1'" (1996:35, emphasis added). Sentences (12-13) suggest that her description really gets to the heart of the matter, but it seems useful to rephrase it in a slightly more elaborate way: affecting event [NP_1-HAVE-NP_2-STEM/INF] *construes the experiential situation from the perspective of* NP_1*''s "interests"*. It thus seems possible to characterise the participant role of NP_1' in terms of the role that is fulfilled by what in traditional linguistic terms is called the "dative of interest" or the "ethic dative". Indeed, Trask illustrates the concept of the "ethic construction" by means of the example *The dog died on me* (1993:94).

The idea that NP_1' is not just any experiencer but an "interested party" is supported by all the historical examples I obtained. Examples (7) and (8) (cf. above) are two cases in point. Some further examples from the fifteenth and later centuries are:

(14) Also it is thought be my cosyn Elisabeth Clere and þe vikere and othere þat be yowr frendes that it is right necessary for you to haue Hew of Fen to be yowr frende in yowr materes
(*Paston letters and papers of the fifteenth century, Part I*)

(15) I wolde haue the dykys to stonde stylle acordyng as John Osberne and I comonyd
(*Paston letters and papers of the fifteenth centruy, Part I*)

(16) But whan he dide loke toward his vncle, and that he sawe hym all bloody / he went, and wold haue had hym to stand vpon his feet
(*Melusine*)

(17) And so the quene caste her loke upon Ioseph, and beganne to desire to haue hym to foly with her; and she shewed hym mani foly signes and semblauntz of fals loue and sinfull.
(*Book of the Knight of La-Tour Landry* [also, with less context, Visser 1973:2268])

(18) What would your Grace haue me to do in this?
(Shaks. Two Gent. III.i.80 [*OED*, s.v. *have*, v. 18.b])

(19) Jacob had his wife Rachel to dye suddenly in his journey on his hand.
(W. Hinde, Life & Death of John Bruen xxxiv, 107 [Visser 1973:2268-9; also *OED*, s.v. *have*, v. 18.b])

(20) I had a horse run away with me.
(Grandmother's Money (Hoppe) I, 119 [Visser 1973:2269; also *OED*, s.v. *have* v. 18.a])

(21) I had two dogs die of snake bite.
(Galsworthy, Escape II, IV [Visser 1973:2269])

(22) I have never had one human being care for me since I was born.
(Shaw l. 140 [Jespersen 1946:282])

(23) You are an unwelcome guest in the house, and I'll be delighted to have you leave.
(M. Collins, The Fog Comes (Bantam Bks.) 148 [Visser 1973:2279])

The semantic description of the construction may be recast in the light of Lakoff's (1987, 1990) suggestion that human cognition is organised in terms of idealised cognitive models

(cf. also my Chapter 1). The availability of the term *sphere of interest* and the use of the preposition *in* in the common expression *in someone's best interest* indicate that we conceive of people as having a sphere of interest around them. Concluding, then, that there exists a "sphere of interest ICM" one may suggest that affecting event [NP_1-HAVE-NP_2-STEM/INF] is used to construe an experiential situation relative to this ICM.

Talmy's force dynamics diagrams (cf. Ch.1) can be used to represent the semantics of the affecting event construction. A few modifications are necessary in order to accommodate experiential meaning, which after all does not centrally involve any transmission of force, if at all. I describe the modifications below.

Regarding the nature of the relations between an experiencer and a stimulus, one might argue that in terms of directionality they are the opposite of relations between causer and causee: while the causer has an impact on the causee, the stimulus has an effect on the experiencer. If this was the whole story, then NP_1' in the affecting event construction would presumably have to be analysed as the agonist, NP_2' as the antagonist, i.e. the mirror image of the role configuration in periphrastic causative *have*. However, I will follow Langacker here in arguing that experiential situations are more complex than that. Specifically, he has argued that experiencers are not wholly passive with respect to the stimulus; they display initiative "in the sense of generating the cognitive activity through which an internal representation is produced or mental contact is otherwise established" (Langacker 1991b:327). This implies that in the affecting event construction, too, NP_1' is the antagonist, acting on the agonist, NP_2'.

Parallel to Talmy's diagrammatic representation of a causer coming into impingement against a causee, Figure 1, below, models the experiential situation as an experiencer coming into perceptual/conceptual contact with a stimulus. An eye-shaped symbol seems appropriate. In causatives the causee is represented as inherently inclined towards rest or motion. It is not obvious that a parallel suggestion can be made regarding experiential constructions; the stimulus/agonist participant, and the initial state, will simply be left unmarked.

The sphere of interest notion can be represented by literally drawing a sphere around the antagonist (the concave figure), inclusion of the agonist (the round figure) in this sphere indicating that the antagonist takes an interest in it (or him/her/them, depending on the nature of the agonist), and by extension, what happens to it (or him, etc.).

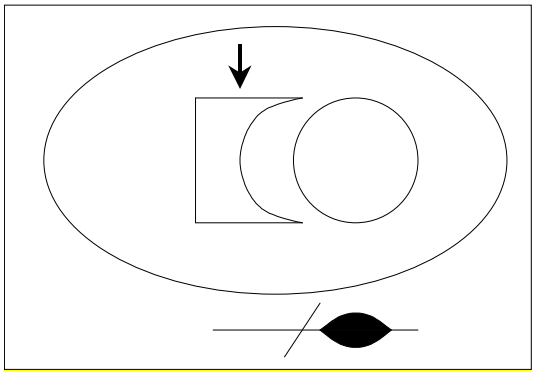

FIGURE 1. SEMANTICS OF AFFECTING EVENT [NP_1-HAVE-NP_2-STEM/INF] (ADAPTED FROM TALMY 2000A:418)

In connection with this intuitively satisfying cognitive semantic representation of the affecting event construction it is interesting to note that John Payne (p.c.) suggests that the subtle semantic difference between examples (2)/(10) and (11) would not be easy to capture in formal semantic terms.

Turning now to causative [NP_1-HAVE-NP_2-STEM/INF] I suggest that the semantics of this construction in a sense *include* those of its affecting event ancestor. However, it profiles the idea of causation; the notion of experience (within a sphere of interest) is merely backgrounded. The relation of experience that NP_1' bears to the lower clause event is illustrated by:

(24) *John had his daughter tidy her bedroom, but she didn't do it.

Apparently, periphrastic causative *have* suggests that the complement clause event actually happens (and is experienced by NP_1'). The construction is thus "implicative" (Song 1996).[8] Visser was aware that an (attenuated) experiential dimension still lingers on in the causative construction, witness his claim that "the idea of experience is (…) *overlaid with overtones* [as opposed to "has been replaced by a sense", WBH] of causing" (1973:2266, emphasis added).

Let us now turn to the foregrounded part of the semantics of causative [NP_1-HAVE-NP_2-STEM/INF], i.e. causation. The repertoire of English syntactic causatives allows speakers to express various kinds of causation. The research that was carried out especially in the mid-1970s paid much attention to this type of contrasts. Talmy, for example, comparing causative *have* to *make*, suggests that "*have* specifies that the causing

[8] I refer to Song (1996) for examples of nonimplicative causatives from languages such as Kammu (68) and Korean (114-5). Examples from English include *command, request*, etc.

is done by means of giving instructions that are to be followed (i.e. specifies a circumstance where ideas are communicated and comprehended)" (1976:107). *Make*, on the other hand, is said to "specify that the causing is done by means of threats (i.e. contingent assurances of causing pain)" (Talmy 1976:107).[9]

In suggesting that the *have*-based construction sketches a causative situation in which NP_1' is giving instructions to NP_2', which are then acted out, Talmy has made an important point. I would like to sharpen his suggestion by saying that the foregrounded part of the semantics of causative [NP_1-HAVE-NP_2-STEM/INF] can be described as construing the causative situation from the perspective of NP_1''s "sphere of control".

Moreover, parallel to the sphere of interest ICM hypothesis I posit the existence of a sphere of control ICM. *Sphere of control* hardly constitutes a fixed phrase (though cf. "the private eccentricities of a teacher came quite within their sphere of control" (Hardy 1896/1951:298)), but the psychological reality of the ICM is supported by expressions such as *enter/invade/stay out of someone's territory* and by the use of (*with*)*in* in phrases such as *in one's hands*, *(with)in one's power/ability/authority* and of *out* in *out of hand/control*.

The observation that *have* implies that the act of causation takes place against the background of a sphere of control, i.e. a causer who is in some sense inherently superior to the causee, was not only antiticipated (in a sense) by Talmy, but it also echoes Duffley's statement that the causer in *have* is construed as having the causee "in the bag" (1992:71; cf. also Katz (1977:216), Givón (1980:368), Shannon (1987:8, 11, 173, 182-3) and Fischer (1996:256) for similar proposals regarding other causatives).

Interestingly, the sphere of control ICM also seems to imply the "interestee" aspect of the role of NP_1'. This is demonstrated by the oddness of example (25). The situation in which John is not really interested in the state of his daughter's room (but for instance just wants to make the point that he is the one who makes the rules) would be more naturally described by (26).

(25) ?John had his daughter tidy her bedroom, but actually he couldn't care less about the terrible mess that she always makes.

(26) John made (told, ordered) his daughter (to) tidy her bedroom, but actually he couldn't care less about the terrible mess that she always makes.

[9] As I noted in Ch.2, Talmy is referring here not to causative *make* in general but to a specific use. Examples such as "patriotism made one do odd things" (Somerset Maugham, Ashenden (Tauchn.) 49 [Visser 1973:2262]) obviously do not involve threats.

The underlying reason why the sphere of control ICM seems to contain the idea of interest could well be as follows. Establishing and/or maintaining a sphere of control requires time and effort. Humans are generally not prepared to invest time and energy into something in which they have no interest whatsoever, so regarding causative [NP_1-HAVE-NP_2-STEM/INF] it seems sensible to suppose that NP_1''s sphere of control includes only entities (and by extension, events in which those entities play a role) that s/he has some kind of interest in.

One may schematise the semantics of causative [NP_1-HAVE-NP_2-STEM/INF] as in Figure 2, below, where the double oval is meant to represent NP_1''s sphere of control, which, crucially, includes NP_2':

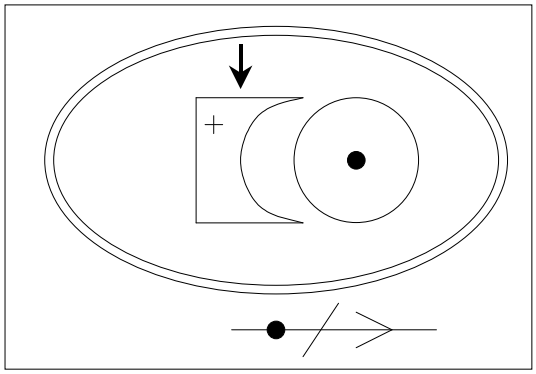

FIGURE 2. SEMANTICS OF CAUSATIVE [NP_1-HAVE-NP_2-STEM/INF] (ADAPTED FROM TALMY 2000A:418)

The question arises as to what exactly the sphere of control ICM hypothesis implies for the relations between NP_1' and NP_2' and the lower clause event as a whole. Concerning the relation between NP_1' and NP_2', it has already been suggested that the former participant takes some sort of interest in the latter. But due to the primarily causative semantics of the construction this aspect is merely backgrounded. The foregrounded part of the relation is one of (successful) manipulation from a position of inherent superiority (in some sense), i.e. of NP_1' with respect to NP_2'. This explains why example (1), reproduced as (27) below, is perfectly acceptable, while (28) sounds odd.

(27) John had his daughter tidy her bedroom.
(28) ?Five-year-old Alice had her father tidy her bedroom.

The relation of superiority that NP_1' bears to NP_2' is also present in the ME examples (3)-(6), above; the discussion of the wider context in all cases makes it clear that NP_2' is NP_1''s inferior. Some further clear examples are (29), from eModE, and (30-2), from PDE.

(29) When I wax grey, I shall have all the court Powder their hair with arras, to be like me.
(Webster, Duchess of Malfi (Wheeler) II, ii, 58 [Visser 1973:2269])

(30) Once, to illustrate the evils of betting, he had them bet as to which of two frogs would jump first.
(Sincl. Lewis, Elmer Gantry (New York 1927) 342 [Visser 1973:2269])

(31) When she wanted to buy a pair of shoes, he had three stores send a collection of shoes for her choice.
(Ayn Rand, Fountainhead (Signet Bks.) 499 [Visser 1973:2269])

(32) Have a man go through this desk and all papers, and collect every record and scrap of evidence around.[10]
(E. Linsky, The Kiss of Death (Penguin) 83 [Visser 1973:2269-70])

Incidentally, the sphere of control notion constitutes an important aspect of the semantic difference between causative *have* and *make*. To see that it is absent from the latter, one should consider that (33), a minimal variant of the problematic example (28), does not sound awkward.

(33) Five-year-old Alice made her father tidy her bedroom.

This example invokes a mental picture of a deranged little girl threatening her father in some way or other. The reason why she has to resort to threats is that parents are not normally under their children's control. The relation of superiority v. inferiority that obtains between NP_1' and NP_2' in the *have*-based construction but not in *make* provides deeper insight into Talmy's observation that *make*, but not *have*, involves "threats" (at least in one of its uses): the inclusion of NP_2' in NP_1''s sphere of control in causative [NP_1-HAVE-NP_2-STEM/INF] simply *renders it unnecessary* for NP_1' to threaten NP_2'. (More elaborate discussion of the semantics of *have* as compared to *make* as well as other causatives is provided elsewhere in this thesis, see especially Chs.5-6.)

An important observation concerning the sphere of control ICM hypothesis is that superiority v. inferiority are not *inherent* properties of NP_1' and NP_2'. Rather, in line with Werth's (1999) suggestion that interpretation is discourse-driven, I suggest that the status of NP_1' relative to NP_2' depends on the *context* (cf. also Cruse & Croft 2003, Ch. 4). It follows that certain contexts may allow causative [NP_1-HAVE-NP_2-STEM/INF] to be used even though NP_1' is normally not thought of as NP_2''s superior. Consider:

(34) Five-year-old Alice had her father read her the same bedtime story over and over again.[11]

[10] It is not clear whether the subject of *collect* is *a man* or the addressee.
[11] I am grateful to Frederike van der Leek for bringing this example to my attention.

In explaining why this example sounds fine, one may invoke the Fillmorian notion of frames (cf. Ch.1) and suggest that this example involves the "bedtime-story frame". According to our frame knowledge about parents reading stories, in this situation children have a considerable degree of control. The situation type portrayed by (33), above, is very different: when it comes to tidying rooms it is usually the parents who are in control.

Let us now turn to the relation between NP_1' and the complement clause event as a whole. It should be remembered that the sphere of control ICM has an experiential dimension (cf. the unacceptability of (24)) as well as a sphere of interest one (cf. the oddness of (25)). These two aspects constitute the backgrounded part of the relation in question. Causation furnishes the foreground. More specifically, the construction sketches a situation in which the caused event is the result of *conscious control* on the part of NP_1'.

The suggestion that NP_1' controls the situation consciously, instead of bringing the event about nondeliberately, is supported by the ungrammaticality of the following variation of example (1):

(35) *John accidentally had his daughter tidy her bedroom.

The situation where John causes his daughter to tidy her room without really intending this (e.g. by making a general remark about his dislike of messy rooms, which his daughter then acts upon) would normally be expressed by something like (36):

(36) John accidentally caused his daughter to tidy her bedroom.

This subsection has investigated the semantic overlap between affecting event and causative [NP_1-HAVE-NP_2-STEM/INF]. The following semantic characteristics exhaustively describe the semantics of the affecting event construction; they are all present in the causative construction too, be it merely in a backgrounded guise:

(i) NP_1' experiences the situation that is described
(ii) NP_1' is not a neutral experiencer, but an interested party with respect to the experienced complement clause event
(iii) NP_1' has an interest in NP_2'

Given this great deal of overlap it is not surprising that the schematic representations, figures (1) and (2), look so much alike.

The semantic contrast between affecting event and causative [NP_1-HAVE-NP_2-STEM/INF] is perhaps best understood with reference to the differences between the sphere of interest ICM and the sphere of control ICM. The sphere of control ICM, unlike the sphere of interest ICM, foregrounds the idea that NP_1' is in some sense NP_2''s superior and that the former deliberately applies his/her authority in order to bring about the caused event.

3. The emergence of causative [NP_1-HAVE-NP_2-STEM/INF] as form-function reanalsyis

This section relates the rise of causative [NP_1-HAVE-NP_2-STEM/INF] to the perspective on grammatical change that is advocated by Croft (2000). I suggest that the innovation was situated in actual speech events; several factors related to language use will be pinpointed that seem to have influenced the linguistic knowledge of speakers of lME such that at a certain point, in a certain communicative event the innovation took place.

First, I argue that the change occurred in a particular type of context. This is discussed in §3.1. Then, in §3.2, I suggest that the change was facilitated (or "steered", in a probabilistic sense) by the availability, in ME, of causative *have* with other complement types, as well as other periphrastic causatives. My account as a whole follows cognitive linguists such as Bybee (e.g. 1985) and Croft (2000) in accepting the "proposal of spreading activation" (Anderson 2000).[12]

3.1 The context in which the change occurred

Section 2 described the semantic difference between affecting event and causative [NP_1-HAVE-NP_2-STEM/INF] in terms of the contrast between the sphere of interest ICM and the sphere of control ICM. I argued that the latter includes the former, but only in a backgrounded guise. The question thus arises as to how the innovative speaker(s) came to reanalyse the construction in a primarily causative way, thereby suppressing, as it were, the sphere of interest meaning. I hypothesise that the process of reanalysis occurred in utterances featuring affecting event [NP_1-HAVE-NP_2-STEM/INF] in contexts allowing an

[12] This proposal, discussed more elaborately below, has also found widespread acceptance in psycholonguistic research, cf. e.g. Collins & Loftus (1975), Dell & Reich (1980), Dell (1986, 1988) and Aitchison (1987). Anderson (2000) provides an accessible account in cognitive psychology.

inference of NP_1' as having NP_2' in their sphere of control and as bearing a relation of causation to the lower clause event as a whole.

As for a simple example of this kind of context, one could consider the interpretation of example (2), repeated below as (37), if uttered in a situation where the speaker has trained his dog to play dead:

(37) I had my dog die (on me).

An affecting event interpretation is still possible, but given the relation of superiority or control that NP_1' bears to NP_2' a causative reading is now also available.

As for some older examples, (14) and (17), repeated below as (38-9), may also have a connotation of causation/control, although probably not as strongly as in the special contextualisation of example (37), above. The same holds for (40-2), which are more recent (from 1604, 1766 and 1814).

(38) Also it is thought be my cosyn Elisabeth Clere and þe vikere and othere þat be yowr frendes that it is right necessary for you to haue Hew of Fen to be yowr frende in yowr materes
(*Paston letters and papers of the fifteenth century, Part I*)

(39) And so the quene caste her loke upon Ioseph, and beganne to desire to haue hym to foly with her; and she shewed hym mani foly signes and semblauntz of fals loue and sinfull.
(*Book of the Knight of La-Tour Landry* [also, with less context, Visser 1973:2268])

(40) Sham'st thou not to have them stare on thee?
(Dekker, The Honest Whore I, i [Visser 1973:2268])

(41) We often had the traveller or stranger visit us to taste our gooseberry wine
(Goldsmith, Vicar Ch. I [Visser 1973:2269])

(42) "Perhaps," turning to Miss Crawford, "my other companion may do me the honour of taking an arm." "Thank you, but I am not at all tired." She took it, however, as she spoke, and the gratification of having her do so, of feeling such a connexion for the first time, made him a little forgetful of Fanny.
(Austen 1814/1962:73)[13]

Example (38) foregrounds the notion of experience rather than causation, for the common-sense reason that friendship is not something that one can deliberately bring about. (One may of course try to please someone, but ultimately it is up to that person whether or not s/he will regard one as a friend.) Still, the context of this example suggests some (backgrounded) sense of control. The letter-writer, Margaret Paston, tells her husband, John Paston I, that *Hew of Fen* is known as "right feythfull and trosty to his frendes" and moreover that "he may do myche wyth the Kyng and þe lordes, and it is seid

[13] This example is not from one of the handbooks consulted; instead, I came across it accidentally while studying the context of another example from Visser (1973).

þat he may do myche wyth hem þat be yowr aduersaryes". She therefore urges John that if he "may haue his gode wille" he should "forsake it not". Thus, even though he does not have absolute power over Hew of Fen, John is seen as having some degree of control, in that he can cause the friendship to continue.

The *quene* in example (39) is also primarily an experiencer-interestee with respect to the acts of *foly* that she wants Joseph — described earlier as "faire, yonge, and wise"— to perform, but an inference of causation/control seems possible. The queen is superior to Joseph (who had been bought by her husband, the pharaoh) and the context suggests that she deliberately tries to get him to do as she desires, first by flirting and then by bidding him come to a room and informing him of her wish directly.

Example (40) is a fragment of a dialogue between the duke of Milan and Hipolito, who is in love with the duke's daughter. The duke objects to a marriage between his daughter and Hipolito, so he administers her a drug that makes her look dead and then stages a funeral. Hipolito is very upset. Convinced that the girl is either still alive or otherwise that it was the duke who has killed her, he makes a big scene. In the duke's question whether Hipolito is not ashamed that everyone is staring at him the semantic role of *thee* is again that of experiencer-interestee, but some sense of causation/control may also be present: Hipolito controls the situation to the extent that he could stop creating so much commotion.

In example (41) the vicar relates that his family often had visitors who came to taste their gooseberry wine, "for which [they] had great reputation". The verb *had* is experiential rather than causative, since the family does not instruct people to come and visit them. However, there may some (backgrounded, inferred) sense of control/causation. The context describes the couple as doing their utmost to be hospitable — the vicar being "by nature an admirer of happy human faces". One might thus infer that in carefully maintaining their reputation as good hosts ("never was the family of Wakefield known to turn the traveller or the poor dependent out of doors") they "cause" the high numbers of visitors.

Example (42) is from a passage that describes Fanny, Edmund and Mary Crawford taking a walk. Edmund is secretly in love with Mary, which explains why he is delighted to see (experience) her taking his hand. An inference of causation is possible because Edmund deliberately creates the opportunity for Mary to take his arm. It seems fair to say that although he is not engaged in a relationship with Mary, he is trying to get her into his sphere of control (in a romantic sense).

For the purpose of this study it is of course interesting to look for examples with possible causative inference from the period of roughly half a century between the rise of affecting event and causative [NP_1-HAVE-NP_2-STEM/INF]. Unfortunately the dictionaries and handbooks consulted contain very few examples from this period.

In §2.1 I argued that example (7) (from c1385) does not involve causation. Visser lists an example from c1425, presented below as (43), which at first sight might seem to allow an inference of control/causation.

(43) Prestre Iohn hase ilk a day in his courte stand ma þan XXXm of folke
(Mandeville (Eg.) 136, 20 [Vissser 1973:2268])

However, on inspection of the source, the (1889) Roxburghe Club edition of the manuscript of *Mandeville's Travels* that is known as the Egerton Text, Visser's citation turned out to be based on a misreading. This edition — the only one available of the original text — does not have *stand* but "etand", an obsolete variant form of the present participle *eating*.[14] In view of the context "etand" indeed makes more sense. The preceding sentence informs the reader that "[t]hurgh oute all þe land of Prestre Iohn þai ete bot anez on þe day, as þai do in þe courte of þe Grete Caan", 'throughout the whole country of Priest John they eat but once a day, as they do in the court of the great C.', and after example (43) the narrator goes on to relate that "nowþer xxx^m þare ne in þe courte of þe Grete Caan spendez so mykill mete on a day as xii^m in oure cuntree", 'neither 30,000 persons there [i.e. in Prester John's court] nor in the court of the Great C. use as much food as 12,000 persons in our country'. Thus, there is strong evidence that Visser's example is not an instance of [NP_1-HAVE-NP_2-STEM/INF].

The literature contains only one further example of the affecting event construction from the relevant period — from c1413 to be precise. This instance, presented as (44), does seem to allow an inference of control/causation.

(44) he wolde haue his reigne endure and last.
(Hoccleve, Reg. Pr. 112 [Visser 1973:2266])

The example is taken from a passage that describes how royalty should behave. The narrator states that sovereigns should control their emotions. He then refers to Aristotle's advice to Alexander the Great that he should never get so angry that he would "[b]lood of man shede" if he wanted his reign to *endure and last*. Visser's decision to classify this

[14] Cf. e.g. *þai satt etand & drynkand in a prest howse vnto mydnyght* (*Alphabet of Tales*).

example as experiential rather than causative seems to be based on the sensible idea that kings cannot really deliberately cause their reign to continue. There are many other factors involved over which the sovereign lacks full control. Still, to the extent that he can *influence* the future of his career by keeping his emotions in check, a (backgrounded) sense of control/causation appears to be present.

From the point of view of this study the scarcity in the literature of affecting event examples from the late fourteenth/early fifteenth centuries that allow a causative inference is rather unfortunate. It seems desirable to carry out more research on a large body of (electronic) texts from the relatively short period in question. In the present absence of more data, however, one has to content oneself with example (44) and the reasonable assumption that the spoken language featured more instances like that and like (38-42). The idea is thus that the affecting event construction was used in contexts that invited a causative inference so frequently that at a certain point speakers took that meaning to be an inherent part of the meaning, thereby giving rise to the new construction.

The role of pragmatic inferencing in certain cases of language change is widely recognised in current historical linguistics (cf. e.g. Dahl 1985, Bybee & Dahl 1989, Heine et al. 1991b, Traugott & König 1991, Hopper & Traugott 1993, Bybee et al. 1994, Croft 2000). Bybee et al. (1994) suggest that "a gram [i.e. a grammaticalising element] that often occurs in an environment in which a certain inference can be made can come to be associated with that inference to such an extent that the inference becomes part of the explicit meaning of the gram" (1994:25). This represents the consensus opinion among cognitively oriented diachronic linguists who have studied pragmatic inferencing. Croft has labelled the mechanism whereby a contextual semantic/pragmatic element gets reanalysed as part of the inherent meaning of a construction "hypoanalysis" (2000:126).

In connection with Croft's account of form-function reanalysis a theoretical question arises here. Croft argues that the standard account of linguistic change resulting from pragmatic inferencing pays insufficient attention to one aspect of the process, namely, that as an element gains a new meaning (hypoanalysis), "the former meaning of the unit is lost" (2000:133). This type of meaning loss is called "hyperanalysis", the *combination* of that and hypoanalysis, which is characteristic of pragmatic inference, Croft labels "metanalysis" (2000:130-4). The history of English *since* (Hopper & Traugott 1993:74) exemplifies metanalysis. It started out as a temporal connective meaning 'after' but came to be reanalysed as a causal connective meaning 'because' (although some temporal uses still remain). The process of reanalysis should be understood in the light of the fact that a

main clause event occurring after an adverbial clause event is often also the *result* of the adverbial clause event in question.

Now the interesting thing about the reanalysis that gave rise to causative [NP_1-HAVE-NP_2-STEM/INF] is that the affecting event and causative meaning did not strictly speaking swap places, but rather that as the latter came in, the former merely receded into the background. To the extent that this is correct, one may suggest that change through pragmatic inferencing does not always involve hyperanalysis.

The diachronic process of pragmatic inference rests heavily on the cognitive linguistic notion of "construal", i.e. the idea that in any given situation conceptualisation is not entirely fixed (Langacker 1987, Croft 2000, Cruse & Croft 2003). Thus, different speakers may construe the same utterance in different ways, and therein lies the potential for form-function reanalysis (Croft 2000:118). That there is a degree of flexibility does not imply that interpretation is wholly unconstrained. Cruse & Croft (2003, Ch.4) offer a comprehensive discussion of the constraints operating on the interpretation of utterances. The most obvious constraint, perhaps, is linguistic convention. The form-function mapping of a given utterance is to an important degree a function of speakers' knowledge of how words and complex constructions are routinely used in the speech community.

Particularly important from the point of view of the emergence of periphrastic causative *have* out of the affecting event construction is that linguistic construal is also dependent on what Cruse & Croft call "the nature of reality", and our knowledge thereof. In conceptualising a situation where one participant (NP_1') experiences an event that involves some other participant (NP_2'), a causative construal becomes more likely to the extent that the former participant is somehow superior to the latter. This is because (we know that) in relations of superiority the superior party often gives instructions to the inferior party, and that the latter will tend to comply.

The hypothesis of an experiential situation with a controller-type subject lending itself to a construal as a (primarily) causative situation receives support from another instance of form-function reanalysis: the development of causative uses of *see* (Visser 1973:2263, Quirk et al. 1985:1008, 1201, *OED*, s.v. see, v. 8) and its Dutch cognate *zien*, whose primitive meaning is 'perceive with the eyes' (compare *OED*, s.v. see, v., 1.a). Examples (45-50) (with several different complementation patterns) all involve the notion of causation. They date from c1413, c1530, 1639, 1697, 1884 and 1985, respectively.

(45) They have for to sene that his rentes and revenues and suche other auantages rightwysly to be lyfte
(Pilgrimage of the Soule (Caxton 1483) IV, xxxiii, 81 [Visser 1973:2263])

(46) See ye have voyders ready
(H. Rhodes. Bk. Nurture (in: Babees Bk.) 67 [Visser 1973:2263])

(47) Shee was never from about him, and saw that hee wanted nothing which the world could yeeld for the recovery of his health.
(W. C. *Italian Convert* xxx. 222 [*OED*, s.v. see, v. 8.a])

(48) O Tity'rus, tend my Herd, and see them fed.
(Dryden *Virg. Past.* ix. 29 [*OED*, s.v. see, v. 8.b])

(49) It behoves us to see that we are not outstripped by our rivals abroad.
(*Manch. Exam.* 17 May 4/7 [*OED*, s.v. see, v. 8.a])

(50) I'll see that nobody disturbs you.[15]
(Quirk et al. 1985:1008)

Dutch *zien* can also be used in a causative sense:

(51) Zie maar dat het gebeurt!
See but that it happens
'See to it that it happens!' / 'Make it happen!'

While the present reconstruction of the history of periphrastic causative *have* (and causative *see*) fits in well with the Cruse & Croft approach to construal, it may also be compatible with Langacker's (1998) characterisation of grammaticalisation. Consider for instance his account of the development of *be going to* from a motional expression to a future tense marker. Langacker suggests that "[i]n the physical movement sense, the trajector [i.e., the subject of *be going to*, WBH] — through time (…) — follows a spatial path, at the end of which he intends to initiate some activity" (1998:78). In the future tense use, by contrast, "the *conceptualizer* traces a mental path through time (…), situating the infinitival process downstream in time relative to some reference point" (Langacker 1998:78; emphasis added). However, he hastens to add that the conceptualiser's mental scanning through time is not a novel meaning, in the sense of it being an addition to the semantics of *going to*. Instead, it "was there all along" (Langacker 1998:79), as an "immanent" part of the physical motion sense: "in conceiving of the trajector following a spatial path through time, the conceptualizer is necessarily scanning through time subjectively" (ibid.). In the process of stripping away the meaning of physical motion the idea of subjective scanning is thus not added but comes more to the fore.

Concerning the rise of causative [NP_1-HAVE-NP_2-STEM/INF], in the spirit of Langacker (1998) one could suggest that the idea of causation/control was not added by the context but had in a way been there all along, as an immanent aspect of certain

[15] Quirk et al. note that the lower clause also occurs with *will disturb* (1985:1008).

experiential situations — namely, those situations where NP_1' did not merely experience the event, but also instructed NP_2' to carry it out. Instead of adding it, contexts where NP_1' is seen as having NP_2' under his control merely *brought out* this immanent aspect of the meaning-in-context of the affecting event construction.

3.2 Availability of other causative constructions as a facilitating factor

So far the hypothesis of form-function reanalysis has only been linked to context. However, it seems that while the context provided the basis, the process was facilitated by the existence of causative *have* with other types of complements, to wit, *that*-clauses, prepositional phrases, adjectives and past participles. These constructions are of considerable theoretical importance in that they provide some explanation as to why the change occurred when it did (cf. section 1 for the suggestion that Kemmer & Verhagen's (1994) crosslinguistic account fails in this regard). The *MED*, *OED* and standard handbooks such as Visser (1973) as well as the studies by Baron (1977) and (for the past participial construction) Brinton (1994) show that these constructions had been around for quite a while by c1425, when causative *have* with an infinitival complement arose (see §2.1). Some examples are given below, from c1175, c1325 (c1300), c1205, c1175, c1300 (translations are mine unless indicated otherwise):

(52) þe wælȝa rice..walde þa habban Lazarum..þæt he mid his fingræ hure his tunga drypte (*Bod. Hom.* (Bod 343) 68/25 [*MED*, s.v. haven v., 10.a])
'the mighty rich man (…) would have Lazarus (…) at least moisten his tongue with his fingers' (Belfour 1909:69)

(53) Þa hædden heo mid ginne Merlin þer wið inne.
(Lay. 19008 [*OED*, s.v. *have*, v. 16.a])
'Then they led, through ingenuity, Merlin into that place'

(54) So þat þe clerkes adde þe stretes sone iler.
(*Glo. Chron. A.* (Clg A.11) 11221 [*MED*, s.v. haven, 10.b])
'So that the cleric soon had the streets empty'

(55) He hæfde an fet to ðam anum iwroht. (*HRood* 4/24 [*MED*, s.v. haven v.10.(a)])
'He had a vessel made for that purpose' (Napier 1894:4)

(56) He hadde þare tweie castles bi-walled swiðe faste.
(Layamon (Otho) 18607 [Visser 1973:2388; also *MED*, s.v. biwallen v.])
'He had two castles fortified with walls there very fast'

These constructions are quite close to the inifinitival causative construction (see e.g. Quirk et al 1985:132), both in form and in function. In terms of the spreading activation network model of the (dynamic) organisation of linguistic knowledge that has been proposed by e.g. Bybee (1985), Langacker (1987:100, 1988, 2000), Croft (2000) and Cruse & Croft (2003, Ch.12), constructions are more closely or strongly connected to the

extent that they are more similar, formally and/or semantically. Bybee, in her discussion of the usage-based model, argues that semantic similarity is more important than formal similarity, and a combination of the two yields the strongest connections of all (1985:118; the usage-based model is also associated with Langacker and Croft, and is discussed at greater length in my Ch.4). The availability of causative *have* with these other complement types, therefore, must have facilitated the accommodation of infinitival causative *have* into speakers' linguistic knowledge. (Concerning the construction with a prepositional phrase complement, whose meaning the *OED* defines as "[t]o 'get' into a place or state; to cause to come or go; to take with one; to bring, lead, convey, take, put" (s.v. have, v. 16.a), I note that Pederson (1991:235-7) suggests that transfer predicates are a common source, crosslinguistically, for causatives. Now given that transferring something/someone to some place is itself also causative, in the sense of one participant causing another to change location, Pederson here implicitly defines causatives in the special sense of *grammaticalised* markers that can be used to describe all kinds of causation, i.e. not only change of location. I will come back to Pederson's suggestions concerning source constructions for grammaticalisation into causatives in my Ch.4.)

The other infinitival causatives that were around when the *have* construction arose (*do, gar, make*, etc.) presumably played a role as well. This line of explanation is more appropriately explored and developed in my Ch.4, on the rise of periphrastic causative *get*, where it is impossible to argue that there was a simple reanalysis such that the formal elements of some construction (NP_1, matrix verb, NP_2 and infinitive) came to be associated with a new meaning through the conventionalisation of some pragmatic inference.

4. Concluding remarks

The main aim of this chapter has been to add to the scarce literature available on the rise of periphrastic causative *have*. The present account is strongly grounded in corpus data and detailed appreciation of the context of the examples in question. As a result, it is more plausible than Baron's (1977) reconstruction (and its precedents: Trnka (1924) and Macháček (1969)), especially to the extent that the hypothesised development is very gradual.

The cognitive approach adopted here has played an important role in establishing the exact sense in which the proposed change is gradual. In particular, Talmy's (1976, 1985, 1988, 2000a, 2000b) force dynamics model, Croft's (2000) notion of

form-function reanalysis and the notion of construal as described by Cruse & Croft (2003) have been beneficial in showing how periphrastic causative *have* was derived from the affecting event construction. Langacker's (1998) perspective on grammaticalisation also turned out to yield an appealing analysis of the historical development. On a more general level, then, this chapter has emphasised the value of cognitive linguistics as a framework for synchronic and diachronic analysis.

Finally, the hypothesis of the sphere of control ICM is significant, not only in the context of the rise of periphrastic causative *have*, but also for the study of causatives in general, in English and elsewhere. It plays a large role in chapters 5-6 of this thesis, where the link with language typology is more central, and discussed more overtly.

Chapter 4. The rise of periphrastic causative *get*: a usage-based account

1. Introduction

This chapter deals with the rise of causative *get* with an infinitival complement, exemplified by (1), below:

(1) The police got him to confess to the crime. (BNC HXG 799)

Whenever I refer to an infinitival causative (based on *get* or some other verb, e.g. *make*) I do *not* have in mind the pattern, attested with some causatives in medieval varieties of English though not *get* (cf. e.g. Denison 1993:189-91), of a bare or *to*-Inf *without* an overt causee NP that is different from the matrix verb subject (i.e. the pattern that Denison refers to as V + I: *Bob made believe that all was well* (170)).

Periphrastic causative *get* is mentioned and exemplified in the standard handbooks and historical grammars of English (see e.g. Jespersen 1946:292, Kruisinga & Erades 1967:325-6, Poutsma 1929:793, Visser 1973:2259) as well as the *MED* (geten, v.(1), s.v. 8.(b)) and *OED* (get *v.*, s.v. 30.a). It has also received some attention in the typological literature on causatives (e.g. Shibatani 1976, Talmy 1976, Pederson 1991, Smith 1998). As for studies specifically on English, Givón & Yang in their (1994) historical paper mention the construction and present some corpus examples. A number of scholars have tried to explain the rise of the construction. Baron (1977) offered the first attempt. More recently, Pederson (1991) and Smith (1998) have made some suggestions. The latest reconstruction was put forward by Gronemeyer (1999). Pederson and Smith do not support their arguments with English historical data; I will come back to them in §3.1, below. For now I will concentrate on Baron and Gronemeyer.

Both authors agree that a crucial factor for the rise of the construction in question was the prior development of causative *get* with an NP plus LocP complement — where "locative phrase" should be taken rather loosely, to include directional meaning as well:

(2) I got her to her room and asked Mrs Crimp to bring her a hot drink. (BNC CLF 2777)

The main difference between Baron's and Gronemeyer's accounts lies in the way in which they suggest [NP_S-GET-NP_{DO}-STEM/INF] relates historically to [NP_S-GET-NP_{DO}-LocP]. Baron suggests that while the LocP was important in introducing a causative meaning into the network of meanings of *get*, the construction with an infinitive arose on analogy with some other periphrastic causatives. By contrast, Gronemeyer sees the infinitival causative as having been based more or less exclusively on the NP-LocP complement construction, or to be more precise, the construction where the LocP is a PP headed by *to*. The present discussion is a reaction to Gronemeyer's account, and to an extent a revindication of Baron's proposal.

In section 2 I will first discuss Baron's and Gronemeyer's proposals in more detail and then present some historical data that contradict Gronemeyer's reconstruction of the rise of [NP_S-GET-NP_{DO}-STEM/INF]. Section 3 consists of an alternative reconstruction, which is based on (a dynamic interpretation of) Bybee's (1985) and Langacker's (1987, 1991b) views on the organisation of linguistic knowledge. While similar in spirit to Baron's (1977) analogy proposal, it adds some substance and precision to it. First, it puts the importance of [NP_S-GET-NP_{DO}-LocP] on a crosslinguistic footing. Second, it suggests a different, larger, set of licensing constructions. Third, it sets out to determine the different degrees to which these licensing constructions may have played a role. The analogical extension nature of the account will prevent it from running up against the data problem associated with Gronemeyer (1999). Section 4 wraps up the discussion with a brief conclusion.

2. Baron (1977); Gronemeyer (1999)

Baron's reconstruction is discussed first, in §2.1; Gronemeyer's, in §2.2. I then present some historical data that cast doubt on an important aspect of the latter (§2.3).

2.1 Baron

The starting point of Baron's reconstruction is intransitive *get* with a locative phrase, exemplified by the following instances from a1300:

(3) In batail sua he sul be sette, þat he awai sul neuer gette (*Cursor M.* 7002 [Baron 1977:90; also *OED*, get, *v.*, 61.a])
'In battle he should be set (manoeuvred) thus, that he should never get away'

(4) Þai..did to sper þe dors fast..þat he sul noþer-quar get vte (ibid. 17350 [Baron 1977:91; also *OED*, get, *v.*, 72.a])
'They fastened the doors, in order that he should not get out'

Baron labels this particular construction "precausative" as it is, she claims, "the immediate precursor to [the various] causative [constructions]" (1977:90). The first "truly" causative construction arises in a process of "insertion of a noun between *get* and the locative element" (Baron 1977:90), yielding examples such as (5-6) below (both from the mid 14th century):

(5) Þe grettest of þe grim bestes he gat to prison sone (*Will. Palerne* 2895 [Baron 1977:91; also *OED*, get, *v*., 27.a])[1]
'The greatest of the grim beasts he got to prison soon'

(6) He gete þe bonk at his bak, bigynez to scrape (*Gawain* 1571 [Baron 1977:91; also *MED*, geten, v., s.v. 3.b])
'He got the hill at his back, begins to scrape'

The next step is the rise of the construction with an infinitive. Baron's earliest example of this construction is (7), which the *MED* dates to a1400:

(7) Yf it were þy wylle, þou ne getest not þat maide to spylle (*Floris* (Suth) 107/1007 [Baron 1977:93; also *MED*, geten, s.v. 8.b])
'Even though it may be your will, you will not get that maid to perish (i.e. don't kill that maid)'

As a1400 should be read as "earlier than 1400 but probably not earlier than 1375", Visser presents an example that might be even earlier, from c1386:

(8) Non gete me fro the heghe gate to glent out of ryȝt (*St. Erkenwald* 241 [more context provided here than in Visser 1973:2259])
'None got me to stray from the high road out of right (i.e. righteousness)'

Visser's analysis is in accordance with Stone's, who, in his (1971) translation of the poem renders this line as "None deceived me into swerving off the straight road of right" (p. 38). The earliest example in the *OED*, rather surprisingly, dates from as late as c1460 (see §2.3, ex. (15)) but in view of (7-8) it seems safe to say that the construction with an infinitival complement arose in the spoken language around the middle of the fourteenth century.

As for the role of [NP_S-GET-NP_{DO}-LocP] in this process, Baron presents it as a prior development that was important in that it established the causative sense of the verb *get*. Baron does not take a construction grammarian's point of view (cf. also fn.1), and

[1] The absence of an overt NP between *gat* and *to prison* in this examples causes Baron to modify her earlier claim of "the insertion of a noun between *get* and the locative element" (1977:90) into "[the insertion] *in underlying structure* of a noun between *get* and the locative" (ibid.:91; emphasis added).

so for her, the emergence of *get* followed by an NP and a LocP is not seen as the rise of a new "construction" in the sense of Lakoff, Langacker, Goldberg, etc. — i.e. an independently stored symbolic unit — on which [NP_S-GET-NP_{DO}-STEM/INF] might then be based. Instead, taking the more traditional position that grammar and lexicon are separate components of the language, she sees the emergence of the NP-LocP pattern as the verb *get* coming to allow for a new type of subcategorisation, acquiring a new, causative, sense in the process. Once the verb *get* had thus acquired a causative meaning, the road was open, as it were, to further complementation patterns such as noun plus infinitive — the mechanics of which I turn to presently.

Baron is very clear about the mechanism by which [NP_S-GET-NP_{DO}-STEM/INF] arose. She writes:

> What is the source of infinitival complements with causative *get*? (…) I conjecture that infinitival clauses with *get* arose through direct analogy with Middle English *have* and *make* (and also *don*, perhaps the most popular Middle English causative)
> (Baron 1977:94)

The rise of causative [NP_S-GET-NP_{DO}-STEM/INF], as she sees it, thus crucially involves two steps:

1. The verb *get* comes to take NP-LocP complements, thereby developing a new, causative sense.
2. On direct analogy with the older periphrastic causatives *have*, *make* and *do*, causative *get* extends its range of complementation patterns to include NP-STEM/INF.

2.2 Gronemeyer

Although Gronemeyer's (1999) account of the rise of [NP_S-GET-NP_{DO}-STEM/INF] is very different in essence from Baron's, the two are similar in emphasising the importance of the construction with an NP-LocP complement. However, whereas according to Baron that construction merely served to introduce the causative meaning into the network of senses of the verb *get*, Gronemeyer suggests that the construction with an infinitival complement was directly based on or derived from [NP_S-GET-NP_{DO}-LocP], or to be precise, from [NP_S-GET-NP_{DO}-PP] where the head of the PP is the preposition *to* (henceforth [NP_S-GET-NP_{DO}-*to*-NP_{PO}], where PO indicates that the noun phrase is the object of the

preposition, i.e. *to*). Gronemeyer presents the following instance of this construction (from 1470-1500):[2]

(9) For with that orison sche getyth to God ful many soules þat were in oure power fast beforn. (Reynes, *The Commonplace Book of Robert Reynes of Acle* [Gronemeyer 1999: 24])
'For with that prayer she gets to God very many souls that were fast in our power before'

As for differences between the two accounts, Gronemeyer explicitly disagrees with Baron's assumption that *get* with an NP-LocP complement was derived from *get* plus LocP simply by the insertion of an object NP. Instead, she suggests that the source was ditransitive *get*, with the meaning "'to provide somebody with something'" (Gronemeyer 1999:24). In Gronemeyer's analysis the emergence of [NP_S-GET-NP_{DO}-*to*-NP_{PO}] from [NP_S-GET-NP_{IO}-NP_{DO}] was an important step for the later development of [NP_S-GET-NP_{DO}-STEM/INF].

Two examples of the ditranstitive construction, dating from a1400 (a1325) and c1438, are presented below:

(10) 'quat es your will?' 'Get us a king.' (*Cursor Mundi* [Gronemeyer 1999:24])
'what is your will?' 'Get us a king'
(11) I xal purueyin for þe & getyn þe frendys to helpyn þe. (Kempe, *The Book of Margery Kempe*, vol. I. [ibid.])
'I shall make provision for you and get you friends to help you'

Regarding the way in which [NP_S-GET-NP_{DO}-*to*-NP_{PO}] was derived from [NP_S-GET-NP_{IO}-NP_{DO}] Gronemeyer suggests that the semantics of the older, ditransitive, construction involve the notion of direction. That is to say, speakers supposedly conceive of 'providing somebody with something' as somebody transferring an object *to* someone else. The step toward the construction with the noun and *to*-phrase complement consists in rendering that directional element overt.

This process, which she labels "lexical excorporation" (Gronemeyer 1999:24), is said to be "partially inspired by Croft's mechanism of reanalysis called hyperanalysis" (16; cf. Croft 1995, 2000:121-6). Lexical excorporation and hyperanalysis are actually rather different. While both are mechanisms of language change, hyperanalysis, the opposite of "exaptation" (Lass 1990) or "hypoanalysis" (Croft 2000:126-30), consists in a form-function reanalysis whereby part of a construction gets

[2] She presents a second example: *that a man coveyte to geten alle thise thynges togidre* (Chaucer, *Boethius* [Gronemeyer 1999:24]) but *togidre* is an adverb not a prepositional phrase.

bleached of some aspect of its meaning, this aspect then being re-assigned to the context, typically another part of the construction in question whose meaning it displayed partial overlap with.

The gradual decline of the governed genitive case in Russian is an instance of hyperanalysis. Genitive objects in Russian are governed by certain verbs and constructions such as the negative and partitive (Timberlake 1977:157-8, cited by Croft 2000:122). These genitive objects are gradually being replaced with accusatives, especially in less formal registers. Now if, following Jakobson (1936/1984), one assumes that the contrast between genitive and accusative objects can be described in terms of a difference in "the extent to which an object participates in an event" (Timberlake 1977:158, cited by Croft 2000:122), then one can explain the development at hand. Historically, the lack of complete affectedness of the object in the event was once coded by both the genitive and the governing construction. Subsequently, the genitive has been subject to a reanalysis whereby it has lost this function, incomplete affectedness becoming more and more exclusively associated with the governing construction. In the end, speakers no longer feel the need anymore for genitive marking on the objects in question, replacing them with accusative objects instead (Croft 2000:123).

Now while it is indeed possible to argue that in moving from [NP_S-GET-NP_{IO}-NP_{DO}] to [NP_S-GET-NP_{DO}-*to*-NP_{PO}] the verb *get* was bleached of its directional meaning, it is not the case that this is transferred to an element of the context: the directional element *to* is *newly created*. The condition of semantic overlap between the element that undergoes bleaching and the element that acquires the meaning is thus not satisfied either: *get* did not display any overlap with *to* because the preposition was not part of the construction yet. Also, Croft suggests that hyperanalysis involves a more contentful element grabbing the meaning of a less contentful element. He does seem to allow for the possibility that this constraint might occasionally be violated (Croft 2000:126), but the fact that in this case the less contentful unit (*to*) takes on part of the meaning of the more contentful one (*get*) seems another indication that lexical excorporation is quite different from hyperanalysis.

If anything, Gronemeyer's lexical excorporation is more similar to Croft's "cryptanalysis": the insertion of an overt marker to express some originally covert function. Consider paratactic negation in Latin, where the verb *prohibere* 'forbid, prevent' despite its negative entailment takes an overt negation marker (compare the English translation, where there is no such overt element):

(12) Potuisti prohibere ne fieret.
'You could have prevented it from happening' (Croft 2000:136, citing Horn 1978:173)

The insertion of this *ne* element marks something that was effectively already there, implicitly. (For more examples of cryptanalysis cf. Croft 2000:135-40.)

However, cryptanalysis is hypothesised to be restricted to cases where the covert element tends to be overtly expressed in other constructions (Croft 2000:140). Now since the ditransitive construction [NP_S-V-NP_{IO}-NP_{DO}] is instantiated with a wide range of verbs (*give*, *hand*, *send*, etc.), the motivation for the insertion of *to* is lacking.

Let us now move on to the rise of [NP_S-GET-NP_{DO}-STEM/INF] out of [NP_S-GET-NP_{DO}-*to*-NP_{PO}]. Regarding the latter, Gronemeyer argues that the NP object of *to* can be semantically analysed as a goal (1999:24-5). Now the rise of infinitival complements supposedly occurred in two stages. First speakers introduced stative infinitives, specifically, instances of copula *be*. An example is presented below (from 1553):

(13) and I wyll see yf that I can gete another to be bownd with me. (Mowntayne, *The Autobiography of Thomas Mowntayne* [Gronemeyer 1999:24])
'and I will see if I can get another to be bound with me'

Importantly, the semantics of the complement of *to* in this example, just like in cases of [NP_S-GET-NP_{DO}-*to*-NP_{PO}] (cf. (9), above), may also be described as a kind of goal. In other words, Gronemeyer argues that by keeping the *function* of the object of *to* constant speakers changed its *form*, i.e. from noun phrase to infinitive. (She uses the term "type coercion" for this kind of process (Gronemeyer 1999:25)). She goes on to suggest that it was only after this *formal* change had occurred that the *functional* change took place, i.e. towards the use of infinitives with *dynamic* (or "eventive" (Gronemeyer 1999:25)) meaning. She gives the following example of eventive infinitive complementation (from 1597):

(14) and yet I cannot get you to leaue her company (Deloney, *Jack of Newbury* [Gronemeyer 1999:24])

Intuitively, Gronemeyer's account might seem very satisfying. On the basis of the suggestion, quite widely accepted in historical linguistics, that change tends to be gradual rather than drastic (see e.g. Croft 2000:49-50 and references cited therein), it would make a lot of sense for the door towards new complements to have opened only

slightly at first, as it were, letting in only those infinitives that were similar in function to the noun phrase complements of the older [NP_S-GET-NP_{DO}-*to*-NP_{PO}] construction, i.e. denoting states, and only later opening completely, admitting also infinitives with dynamic meaning.

2.3 Problematic data for Gronemeyer

Gronemeyer's reconstruction of the emergence of [NP_S-GET-NP_{DO}-STEM/INF] is clearly only plausible to the extent that there is evidence that *be*-copula infinitives were introduced before infinitives with eventive meaning. However, this not the case. Examples (7-8) above, predate Gronemeyer's first instance, presented here as (13), by a considerable margin: a1400 and c1386 as against 1553. The semantics of the infinitives involved, *spylle* 'perish' (*OED*, spill, *v.*, s.v. 7.a) and *glent* 'glide' (glent, *v.*, s.v. 1) are clearly not stative but dynamic.

And while the sources I have consulted do not contain any earlier examples of the construction with a *be*-copula, suggesting that Gronemeyer's mid-sixteenth century instance may indeed be the earliest attested case, there is at least one other example of [NP_S-GET-NP_{DO}-STEM/INF] with a dynamic infinitive that predates example (13); it dates from c1460:

(15) And so myght we gett hym som word for to say. (*Towneley Myst*. xxi. 218 [*OED*, get *v.*, s.v. 30.a])

Visser lists a possible second example, which he dates c1410:

(16) Abideth a litell, and I schal gete ȝow to have more (Nicholas Love, *Mirrour Blessed Lijf of Chr*. (ed. Powell) 106 [1973:2259])
'Wait a little, and I shall get you to have (i.e. drink) more'

The example is mentioned by the *MED* as well (geten, v.(1), s.v. 8.(b)). It is taken from the story in which Jesus turns water into wine and describes Mary's response to the servants, when they tell her that there is no more wine. This example is not necessarily causative. Except for special circumstances, involving for instance a doctor and a dehydrated patient, or a parent and a feverish child, it is rather unusual to make someone drink. The example is more likely to be a token of the (older) ditransitive construction, i.e. meaning something like '… I'll go and fetch some more for you to have' — not dissimilar, in other words, to the following example from PDE (cf. also ex. (11), above):

(17) Don't worry, I'll get you some more to eat (BNC CFJ 923)

In a similar vein, Olga Fischer (p.c.) stresses that alternative analyses may have been available for examples (7-8). With regard to (7) she offers the possibility that the infinitive is not a complement of the matrix verb but, instead, dependent on the noun — i.e., in less syntactic terms, that it is part of a purpose clause. This certainly seems possible. The idea may be illustrated by the following two examples, both from c1425, which are listed by Visser as instances of causative *get* (1973:2255):

(18) Hast þow made any sorcery To gete wymmen to lyge hem by? (Mirk, *Instr. Parish Priests* 862)
'Hast thou made any sorcery to get women with a view to lying with them?'
(transl. Kristensson 1974:230)

(19) Scho gate hyr[3] men of myȝt vnto þe tempyll to gang (*Metric. Paraphr. Old Test.* III (ed. Ohlander) 13581 [Visser 1973:2259])
'She got her mighty men in order to go to the temple (i.e. in their company)'

A causative interpretation of (18) must be rejected because the text does not make reference to any men with whom the women could sleep. The question that constitutes the example is one of a series of questions about various possible sins (e.g. *Hast þou worschypet any þynge / More þen god, oure heuene kynge?* (ll. 854-5) 'Have you worshipped anything more than God, our king of heaven?'; *Hast þow lafte goddes name, / And called þe fend in any grame?* (ll. 856-7) 'Have you rejected God's name, and invoked the devil in any wrath?').

The passage from which example (19) is taken is based on the story of Joash's ascension to the throne, described in 2 *Chronicles* 23 and 2 *Kings* 11. After Joash's evil grandmother Athaliah has reigned over Judah for six years, the priest Jehoiada decides to crown Joash, the rightful heir to throne, in the temple of Jerusalem. When Athaliah hears the noise she hurries to the temple — which is described by example (19), above. The next lines relate her subsequent execution (*To ded þore was scho dyȝt, / sum toyȝt scho lyfed ouer lang* (ll.13583-4) 'There she was put to death, / some thought she had lived too long'). This renders a causative reading — i.e. 'She made her mighty men go to the temple' — impossible: clearly, Athalia must have gone to the temple herself as well. This is supported by the original version of the story, in the Old Testament, where Athaliah's mighty men are not even mentioned; the New Living Translation of 2 *Chronicles* 23:12-15 has:

[3] Visser mistakenly has *hys* here.

> 12 When Athaliah heard the noise of the people running and the shouts of praise to the king, she hurried to the LORD's Temple to see what was happening. 13 And she saw the newly crowned king standing in his place of authority by the pillar at the Temple entrance. The officers and trumpeters were surrounding him, and people from all over the land were rejoicing and blowing trumpets. Singers with musical instruments were leading the people in a great celebration. When Athaliah saw all this, she tore her clothes in despair and shouted, "Treason! Treason!" 14 Then Jehoiada the priest ordered the commanders who were in charge of the troops, "Take her out of the Temple, and kill anyone who tries to rescue her. Do not kill her here in the Temple of the LORD." 15 So they seized her and led her out to the gate where horses enter the palace grounds, and they killed her there.

2 *Kings* 11:13-16 is very similar, and the New Living Translation of these passages is not notably different from the Vulgate Translation.

Fischer goes on to point out that Bock (1931) claims that *to*-infinitives acting as complements often developed out of *to*-infinitives dependent on NPs. This may give rise to the interesting hypothesis that [NP_S-GET-NP_{DO}-STEM/INF] developed, through reanalysis, from transitive *get* with an infinitival adjunct. The position taken here is that although this may have been a (significant) part of the story, by the lME period there were sufficient other infinitival causatives around to act as models (see §3.2, below) that the development in question could have occurred independently of transitive *get*. There is some positive support for this scenario: the crosslinguistic evidence for 'obtain' predicates taking on causative functions is less than overwhelming (see §3.1, below; it may be, of course, that the kind of constellation of elements that arguably allowed reanalysis in English has been absent in other languages). The possibility of reanalysis and sanction from similar constructions working in tandem does raise a tantalising question regarding the usage-based model, which I will come back to in the concluding section of this paper.

With reference to example (8) Fischer suggests an alternative analysis on which the infinitive is a purpose clause in a kind of apposition to *fro the heghe gate*, yielding a PDE translation like 'None got me (away) from the high road, i.e. to swerve out of the right (way)'. On this view, (8) instantiates the older transfer construction [NP_S-GET-NP_{DO}-LocP]. Once more, this is indeed possible. Well aware though I am, therefore, that alternative interpretations may have been available for (7-8), the remainder of the discussion will tentatively assume that they instantiate the periphrastic causative construction.

Given that the sources from which these early examples of causative *get* with a dynamic infinitive were taken (*MED*, *OED* and Visser's handbook) were consulted by Gronemeyer — there are references to all of them — the question arises as to why her reconstruction has the emergence of stative infinitives before dynamic infinitives. One

might suggest that perhaps despite the fact that examples of the construction with a dynamic infinitive are attested much earlier, she still feels that the stative infinitive type must actually have arisen before that. However, her table 6 (Gronemeyer 1999:36) clearly states that the "infinitival causative" arose some time between 1500 and 1570. The upper end of that time bracket is slightly surprising, in view of her example from 1553 (my (13), above). But it is the lower end, 1500, that is the most crucial thing here, for it shows that she does not postulate a date of origin for the stative infinitive construction that is earlier than the dates of examples (7-8) and (15), above. In the light of these examples (and possibly (16)) there is room for an alternative reconstruction.

3. Alternative reconstruction: a usage-based account

The previous section presented evidence against Gronemeyer's hypothesis that [NP_S-GET-NP_{DO}-STEM/INF] emerged in a two-step fashion such that stative infinitives were introduced first, paving the way for dynamic infinitives. I now turn to an alternative proposal, which will accommodate the presumed date of origin of [NP_S-GET-NP_{DO}-STEM/INF]: the mid-fourteenth century (see §2.1). This date puts constraints on the range of possibilities in terms of the constructions that may have acted as source or model: constructions first attested later than 1375 will be excluded from consideration — a certain degree of arbitrariness is unavoidable here. Before turning to the proposal itself, let me outline a few relevant aspects of the theoretical perspective it is based on: the usage-based model, as instantiated by Bybee's (1985) associative network model as well as Langacker (1987, 1991b, 2000) and Croft (e.g. 2000; cf. also Cruse & Croft 2003, Ch.12);[4] discussion of further relevant aspects follows in the appropriate places in subsequent sections below.

On the usage-based model, linguistic knowledge is seen as emerging from actual instances of language use. Langacker refers to instances of actual language use as "usage events", Croft simply calls them "utterances". Two properties of utterances in particular are important in determining grammatical representation: "frequency of occurrence (…) and the meaning of the words and constructions in use" (Cruse & Croft 2003, §12.1). Formal properties, by contrast, play a relatively minor one in the usage-based conception; see further below. The model is thus very different from the traditional structuralist and generative approaches, where grammatical representation solely depends

[4] The models of Bybee, Langacker and Croft are very similar; Kemmer & Barlow, in their (2000) brief but useful introduction to the usage-based approach, suggest that the label can be extended to cover a less homogeneous range of approaches, as long as they have a primary interest in actual language use (i.e. corpus data etc.).

on the structure of grammatical forms. (It is also different from the so-called "dual-processing model" of grammatical representation associated with Pinker & Prince 1994 and Marcus et al. 1995; see fn. 19, below).

With regard to the nature of linguistic knowledge, proponents of the usage-based model often take a construction grammarian's view. A speaker's grammar is seen as consisting of a structured network of constructions, ranging from maximally simple ones, words — monomorphemic words, to be precise — to more complex and/or schematic structures such as, say, the *be going to* future or indeed the [NP_S-GET-NP_{DO}-STEM/INF] construction, to maximally complex and schematic ones such as the transitive construction (see e.g. Croft 2001:17; also my Ch.1).

The structuring of the network crucially involves association (which has independent grounding in psychology). Associated structures are often thought of metaphorically as being "connected". In Bybee's model, items (of whatever degree of complexity) are more strongly connected to the extent that they are more similar, functionally and/or formally. Of the two types of similarity, the former is more important than the latter (1985:118), and a combination of formal and functional similarity yields the strongest connection of all. Interpreting her model in a diachronic fashion, I will assume that all constructions involved in the rise of causative [NP_S-GET-NP_{DO}-STEM/INF] must have been relatively close to the novel construction.

As for the exact way in which these constructions contributed to the rise of [NP_S-GET-NP_{DO}-STEM/INF], I will draw on Langacker's notion of "partial sanction" (cf. e.g. 1987:68-71). Briefly, the usage-based model assumes that speakers evaluate the grammaticality/acceptability of novel structures relative to established ones. They are sanctioned — i.e. judged as grammatical — by these established structures to the extent that they do not conflict with them. Now while full sanction equals full acceptability it is not the case that less than full licensing, "partial sanction", implies strict ungrammaticality. The fact that languages change (and also the phenomenon of poetic licence) shows that speakers allow for certain departures from established convention. Thus, I set out below to identify the constructions that provided the necessary partial sanction for ME speakers to produce/accept causative *get* with an infinitive.

Langacker himself has never explicitly applied this idea to cases of linguistic change. Admittedly, he shows how the extension of one's network of varieties of dogs to incorporate the nonprototypical member dachshund pivots on partial sanction (1991a:118-20). Many of the cognitive processes involved in this extension are similar to the ones involved in (the actuation of a) linguistic change, yet there seems to be an

important difference as well: the scenario sketched by Langacker does not concern a speaker newly creating the symbolic unit [DACHSHUND]; instead, it merely represents a hearer assimilating it (i.e. to his/her established knowledge).

In line with Baron and Gronemeyer the present reconstruction sees the rise of [NP_S-GET-NP_{DO}-STEM/INF] as having depended heavily on the older transfer construction [NP_S-GET-NP_{DO}-LocP]. In usage-based terms, it is assumed that this construction furnished an important source of (partial) sanction for the infinitival causative; see §3.1 for more details.

Contra Gronemeyer and partly contra Baron it is furthermore assumed that this extension was also partially sanctioned by a fairly large number of other previously established constructions — of various levels of schematicity. Although not based on *get* they were still similar to [NP_S-GET-NP_{DO}-STEM/INF]. The ME period saw the rise of many periphrastic causatives, i.e. constructions of the form [NP_S-V_{cause}-NP_{DO}-STEM/INF] (see e.g. the list in Visser 1973:2255ff). Bybee's notion of "type frequency" is relevant here, specifically, her suggestion that there is a positive correlation between the number of members of a class of constructions (i.e. its type frequency) and the likelihood for that class to attract new members (1985:132-4). §3.2 presents the rise of [NP_S-GET-NP_{DO}-STEM/INF] against the background of the high type frequency of the class of periphrastic causatives in lME.

Denison has argued that "[t]he VOSI[5] pattern was less freely and less often used in Old and Middle English than it is in PDE" (1993:165). The conflict between this claim and my hypothesis may be merely apparent rather than actual: the large number of periphrastic causatives that arose in ME says something about the productivity of the pattern in *causatives*, not necessarily about other construction types (perception, saying, etc.).

In any case, one may wonder what could have caused this rise in productivity. Regarding the spread of infinitival complements in general, i.e. not just in causatives, scholars' opinions are very much divided; for an overview see Denison (1993:192-213).

On a theoretical note, arguing that the process of extension that constituted the rise of [NP_S-GET-NP_{DO}-STEM/INF] involved more than one licensing construction, although probably not controversial in traditional views on analogy, is not without

[5] The abbreviation VOSI is Visser's (1973:2234ff). It is supposed to capture the double role of the NP that is sandwiched between the V(erb) and the I(nfinitive); it is a kind of O(bject) of the first and the S(ubject) of the latter.

problems within Langacker's model. His "single node hypothesis" (see e.g. Langacker 1991a:282ff) holds that the extended construction is categorised by only one previously established construction (the so-called "active node"). I am not aware of any basis for the single-node hypothesis in the cognitive psychology literature on the spreading activation model, and am therefore sceptical *vis-à-vis* the single-node hypothesis. It is significant in this connection that other cognitive linguists working on language change, such as Joan Bybee, Bill Croft and Eve Sweetser, have never made a similar proposal. Note also that Fauconnier & Turner's conceptual blending model — which is clearly inspired by the spreading activation proposal — explicitly allows for multiple "input spaces" (see e.g. 1996, 1998).[6]

3.1 *Get*-based constructions

Although it seems to me that the rise of [NP_S-GET-NP_{DO}-STEM/INF] was more complicated than Gronemeyer's derivation from [NP_S-GET-NP_{DO}-*to*-NP_{PO}] I do believe that [NP_S-GET-NP_{DO}-LocP] played an important role in the process. The former is quite similar semantically and also structurally to the latter. As for the issue of chronology, example (9), above, may not predate the earliest examples of [NP_S-GET-NP_{DO}-STEM/INF], but [NP_S-GET-NP_{DO}-LocP] was already established when the construction with an infinitival complement arose. The earliest example in the *OED* is from c1350 (the *MED*, where this is also the first example, dates it slightly differently, as a1375 (geten, v.(1), s.v. 3.b. (a)) — remember that the infinitival causative does not start to appear before the last quarter of the 14th century (see (7-8), above):

(20) Þe grettest of þe grim bestes he gat to prison sone (*Will. Palerne* 2895 [*OED*, get, *v.*, s.v. 27])

It seems safe to hypothesise that [NP_S-GET-NP_{DO}-LocP] emerged in spoken ME some time in the first half of the fourteenth century.

[6] If despite all this one were committed to maintaining the hypothesis one could perhaps reconcile it with analogy proposals such as the present one by emphasising that the degree to which licensing constructions seem to have played a role can be interpreted probabilistically. That is, a construction which is said to have provided a large amount of sanction may be thought of as a construction that is relatively likely to have been selected as the active node. This might lead one to infer that contrary to the present account there was actually only a single construction involved in the rise of [NP_S-GET-NP_{DO}-STEM/INF]. However, this inference does not necessarily follow, at least to the extent that one is prepared to accept the idea that changes need not originate in a single speaker, but may be initiated by several speakers at more or less the same time. If this was indeed the case, then the active node clearly need not have been the same for all of them. In addition, if the spread of the construction is also taken into account one could suggest that different speakers in different usage events may have categorised the novel construction relative to different active nodes.

Periphrastic causative *get* was preceded by other *get*-based constructions as well. Thus, one might wonder whether ordinary transitive *get* provided some sanction as well. One possible argument would be that the periphrastic causative construction in a way also involves the notion of "obtaining" something, namely, the caused event. This is indeed suggested in Smith's (1998) typological study on causatives and other constructions. Discussing the sentence *I got him to stop smoking* she states: "English causatives with 'get' (…) should be understood to have the causer as the recipient [i.e. of the caused event, WBH]. I wanted him to stop smoking and I got him to stop smoking" (Smith 1998:224).

I reject this argument, however, on the grounds that this is to stretch the notion of obtaining too far. It seems impossible to come up with a superordinate concept of 'getting' that is neutral with regard to, roughly, 'obtaining possession of some object' on the one hand, and 'making someone do something', on the other. It is significant in this connection that despite Smith's implication that crosslinguistically verbs of 'getting' are regularly extended to causative functions, English is actually the only supposed example of this development in her sample (Smith 1998:222, Table 3), which consists of 32 languages from a variety of families.

Pederson's (1991) study is based on a larger sample than Smith's (cf. his appendix (399-404)), though it is not completely clear what part of his sample he has looked at to find examples of causatives. Just like Smith, Pederson seems to suggest a direct connection between periphrastic causative *get* and its transitive use: "In English the verb *get* (meaning "receive" as in I got the money") came to be used causatively *I got him to go*" (1991:236). English is also the only language in Pederson's sample in which a 'getting' verb has developed a causative meaning. This reconstruction can be rejected on the same grounds as Smith's.

Interestingly, even though Pederson's reconstruction of the rise of English periphrastic causative *get* seems to be mistaken, his study provides valuable support for my hypothesis that [NP_S-GET-NP_{DO}-LocP] played an important role in the rise of the infinitival causative. Pederson draws on Talmy's not strictly speaking crosslinguistic but still typologically-oriented work on causation, and the more general notion of force dynamics (1976, 1985, 1988, 2000, Chs.7-8). The basic hypothesis in Talmy's model of causation is that causative situations are conceptualised in terms of more basic situation types, involving one entity (the "antagonist") applying force to another (the "agonist"), thereby causing it to undergo some change of state (cf. my Ch.1 for a more elaborate description of the model).

Using crosslinguistic evidence, Pederson posits several verb types that commonly develop causative meaning; one of them being "verbs which denote *manipulation of an entity*" (1991:235), defined more precisely elsewhere as verbs meaning "agent places patient somewhere" (ibid.:237); some relevant English verbs are *store*, *set*, *place* and *fix*; *get* is also classified as a member of this class (ibid.:236).

Pederson goes on to suggest that these verbs are semantically similar in having an agent/antagonist controlling the patient/agonist, just like causatives, where the causer/antagonist successfully manipulates the causee/agonist. This explains Smith's observation that 'give' verbs are common sources for causative verbs: a giver has control over the gift (at least until the transaction is completed), just as a causer in a sense dominates the causee (at least in the causative event). Moreover, Pederson's findings regarding the extension of transfer verbs (which include Smith's 'give' verbs) hold considerable explanatory value for the rise of periphrastic causative *get*. [NP_S-GET-NP_{DO}-LocP] is as good an example as any of Pederson's class of transfer verbs; the development of causative [NP_S-GET-NP_{DO}-STEM/INF] was therefore natural. Notice that this view irons out the "glitch" that *get* represented to both Pederson's and Smith's crosslinguistic generalisations.

Coming back to *get* in its original transitive use, the force-dynamic perspective sheds more light on the implausibility of it being (directly) extended to a causative function: in 'getting' events the antagonist (i.e. the obtaining or receiving party) controls the agonist (the transferred object) only once the transfer has been completed.

For the sake of completeness, let me discuss the possible hypothesis that ditransitive *get* (cf. (10-11), above) provided some sanction for the infinitival causative. The relative chronology of the constructions would not contradict this; consider the following examples, the first two from a1300, the third, from c1350:[7]

(21) Ay was he bone, To gete [Cott. fete] his fadir venisun. (*Cursor M.* 3502 (Gött.) [*OED*, get, *v*., 18.b])
'Always he was prepared to get his father venison'

(22) Gett vs a king. (ibid. 7293 (Cott.) [ibid.])[8]

[7] The fourth earliest example from the *OED* is from Chaucer. Dating from c1385 it is older than the earliest case of [NP_S-GET-NP_{DO}-STEM/INF] ((8), above) by only such a small margin that it is not included here.
[8] This instance corresponds to the example from Gronemeyer here represented as (10) but is from a different MS.

(23) Melior..preide hire priueli..to gete hire þat gode gras as sone as sche miȝt. (*Will. Palerne* 644 [ibid.])
'Melior .. requested her privately .. to get her that beneficial herb as soon as she could'

One might want to argue that ditransitive *get* should be analysed semantically as 'give someone something'. To the extent that this is a plausible analysis, there would seem to be some crosslinguistic evidence for saying that it licensed the causative construction: as noted above, Smith (1998) reports on 10 languages where a 'give' predicate has grammaticalised into a causative marker. The problem is that this semantic analysis is not very accurate; it seems preferable to say that the meaning of ditransitive *get* is very similar to the monotransitive use — the difference being that the obtaining is now done for the benefit of someone else. (See also the definition in *OED*, get, *v*., 18.b, which suggests that the notion of transfer, while present, is backgrounded relative to the idea of obtaining. It is significant in this connection to consider that ditransitive *get* hardly passivises on the indirect object, while ditransitive *give*, does: *??We were got(ten) a king* v. *We were given a king*. Transfer being a notion traditionally associated with transitivity, and thus passivisability (see e.g. Rice 1987), this difference supports the hypothesis that the notion plays only a relatively marginal role in the semantics of ditransitive *get*.) Also, once more it seems so difficult to come up with a superordinate concept that categorises the meaning of the ditransitive and the semantics of causative *get* that a sanctioning role is unlikely.

On the usage-based model processes of extension involve the abstraction of a schema that captures the similarities between the basic structure and the extended one. The present hypothesis thus implies a schema to categorise [NP_S-GET-NP_{DO}-LocP] and [NP_S-GET-NP_{DO}-STEM/INF]. This schema may be formally represented as [NP_S-GET-NP_{DO}-XP]; its meaning would roughly be 'make someone change their location or activity'. [9]

Part of the process of extension can now be represented by the following diagram (where the box containing [NP_S-GET-NP_{DO}-LocP] indicates unit status; the ellipses enclosing [NP_S-GET-NP_{DO}-STEM/INF] and [NP_S-GET-NP_{DO}-XP], that they are

[9] I am following Langacker's usage-based model of extension here. In line with Cruse & Croft's suggestion that "[t]he primary factor determining the existence of a schema (…) is a (relatively) high type frequency" (2003, §11.2.3) one could object that the justification for the schema [NP_S-GET-NP_{DO}-XP] is very weak, since it is only instantiated by [NP_S-GET-NP_{DO}-LocP] and [NP_S-GET-NP_{DO}-STEM/INF]. It would perhaps be better, then, to omit [NP_S-GET-NP_{DO}-XP] from Figure 1. Incidentally, the conflict with Langacker's model may not be very serious as the latter has argued that in any given process of extension the schema "may be only a fleeting occurrence" (1991a:271).

novel structures; the solid arrows, a relation of full sanction; the dashed arrow, one of partial sanction):

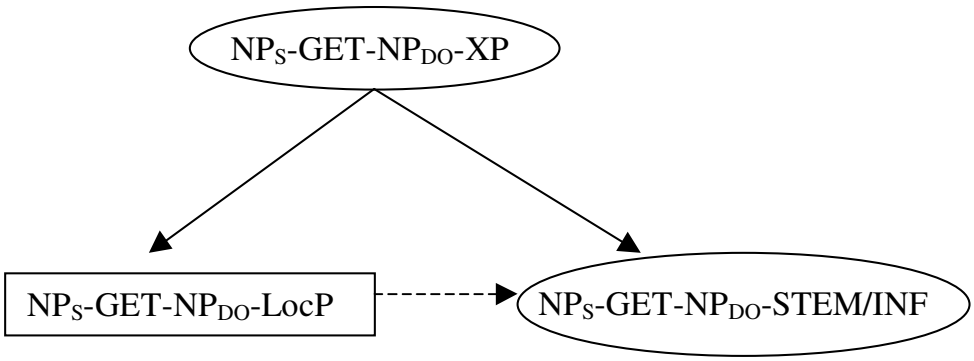

FIGURE 1. PARTIAL SANCTION FROM [NP_S-GET-NP_{DO}-LOCP]

3.2 Other periphrastic causatives

The other, not necessarily less important, part of the process involved constructions not based on *get* yet also formally and semantically similar to [NP_S-GET-NP_{DO}-STEM/INF]. Specifically, I suggest that partial sanction also came from other, already established, periphrastic causatives, as well as from the schema categorising them. Visser's sections on causative verbs (1973:2255ff)[10] show that many periphrastic causatives arose in the ME period, especially in the late part (see also Bock 1931:156). In Bybee's terms, the class had a high type frequency and was thus likely to attract new members.

With regard to the low-level constructions, the ones that are most likely to have played a role are [NP_S-DO-NP_{DO}-STEM/INF], [NP_S-GAR-NP_{DO}-STEM/INF], [NP_S-MAKE-NP_{DO}-STEM/INF]. Of these three, I will tentatively propose, on dialectal grounds, that the *gar* construction was the chief source of sanction. As for other periphrastic causatives that were around early enough, Visser's collections of examples sometimes leave one in doubt as to whether the *to*-infinitives are really complements or merely purposive adjuncts (compare the noncausative readings of my (7-8), above). A related problem is that in certain cases it is impossible to be certain that a verb is an implicative, as opposed to nonimplicative, causative. There is typological evidence to suggest that implicative causation is conceptually different from nonimplicative causation (see especially Song 1996, Ch.5). Although proponents of the usage-based model have not (yet) specified how to measure degree of similarity, it is reasonable to assume that nonimplicative causatives played only a marginal role, if any, in the rise of [NP_S-GET-

[10] Certain aspects of Visser's classification are confusing; see Fischer (1992a:79, n. 13) for some criticism.

NP_{DO}-STEM/INF]. Ideally therefore, the list of sanctioning constructions should not contain any nonimplicative causatives. It can be hard to draw a line between implicative and nonimplicative meaning. A consensus opinion is often lacking in the literature. *Bid*, for instance, is standardly classified as nonimplicative (cf. e.g. *MED* and *OED*). Fischer (1997a), however, makes a convincing case for the possibility of implicativity. Consider:

(24) Til Custance made hire [Hermengyld] boold, and bad hire wirche / The wyl of Crist (*Man of Law* 566-7 [Fischer 1997a:111])

Fischer states that "*bad* is almost a causative on a par with *made hir* [sic] *boold*, and can best be translated by 'had (her work)'" (1997a:111). Strictly speaking this example falls just outside the relevant time bracket — it dates from c. 1386 — but consider (25), below, from c1340, where the inanimateness of the causee also renders an implicative interpretation plausible:

(25) [God] bad hit grow and frute forþ bringe (Curs. M. (Frf.) 380 [Visser 1973:2304])
'God made it grow and bring forth fruit'

Mindful of these problems, I suggest that the more convincing (implicative) periphrastic causatives attested before 1375 include *accoy*, *afforce*, *bid*, *cause*, *commove*, *constrain*, *draw*, *drive*, *give*, *lead*, *let*, *necess*, *send*, *set* and *shape*. All of these contribute to the type frequency of the class and are in that sense important, but they are semantically less similar to *get* than *do*, *gar* and *make* and therefore played a smaller role (see §3.2.2). The earliest token of periphrastic causative *have* in the *OED* might suggest that this construction was early enough to provide some sanction for *get* but I argue in my Ch.3 that it more likely dates from c1425.

Finally, the claim that ME featured a productive mechanism for the creation of new periphrastic causatives implies that the schematic construction [NP_S-V_{cause}-NP_{DO}-STEM/INF] also played a rather important licensing role.

For the sake of completeness, let me note that the present claim of high type frequency is not entirely objective. The number of lME periphrastic causatives certainly *strikes* me as high, for instance as compared to PDE, but it has never been established in the usage-based literature what exactly constitutes sufficiently high type frequency for a class to be productive.[11]

[11] Croft (2002) is a first explicit attempt at addressing this and related issues concerning the usage-based model. Far from solving the issues, though, he suggests that "the most [he] can promise is perhaps a better formulation of the questions" (Croft 2002, handout). Bybee & Slobin's (1982) study may be interpreted as

3.2.1 Chronology

The argument that causative [NP_S-GET-NP_{DO}-STEM/INF] was (partially) sanctioned by a number of other periphrastic causatives obviously rests on these other constructions being older than their *get*-counterpart.

Let me start by discussing the most well-known examples of the construction: *cause*, *do*, *gar*, *let* and *make*. *Do* and *make* were both established well before the rise of [NP_S-GET-NP_{DO}-STEM/INF]. The *do*-construction, now obsolete, was already attested in OE; see examples (26-7) below, which date from c825. *Make* is more recent but the date of the earliest example ((28), below), c1175, shows that it still arose well before its *get* counterpart.

(26) Aswindan þu didest..sæwle his. (*Vesp. Psalter* xxxviii. 12 [*OED*, do, *v*., s.v. 22.a])
'You made his soul perish'

(27) Se ȝelocað in eorðan & doeð hie cwaecian. (ibid. ciii. 32 [ibid.])
'He looks at the earth and makes it quake'

(28) Swa makeð þe halie gast þe Mon bi-halden up to houene. (*Lamb. Hom.* 159 [*OED*, make, *v*.1, s.v. 53.a])
'In that way the Holy Ghost makes the man look up to heaven'

[NP_S-LET-NP_{DO}-STEM/INF] arose in the OE period and so it also predates the *get* constructions by a considerable margin. In PDE it is almost completely restricted to uses involving permission or enablement. The *OED* suggests that the purely causative meaning is present only in "*to let* (a person) *know* = to inform (of something)" (let, *v*.1., s.v. 13; see also Visser 1973:2261). Williams has devised an example that would suggest that it is not quite that restricted, but I find that native speakers of English invariably reject it:

(29) If I could rewrite Russian history, I would let the revolution have already taken place by the time Lenin was born. (Williams 1984:141)

For an OE (c900) example of causative as opposed to permissive or enabling *let* consider (30); for an example from round about the time of the rise of [NP_S-GET-NP_{DO}-STEM/INF] see (31), which dates from c1384:

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containing some implicit indications as to a threshold level for type frequency. They show that the morphological class of verbs such as *spin/spun, win/won, cling/clung* (their class VIb) has been growing steadily from the Old English period, when it only had 7 members (Bybee & Slobin 1982:288). It is not easy to determine the exact value of this finding, though, as productivity also depends on the *token* frequency of the members of a class (see §3.2.3, below).

(30) He sette scole, & on þære he let cnihtas læran. (tr. *Bæda's Hist*. III. xiv. [xviii.] (MS. Ca.) [*OED*, get, *v*.1., s.v. 13])[12]
'He established schools, and he let boys study there'

(31) [he] leet a certeyn wind to go [sc. from his clarion] (Chaucer, *House of Fame* 509 [Visser 1973:2261])
'he let go some air'

Although the purely causative use thus did and still does exist (for ME see also Fischer 1992a, §2.2.1), my impression from the examples in Visser and other standard sources is that the sense of permissive/enabling causation has always been predominant.

As for periphrastic causative *gar* and *cause*, the earliest attested examples date from a1300 and c1300, respectively (*gar*, a borrowing from Old Norse, may of course have been part of the spoken language in the Danelaw in the OE period):

(32) Oft þu geris mi wondis blede. (*Cursor M.* 17160 (Gött.) [*OED*, gar, *v*., s.v. 2.b])
'Often you make my wounds bleed'

(33) the Jues I gaf concaylle That thay shuld cause hym dy. (*Harrowing of Hell* (Everym. Ed.), p.144 [Visser 1973:2256])
'the Jews I gave counsel that they should cause him to die (i.e. have him executed)'

The causatives that have not yet been exemplified played a smaller role; suffice it to give one example of each. Many of these constructions are now obsolete, so that in my translations I sometimes use PDE constructions such as *cause* and *make*; some discussion of the ME semantics is provided in §3.2.2, below.

(34) þe cherl … chastised his dogge, bad him blinne of his berking… acoyed it to come to him (c1350 *William of Palerne*, 56 [Visser 1973:2270])
'the man … chastised his dog, commanded it to cease his barking … coaxed it into coming to him'[13]

(35) Arthour aforced him to deie (c1330 *Arth. & Merlin* 3285 [*OED*, afforce, *v*., s.v. 1])
'Arthur caused him to die'

(36) voys or soun hurteleth to the eres and commoeveth hem to herkne. (c1374 Chaucer, *Boece* V metrum 4, 1817 [Visser 1973:2274])
'voice or sound strikes against the ears and causes them to hear'

(37) For no necessite ne constreyneth a man to gon that goth by his proper wil (c1375 Chaucer *Boece* V Prosa 6, 1911 [ibid.])
'For no necessity constrains a man to go who goes by his own will'

(38) he droh þe follc To lufenn & to cnawenn þatt … lihht (c1200 Orm 18156 [ibid.:2277])
'he made the people love and know the … light'

[12] The implication of the *OED*'s classification is that this example should be translated as something like '…he had knights study there' rather than '…he allowed/enabled knights to study there'. I would not completely exclude the latter possibility.

[13] The *OED* suggests "[t]o still, calm, quiet or appease" as the primitive meaning (accoy, *v*.) and adds: "*hence*, to soothe or coax" (the *MED* has a similar definition; see acoien, v., s.v. (b)). The argument for a causative interpretation here is that calming down a dog typically involves stroking it. The man here does not stroke his dog, for otherwise he would not have to call it.

(39) Al þet te deoflen … driveð ow te donne (c1200 *St. Juliana* 23, 224 [ibid.])
'All that the devil … makes you do'

(40) Seinte Marie … ȝif me deien mid him & arisen (c1225 *Ancr. R.* (EETS 1952) 17, 4 [ibid.: 2260])
'Saint Mary … make me dye with him and arise'

(41) mi wicked eyiȝen, þat lad min hert þrouȝ loking þis langour to drye (c1350 *Will. of Palerne* 459 [ibid.:2282; more context provided here than in Visser])[14]
'my wicked eyes, that, through looking, led my heart to suffer this distress'

(42) O thow fadir … ne foreyne causes necesseden the nevere to compoune werk of floterynge matere (c1374 Chaucer, *Boece* III metrum 9, 864 [ibid.:2283])
'O thou father … foreign causes never compelled you to construct work of fluttering matter'

(43) an … þat … Sal send his wickednes to sprede (13.. *Curs. M.* 97 [ibid.:2264]) [15]
'and … that … shall cause his wickedness to spread'

(44) God sette ðis dai Dai of blisse and off reste ben (c1250 *Gen. & Ex.* 251 [ibid.])
'God made this day be the day of bliss and of rest'

(45) þu askes hwi godd schop swuch þing to beon (c1200 *Hali Maidh.* (ed. Furnivall) 13, 117 [ibid.])
'you ask why God caused such a thing to be'

In connection with the evidence against Gronemeyer's claim that periphrastic causative *get* first occurred with stative complements, it is important to note that many of the sanctioning causatives presented in this section are quite widely attested with dynamic complements (see §3.3 for details specifically on *make*). The early dates of (7-8) and (15) thus pose no particular problem within a usage-based account.

3.2.2 Formal and functional similarity

Causative *do*, *gar* and *make* probably contributed substantial amounts of sanction for the innovation that was [NP_S-GET-NP_{DO}-STEM/INF]. Their structural resemblance is obvious: the only difference from *get* lies in the form of the matrix verb. They are also close in meaning. It would take a separate study to give a comprehensive semantic analysis of causative *do*, *gar* and *make* on the one hand, and *get*, on the other; the rough sketch I present here is mostly based on more elaborate accounts in my other chapters.

There is no consensus opinion in the literature on causatives as to how to analyse their meaning. The number of factors or parameters involved is potentially very large and it is hard to decide which ones are relevant and which ones not. Crosslinguistic research seems necessary here, but typologists working on causatives are divided on the

[14] The date of this example renders it marginal in view of the decision to use 1375 as the upper boundary. Visser (1973) lists *þatt ledeþþ menn … To wreȝhenn all here aȝhenn woh* (c. 1200 Orm 17843 [2282]) 'that leads men … to accuse all their own wickedness'. This is excluded because without the ellipsis the example is clearly not causative: *Þatt ledeþþ menn till heffne…* 'That leads men to Heaven…'.

[15] In support of the causative reading, Visser refers to another manuscript (Trin. H.), which has *Shal do his wickednes to sprede* (1973:2264). It is unclear from Visser's reference from what manuscript he cites my (43), so it is impossible to be more accurate about the date.

issue. By way of an illustration one might compare Song's (1996) essentially two-way typology — the so-called AND type v. the PURP type —[16] to Dixon's (2000, §4) inventory of nine semantic parameters. To complicate matters even more, Dixon does not claim that all of these are necessarily relevant to a given causative construction in a given language. Moreover, he offers the possibility that his list is not exhaustive (Dixon 2000:73). (See my Ch.1 for more details concerning Song's, Dixon's and other typologies.)

The most sophisticated account of the semantics of causatives is Talmy's framework of force dynamics, which I discussed in Ch.1. It seems useful to apply this to the causatives in question. Having studied the examples supplied by dictionaries and the standard handbooks mentioned before I conclude that at the time of the rise of [NP_S-GET-NP_{DO}-STEM/INF] the causative meaning of *do*, *gar* and *make* was relatively "general" or "neutral" (as it still is in the case of *make*; cf. Dixon 2000:36-7; also 1991:194, 294), that is, as compared to *cause* (which seems always to have implied indirectness) or *let* (which, though not as often as in PDE, seems to have involved the notion of permission or enablement). *Do*, *gar* and *make* specify little more than an antagonist making the agonist move from his natural state of rest (with respect to the caused event) into doing something (i.e. the caused event). This is in line with Ellegård's treatment of these three verbs as being more or less synonymous in specifying nothing more than causation (1953:36).[17]

The semantics of [NP_S-GET-NP_{DO}-STEM/INF] are not as general as those of *do*, *gar* and *make*: some notion of effort on the part of the causer/antagonist seems to be present in the former. (This may be a remnant of its original meaning, defined by the *OED* as "[t]o obtain possession of (property, etc.) as the result of effort or contrivance" (*OED*, get, *v.*, s.v. 1.a)). However, the important thing here is that the meanings of the *do*, *gar* and *make* constructions, while not involving this notion of effort or contrivance, do not conflict with it, either. The usage-based model assumes that degree of categorisation/sanction correlates with the extent to which semantic conflicts are absent. To appreciate the relevance of this point one may consider causative [NP_S-HAVE-NP_{DO}-STEM/INF]. On my semantic analysis (cf. my Ch.3), this construction implies a background situation such that the causer is superior (physically, socially, or whatever) to the causee. Now supposing, for the sake of the argument, that causative *have* with an infinitive had been around early

[16] Song's COMPACT type is not on a par with the AND and PURP types: it is not defined semantically but formally. Specifically, Song claims that both the AND and PURP types may, given time, get compressed and thereby change into the COMPACT type (1996:134-8); cf. also my Ch.1.

[17] I disagree with Ellegård's suggestion that *cause* is equally general in meaning, as it seems to me to refer typically to situations where the causation is indirect. This can already be seen in early examples such as (33), where the speaker presumably expects the Jews he is addressing to cede the actual killing (viz. of Jesus) to soldiers; for more discussion cf. Chs. 5-6.

enough to have provided some sanction for the *get* construction, then one would predict on usage-based grounds that this sanction was rather limited, for the implied relation of superiority renders effort on the part of the causer (i.e. to make the causee do as s/he wishes) unlikely. As for *cause* and *let*, there is some semantic conflict as well, in that *get* does not seem to specify the notion of indirectness inherent in the former nor the idea of enablement/permission of the latter.

The remaining causatives tend to have considerably more specific meaning. They retain a clear semantic relation with their original uses and, as a result, somehow specify the way in which causation is achieved. *Accoy* indicates that the causer persuades the causee by some sort of soothing. As far as I can tell, the semantic extension involved is not widely attested crosslinguistically, which ties in with the fact that Visser provides only one example. *Bid* often indicates interpersonal communication (see (24), above). Pederson states that causative constructions may be formed on verbs "which historically were literally causative in their central meaning" (1991:231). One of the verbs he mentions is *order*, which is similar in meaning to *bid*. *Constrain* and *necess* can also be analysed as originally causative. *Commove*, *drive*, *lead*, *send* and *set* in their root senses may be classified as members of Pederson's 'transfer' class, which was described above in §3.1. Used causatively, they tend to construe the situation in terms of some force-dynamic interaction whereby the causer manipulates the causee by pushing, conducting or whatever, into carrying out the lower clause event. *Draw* may also belong to this category. Alternatively, it could be a member of the class of "verbs of transfer of force", another common source for causatives (Pederson 1991:231, 233-4). *Shape*, historically, is what Pederson calls a "verb of creation" (1991:231); these are also commonly extended to causative functions (234-5).[18] Due to their rather specific semantics these constructions may not have been very close to causative *get*, yet they were still important in the rise of that construction in that, on the usage-based model, their relatively high number must have increased the potential for productivity of the implicative causative verb class.

3.2.3 Frequency and dialectal considerations

Given that *do*, *gar* and *make* seem semantically more or less equally general/neutral, and were in that sense potentially equally important in licensing the novelty that was causative

[18] Cf. also *make* and perhaps also *gar*, which, according to the *OED* originally meant "'to do', 'to make' (something)" in Old Norse (gar, *v.*) and "[t]o do, perform; to make" in English (s.v. 1)). Both of these, however, are more grammaticalised than *shape* (the creative element is still recognisable in (45)).

get, the question arises whether there might be other evidence to determine whether one of these constructions was more significant than the others.

One might try to answer this question by comparing relative frequencies. In the usage-based model high token frequency is said to correlate with high degree of entrenchment (or "lexical strength", in Bybee's terms (1985:117-8)). Now while an item obviously has to be entrenched in order for it to play a role in the creation of new constructions, Bybee argues that low and medium frequency items contribute more to productivity than do high frequency items (1985:129-34; Cruse & Croft 2003, Ch.12, however, are less than fully convinced that her evidence is valid). Constructions with a very high token frequency are stored as autonomous units, i.e. their connections with other items are comparatively weak. (This explains, for instance, why a frequent irregular verb such as *be* tends to be resistant to analogical levelling, also crosslinguistically.)[19] The implication for the rise of causative *get* would be that extremely high frequency causatives contributed relatively little sanction.

With regard to *do* Visser suggests that it was used "extremely frequently in Middle English, where it far outnumbers its rivals *gar*, *get*, *let*, and *make*" (1973:2256). Somewhat confusingly, however, *gar* is also said to be "frequent in Middle English" (Visser 1973:2258), while *make* was supposedly even "extremely frequent in Middle (…) English" (1973:2261).

The problems caused by these imprecise remarks on the relative frequencies are aggravated by a number of additional considerations. Firstly, Visser's statements are not normally based on the kind of rigorous corpus analysis that many historical linguists today would agree is necessary to warrant strong claims pertaining to frequency. Secondly, his lists of examples are known to contain mistakes.[20] Thirdly, his statements concerning the frequencies of the causatives in question treat ME as a spatiotemporally more or less uniform entity.

The latter point of criticism becomes especially pertinent in the light of Ellegård's (1953) study. He suggests that there were dialectal differences in ME with regard to the preferred periphrastic causatives. Ellegård locates the use of causative *do* in ME especially in the east of England, *make* and *let* in the west and *gar* (*ger* in his

[19] The "dual processing-model" of grammatical representation (Pinker & Prince 1994, Marcus et al. 1995) accepts that frequency effects occur, *but only with irregular forms* — regular forms, by contrast, are represented in the grammar by a rule based only on the structure of the forms, not on usage-based properties. There is evidence to suggest, however, that regularly inflected forms also display frequency effects (e.g. Losiewicz 1992, discussed by Bybee 1995:450-1; see also Cruse & Croft 2003, Ch.12).

[20] Denison (1985:50-1) criticises his classification of various tokens of *do*; see also the criticism, in my Ch.3, of Visser's classification of certain examples of *have*-based constructions. Consider in this connection also the discussion of exx. (16) and (18-9), above.

orthography) in the north (1953:43; the statement concerning *gar* is precedented by Mossé 1952:135; that regarding *do* is echoed by Denison 1993:257). His statistics also suggest, contra Visser, that the frequencies did not remain constant throughout the ME period.

Even if none of these problems had existed, there is a further complication to render frequency less than helpful in determining relative importance of the sanctioning constructions: proponents of the usage-based model have not yet been able to quantify the notions of low, medium and high frequency. Thus, for instance, even if we knew which causative was the most frequent by the mid-fourteenth century, it would not necssarily follow that it was an autonomous unit and as such did not play a role. Also, if it should turn out that *accoy*, *afforce*, *bid*, etc. are low or medium frequency items, one wonders whether that would mean that despite their semantic specificity they were actually very important sanctioning factors. What is the trade-off between similarity and token frequency?

In view of these problems it seems best to abandon frequency for now and pursue a different avenue: that of dialectal differences. Specifically, I should like to discuss the extent to which Ellegård's study has a bearing on the question as to whether any one of the *do*, *gar* or *make* constructions was of particular importance in sanctioning causative *get*. On the basis of the dialect of the texts from which the three earliest examples — in chronological order, (7-8), (15), above — were taken one could tentatively hypothesise a northern-ish origin of causative *get* with an infinitive. Assuming that *gar* was not as frequent as to count as a high frequency item in Bybee's sense, one may suggest that of the periphrastic causatives *gar* provided the main source of sanction for [NP_S-GET-NP_{DO}-STEM/INF].

The evidence for locating the rise of the construction roughly in the north is as follows. None of the earliest three tokens of the construction occurs in a text written in a southern/Kentish dialect. (Admittedly the number of extant southern texts from the ME period is relatively low.) (8), possibly the oldest example, is from the North-West Midlands (cf. Peterson 1977:23 and also pp. 58-9, fn. 87, and references therein). Example (15) is northern (cf. Stevens & Cawley 1994:xix). The northern origin hypothesis is weakened by the provenance of example (7), the South-East Midlands (Taylor 1927:89).

From a statistician's point of view looking at three examples is of course a questionable method of reaching conclusions. However, given the rarity of the construction in the initial period following its rise, bringing the number of examples to, say, thirty (the standardly accepted minimum in statistics, see e.g. Butler 1985), would force one to relax the upper limit of the period analysed to such an extent that any hope of discovering evidence pertaining to dialectal origin would have to be abandoned altogether.

The northern origin proposal receives some support from the etymology of *get*. Having been borrowed from Old Norse (*geta*, cf. *OED*, get, *v*.) the verb may have been especially frequent in the north of Britain. The oldest example of ordinary transitive *get* in the *MED* (and *OED*) is from the *Ormulum*, a North-East Midlands text (*MED*, see *Plan and Bibliography Supplement 1*, p.1; also Mossé 1952:355) renowned for the Scandinavian flavour of its lexis (White 1852:lxxvi-lxxvii, Bennett & Smithers 1966:174-5, 364; see Johannesson 1995:176-8 for an interesting sociolinguistic suggestion as to the reason for the strong Norse element). The second earliest example is from another North-East Midlands text, *The lay of Havelok the Dane*, in which strong Scandinavian influence has also been recognised (Mossé 1952:366).

To the extent that *get* was relatively frequent in the north one may expect that area to have played a forerunner's role in its grammaticalisation. Although more research is in order here, it is suggestive to note that the four earliest examples of ditransitive *get* in the *OED* (get, *v*., s.v. 18a, 18b) — which are considerably earlier than the oldest instance in the *MED* (geten, v.(1), s.v. 1.c) — are all from *Cursor Mundi*, a Northumbrian text (see Hupe 1893:124-35). For the sake of completeness, let me note that the *Cursor* (or parts of it) survives in a number of manuscripts — not all of them northern. Nonetheless, the manuscripts from which the *OED* examples in question are taken (Cotton MS. Vespasian A iii, Fairfax MS. 14 and Göttingen MS. Theol. 107 r.) *are* of northern provenance (see Morris 1874:xxi).

With regard to *William of Palerne*, the source text of the earliest example of causative *get* with an NP-LocP construction, presented above as (20), there does not seem to be a consensus opinion as to its dialectal origin. A decidedly southern origin seems out of the question, however. After a thorough discussion of the multitude of proposals in previous scholarship Bunt suggests that "[w]e shall (…), at least for the moment, need to rest content with the provisional conclusion that the language of *William of Palerne* combines West Midland and Eastern, possibly Norfolk, elements" (1985:75). Thus, the provenance of this text, while not strictly speaking northern, may still be the former Danelaw. (It would be interesting to study *get* in Old English as well, but in the records it only turns up in compounds — *and-gitan* 'perceive, understand', *for-gitan* 'forget', etc. (Bosworth & Toller 1882, s.v. *gitan*), whose dialectal distribution does not necessarily parallel that of simple *get*.)

In connection with the northern origin proposal it seems interesting to observe that in the north the *gar* causative seems to have declined noticeably in the 15th century. On the basis of Ellegård's statistics it is hard to determine exactly how steep the

decline was. This is because he does not represent the sizes of his samples in numbers of words but, instead, in numbers of lines of verse, and for prose, pages of text. Roughly speaking, the frequency of *gar* with an NP and infinitive complement in 15th century northern texts seems half that in 14th century texts. One is tempted to posit a connection with the propagation of *get*. However, given that the data — 3 tokens from the period a1400/c1386-c1460 — suggest that the novel construction spread rather slowly, such a connection, if it existed, may not have been very strong.

3.2.4 High-level schematic constructions

One may suppose that a role was also played by a high-level schematic construction, represented here as [NP_S-V_{cause}-NP_{DO}-STEM/INF]. It is also possible that the innovation is appropriately described as having involved a *number* of schemas, of various levels of abstractness. The matter is exceedingly hard to decide.

One of the reasons for the complexity is that it is quite conceivable that the organisation of the category differed from one ME speaker to the next, inter-speaker difference being a natural corollary of different speakers' grammars having arisen through different linguistic experiences (cf. e.g. Langacker 1991a:117, Croft 2000:26). One may assume that speakers of ME abstracted a schema to capture the similarities between the most neutral periphrastic causatives mentioned, viz. *do*, *gar* and *make*; let us call this schema [NP_S-$V_{cause\text{-}neutral}$-NP_{DO}-STEM/INF]. It is harder to come up with a schema at the same level to categorise the other, more specific constructions, *accoy*, *afforce*, *bid*, etc. To the extent that this is correct, the abstract schema [NP_S-V_{cause}-NP_{DO}-STEM/INF] directly sanctioned *accoy* etc., but *do*, *gar* and *make* through the intermediate node [NP_S-$V_{cause\text{-}neutral}$-NP_{DO}-STEM/INF].

The nonimplicative causatives (*beseech*, *counsel, pray*, etc.) give rise to the following question: at what level, if any, is there a schema that is vague with regard to whether or not the lower clause event actually takes place? I suggest that the marked conceptual difference between the two types of causation (Song 1996; cf. §3.2, above) renders such a schema less than plausible.

Figure 2, below, represents this reconstructed way in which established periphrastic causatives contributed to the rise of [NP_S-GET-NP_{DO}-STEM/INF]. Contrary to Fig. 1, a new schema is not abstracted here: the existing ones are already sufficiently abstract. The established causatives are not given in their full notational form ([NP_S-MAKE-NP_{DO}-STEM/INF], etc.). Moreover, in order to save space only a few of the more specific causatives (*accoy*, etc.) are included; the ellipsis symbol "…" stands for the

remaining constructions. The diagram also abstracts away from the hypothesised differences in degree of sanction between the various constructions; thus, *gar*, for instance, is not represented in any special way.

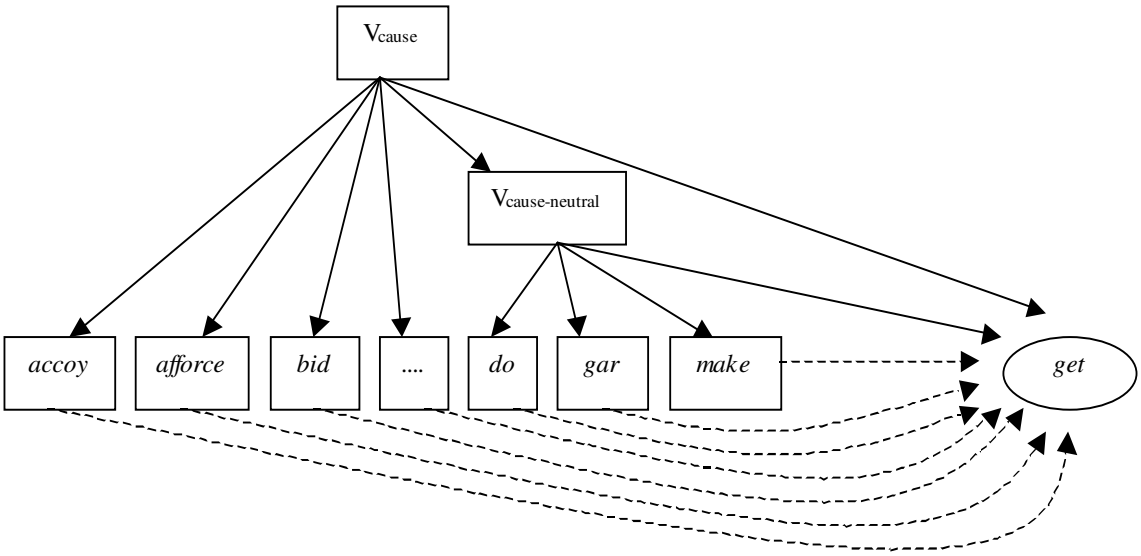

FIGURE 2. PARTIAL SANCTION FROM OTHER PERIPHRASTIC CAUSATIVE CONSTRUCTIONS[21]

Combining the upshot of the discussion on periphrastic causatives (§§3.2.2-3.2.4) with the suggestions on 'transfer' *get* with an NP-LocP complement (§3.2.1) I see the development of [NP_S-GET-NP_{DO}-STEM/INF] as having involved partial sanction from the older *get*-based construction on the one hand, and licensed by other periphrastic causatives (low and high-level), on the other. It follows that a complete diagrammatic representation of this reconstruction would integrate the networks represented by Figures 1 and 2. In view of the restricted dimensions of an ordinary printed page this is left to the reader's imagination.

3.3 Stative and dynamic infinitives

We have seen that it is not until a good one and a half centuries after the earliest attested examples of the construction with a dynamic infinitive ((7-8), above) that we find the earliest case of the construction with a *be*-copula complement ((13), above). There seem to be two possible ways to account for this gap:

1. the use of the stative *be*-copula complement with causative *get* was a late development
2. the stative *be*-copula in the construction in question existed from the very outset but was less common than dynamic complements — so uncommon that it failed to show up in the written records until quite late

[21] Due to its hypothesised late date of origin [NP_S-HAVE-NP_{DO}-STEM/INF] is not included here.

The usage-based model suggests that the second scenario is the most plausible.

The first possibility would be supported if the constructions from which [NP_S-GET-NP_{DO}-STEM/INF] was extended lacked stative complements as well at that time. In that case, one could argue that sanction for *get* with such a complement was unavailable. The evidence does not point in that direction. Some examples of causatives with stative infinitives were given above: (44-5). If one accepts complements without copula *be* as well, then (38) can also be included. Stative complements are not restricted to the semantically specific constructions: it is clear, for instance, that the complement in [NP_S-MAKE-NP_{DO}-STEM/INF] could be stative. The following examples are taken from the second ME subperiod of the Helsinki Corpus (1250-1350):

(46) such chaffare y chepe at þe chapitre, þat makeþ moni þryue mon vn-þeufol to be, wiþ þonkes ful þunne (M2 XX XX CCOURT 27)
'such trade and bargaining at the chapter, that makes many worthy men be unmannerly, with very bad thoughts'

(47) Hij þat maken hem be liche to hem (M2 XX OLDT MPPSALT 141)
` 'They that make them be like them'

One might argue that hypothesis 1, above, could be salvaged if it turned out that infinitival causatives with stative complements were only very rare. The idea would be that due to the marked skewing in the frequency of constructions with stative as against dynamic complements, the latter were far more likely to be extended. As for [NP_S-MAKE-NP_{DO}-STEM/INF], subcorpus HM2 from the Helsinki Corpus (1250-1350) contains 38 tokens. Of these, only 2 — presented above as (46-7) — feature a *be*-copula. Depending on whether or not one wishes to restrict the definition of stative infinitives to *be*-copulas, there may be 2 more examples:

(48) Þat ne made hem euerilkon Ligge stille so doth þe ston. (M2 NI ROM HAVEL 55)
'That did not make every one of them lie still as does a stone'

(49) For oþer sholde he make hem lye Ded (M2 NI ROM HAVEL 55)
'For another he should make them lie dead'

To the extent that these statistics — 2 or 4 stative complements out of a total of 38 cases, i.e. 5.3% or 10.5% — do not deviate too strongly from the other infinitival causatives, one might conclude that the late appearance of *get* with a stative complement

was due to the lack of sufficiently salient models elsewhere in the language.[22] However, while this conclusion might have some common intuitive appeal, it is presumably unjustified in a usage-based approach. This is because low-frequency items, due to their strong connections with other items, are actually very important for the productivity of a class.

The low frequency of stative complements can now be seen as support for the second scenario: *get*, in spoken ME, occurred with stative infinitives from the beginning, but its rarity prevented it from showing up in written documents until it did. It is important to realise here that the gap is actually not that remarkable, given that my corpus contains only three earlier cases of *get* with a dynamic complement.

There is another reason to reject the first scenario: its seeming implication that *get* with a stative infinitive is a different construction than *get* with a dynamic infinitive, i.e. that causative *get* displays polysemy such that causation of stative infinitive events is stored separately from causation of dynamic infinitive events. This is less than certain. Maybe cases of causative *get* with a *be*-copula are conceptualised not so much as involving a state but a *change* of state. On that analysis *be* in (13), reproduced below as (50), should be interpreted as something like 'become':

(50) and I wyll see yf that I can gete another to be bownd with me.
'and I will see if I can get another to *become* bound with me'

This does not seem impossible (the same holds for (38), (46-9)),[23] and such an interpretation would seem to fit in with the pragmatics of causative constructions (see fn. 23).

4. Concluding remarks

The present study originated in the realisation that Gronemeyer's (1999) superficially very neat account of the rise of causative [NP_S-GET-NP_{DO}-STEM/INF] fails to capture the fact that stative infinitives in this construction do not predate dynamic infinitives. The

[22] If the *make* statistics are more or less representative for all periphrastic causatives one may raise the interesting question as to why these constructions should so strongly prefer dynamic to stative complements. There might be a pragmatic reason. In view of the suggestion that we tend to conceive of the world in terms of discrete entities coming into contact with each other and influencing each other on impact (Langacker's "billiard ball model"; see e.g. 1991a:209), if one entity/event is described as bringing about some other event, then the caused event is likely to be a change in the initial state of affairs rather than a perpetuation thereof, for otherwise the causal link would be less likely to be made. Now a change in state of affairs is of course more easily described by a dynamic than by a stative complement.

[23] (44-45) are different. An element of creation is still recognised in the verbs in these examples. It seems to me to make no sense to ask whether the complement of a 'creation' predicate is stative or dynamic.

typologically informed usage-based perspective adopted here has led to a reconstruction that in certain ways goes back to Baron's (1977) analogy proposal. Its most important difference from the latter is that it aims to be more specific about the constructions involved and about the relative degrees of their involvement. By carrying out a detailed investigation into the relative chronologies of the potentially relevant constructions as well as by bringing in, very cautiously, the dialectal dimension, this aim was partly realised.

More substantial and precise claims were barred by certain as yet unresolved issues within the usage-based paradigm, in particular regarding type frequency, token frequency (autonomy), similarity as well as the abstraction of schemas. I hinted at a final problematic rider for the usage-based model in §2.3, where it was suggested that the rise of the infinitival causative *get* may have involved reanalysis of an older *get* construction with a purposive adjunct. The pertinent issue that arises here concerns the interaction between reanalysis and the kind of analogical extension described in §3.2. It was already observed that the usage-based model is not specific as to what counts as high type frequency; now it seems intuitively obvious that whatever value one might assign to sufficiently high type frequency for extension to occur, this value would be lower in a change where analogical extension due to high type frequency works in tandem with reanalysis. The question, of course, is: how much lower?

To conclude, on the specific level of the rise of causative *get*, the enterprise of applying the usage-based model to this development has been a success in that it has resulted in a natural and more complete account of the data than had been offered previously. On a higher, more theoretical plane, its main achievement lies in the interesting questions it has raised for future research on the usage-based model, especially as it pertains to language change.

Chapter 5. Synchrony and diachrony of infinitival complements in periphrastic causatives

1. Introduction

This chapter sets out to shed light on the distribution of infinitival complements in English periphrastic causatives, some of which, in PDE, take a bare infinitive, while others require a *to*-infinitive:

(1) He had his secretary order some coffee, then closed the door and sat down behind his desk. (BNC ECK 2589)
(2) The police got him to confess to the crime. (BNC HXG 799)

One may wonder whether the distribution is motivated in some way. And if one takes the history of the language into account, a further issue arises. At one stage, which roughly speaking ended around 1800, there was considerable variation in the infinitival strategies for these verbs (as well as for others, such as perception verbs, see e.g. the examples in Visser 1973:2250-55). For an example involving another causative, *make*, consider the following ME examples from the Helsinki Corpus:

(3) Sunnedei aras ure drihten from deðe to liue. and makede arisen mid him alle þa þet him efden er ihersumed. (HM1 IR HOM LAMB14 141)
'On Sunday Our Lord arose from death to life. And he made arise with him all those who had obeyed him.'
(4) lo þe sweoke hu he walde makien hire aleast to leapen in to prude. (HM1 IR RELT ANCR 121)
'Lo the traitor, how he wanted to make her at last jump into pride.'

The question here is whether it is possible to explain the historical development whereby the infinitives came to be regulated.

The problem at hand, then, has a synchronic and a diachronic dimension. The two may of course well be related, and indeed I will argue that taking into account the history of these constructions greatly helps one's understanding of the present situation. Conversely, given the relative paucity of historical data of at least some periphrastic causatives (e.g. *have*) I shall be drawing on synchronic semantic evidence to aid the reconstruction. The evidence in question concerns my suggestions regarding the semantic functions that these constructions prototypically fulfil in PDE. While it is not *a priori* impossible that there should have been considerable meaning changes in the period

relevant for present purposes, which ranges from ME to PDE, the historical data I have studied, both in previous scholarship as well as in my own corpus investigations, do not suggest that the semantics of these constructions when the complements came to be regulated (a development that was completed by roughly 1800; cf. Visser 1973:2256-84 and the relevant entries in the *OED*) differed radically from their meanings in PDE.

It may seem implicit in what I have said so far that my explanation will be of the functional kind. In the broad sense of the term 'functional', where it is opposed to purely formal/structural considerations of the type familiar from for example the generative approach, this is indeed true. The term "functional" is sometimes also used in a narrower sense, where it is equated with "semantic", or "semantic-pragmatic". On this definition, my account would only be partly functional. Let me briefly elaborate on where, in terms of the spectrum of linguistic theory, the present account is located.

First, I reject the assumption made by formalist linguists such as Zandvoort (1957:4), Andersson (1985:12), Buyssens (1987:341), Lehrer (1987:256) and (implicitly) Huddleston (1971:165), that the *to*-infinitive in these constructions is merely a structural variant of the bare infinitive, the element *to* thus merely being a marker of infinitive status without any semantic import whatsoever. Instead, taking the functionalist stance assumed by e.g. Bolinger (1977:x) and Haiman (1985:21-4), that a formal difference will tend to correspond to a functional difference, I argue that the distinction between the two strategies is semantically-pragmatically motivated, at least to some extent.

Second, however, I suggest that in addition one must take account of a factor that is not immediately semantic (although there is a connection): grammaticalisation, or more specifically, token frequency. Within grammaticalisation theory it is pretty widely accepted that highly frequent constructions are more likely to be phonologically reduced than rare ones. (This is connected with semantic considerations in that within any one functional domain, constructions with a more general meaning will tend to be more frequent — hence more likely to be reduced — than semantically more specific ones.) This insight goes back to Zipf (1935), who posited an inverse correlation between the length of a word and its frequency, which is due to speakers' inherent tendency to maximise economy ("Zipf's Law"). The role of frequency in grammaticalisation has recently seen a surge in interest, witness e.g. the symposium on this

topic organised in 1999 at Carnegie Mellon University and the publication of the proceedings by Bybee & Hopper (2001).[1]

In their introduction to this volume Bybee and Hopper point out that "[t]he role of token frequency in reductive sound change involves the interaction of a complex set of factors" (2001:11). One is that more frequent items, simply by being so frequent, have more opportunity than infrequent ones to be affected by on-line processes of automatisation that involve reduction (Bybee & Hopper 2001:11, discussing Moonwoman 1992). Another factor is that frequent words tend to be used more in "familiar, casual settings, where more reduction is allowed than in formal settings" (Bybee & Hopper 2001:11).

As for the semantic motivation behind the different infinitival strategies proposed in this study, in keeping with the rest of this thesis, the factors invoked are not specific to English. Instead, they are grounded in typological or typologically oriented research (notably, Dixon 1991, 2000, Givón 1975, 1980, Talmy 1976, Verhagen & Kemmer 1997, Wierzbicka 1975). This will result in a set of implicational hierarchies. Crosslinguistic substantiation would be welcome, but cannot at this point be attempted. To the extent that one accepts the role of frequency in processes of reduction, this is another respect in which my conclusions do not only apply to English.

The structure of the discussion will be as follows. In section 2 I survey previous scholarship on infinitival complementation in English causatives, starting with synchronically oriented work (especially Duffley 1992), then moving on to diachronic or more generally historical studies (Fischer 1992b, 1995, 1996, 1997a, 1997b and her main sources). Finally I discuss Givón's (1980) typological study on the binding hierarchy, which will be the starting point of my own account. Very briefly, (semantic) binding refers to the degree to which two clauses are conceptualised as representing a single integrated event. Section 3 sets out to extend Givón's binding hierarchy, in directions particularly relevant to causatives, and explains how it relates to the bare v. marked infinitive distinction in PDE. Section 4 draws on Fischer's (2000) proposal of the reversed grammaticalisation of *to* before infinitives and shows how the extended binding hierarchy together with frequency account for the diachronic regulation process of the infinitival complements that resulted in the distribution we still have today. That section also tries to explain why this regulation process took place *when* it did. In Section 5 I briefly address an

[1] Papers in that volume specifically dealing with the notion that frequency leads to erosion are the ones by Berkenfeld, Bush, Fenk-Oczlon, Jurafsky et al., Krug and Phillips. Earlier studies include Fidelhotlz (1975), Hooper (1976), Phillips (1980), Moonwoman (1992) and Bybee & Scheibman (1999).

aspect of complementation that is often ignored: infinitival strategy in the passive, especially the difference in strategy, as compared to the active, displayed by *make*. I argue that the extended binding hierarchy interacts with the special discourse function of the (English) passive. The permission/enablement construction based on *let* takes a bare infinitive in the passive (as in the active of course); this is analysed as a manifestation of frequency effects. Section 6, finally, wraps up the discussion by determining to what extent the extended binding hierarchy and frequency constitute an improvement on the explanations offered by previous scholarship. It also points to an as yet largely uncharted area in the field of the usage-based model.

2. Previous scholarship on infinitival complementation in English causatives

2.1 PDE: Mittwoch (1990), Dixon (1991), Duffley (1992)

Duffley (1992) is the most comprehensive functionalist account of infinitival marking in PDE. Not restricting himself to causatives, he also includes other verbs that display variation, either on the level of the verb itself or on the level of the verb class, e.g. *allow* and *let* (Duffley 1992:83-8; Duffley thus implicitly subscribes to Talmy's suggestion that "the general causative category", i.e. *cause, make*, etc. is rather different, force-dynamically, from permission/enablement predicates (2000:413, 419)), *help* (Duffley 1992:23-9), perception verbs (ibid.:29-47) and auxiliaries (ibid.:91-115). In fact Duffley's study is even larger in scope than that, including also verbs that feature variation between infinitives and other complementation strategies such as *that*-clauses (e.g. *know*, 1992:48-56) as well as modals and uses of the (*to-)*infinitive where it is not dependent on another verb, e.g. when it is used as a subject (ibid.:126-32).

Duffley's study is essentially a monosemy approach to the difference between bare and *to*-infinitives: he proposes that both strategies are associated with a single basic function, which has to do with tense. Specifically, the *to*-infinitive is said to evoke the presence of a distinct "before-position" and "after-position" (Duffley 1992:17 and *passim*), which is absent in the case of the bare infinitive. For complex sentences, the idea is thus that the lower clause *to*-infinitival event is seen as temporally removed from the main clause event, whereas the bare infinitive conveys the idea of coincidence. Depending on the construction in question, this notion of coincidence does not necessarily

imply that the infinitival event is also actually *realised*; consider e.g. the following example featuring the modal auxiliary *may*:

(5) She may own a Porsche. I don't know. (Duffley 1992:94)

Duffley analyses examples like this as involving the coincidence of the present moment and some potentiality (1992:94 and *passim*).

For causatives, the presence v. absence of a before v. after frame is described as "antecedent vs concurrent causation" (Duffley 1992:68), i.e. the causing event is seen as either preceding or occurring simultaneously with the caused event. (Nonimplicative causatives, e.g. *order*, are analysed along the same lines as verbs such as *may*, such that the lower clause event is interpreted as being only potentially realised (Duffley 1992:70)). The idea is illustrated by the following two examples (taken by Duffley from the LOB and Brown corpora; italics Duffley's):

(6) … slackness in the Eisenhower Administration had *caused* America *to lag* behind Russia in nuclear development (LOB A01 147 7 [Duffley 1992:63])

(7) 'What about Ballestre?' I had to shake her to *make* her *listen* (BUC K18 0330 8 [ibid.])

In (6) there is "'antecedent' causality, the cause being represented as prior to the effect" (Duffley 1992:63); in the second, the causing and caused events are conceptualised as occurring simultaneously (ibid.:64).

Now while this might be an attractive analysis for these examples it is clear that it cannot be the whole story. Consider e.g. the following example from the British National Corpus:

(8) He had his secretary order some coffee, then closed the door and sat down behind his desk. (BNC ECK 2589)

Rather than describing two simultaneous events, (8) portrays a situation where the secretary orders the coffee only after her boss makes the request.

As for the other two accounts to be included here, Duffley actually mentions Mittwoch (1990), in connection to a less than helpful suggestion by Dixon (1984) on *have* and *make* (Dixon has more to say in his (1991) grammar of English; see below):

> It has been suggested (Dixon 1984:586) that the omission of *to* here 'may just be an irregularity with a diachronic explanation — like the plural of *mouse* being *mice* — that has simply to be learnt by users'. As Mittwoch (1990:125) points out, however, the fact that historically *make* vacillated for a long time between *to* and zero (cf. the biblical *He maketh me to lie down in green pastures*) calls for a deeper explanation of why the bare infinitive won out. She speculates that the reason is purely syntactic, being connected with the fact that *make* (unlike *cause*) can take a 'small clause', as in *You make me angry*. This, to our mind, does not explain anything, besides not being distinctive of verbs followed by bare infinitives (cf. *They got him angry / They got him to go to the party*). The type of explanation sought here will be based on the meaning of the causative verb governing the infinitive.
>
> (Duffley 1992:56-7)

This is a selective representation of Mittwoch's claims. First, as regards the history, she also suggests that there might be some connection with "the fact that all the causative B[are]I[nfinitive] verbs belong to the Anglo-Saxon part of the vocabulary, whereas *cause* and *allow* do not" (Mittwoch 1990:125; this possibility launches her into her statement about small clauses, paraphrased by Duffley as in the quote above).

At first sight there might seem to be some validity in this, especially if connected to a claim that in terms of compacting processes constructions that had been around since OE had a head start, so to speak, as compared to constructions that came in during or after the Norman Conquest. One must bear in mind, however, that the relative ages of *words* do not prove anything as such: on a constructional approach what matters is the *constructions* in question. In that regard, Mittwoch's suggestion is problematic. For instance, even though the individual word *cause* was borrowed after the OE period while *have* is of native Germanic origin, periphrastic causative *cause* is probably older than periphrastic causative *have*. The first examples of each date from 1393 and c.1440,[2] respectively:

(9) It causeth..A man to be subtil of wit. (GOWER *Conf.* III. 114 [*OED*, cause, *v*.1, s.v. 1.b)

(10) And when Alexander saw that þay walde one na wyse speke wit hym, he hadd a certane of his knyghtes nakne þam & swyme ouer þe water to þe castell. (*Prose life of Alexander*[3] [also, with less context, *MED*, haven, v., 10.(a)])
'And when Alexander saw that they would in no way speak with him, he had one of his knights strip naked and swim over the water to the castle'

Another, more trivial, question would be how to interpret her statement with regard to *get*, which was part of the language before the Norman invasion, yet is ultimately

[2] I argue in Ch.3 that the earliest example given by the *OED*, from 1390, is actually an instance of the older experiential construction.
[3] This example is cited from the Corpus of Middle English Prose and Verse.

a loan from Scandinavian. If Mittwoch counts it as Anglo-Saxon vocabulary, she would have to explain why it takes a *to*-infinitive.

The second sense in which Duffley represents only part of Mittwoch's proposals is more important: she actually does offer some suggestions of the semantic-pragmatic kind for the differential distribution of complements. At the outset of her article she proposes three characteristics of bare infinitives (i.e. as opposed to *to*-infinitives). One of these is "their veridicality" (Mittwoch 1990:103), i.e. whether or not the infinitival event is actually realised. While irrelevant for implicative causatives, it does shed some light on the difference in complementation in the implicative v. nonimplicative pair *let* v. *allow/permit* (Mittwoch 1990:117). I am primarily concerned here with implicative causatives only but with Givón (1980:357) I would agree that this is an important factor. It is not part of Duffley's account, incidentally: while he does acknowledge that *allow*/*permit* but not *let* are acceptable in contexts where the lower clause event never occurs (1992:88), there is apparently no place for this on an *explanatory* level in his monosemy view of the bare v. overt strategies: he reduces the semantic difference between *let* and *allow/permit* to the temporal domain. The former supposedly signals "concurrent", the latter, "antecedent permission" (Duffley 1992:84).

Mittwoch's next factor is a bare infinitival complement's lack of "potential for negation" (1990:103). Her evidence for causatives is conflicting, though, in that there are instances of all four logically possible cases: negated bare infinitival complement, acceptable (see (11-2) below); negated bare infinitival complement, ungrammatical or at least "pretty bad" (Mittwoch 1990:114) (cf. (13)); negated *to*-infinitival complement, acceptable (cf. (14)); negated *to*-infinitival complement, ungrammatical, or at any rate "bad" (116) (cf. (15)), with a nonimplicative enablement causative).

(11) Instinct made them not waste the peeling of their apple. (D.H. Lawrence, *The Rainbow* [Mittwoch 1990:129, fn.8])
(12) …if they can make the professors not lose face (ibid., observing her own speech)[4]
(13) ??The dry weather made the mushrooms not come out. (ibid.:114)
(14) The dense fog caused him not to see the red light. (ibid.:116)
(15) ??By unplugging the phone she allowed him not to be disturbed. (ibid.)

Mittwoch's position on the significance of this factor for implicative causatives is not easy to make out, but if I understand her correctly, she does not believe it plays much of a role here.

[4] For both of these examples Mittwoch claims that she "do[es] not find them grammatical" (1990:129, fn. 8). The Lawrence example shows, nonetheless, that it is acceptable for at least one speaker not very long ago; moreover, the instance from her own speech shows that so it is to her, too, at least to some extent.

Her third and final factor concerns *to*-infinitival complements' "potential for independent temporal specification" (1990:103). This factor is very similar to Duffley's analysis, except perhaps that Mittwoch's term "potential" indicates that while the bare infinitive implies coincidence (for causatives: concurrent causation), the overtly marked strategy *may, but need not* imply temporal distance (antecedent causation). Again, the evidence for causatives is not unambiguous. While (16) is "deviant" (Mittwoch 1990:118), (17), featuring an iterative complement and a possibly but not necessarily likewise matrix verb, is not so bad, and (18), with an abstract subject, is apparently fine:

(16) Last night she made / let him go tomorrow. (Mittwoch 1990:118)
(17) They made us get up at five in the morning. (ibid.)
(18) The frost in July made coffee prices rise in January. (ibid.)

Mittwoch then proceeds to interpret the grammaticality of (18) in the light of the philosophers Davidson (1966) (cited by Mittwoch as (1967)) and Vendler (1967a, b). She suggests that if Davidson's analysis of the subject NP as an event is correct, "then clearly the cause in this case precedes that which is caused" (Mittwoch 1990:118). The underlying claim here is that one event causing another logically requires the former to be anterior to the latter. On Vendler's interpretation, however, "the subject of *cause* — and hence presumably of *make* — denotes not an event but a fact in such cases, and facts are not located in time at all" (Mittwoch 1990:118). If that is the correct analysis, Mittwoch argues, then "the question of the temporal relationship between the matrix subject and the complement would simply not arise for such examples" (1990:118). She refuses to commit herself one way or the other but chooses to leave this question open. Mittwoch's overall conclusion, then, is that the evidence is not conclusive but that the presence v. absence of a temporal difference may play a role (cf. also 1990:125).

Dixon's (1991) account of the distribution of infinitival complements in periphrastic causatives focuses on *cause, make* and *let*. The difference in complementation between *cause* and *make* is explained in terms of directness. Dixon's analysis of *cause* as indirect follows standard typological practice (see e.g. Wierzbicka 1975). Consider:

(19) He caused Mary to crash by almost cutting through the brake cable and then sending her down the mountain road. (Dixon 1991:194)

This is a textbook example of indirect causation in that there is no unity of time, no unity of space, and some intermediary party — or rather, in this case, state-of-affairs — in between causer and causee. (The intermediary situation here is constituted by

the acts described in the *by*-phrase.) For this reason *cause* "naturally takes *to*" (Dixon 1991:230). *Make*, by contrast, "refer[s] to anything the Causer does to bring something about directly" (Dixon 1991:194, cf. also 230), so it "naturally exclude[s] *to*" (ibid.). Concerning *let*, Dixon is less clear. On the one hand he includes it in his discussion of directness, but on the other, his semantic analysis does not correspond very well to the standard description of the direct v. indirect distinction in typology. The reason why, like *make*, it, too, is said to "naturally exclude *to*" (Dixon 1990:230) is that "[*l*]*et* focuses on the main clause subject, and the effect it has on the subject of the complement clause."

I believe that directness indeed plays a role (see section 3, below). However, it alone cannot explain all the facts, in that (if my analysis is correct) *cause* is the only prototypically indirect construction, yet it is not unique in taking the *to*-infinitive. Dixon indeed acknowledges that his account "does not (…) explain why *force* (…) takes *to*" (1991:230). Moreover, he suggests that the bare infinitive in *have* is another problem, as that construction "may involve some indirect means" (Dixon 1990:230). I would argue that this problem evaporates if one takes a prototype-based approach: the fact that it *may* describe indirect causation does not mean that it should do so prototypically, and indeed it does not (see further my semantic analysis of *have* below and also Ch.6).

2.2 Diachrony/history: Fischer (1992b, 1995, 1996, 1997a, 1997b) and sources

Fischer's (1992b, 1995, 1996, 1997a and 1997b) series of publications furnishes the most complete treatment of the selection of bare v. *to*-infinitive from a historical point of view.[5] Her scope includes Old English, which is not immediately relevant to the diachronic dimension of the present study, as the regulation process took place much later than that, and the constructions I am primarily concerned with only arose in Middle English. *Let* with an infinitival complement already existed in OE (see e.g. Visser 1973:2261), but as I said before permission/enablement constructions form a separate class. Focusing on the constraints operating on the choice between the two infinitival strategies in OE and ME Fischer does not offer an explicit explanation of the regulation process, which only occurred after ME. Nonetheless, her suggestions do have certain implications for this development.

[5] It is worth noting that Olga Fischer (p.c.) does not on the whole disagree with the way I represent her work here. She also agrees with my discussion of her (2000) paper in section 4, below, as well as with the way in which, in that same section, I connect her suggestions from that study to the regulation process of infinitival complementation in periphrastic causatives.

Arguing against many grammarians' view that the distinction in ME is not functionally motivated (cf. e.g. Kenyon 1909, Ohlander 1941, Quirk & Svartvik 1970, Visser 1973, Warner 1982 and, to some extent, Jack 1991) Fischer (especially in her post-1992b studies) distances herself from non-functional explanations and proposes a set of semantic-pragmatic factors, to be discussed shortly. (Incidentally, the *to*-infinitive used to have a variant with the more elaborate marker *for to*. I follow Fischer, e.g. 1992b:317, 324, in analysing this as equivalent to the *to*-infinitive when discussing ME — especially late ME.)

As for the alternatives offered by the more structurally oriented scholars, let us first look at one of the suggestions made by Warner. Observing that the bare infinitive occurs quite systematically with (some of the) ancestors of PDE modals (though not others) he concludes that "the contrast between *zero* and (*for*) *to* is apparently structural" (Warner 1982:117). The argument is thus that modals, at least by c1400 (Warner 1982:118, arguing against Lightfoot 1974, 1979) are a separate class, with special properties. One would still have to explain, though, why this class should be associated with these properties. For other verbs, e.g. *make*, Warner claims that the complement is "selected as a result of the lexical preference exercised by the matrix verb" (1982:123). The problem with these suggestions is that they do not so much explain the distribution as restate the facts in different terms: the argument has the structure *X has property Y because X has property Y*. Compare in this connection Fischer's reaction to Warner: "anything relegated to the lexicon is not seen as systematic or structural and, therefore, in that sense arbitrary" (1995:6).

The more substantial non-semantic explanations proposed in the literature can be summarised by the following five factors:

(i) metrical/rhythmical considerations
(ii) linguistic distance between the matrix and lower verb (called "intimacy" by some authors, see below)
(iii) fronting of some element from the lower clause
(iv) in coordinated infinitives: reduced marking on the second infinitive
(v) in coordinated infinitives: symmetrical marking

Visser's statement concerning (experiential/causative) *have* illustrates factor (i): "+*to* and –*to* occur apparently without any system and at least without any perceptible difference. By and large the use and non-use would seem to be rhythmically or metrically determined" (1973:2266). Ohlander's suggestion, regarding an example from *Cursor Mundi* where modal auxiliary *sulde* 'should' is followed by a dependent bare infinitival clause and a

coordinated *to*-infinitive clause, that "the fact of the second infinitive being widely separated from its governing verb has undoubtedly led the writer, to a certain extent, to lose contact with the latter and insert *to*" (1941:60) exemplifies factor (ii). In discussing example (20), below, Ohlander says: "Note here how the advanced position of the object alone accounts for the *to*" (1941:65), thereby illustrating the supposed effect of factor (iii).

(20) Nadout we salle victorie to win (Castelford's Chron. 21706 [Ohlander 1941:65]).
'No doubt we shall win victory.'

Warner supports the potentially conflicting factors (iv) and (v): "In conjoined infinitives we can point both to a tendency of a succeeding infinitive to continue the marking of the first, and to a tendency for its marking to be reduced" (1982:132).

I move on to Fischer now. As I hinted above, her account has not remained completely stable over the years. In particular, there is a rather sharp dividing line between her (1992b) and (1995) studies, and another one between the (1995) and (1996) papers. Roughly speaking, the development in question consists in (i) a reinterpretation of the old notion of "intimacy", and a parallel foregrounding of her own set of six pragmatic-semantic factors, one of which was already proposed in the (1992b) study (the most elaborate exposition of the six factors is Fischer 1995); and (ii) her (1996) suggestion that these factors can be better understood in the light of Hopper & Thompson's (1980) parameters of transitivity.

As for step (i), Fischer (1992b) distinguishes between two main factors determining the selection of bare v. *to*-infinitive, the first one being "the physical distance between the matrix verb and the infinitive" (316; see e.g. the quote from Ohlander, above), the second, "what they [i.e. Kaartinen & Mustanoja 1958 and Quirk & Svartvik 1970] and others (e.g. Sanders 1915; Ohlander 1941) have called the 'intimacy' of the relationship between the matrix verb and the infinitive" (ibid.).

This distinction is problematic. I have not been able to obtain Sanders's (1915) study, but in the other works, with the possible exception of Kaartinen & Mustanoja (1958, about which more below), intimacy is defined in terms of linguistic distance. Significantly, this is also the case in Kaluza (1890), which seems to be the ultimate source of the notion of intimacy (if not the term): having proposed that "[i]t may be laid down as a general principle that the more intimate the relation is between the governing verb and the infinitive, the more is the latter liable to appear in the plain form without *to*" (1941:58), Ohlander refers to Kaluza (1890:179) in a footnote.

As to Kaluza's suggestions, I note that he only discusses modal auxiliaries not e.g. causatives. Regarding this subgroup of infinitive taking verbs he first discusses cases where the infinitive precedes the matrix verb, e.g.:

(21) To folow hir now most I nede (Yw. a. Gaw. v. 3317 [Kaluza 1890:179])

About these he says:

> Allen angeführten stellen ist es gemeinsam, dass der infinitiv, in der regel mit seinem objekt, dem regierenden hilfszeitwort [*sic*] vorangeht und dass ein besonderer nachdruck auf demselben liegt, so dass das abhängigkeitsverhältnis von dem hülfszeitwort dadurch gelockert wird und der infinitiv gleichsam absolut für sich da steht (…) Wir dürfen demnach die regel aufstellen: 'In einem hauptsatze darf der von einem hülfszeitwort (*will, shall, may, must, can*) abhängige infinitiv in Me. die praep. *to* bei sich haben, wenn er mit starkem nachdruck dem hülfszeitwort vorangeht.'[6]
>
> (Kaluza 1890:179)

He then goes on to discuss cases where there are two coordinated infinitives (restricting himself, once more, to cases where the matrix verb is an auxiliary). He says:

> Ausserdem darf, wie schon Zupitza zu Guy B v. 1925 hervorgehoben hat, von zwei durch *and* verbundenen, von einem hülfszeitwort abhängigen infinitiven der zweite die praep. *to* zu sich nehmen; vgl. (…) Degree P v. 753 ff.: *And all my goods I will thee giue And alsoe my body, while I doe liue, And ffor to bee at your owne will*. In der regel ist, wie z.b. in der zuletzt angeführten stelle, der zweite infinitiv von dem hülfsverbum so weit entfernt, dass die abhängigkeit von demselben auch hier nicht mehr recht fühlbar ist und der präpositionale infinitive gleichsam absolut steht.[7]
>
> (Kaluza 1890:179)

And he concludes:

> Alle diese ausnahmen bekräftigen aber um so mehr die hauptregel, dass der gebrauch der praep. *to* vor dem infinitiv absolut unstatthaft ist, wenn derselbe

[6] 'All cited examples have in common that the infinitive, usually with its object, precedes the governing auxiliary and that that puts special emphasis on the same [i.e. the infinitive], so that the relation of dependency on the auxiliary thereby gets loosened and the infinitive stands on its own, as it were (…) We may thus draw up the rule: 'In a main clause the infinitive that is dependent on an auxiliary (*will, shall, may, must, can*) may, in ME, be accompanied by the prep. *to*, if, carrying strong emphasis, it precedes the auxiliary.'

[7] 'In addition, as Zupitza has already stressed in a note to Guy of Warwick, l. 1925 [Zupitza 1875-76:374-5; cf. also Ohlander 1941:59, fn.2, WBH], the second of two infinitives connected by *and* and dependent on one auxiliary may take the prep. *to*, cf. (…) Generally, as for example in the last case [i.e. the example from Degree P], the second infinitive is so much separated from the infinitive, that the dependency from the latter cannot quite be felt anymore and the infinitive as it were stands on its own.'

> unmittelbar oder durch nur einen kürzeren satzteil (objekt, adverbiale bestimmung) getrennt, dem hülfszeitwort nachfolgt.[8]
>
> (Kaluza 1890:179)

Quirk & Svartvik do not literally mention "intimacy", but they do refer to the "separation of the dependent infinitive from the finite verb by some intervening element" (1970:410) as a "factor which has significant influence on the choice of infinitive form" (ibid. see also 401, 403, and Table 8, 404; note, however, that the effect they found concerns especially the *for to* marked infinitive).

Now regarding Kaartinen & Mustanoja, the relevant passage is as follows:

> "The general principle governing Middle English usage [i.e. between bare infinitive on the one hand, and (*for*) *to*-infinitive, on the other] seems to be that the simple infinitive is used when the relation between the finite verb [note that matrix verbs are not necessarily finite] and the infinitive is felt to be intimate. **When this relation is less intimate and particularly when the two verbs are separated by a word or a group of words**, the infinitive is preceded by *to*. This principle is reflected in the following quotation from the *Book of London English — hit was ordeyned þat þe Mair and þe Aldremen sholden wer blac and also to riden yn barge to Westmynster* (Brew. P. 143, 89, A. D. 1422). The finite verb *sholden* is immediately followed by the simple infinitive *wer*, while the infinitive *ryden* is separated from it by several words.
>
> (Kaartinen & Mustanoja 1958:181, emphasis added)

The passage in bold seems to indicate that the authors view distance between the higher and lower verbs as *part* of intimacy, but not as *all* there is to it. To the extent that this interpretation is correct, it is unfortunate that they do not specify what else they consider the notion to involve, but it is conceivable that they implicitly hint at semantic-pragmatic factors. (If so, Fischer (1992b) is partly correct after all in distinguishing between intimacy and linguistic distance.)

Having thus established that Fischer (1992b) interprets intimacy in a way different from (most) earlier scholars, let us move on to her definition. She proposes two factors:

(i) degree of grammaticalisation of the matrix verb (Fischer 1992b:317ff.)
(ii) "identity" v. "difference in tense domain" (ibid.:321, 323)

[8] 'All these exceptions only confirm the main rule, that the use of the prep. *to* before the infinitive is absolutely not allowed if it follows the auxiliary directly, or is separated from it by only a relatively short constituent (object, adverbial).'

The relation between factor (i) and infinitival marking is such that "the more grammaticalised the matrix verb is, or, in other words, the emptier it is of referential meaning, the more likely it is that the bare infinitive is used" (317). This neatly captures the generalisation that "already in Old English the core modals — *shall, will, can, may, must* — are normally followed by the bare infinitive and [that] this trend continues in Middle English" (Fischer 1992b:317-18). Causatives, which also tend to occur with bare infinitives (Fischer 1992b:318), are included in this group of highly grammaticalised verbs (the ones Fischer explicitly mentions are *haten, bidden, let, gar, do* and *maken*, ibid.): they "have little semantic content because the emphasis is not on *who did* it but on whether something *gets done* (see Royster 1918:84): '[it] affirms completed action'), which is expressed by the infinitive following the causative verb" (ibid., Fischer's italics). The fact that in lME causative *do* tends to prefer the marked infinitive is plausibly seen as this construction's "last convulsions (…): *to* was reintroduced to distinguish causative *do* from the increasingly popular, but even more semantically empty, periphrastic *do*" (Fischer 1992b:318).

Perception verbs are an exception to this "rule": "*see, feel, hear,* etc. (…) clearly retain their full semantic content but nevertheless normally take the bare infinitive (…) This is even the case with perception verbs borrowed from French [e.g. *espy*; cf. her ex. 314]"[9] (Fischer 1992b:320).

Regarding Fischer's factor (i), the evidence suggests that it indeed plays a role, especially if it is regarded in the light of the effect of high frequency — normally associated with grammaticalisation — on phonological substance. Highly grammaticalised forms tend to have high token frequencies, and are thus likely to be subject to erosion. The way in which Fischer here defines grammaticalisation, i.e. (purely) in terms of referential meaning, is incomplete: other factors are standardly recognised as well (see e.g. Lehmann 1985). Moreover, the classical idea that grammaticalising items get semantically bleached has been discredited by some linguists, who argue, especially for the early stages of grammaticalisation, that rather than loss of meaning there is merely change of meaning (see e.g. Croft 2000:126 and references cited therein). And even if it does exist, it is not obvious that "the emphasis [being] not on *who did* it but on whether something *gets done*" should necessarily imply particularly little referential meaning.

Fischer's factor (ii) is parallel to Duffley's (1992) before v. after frame, as well as, pretty much, Mittwoch's (1990) claim that the *to*-infinitive has the "potential for

[9] Fischer's remark about French loans may furnish some evidence against Mittwoch's hypothesis of a causal relation between foreign origin and marked infinitival complementation (see §2.1, above).

independent temporal specification" (1990:103). (Fischer explicitly recognises the parallel with both authors from her (1995) article onwards.)

The following ME examples are from Fischer (1992b:321; the translations of these and all subsequent examples are mine):

(22) O brother deere, / If thow a soth of this desirest knowe, … (*Troilus* V.1458)
'Oh dear brother / If you desire to know a true thing about this, …'

(23) Wel wostow that I / Desire to be a mayden al my lyf, … (*CT* I. 2304-5)
'Well do you know that I / desire to be a maiden all my life, …'

In (22) the speaker's brother desires to know *a soth of this* immediately (or at least the speaker asks whether that is the case), whereas in (23) the condition of being a maiden is projected to last for the speaker's entire future life.

Jack (1991), referring to Bock (1931), has also made a similar suggestion, although only for some verbs, which do not include causatives:

> [I]nfinitival complements with *for* (*to*) may appear where there is some element of futurity, e.g. following such verbs as *hopen*, *munten*, and *sechen*; and, as Bock also remarked (1931:174-5, 177), this may reflect an association of *to* and *for to* with the expression of futurity, related to their use with adverbial infinitives expressing purpose.
>
> (Jack 1991:336)

Jack subsumes this factor under the heading of "contextual utility", some other factors being labelled "syntactic function". Taken together, Jack's syntactic function and contextual utility minus the idea cited above echo earlier proposals of Ohlander, Warner, etc. (for details see Jack 1991:333-37).

Jack states that the variation (specifically in eME) in infinitival complementation after causatives, among other verbs, is not sufficiently accounted for by contextual utility and syntactic function. He argues for a connection with "changes that were taking place in the infinitival system at this time" (1991:336). In particular, as *to*-infinitives were losing their prepositional character they encroached upon the terrain of bare infinitives, with the *for to*-infinitive filling the gap left behind by *to*-infinitives. Fischer objects to the (extreme interpretation of) the first part of Jack's proposal by pointing out that the bare and *to*-infinitive could never have collapsed completely since, to this day, a functional distinction has always been maintained (1995:6-7).

Whereas Fischer's (1992b) study presents the tense-based distinction only tentatively as a dimension of intimacy ("We can perhaps interpret the rather vague notion of 'intimacy' here in another way" (320)), Fischer (1995) detaches it from intimacy and

positions it in the foreground, as the first of her six factors (see especially pp. 8-9). Most of the factors mentioned in previous scholarship are now relegated to a footnote (1995:3, fn.8). These factors include intimacy, which is somewhat surprising given the importance it played in the (1992b) chapter. She says about intimacy:

> Others mentioned [in previous scholarship] are reduced marking in coordination, separation of infinitive from the matrix verb, and the degree of 'intimacy' between matrix verb and infinitive (…) Although the notion of 'intimacy' may seem intuitively correct, no measurements of 'intimacy' have been given, which makes it less useful as a linguistic criterion.
>
> (Fischer 1995:3, fn.8).

Thus, she still does not adopt the linguistic distance interpretation, apparently analysing intimacy as a semantic-pragmatic notion. With tense-domains now being an autonomous factor, and degree of grammaticalisation/semantic bleaching seemingly dropped altogether, it is not surprising that intimacy no longer plays a role in her account. It is, incidentally, certainly true that the notion has not been defined in very exact terms by Kaluza, Ohlander and Kaartinen & Mustanoja, although presumably one could devise a scale to measure linguistic distance (see e.g. Haiman 1985:105) — but that is of course only relevant if intimacy is interpreted in terms of distance.

Fischer's other 5 factors are given below as ii-vi; (non)identity of tense domains is (i). They are taken verbatim from Fischer (1995:7-8):

(ii) the activity expressed in the infinitival clause is or is not directly perceivable [the former correlating with the bare, the latter, with the *to*-infinitive, WBH]

(iii) after causatives, the *to*-infinitive is used when the causation is in some way not direct, either because (a) the subject of the matrix verb (the causer) does not concretely cause what is expressed in the infinitival clause, or (b) because the subject/causer is inanimate and as such more of an instrument than a cause, or (c) what is caused is a process in which the causee himself takes/must take an active part

(iv) in *general* contexts, i.e., when the infinitival clause does not express an actuality, the *to*-infinitive is the rule

(v) the zero infinitive is the rule in 'irrealis' constructions

(vi) the *to*-infinitive is the rule when the infinitive or the matrix verb is in the passive form

It is for present purposes unnecessary to go into all these factors; suffice it to say that together they do a good job of accounting for the variation observed in her corpus (in Fischer 1995, the complete works of Chaucer and the Paston Letters; expanded in her (1996) study to include the ME part of the Helsinki Corpus as well as examples from other texts; see also e.g. the OE examples from van Kemenade (1993) in Fischer

(1997a:123)). The reason why the rest of the discussion is restricted to only some of them is that not all the distinctions involved correspond to coding distinctions in causatives. That is, only some of these factors are ever expressed, crosslinguistically, by different causative constructions. In particular, factors (iv)-(vi) do not correspond to different causative constructions in English or any other language. (It should not be surprising that they are included in Fischer's studies, as she is concerned with explaining different choices made *in discourse*.) Thus, the meaning distinctions *can* be made across languages, but they are simply not expressed on the causative constructional level. Take factor (iv) for instance. Fischer mentions the use of some modal element such as an *if*-clause; I know of no language with a distributional difference among its causatives relative to this context:

(24) A wyf! A, Seinte Marie, benedicite! / How myghte a man han any adversitee / That hath a wyf ? … / If he be povre, she *helpeth* hym *to swinke*. (Merchant 1337-42 [Fischer 1995:13])
'A wife! Ah, Saint Mary, bless you! / How might a man have any adversity / Who has a wife? … / If he should be poor, she helps him to labour'

Let me now elaborate on factors (i)-(iii), and explain how they relate to (semantic) typologies of causatives. Factor (i), (non)identity of tense domains is one component of directness as defined by typologists, normally expressed as (presence v. absence of) unity of time (Wierzbicka 1975:497-99).

As for factor (ii), Fischer suggests that it "concerns in the first place the complements of perception verbs" (1995:9-10). Indeed, her examples all involve *see*, *hear* or *feel*. It is applicable to causatives as well, though, provided it is reformulated in terms of (presence v. absence of) unity of space/place (Wierzbicka 1975:494-5, cf. also Fillmore 1972:4), the second component of directness standardly recognised by typologists.

Fischer's factor (iiia) furnishes the third property of directness. Typologists and typologically oriented semanticists (e.g. Jackendoff 1972:28, Dixon 2000:70) distinguish between causative situations where the causer acts directly on the causee and situations where he does so through some intermediary party (which may, but need not, be explicitly mentioned). The following example from Hindi, taken from Dixon (2000:67), illustrates how presence v. absence of an intermediary party can have an effect on coding; the causative marker *–a*, in (25), indicates that "the labourers did the work themselves", while *–va*, in (26), implies that "the contractor achieved the task indirectly (through 'the labourers', who can be included in the clause, marked by instrumental case)":

(25) Məzduuro ne məkan bənaya
labourers ERG house was.made.CAUS$_1$
'The labourers built the house' (Dixon 2000:67)

(26) Thekedar ne (məzduuro se) məkan bənvaya
contractor ERG labourers INST house was.made.CAUS$_2$
'The contractor got the house built (by the labourers)' (ibid.)

Factor (iiib) is covered by Talmy's (1976, 1988, 2000a) four-way classification of causative situations as volitional (animate causer; inanimate causee), inducive (animate causer; animate causee); physical (inanimate causer; inanimate causee) and affective (inanimate causer; animate causee); see also Croft (1991:167) and my Ch.1.

Factor (iiic), finally, corresponds to a factor proposed by some typologists. Dixon, for example, mentions control, which he defines in terms of "[w]hether the causee *lacks control* or *has control* of the activity" (2000:65, emphasis Dixon's). I note that the distinction between absence and presence of causee control is pretty much restricted to situations involving eating and drinking (cf. e.g. *feed* v. *make eat*), posture verbs (cf. alternations such as *sit* v. *set* and *lie* v. *lay*), some manner of motion verbs (*walk*, *drive*, etc.) and the verbs *bathe* (cf. Cole 1983:121), *bleed* and *burp* (cf. Levin 1993:32). Extending this notion to causality in general is questionable.

Let us now take the relevant factors of Fischer's, henceforth referred to in keeping with typological practice as directness and causation type, and move on to the second step in the development, concerning the relation with transitivity, as analysed by Hopper & Thompson (1980), whose parameters I reproduce below (I refer to Chapter 6 for more elaborate discussion):

Parameter	High transitivity	Low transitivity
participants	2 or more participants	1 participant
kinesis	action	non-action
aspect	telic	atelic
punctuality	punctual	non-punctual
volitionality	volitional	non-volitional
affirmation	affirmative	negative
mode	realis	irrealis
agency	A high in potency	A low in potency
affectedness of O	O totally affected	O not affected
individuation of O	O highly individuated	O non-individuated

TABLE 1. HOPPER AND THOMPSON'S PARAMETERS OF TRANSITIVITY (1980:252)

Concerning the unity of time aspect of directness, Fischer notes that this is not part of Hopper & Thompson's parameters. In fact directness as a whole is not included in Hopper & Thompson's study, presumably because they were not only interested in

causatives (cf. my Ch.6). However, according to Fischer unity of time "is closely related to parameter G, MODE" (1996:254). She proceeds to explain:

> MODE refers to the distinction between realis and irrealis, between an action which did/does occur and one that did/does not, or one that is presented as occurring in a non-real (contingent) world. Obviously a future activity is also presented as not (yet) occurring.
>
> (Fischer 1996:254)

In implicatively causative situations this distinction is irrelevant: once an event is caused it happens. Of course this is not to say that every token of implicative causative constructions portrays a causative event that has already occurred; causatives may e.g. be modalised or embedded in a future tense construction. In those cases, though, the irrealis meaning is not conveyed by the causative construction itself but on another level of syntactic organisation (e.g. of the modal verb construction [NP_s-MAY-STEM]).

That leaves the parameter causation type, which subsumes volitionality and agency of A and O (these notions are themselves related to affectedness of O and participants; see Ch.6). One of the examples adduced as evidence for the bare infinitive promoting effect of highly potent (animate) causers is the following, from the Helsinki Corpus:

(27) Now went Porus, so J fynde, / Wiþ Kyng Alisaunder ouere al Ynde, / To shewe hym þe merueilynges / Of men, of bestes, of oþer þinges, / And *helpen wynne* vnder his honde / Alle þe naciouns of þe londe (M2 *Kyng Alis.*:291 [Fischer 1996:254, emphasis Fischer's])
'Now P. went, so I find, with King Alexander all over India, / To show him the marvels / Of men, of beasts, of other things, / And help him conquer under his hand / All the nations of the land'

Volitionality is discussed explicitly only with respect to passives (Fischer 1997a:121), for which see §5, below. Presumably, though, Fischer would argue that volitional causation (intended causation in Givón (1980:335)) would promote the bare infinitive, non-volitional (Givón: nonintended) causation, the *to*-infinitive.

Fischer also discusses affectedness of O, which I gather she sees as related to her factors (iiic) and (vi). One example of the role of affectedness of O is (28), below. Two observations are in order here. First, she does not interpret it in the way a typologist would. Consider her suggestion that the preference of *bidden* for the bare infinitive is

(partly) due to superiority relation normally obtaining between matrix clause subject and lower clause subject (1996:256),[10] see the following instance from the Helsinki Corpus:

(28) Somme he kytt of þe arme, / Somme þe heued, and dude hem harme. / He *bad his folk fiȝtten* hard, / Wiþ spere, mace, and wiþ swerd, (M2 *King Alys.*:219 [Fischer 1996:256, emphasis Fischer's])
'Of some he cut of the arme, / Of some the head, and did them harm. / He bade his people fight hard, / With spear, mace, and with sword,'

She writes: "an animate object lower in rank than the subject does not normally have the opportunity to exercise his own will, especially in the Middle Ages" (Fischer 1996:256). This may be true, but it is not the reason why (28) exemplifies full affectedness. Dowty (1991) and Croft (in prep.) have argued that an object is affected to the extent that the action performed on it is complete (Dowty's "incremental theme"; Croft's "verbal scale", see my Ch.6 for more details). For this to happen there is no need for the object to be inferior to the subject. In fact the reverse may obtain: in a sentence like *The people begged their king not to have to fight* the object is affected just as fully as in (28).

Second, affectedness of O is not relevant for present purposes; while it corresponds to a difference in causative markers in at least one language — Tariana; see Dixon (2000:67), Aikhenvald (2000:158) and also my Ch.6 — it does not do so in English.

2.3 Givón (1980)

Taking issue with the logic-based concepts of implicativity and factivity/presupposition, or rather with the traditionally hypothesised correlation between those and mode of complementation, Givón (1980) proposes the more general, not strictly logic-based, but crosslinguistically supported notion of binding. The scope of his study is not restricted to causatives (implicative and nonimplicative; called "manipulative verbs" by Givón) but it also includes so-called "modality verbs" (*want, succeed, fail, start, finish*, etc.) and "cognition-utterance verbs" (*know, think, say*, etc.) (1980:333).

Binding has syntactic and semantic dimensions. The former is easier to grasp than the latter; a definition is explicit in the following explanation of how the two dimensions correlate: "The higher a verb is on the [semantic] binding scale, the less would its complement tend to be syntactically coded as an independent/main clause" (Givón

[10] I.e., in my terminology, *bidden* implies a sphere of control (see Ch.3).

1980:337). Coding as an independent/main clause is analysed into three (crosslinguistically valid) properties:

> (i) The degree to which the agent/subject/topic marking of the embedded-clause agent/subject reflects the marking in independent main clauses
> (ii) The degree to which independent-clause tense-aspect-modality marking of the verb is preserved in the embedded clause
> (iii) The presence or degree-of-presence of predicate-raising of the complement verb into the main verb; i.e. the degree to which the complement verb is lexicalized as one word with the main verb
>
> (Givón 1980:337)

Infinitival complements represent extreme cases of the reduction of T-A-M marking (Givón 1980:337); the bare infinitive being even more reduced (more bound syntactically to the matrix verb) than *to*-infinitives; furthermore, the bare infinitive is the closest a complement can get, in English, to being lexicalised as one word with the main verb (ibid.:356; some English causatives that show the very endpoint of the lexicalisation binding scale are *break*$_{\text{trans}}$, *feed, fell, kill,* etc.).

The semantic dimension of binding (which, unless stated otherwise, is the sense in which the term is henceforth meant to be taken) is an iconic notion. Discussing the use of complementising subordinators Givón writes:

> All other things being equal, the use of a subordinating morpheme which neatly separates the main clause from its complement clause is a coding acknowledgement that the two clauses are semantically still independent of each other, at least to some extent.
>
> (Givón 1980:371)

Binding phenomena thus instantiate Haiman's principle, that linguistic distance may be employed to mirror conceptual distance (e.g. 1985:102-47), and binding can be rephrased as the extent to which the matrix and lower clause events are conceptualised as a single, integrated event. The bare infinitive, in this connection, is expected when the degree of integration is relatively high, the *to*-infinitive, when it is lower.

This raises the question as to how to define/measure conceptual closeness. For implicative causatives Givón recognises two factors: intended v. unintended causation and direct v. mediated causation, the first value in each pair representing increased binding and thus favouring the bare infinitive (1980:336). The first factor echoes, or rather is echoed by, Fischer's suggestion that volitionality plays a role (cf. also Cristofaro 2003:126,

whose semantic analysis of implictive causatives is apparently restricted to this factor);[11] the second anticipates Fischer's identical claim.

These properties lead Givón to suggest that *make* and *have* outrank *cause* on the binding scale because only the former describe intended causation, while *make* outranks *have* because the latter signals mediated causation (1980:336). Givón's analysis of *have* as a mediated causation predicate goes back to his (1975) study, and is based on examples such as:

(29) I had her lose her temper by sending John over to taunt her (Givón 1975:65)

While this made-up example is not ungrammatical, it is presuambly marginal not prototypical. In other words, on the basis of Givón's parameters I would suggest a partial ordering with *have* and *make* outranking *cause*.

Incidentally, Duffley, in discussing Givón's study, agrees that "*make* and *have* (…) involve a closer bond [than *cause*] between the causative event and the event caused" (1992:57). One may wonder why Duffley does not accommodate this idea in some way in his own account. His motivation is that he sees Givón's parameters as being "based on abstract semantic categories which have been set up a priori in logico-truth-conditional terms" (Duffley 1992:57). In fact, however, Givón explicitly distances himself from strictly logic-based approaches (1980:333) and suggests that the binding hierarchy is grounded in iconic considerations.

Interestingly, at various points Givón also adopts a diachronic stance, in considering the interplay between binding and grammaticalisation (see 1980:334 and 373-4). In §1 I suggested that high token frequency promotes erosion in these constructions. Givón does not explicitly mention this. He seems to be thinking mainly of renewal in grammaticalisation (1980:373-4): if a new verb develops then the older ones, in usage, have obviously had a longer time to get compacted. There is an implicit connection with frequency, though, in that when a new construction first arises, then at least at that point older constructions have by definition been used more often. Let me note, for the sake of completeness, that the potentially important effects of grammaticalisation are not discussed in any of the other studies on infinitival complementation mentioned above apart from Fischer (1992b).

[11] Cristofaro's (2003) crosslinguistic study analyses universal tendencies in the form-function mapping of subordination in general, i.e. verbal complementation, adverbial and relative relations. It compares causatives ("manipulatives") to a great number of other constructions; however, it does not offer many new insights regarding the syntax and semantics of implicative causatives class-internally (but cf. §3.1.1, below).

In view of the apparent connection between binding as it pertains to (implicative) causatives on the one hand, and (some of) Fischer's factors, on the other, one must ask the question: what is the relation between binding and transitivity, given that Fischer links her factors to the latter notion? I suggest that there is some overlap but that they are ultimately distinct. There is overlap in the sense that a high value on some transitivity factors (e.g. intended v. nonintended and direct v. mediated causation) correlates (in complex clauses of course) with a high degree of binding.

But the two notions do not always line up. Causation type, in particular, is problematic. My Ch.6, which deals with passivisation of causatives, argues for the following hierarchy, increased transitivity being associated with the left part of the cline, decreased transitivity, with the right end:

inducive<volitional<affective<physical

The problem here is that it is not at all obvious that, for instance, one human being impinging on another human being (inducive causation) should be easier to conceptualise as a single event than one inanimate entity impinging on another inanimate entity (physical causation):

(29) She had him work hard. (Givón 1980:356)
(30) This process is more feasible when we have a candidate gene — one which we know can cause the heart to develop incorrectly (FLOB H25 129)

In fact, I argue below that inducive causation is like unintended and mediated causation in rendering it harder for two events to be thought of as one.

3. The extended binding hierarchy 1: synchronic distribution of the infinitival modes

In this section I first extend the binding hierarchy (§3.1) and then score the PDE causatives *cause, force, get, have, make* and *persuade* — i.e., the constructions analysed in Ch.6 as well.

3.1 Extending the binding hierarchy for implicative causatives

I propose to expand Givón's (1980) two-dimensional semantic binding hierarchy for implicative causatives to include the following parameters:

i. Directness:
   a. Unity of time
   b. Unity of space
ii. Presence v. absence of a sphere of control frame (i.e. of the causer over the causee)
iii. Causation type, specifically: affective, physical<volitional<inducive
iv. Punctuality of the causing event

My discussion of the semantics of periphrastic causative *make* relied heavily on Talmy's notion of causee resistance. One might argue that increased resistance corresponds to a decreased degree of semantic binding. My Ch.6 (§2.2.2) suggests that there is considerable overlap between resistance and other parameters, and that it is not easily amenable to a quantitative analysis. For these reasons I will not count resistance as a parameter of the extended binding hierarchy.

3.1.1 Directness

Presence v. absence of an intermediary party, one of the dimensions of Givón's (1980) binding scale for implicative causatives, is one component of the typological notion of directness. Unity of time is another. In line with the suggestions by Mittwoch (1990), Duffley (1992) and Fischer (1992b, 1995, 1996, 1997a, 1997b) I suggest that it plays a role in infinitive marking — indeed, in syntactic binding of complements to matrix verbs in general. Two events that occur (more or less) simultaneously are easier to construe as a single event than two events separated by a long interval.

Unity of space is the last component of directness. It often goes hand in hand with unity of time and therefore it is surprising that it has not been mentioned explicitly in the literature on complementation in English causatives. However, it is possible to interpret Fischer's factor (ii) — the possibility v. impossibility for the matrix clause subject to directly perceive the lower clause event — along these lines. The rationale behind including this property in the extended binding hierarchy is that if the caused event occurs at a spatial remove from the causing event, the two are harder to see as one than if they occur in the same place.

Givón's (1990) update of his binding hierarchy proposal supports the inclusion of the other dimensions of directness: absence v. presence of spatio-temporal separation is part of his revised analysis of the semantics and syntax of complementation (see especially pp.520-26). He illustrates this with examples such as (31-2):

(31) She *saw* him *come* out of the theater. (Givón 1990:526)
(32) She *saw* that *he came* out of the theater. (ibid.)

Givón explains the higher degree of syntactic integration in (31) as compared to (32) by observing that in the former but not necessarily the latter "the two events — 'see' and 'come out' — are *co-temporal*" (526), while later also mentioning unity of space. (He goes on to connect this difference in spatio-temporal integration to the semantic shift undergone by *see* in moving from (31) to (32), i.e. from perception to reflection verb, arguing that "[b]etween an event and reflecting upon the event, a wide range of temporal gaps is possible. In contrast, an event is perforce co-temporal with its perception" (Givón 1990:526).)

Cristofaro (2003) disagrees that unity of time and space promote conceptualisation as a single integrated event. She rejects Givón's account of the contrast between examples (31-2), above. Her argument is based on the view that spatio-temporal integration as a property of semantic integration is "neither necessary nor sufficient" (Cristofaro 2003:124). Example (33), below, demonstrates that it is not a sufficient condition (Cristofaro does not provide examples to support her claim that it is not a necessary property):

(33) When I go to the Institute at weekends, there are not many people around. (Cristofaro 2003:124)

She comments on this example as follows:

> Here the linked SoAs [i.e. states of affairs, WBH] are spatio-temporally contiguous, but completely distinct from each other — and hence not interconnected. In fact, there is no connection between going to the institute at weekends and not many people being around (except of course that the reason why not many people are around is that it's the weekend).
>
> (Cristofaro 2003:124)

She concludes that since "semantic integration as such is independent of spatio-temporal contiguity", therefore "spatio-temporal contiguity as such does not contribute to semantic integration" (Cristofaro 2003:125).

There are several problems associated with Cristofaro's proposal. First, the two states of affairs in (33) are perhaps not seen as *completely* independent of each other. While it is true that they are not *causally* connected, we nonetheless seem to integrate them into one and the same situation at some level of conceptualisation: consider that it would be odd to say (34), while (35) is even worse:[12]

[12] One may come up with a special context to increase the acceptability of (34-5), e.g. one on which there is some mysterious causal relation between the adverbial and main clauses (such that my working in the garden

(34) ?When I'm working in my garden at weekends, there are not many people around at the Institute.

(35) ??When I'm working in my garden on Wednesday, there are not many people around at the Institute at weekends.

I submit that the absence of unity of space and (in (35)) time is responsible for the awkwardness of connecting the two events by representing one in an adverbial relation to the other.

Second, if I understand Givón correctly, he does not see unity of time and space — nor, for that matter, any other semantic binding property of implicative causatives or complement constructions in general — as criterial attributes of semantic integration; to do so would not fit at all well with his view of binding as a *gradient* notion. Even if Cristofaro is correct in suggesting that (33) is evidence that spatio-temporal contiguity does not automatically lead to (a high degree of) semantic integration, she would still have to prove that the former cannot *contribute* to the latter. (One way to do so would be to explain the formal-*cum*-functional difference between (31) and (32) without making reference to the spatio-temporal (dis)location of the events. It is not obvious that this can be done.)

Third, the example used by Cristofaro to argue against a connection between unity of time/space and binding concerns an adverbial relation. Cristofaro justifies her not choosing an example with a complementation relation by arguing that "semantic integration is logically independent from the kind of subordination relation holding between the relevant SoAs, so there is no reason why it should not apply to adverbial relations" (2003:125, fn. 7). While I agree that binding can be extended beyond complement relations, I fail to see why this should involve exactly the same set of semantic parameters, given that complementation and adverbial relations, whilst similar in some abstract sense (cf. Cristofaro 2003:31-52), at the same time display a functional contrast (see e.g. Croft 2001, Ch.9).

3.1.2 Sphere of control

The sphere of control (SC) has been discussed especially in my Ch.3, where I also referred to similar ideas proposed in previous scholarship on causatives. One of the studies mentioned was Givón (1980). However, he only applies the notion to nonimplicative causatives: "non-implicative verbs can already be ranked according to *Likelihood of manipulator's authority being challenged by the manipulee*, with 'tell' coding less

somehow leads to fewer people going to the Institute). However, the fact that such a special context is necessary for (34-5) but not (33) supports rather than disproves the point that unity of time and space contribute to semantic integration.

challenge and 'order', 'ask', 'demand' coding more" (Givón 1980:368). I extend it as a dimension in binding to implicatives: a caused event occurring within the causer's SC is easier to think of as forming a single whole with the causing event than a caused event where the causee (potentially) challenges the causer. Incidentally, Givón's semantic analysis of *order* and *demand* as lacking a sphere of control supports my analysis, in this chapter and elsewhere, of *force* as –SC, as it is more or less the implicative counterpart of *order/demand*.

3.1.3 Causation type

Verhagen & Kemmer (1997) propose an interesting interpretation of Talmy's causation types as diagrammatically represented by Croft:

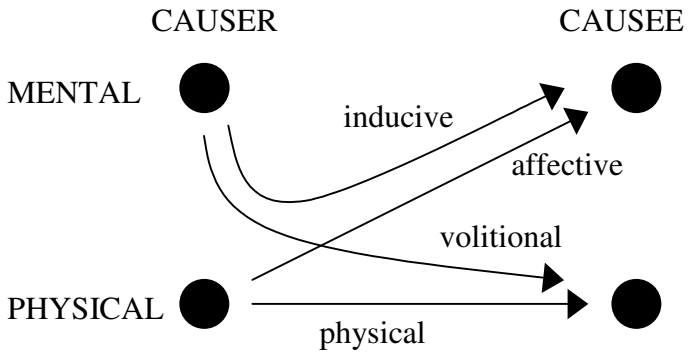

FIGURE 1. TALMY'S FOUR-WAY CLASSIFICATION OF CAUSATIVE EVENTS (AFTER CROFT 1991:167)

The nature of the interaction between causer and causee is interpreted in terms of more v. less direct causation. Directness is used here in a different sense from the typological definition above, but that should not detract from the value of the proposal. Verhagen & Kemmer write:

> An obviously important aspect of this model of causation types is the very marked *asymmetry* between entities with a mental dimension (animates) vs. those that are merely physical. Animates can only act on animates via the intervening physical world, i.e. the model implies that one cannot reach into another person's mind and *directly* cause him or her to do, feel, or think something. Physical entities are taken to act directly on other things; hence the straight arrows in the diagram in Fig. 1, vs. the very bent arrow for mental-on-mental causation, and the slightly bent one for mental-on-physical.
>
> (Verhagen & Kemmer 1997:71)

Verhagen & Kemmer apply this idea to the Dutch causatives *doen* and *laten*, persuasively arguing that the former is associated with the most direct types, physical and affective causation, while the latter usually codes the prototypically indirect type, inducive causation (1997:72) — see the following examples, all from Verhagen & Kemmer (1997:62):

(36) De stralende zon doet de temperatuur oplopen.
the shining sun does the temperature rise
'The bright sun makes the temperature rise.'

(37) De recessie doet de mensen verlangen naar betere tijden.
the recession does the people long to better times
'The recession makes people long for better times.'

(38) De sergeant liet ons door de modder kruipen.
the sergeant let us through the mud crawl
'The sergeant had/made us crawl through the mud.'

Volitional causation is somewhere in between, in that it is "neither prototypically direct nor prototypically indirect; thus it comes as no surprise that quite a number of examples of both *doen* and *laten* are to be found in this subclass" (Verhagen & Kemmer 1997:72).

Verhagen & Kemmer proceed to ground their ideas in D'Andrade's (1987) folk theory of the mind, allowing further refinement of their claims, but this need not concern us here. The relevant insight is that Talmy's causation types can be ordered in terms of more v. less direct causer-causee interaction; from there it is a small step to the suggestion that more direct interaction in this sense also facilitates conceptualising the causing and caused events as a single integrated event. Thus, I propose the following causation type binding hierarchy, with the left end being associated with maximal binding:

physical, affective<volitional<inducive

In practical terms, applied to English, this hierarchy will have two not three values, as there is no periphrastic causative construction in this language that prototypically portrays the volitional type (though some causatives are intermediate in the sense that they are not clearly associated with either extreme of the scale; cf. §3.2 below).

Coming back to the question posed in §2.3 as to the relation between binding and transitivity, this ordering is a clear manifestation of the nonidentity of the two notions: it is more or less the mirror image of the inducive<volitional< affective<physical ordering for transitivity. This is not surprising, since in a maximally transitive event the two participants are conceptually maximally opposed, which should make the force-

dynamic interaction between them (the causing event) and the result (the caused event) less easy to conceptualise as a single, integrated situation.

3.1.4 Punctuality

Punctuality is not one of Fischer's six factors, nor is it related to any. Still, she mentions it at some point. She provides the following example from the Helsinki Corpus, featuring a complement clause that lacks an explicit subject:

(39) [E]leusius þe hwile lette his men makien a muche fur mid alle. & *bed binden* hire þe fet & te honden. & keasten hire into þe brune cwic to forbearnen. As ha lokede up. & seh þis lei leiten… (M1 *Seinte Iul.*: 59, 61 [Fischer 1996:257, emphasis Fischer's])
'E. meanwhile let all his men make a large fire at the same time and bade (them) to bind her feet and hands and cast her into the burning in order that she should burn quickly. As he looked up and saw this bright light …'

Regarding this example she says "it is clear from the context that (…) the action is actualized (there is an entailment relationship, cf. Mittwoch 1990:112) [moreover] it is clear that the saint in question is actually in the fire because in l. 665 an angel comes down from heaven to quench it and Juliana steps out *unhurt*" (Fischer 1996:257). She proceeds to suggest that the infinitive describes an activity not a state — and then refers to "parameters B (KINESIS) and D (PUNCTUALITY)" (Fischer 1996:257). This analysis is problematic in that the punctuality of the force-dynamic interaction between causer and causee depends not so much on the infinitive but on the causative verb (*bed*).

I hypothesise that there exists a connection between punctuality and binding such that causative situations where the causing event is instantaneous are easier to conceptualise as single events than situations where the causing event is seen as taking a long time. The effect on infinitive marking may be illustrated by periphrastic causative *get* and *persuade* — where I analyse the causing events as accomplishments — as opposed to for instance *make* — whose causing event is an achievement:

(40) The police got him to confess to the crime. (BNC HXG 799)
(41) His lawyer persuaded him to confess to the crime.
(42) The police made him confess to the crime.

Evidence that the causing event is nonpunctual in *get/persuade* but not in *make* is furnished by the natural collocation of the former but not the latter with *finally*:

(43) The police finally got him to confess to the crime.

(44) His lawyer finally persuaded him to confess to the crime.
(45) ??The police finally made him confess to the crime.

(45) is only acceptable on an interpretation whereby the police did not immediately make their suspect confess, for instance because they did some other things first, cf. *The police searched first searched John's house, then interrogated his colleagues, and in the end made him confess to the crime*. (Punctuality is not the only relevant semantic difference between *get/persuade* on the one hand, and *make*, on the other; see below, especially Table 4).

3.2 Scoring the causatives

In this section the causatives *cause, force, have, get, make* and *persuade* are scored for (semantic) binding. The argument is that the scores obtained (help) "predict" their PDE complementation strategy: constructions with the highest binding scores are expected to take the bare infinitive; constructions with lower scores, the *to*-infinitive.

The methodology here will appear again in Ch.6. The scale for each parameter ranges from 0 (lowest degree of binding) to 1 (highest degree of binding). Most of the properties are binary, i.e. the value is either 0 or 1. The causation type and sphere of control scales, however, have three points. It is important to note that a rating of .5 is not only assigned to constructions that prototypically portray the situation corresponding to the middle point on such a scale (e.g., in the case of the sphere of control, all constructions except *have* and *force*, cf. below) but is also given to constructions that are more or less evenly distributed over the higher and lower degree of binding values of some parameter (this is the case with the causation type semantics of *make* and *force*, cf. below).

The parameters of the extended binding hierarchy are not all independent of each other. In particular, unity of time, unity of space and direct v. mediated causation are interrelated, which is why typologists subsume them under a single heading, directness. In addition, there are clear interdependencies among intendedness, sphere of control and causation type. The causing event can only be intended if the causer is animate (i.e. inducive/volitional causation). The notion of SC is only relevant in the context of inducive causation, as it is a *social* notion. Furthermore +SC implies intended causation, as commands/instructions by definition reflect the will of the person in command.[13] Since all

[13] Of course there are situations, especially in hierarchical structures that consist of more than two levels, where someone issues a command even though on some level they do not really agree with it, i.e. if they were instructed by some party that is even higher up on the ladder. These situations do not undermine the

three properties apply to the relation between causer and causee I shall call the macroparameter "relationality".[14]

Directness and relationality can thus be conceived of as lattice structures. *Cause* is taken to prototypically represent indirect causation, often as measured on all three component properties, while the other constructions stand for direct causation (the semantic analysis is justified below). I will follow standard typological practice in not dividing up directness into its components when analysing the prototypical meanings of constructions.

Relationality is more complicated, with significant distinctions existing between the constructions, so here the components are kept strictly separate. Rather than setting up a lattice, the constructions are scored for each subproperty of relationality. The total is then normalised to the same scale of 0-1, i.e. it is divided by 3. In this way the correct scores fall out automatically, avoiding the opacity inherent in a lattice structure.

Finally, the results of the 3 macroparameters are added up, allowing one to compare the sum totals (Table 4, below).

It bears pointing out that I do not expect the bare infinitive to be associated with one specific semantic binding value across the board, the *to*-infinitive, with a particular other value, nor to be able to draw an *a priori* boundary between values associated with either of the two strategies. Instead, I follow Givón's important *relative* notion of the form-function mapping. In his (1980) study on the binding hierarchy (see §2.3, above) Givón introduces this principle as follows:

> If a point on the semantic hierarchy of binding is coded by a certain syntactic coding device, then a semantically higher point cannot be coded by a syntactically lower point. Rather, it will be coded either by the same coding point, or by a higher coding point on the syntactic coding scale.
>
> (Givón 1980:370)

With respect to the case at hand then, my hypothesis is that no causative taking a *to*-infinitive should outrank any bare infinitival causative on the extended semantic binding hierarchy. (In more universal terms: in a given language, a causative associated with a particular complementation pattern should not display a lower degree of semantic binding than a causative representing a syntactically less integrated construction; cf., however, Implicational Universal 4, below).

---

statement that commands/instructions always reflect the will of the person issuing them, because in complying with the orders from higher powers, they apparently decide not to resist but to act on them.

[14] Relationality is not an ideal umbrella term since directness also involves the bond between causer and causee. However, a more appropriate label is not easy to find.

In order to determine the causation type and intendedness scores I carried out a comprehensive analysis of the causatives in the Freiburg-LOB Corpus of British English (FLOB), a one-million word corpus compiled in the early 1990s. The corpus examples were not analysed in terms of directness because there is fairly general agreement in the literature that *cause* is the only causative that typically features absence of unity of time and space and presence of an intermediary party in the causal chain (recall that in §2.3 I criticised Givón's proposal that *have*, too, typically signals indirect causation). Including the sphere of control was unnecessary because it is always present in *have*, never in *force*, while the other causatives are analysed as indeterminate.

Pretty much the same kind of categorical statement is appropriate with regard to punctuality. *Get* and *persuade* portray the causing event as an accomplishment, the other constructions, as an achievement (prototypically). Evidence for the accomplishment aspectual semantics of the causing event in *get* and *persuade* comes from the collocation with adverbs indicating nonpunctuality such as *finally*, *gradually* and *slowly*, cf. (43-5), above, as well as the following attested examples:

(46) Well, I *finally got* Miguel to talk to them about it and it turns out the reason there aren't any old folk around is because they don't live much longer than about 35. (BNC G1X 1239)

(47) "Although tennis was formally reinstated as an Olympic sport in 1981, it wasn't until 1987, some four years after David had died, that we *finally persuaded* the IOC to allow all tennis players, including the professionals, to be eligible to compete," he recalls. (BNC A0V 203)

(48) Five years ago this would not have been possible, and it is a measure of the success of the Cleveland Classics series of concerts that a mass audience has been *gradually persuaded* to sample music of a more controversial stamp than the usual "pops". (BNC K4P 1428)

I only cite one example of *get*; indeed it is hard to find examples in the BNC. This does not weaken my analysis, as periphrastic causative *get* is a very rare construction anyway. Significantly, the BNC does not contain a single example of *make* preceded by *gradually* or *slowly* — all the more remarkable given the high frequency of this causative. *Cause* and *force* pattern with *make* in this respect, although their lower frequencies, especially in the case of *cause*, weaken the argument somewhat. *Finally* does occur, see e.g. (49), below, but is generally to be interpreted as meaning something like 'in the end', (cf. also (45), above):

(49) So what *finally made* you actually do something? (BNC CH8 594)

The FLOB results for causation type are as follows:

	cause	*force*	*get*	*have*	*make*	*persuade*
phys	7 (32%)	0 (0%)	0 (0%)	0 (0%)	18 (12%)	0 (0%)
aff	12 (55%)	37 (54%)	0 (0%)	0 (0%)	66 (42%)	3 (7%)
vol	1 (5%)	0 (0%)	1 (5%)	0 (0%)	20 (13%)	0 (0%)
ind	2 (9%)	31 (46%)	19 (95%)	8 (100%)	52 (33%)	41 (93%)
total	22 (100%)	68 (100%)	20 (100%)	8 (100%)	156 (100%)	44 (100%)

TABLE 2. CAUSATION TYPE OF ENGLISH PERIPHRASTIC CAUSATIVES IN THE FLOB CORPUS[15]

The number of *cause* tokens is rather low, but the balance is skewed in favour of the physical/affective types, yielding a score of 1. If future corpus research should indicate that there the volitional/inducive types are not that much less frequent than physical/affective causation, then a score of .5 might be more appropriate. Note that this would not have a drastic effect on the overall position of *cause* on the semantic binding hierarchy with respect to *have* and *make*: the latter two would in fact outrank *cause* even more than they do with the current score (see the scores in Table 4, below).

Force is scored .5 owing its more or less equally strong association with inducive causation (minimal degree of semantic binding) and affective causation (maximal degree of semantic binding).

The FLOB Corpus data suggest that *get*, *have* and *persuade* prototypically portray inducive causation, so they are scored 1. The total number is very low for *have* but it is virtually impossible to think of examples where causation is not interpersonal.

In line with Dixon's statement that *make* is the most neutral causative (1991:194, 294, 2000:36-7) its results are truly mixed. A score of .5 reflects this.

As for intendedness, since the potential for an intended v. nonintended distinction only obtains in situations where the causer is a mental entity my analysis is restricted to examples of volitional and inducive causation. The results are presented in Table 3, below. The table does not include *cause* since the low frequency of the volitional/inducive types (see Table 2, above) suggests that the combination with these types is very peripheral indeed.

[15] Following standard practice in scholarship on causatives I analyse human institutional entities such as companies, schools and governments as human, and thus mental, entities (see e.g. Verhagen & Kemmer 1997:64).

	force	*get*	*have*	*make*	*persuade*
vol/ind, intended	31 (100%)	20 (100%)	8 (100%)	64 (89%)	41 (100%)
vol/ind, nonintended	0 (0%)	0 (0%)	0 (0%)	8 (11%)	0 (0%)
total no. of vol/ind	31 (100%)	20 (100%)	8 (100%)	72 (100%)	41 (100%)

TABLE 3. INTENDEDNESS OF ENGLISH PERIPHRASTIC CAUSATIVES IN THE FLOB CORPUS

Translating these results into scores is a straightforward exercise: in all cases the evidence suggests that the construction prototypically conveys intended causation, giving a rating of 1. In the case of *make* one might object that 11% nonintended causation is not entirely insubstantial, but one should consider that a proportion of intended causation of almost 90% seems enough to warrant the claim of prototypicality, especially since the total number of examples obtained (i.e. 72) is far from insignificant.

Table 4 presents the scores of the various causatives against all the parameters of the extended binding hierarchy, including the important sum totals.

	directness	punctuality	relationality				sum total
			intendedness	SC	causation type	total/3	
cause	0	1	0	.5	1	.5	1.5
force	1	1	1	0	.5	.5	2.5
get	1	0	1	.5	0	.5	1.5
have	1	1	1	1	0	.67	2.67
make	1	1	1	.5	.5	.67	2.67
persuade	1	0	1	.5	0	.5	1.5

TABLE 4. ENGLISH PERIPHRASTIC CAUSATIVES SCORED AGAINST THE EXTENDED BINDING HIERARCHY FOR (IMPLICATIVE) CAUSATIVES

Given that *have* and *make* outrank the *to*-infinitive taking causatives, the binding hierarchy alone seems to furnish a neat account of complementation. §4.2, on diachrony, however, suggests that frequency also plays a role. Before expanding the scope to the historical dimension, let me render explicit the three implicational universals underlying the correlation between the macroparameters directness, punctuality and relationality on the one hand, and complementation, on the other:

> *Implicational universal 1*
> If in a language there are differences in complementation strategies in causative constructions then a construction (prototypically) describing direct causation will display a higher degree of syntactic binding than one (prototypically) describing indirect causation (all other things being equal).

Implicational universal 2
If in a language there are differences in complementation strategies in causative constructions then a construction (prototypically) describing punctual causation will display a higher degree of syntactic binding than one (prototypically) describing nonpunctual causation (all other things being equal).

Implicational universal 3
If in a language there are differences in complementation strategies in causative constructions then a construction (prototypically) describing situations featuring a high degree of relationality will display a higher degree of syntactic binding than one (prototypically) describing a low degree of relationality (all other things being equal).

The repeated stipulation that all other things be equal in order for the universal in question to work has manifestations on two levels. First, as the extended binding hierarchy is composed of three macroproperties the effect of any of these can be obliterated and even reversed by opposite scores on (one of) the two remaining factors. Second, given the role of frequency in grammaticalisation, especially in compacting processes, different histories of constructions can also mess up the expected consequences of any and all of these implicational universals. In fact this latter effect can be captured in a fourth universal:

Implicational universal 4
If in a language there are differences in complementation strategies in causative constructions then a construction with a high token frequency will display a higher degree of syntactic binding than one with a low token frequency (all other things being equal).

4. The extended binding hierarchy 2: diachronic regulation of the infinitival complements

4.1 How does the extended binding hierarchy (help) explain the regulation process?

This section discusses how the scores obtained for the various causatives on the extended binding hierarchy help explain why the constructions in question ended up taking the infinitival mode they are associated with in PDE.

First I present some examples to show that infinitival complementation in these constructions was once free — or at any rate freer than in PDE; I have included examples of *do* and *gar*; virtually obsolescent after ME, at least in standard English, but once common (cf. e.g. Ellegård 1953 for some figures):

(50) the Jues I gaf concaylle That thay shuld *cause* hym *dy*. (c.1300 Harrowing of Hell (Everym. ed.) p.144 [Visser 1973:2256; emphasis in this as in following exx. Visser's])
'the Jews I gave counsel that they should cause him to die'

(51) So … that it *cause* me *to dye* (c.1385 Chaucer, Troil. III, 1505 [ibid.])
'So … that it (should) cause me to die'

(52) hit *doth* me for fere *swete* (c.1384 Chaucer, House of Fame II, 534 [ibid.:2257]
'it makes me sweat with fear'

(53) they … *did* hem bothe *for to come* To the paleis (c.1390 Gower, C.A. (Morley) V p.245 [ibid.]
'they … made them both come to the palace'

(54) this secret Will *force* him *think* I have pick'd the lock (1611 Shakesp., Cymb. II, ii, 40 [ibid.:2279-80])

(55) *Force* me to keep [*sic*, i.e. not italicised by Visser] you as a prisoner. (1611 Shakesp. Winter's T. I, ii, 52 [ibid.:2280])

(56) ȝoure surfete … *gers* ȝow *die* (c.1400 Wars Alex. 4441 [ibid.:2259])
'Your surfeit causes you to die'

(57) Til Gregory *gerte* clerke *to go* here *and preche* (c.1377 Langland, P. Pl. B15, 435 [ibid.:2258-59])
'Till Gregory made clerks go here and preach'

(58) By the helpe of a great tumult in the lower towne, hee *got slide* some troopes into the enemies intrenchments (1647 W. Browne tr. *Gomberville's Polexander* iv. v. 339 [*OED*, get, *v*., s.v. 30.a])
'With the help of a great tumult in the lower town, he got some troops to slide into the enemies' trenches'

(59) I … could not *get* him … *to do* it. (1601 Shakesp. Tw, N. III, iv, 125 [Visser 1973:2259])

(60) And when Alexander saw that þay walde one na wyse speke wit hym, he *hadd* a certane of his knyghtes *nakne* þam & *swyme* ouer þe water to þe castell. (1440, *Prose life of Alexander* [Corpus of Middle English Prose and Verse; also, with less context, *MED*, s.v. haven, v. 10.(a)])
'And when A. saw that they would in no way speak with him, he had one of his knights strip naked and swim over the water to the castle'

(61) I haue a sone þat me ys dere, / That shall be eyre of all my lande. / I wille ye *haue* hym *to understand* / And to teche hym in all manere, / Lyke as he thyne owne were. (late 15th C, Hue de Rotelande, *The Lyfe of Ipomydon* [Corpus of Middle English Prose and Verse])
'I have a son who is dear to me, / who shall be the heir of all my country / I want you to make him understand / and to teach him in all ways, / as if he were your own'

(62) Ben. [*sic*] Johnson … *makes* a Foreigner … *admire* the desperate Valour of the bold English (1712 The Spectator no. 527 [Visser 1973:2262])
You *make* me *for to laugh* (1173 Goldsmith. She Stoops 3 [ibid.])

(63) Then gan the cunning thiefe *perswade* us *dye* (1590-6 Spenser. F.Q. I, 9, 29 [ibid.:2284])

(64) Yet saw he not a reason to *perswade* him *to let* Israel go (1579 W. Wilkinson, A Confutation of Certain Articles Deliuered Unto the Familye of Love 6 [ibid.])

I suggest that up until c1800 bare infinitival causatives were in some kind of competition with *to*-infinitival ones, choosing one or the other infinitival strategy resulting in subtle meaning differences. Since competition between two constructions that are adjacent in the conceptual space is not uncommon in language (see e.g. Croft 2000:163) this suggestion has some inherent plausibility.

There is also some positive evidence for the idea that the distinction between bare and *to*-infinitive was sometimes blurred, namely, parallel manuscripts where one version has a bare infinitive, the other, a *to*-infinitive. Consider the following eME example provided by Fischer (1996:261-62) from the MS Roy.17A XXVII version of *Juliana*, one of the Saints' Lives — MS Bodl.34 has a bare infinitive (translation mine):

(65) And ich hit am þt *makede to ontenden* ierusalem. & godes deore temple to driuen [*sic*, i.e. no italics] al to duste (M1 *Seinte Iul*.:35)
'And it is me that made Jerusalem burn and (caused) God's glorious temple to be turned all to dust'

In line with the idea that there was a stage in which the distinction was not always sharp Fischer (2000) schematises the first step of the grammaticalisation of English *to* (as well as Dutch *te*) as in Fig. 2, below. Based on convincing evidence such as strengthening by *for*, loss of semantic integrity (in the sense of Lehmann (1985)) and the occurrence of *to* after prepositions other than *for*, Fischer argues that the English development started right after OE (2000:156-8). In Fig. 2 *α* represents the phonological pole of the infinitive marker *to*; *x*, the primitive purposive semantic pole; *y*, the infinitive marking function:

$$\frac{\alpha}{x} \quad > \quad \frac{\alpha}{xy}$$

FIGURE 2. FIRST STEP IN THE GRAMMATICALISATION OF ENGLISH *TO* (AND DUTCH *TE*; ADAPTED FROM FISCHER 2000:155)

The isomorphism principle (e.g. Haiman 1980) predicts that this situation, with a dual role for *to*, [[A]/[XY]], will not be stable. And indeed, there is evidence that the development was moving towards increased isomorphism, with a separate (phonologically reduced) form of *to* (*te* or simply *t* attached to the infinitive) coming into existence next to the fuller form *to*. If the process had continued in the direction it was going, the outcome would be such that the reduced form was associated with the infinitive marker as opposed to purposive function: i.e. reduced [[B]/[Y]] next to full [[A]/[X]]; see the last stage in Figure 3, below, where *β* stands for "the reduced signans of *to*" (Fischer 2000:155). Fischer does not mention that in order to get from the right hand stage of Fig. 2 to a neat one-form one-function situation of [[A]/[X]] and [[B]/[Y]] the development would have had to pass through a stage of variation, in which the two functions were sometimes but not always represented by two different forms:

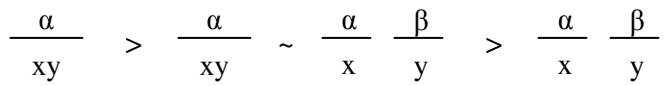

FIGURE 3. (PROJECTED) REST OF THE GRAMMATICALISATION OF ENGLISH *TO* (AND DUTCH *TE*; ADAPTED FROM FISCHER 2000:144)

Fischer argues that whereas Dutch went pretty much all the way towards the stable isomorphism represented by the rightmost state in Fig. 3, English, once it had reached the intermediate situation in Fig. 3, resolved the instability in another way, i.e. by going back to the earlier isomorphic relation of the left-hand stage in Fig. 2 (cf. 2000:155).[16]

The evidence for her claim is strong. All four of the grammaticalisation characteristics mentioned above disappear. For instance, *for to*-infinitives rather quickly disappear in the eModE period (Fischer 2000, see especially Table 1, p.156). In addition, there are other indications of the "renewed, semantic independence of *to* before the infinitive" (Fisher 2000:158). First, the 14th C. sees the rise of split infinitives. This is the opposite of Lehmann's (1985) notion of "coalescence", or the tendency for a previously independent form to become fused together with another form (cf. English *going to* > *gonna*). Second, English *to* does not undergo reduction of scope (Lehmann's "condensation"); this in contrast to Dutch *te*, which in cases of conjoined infinitives must be repeated. (However, Tabor & Traugott (1998:240-4) have argued that scope reduction is not a valid parameter of grammaticalisation, and Traugott (2001) explicitly criticises Fischer on this count.) Third, Fischer claims that in contrast to Dutch *te*, English *to* did not undergo semantic attrition (another of Lehmann's parameters). One piece of evidence she adduces is that Dutch *dreigen* 'threaten', which takes a marked infinitive, allows inanimate or expletive *it* subjects, whereas with English *threaten* that is problematic. The reason lies in the relatively strong purpose sense present in *to* but absent in *te* and the fact that only animates can act purposefully (Fischer 2000:159):

(66) Het dreigde te gaan regenen, toen ik het huis verliet.
?'It threatened to rain, when I left the house' (Fischer 2000:160)

This example constitutes only weak evidence, at best, for Fischer's claim: when asked, native speakers of English generally feel that this sentence is perfectly grammatical if

[16] Fischer (p.c.) makes the plausible suggestion that there are some exceptions, e.g. it is not easy to see how the *to*-infinitive after *seem* should be semantically motivated.

changed to a past progressive *It was threatening to rain…* Fischer (p.c.) is aware of this problem.

An important question concerns the exact way in which speakers were able to go back to the [[A]/[X]] state-of-affairs. Fischer does not explicitly discuss this. One might suggest a scenario on which [[B]/[Y] and/or [[A]/[XY]] underwent a change back to [[A]/[X]], under the influence, perhaps, of more lexical uses of *to*. This is problematic, not least because due to the pronounced semantic difference the usage-based model (e.g. Bybee 1985, Langacker 1987, Croft 2000, Cruse & Croft 2003; see my Ch.4 for a description) would predict only a very weak connection, if any, between purely prepositional *to* and *to* before an infinitive, rendering influence highly unlikely.

There is a more plausible reconstruction, which is in line with Fischer's claims elsewhere (especially 1996) as well as with the insight that historical change is gradual. It hinges on the idea that the development represented by Fig. 2 must have proceeded through an intermediate stage of variation as well:

$$\frac{\alpha}{x} \quad > \quad \frac{\alpha}{x} \quad \sim \quad \frac{\alpha}{xy} \quad > \quad \ldots$$

FIGURE 4. FIRST STEP IN THE GRAMMATICALISATION OF ENGLISH *TO* , TAKING GRADUALNESS INTO ACCOUNT

Fischer (1995) deals with lME and argues that there are clear functional differences between the two infinitival modes. Fischer (1996) shows that in eME, too, the two strategies never collapsed completely (for causatives cf. especially pp.260-64). The implication is that the rightmost stage in Fig. 4, where it is left blank, does not involve the disappearance of [[A]/[X]] but, instead, the intermediate stage in Fig. 3. Thus, throughout the Middle English period, there was at least some degree of continuity in the distinction between the two infinitival modes. (Note that this proposal does not necessarily imply that [[A]/[X]] remained *exactly* the same throughout, semantically; it only means that there was continuity in the development).

This reconstruction can be related to grammaticalisation theory. The first proposal, on which *to* before infinitives went back to a more lexical meaning under the influence of more lexical uses, would pose a challenge for the unidirectionality hypothesis (see e.g. Hopper & Traugott 1993:7). My alternative interpretation of Fischer (2000) does not. It is simply a case where more grammaticalised structures cease to be used, leaving behind the earlier form-function pairing.

The "reversed" grammaticalisation in English is highly relevant for the elimination of the competition between infinitival complementation strategies in causatives. As *to* went back to its close association with purposive semantics, to use Fischer's terminology, some causatives became increasingly incompatible with this mode, while for others it became ever more appropriate, at the expense of the bare infinitive. In both cases the more marginal complementation type eventually died out. This is in line with Geeraerts's (1997) view that prototypical meanings tend to be more stable diachronically than peripheral ones.

The question arises as to which causatives are most compatible with purposive meaning. *Force*, *get* and *persuade* are obvious candidates: all prototypically involve one human being intentionally inducing another to do something. The act of inducing has a clear sense of purpose to it. *Have* might seem to be a problem in this respect, as it, too, describes intended inducive causation yet takes a bare infinitive. However, this construction portrays a situation in which the causee is "already in the bag" (Duffley 1992, echoing Wierzbicka 1988:241-42). In that respect the causing event might be said to have a reduced element of purpose, since the result is taken for granted. *Make* is not a problem either: it freely occurs with nonhuman causers, i.e. it often describes situations in which there is no element of purpose.

Cause is more awkward. It is not prototypically used with animate causers, yet it features a *to*-infinitive. Fischer (2000), like Duffley (1992), suggests that the bare infinitive has one more or less well-circumscribed function, the *to*-infinitive, another. Foregrounding the idea of the (non-)identity of tense domains she analyses *to* as a "shift-of-tense element" (Fischer 2000:162), "movement away from the time of the main clause" representing a kind of "'direction'" (ibid.). This is a slight rephrasing of her earlier suggestion that *to* went back to purposive meaning, but a significant one, since the more general meaning of 'absence of unity of time' would allow one to incorporate *cause* (which is typically indirect). Furthermore, if in nonpunctual causation the interval between the *inception* of the causing event on the one hand, and that of the caused event, on the other, is analysed as a kind of shift-of-tense, then *get* and *persuade* are also accommodated.

A semanticist would object to the suggestion that purpose and direction essentially form a single meaning: it is hard to come up with a definition in terms of necessary and sufficient conditions of this meaning, such that the distribution of bare v. *to*-infinitive could be straightforwardly predicted. Consider in this connection ex. (8), above, which can only be made to fit the absence of purpose/direction function associated with the bare infinitive by means of some sophisticated argumentation.

In addition, the usage-based model suggests that linguistic forms that frequently cooccur with certain specific meanings will become associated with those meanings, even if (one is prepared to believe that) there should be a higher-level schemas categorising those more specific meanings. In concrete terms, even if there existed schemas along the lines of [NP_S-V-NP_{DO}-STEM] and [NP_S-V-NP_{DO}-INF] (the lower clause event in the former being associated with an absence of "shift-of-tense", in the latter, with the presence thereof), or even [STEM] and [INF], then actual usage-events would still be expected to give rise to lower-level constructions such as [[NP_S-CAUSE-NP_{DO}-INF] / [NP_S' INDIRECTLY AND UNINTENTIONALLY CAUSES NP_{DO}' TO CARRY OUT/UNDERGO INF']].[17] In fact, Croft (2002) implies that low-level constructions such as this are primary and that the kind of highly abstract bare or *to*-infinitival schemas presented above may not exist at all.

Abandoning, then, Fischer's monosemy approach I suggest that the *to*-infinitive in causatives (and elsewhere) had, and has, *several* (related) functions, the bare infinitive, others. In the case of causatives the functions I have in mind are, respectively, the lower and higher values of the extended binding hierarchy. An advantage of this polysemy view is that if one assumes that absence v. presence of infinitival marking is iconically motivated such that linguistic distance mirrors conceptual distance, then the extended binding hierarchy prevents the reduction of conceptual distance to temporal distance.

The gist of the present account, that the prototypical meaning of periphrastic causatives gradually came to resist the least compatible infinitival strategy once the partly blurred distinction between them started to redefine itself, would be supported if it could be shown that there was some degree of consistency in infinitival marking throughout the period in question — at least for the constructions that take a *to*-infinitive in PDE. (If high token frequency has been a factor in constructions moving away, over time, from the *to*-infinitive, one would not necessarily expect the historical data for *have* and *make* to reflect their present-day complementation strategy, but provided that no radical semantic changes have occurred it would be surprising to find that the other constructions under consideration once used to prefer a bare infinitive.)

Causative *make* already existed in OE with a *that*-clause complement (see *OED*, make, *v.*1, s.v.52) so one would expect the *to*-infinitive to be frequent in the early

[17] In this notation the part left of the slash represents the formal dimension of the construction, the right-hand part, its semantics. The semantic representation is possibly too schematic: in line with my Ch.2, on the potential polysemy of periphrastic causative *make*, *cause*, too, may have several (micro)senses.

stages, since that is plausibly analysed as a compacted variant of the construction with a *that*-clause complement; see also Fischer's statement that "for early ME (…) *to*-infinitives and *that*-clauses are semantically similar" (1996:264). Causative *have* comes in some two-and-a-half centuries later — when the differentiation between the two strategies is getting sharper again —, and is not preceded by a *that*-clause complement construction. For this construction one would therefore not necessarily expect a stage where the *to*-infinitive was much more dominant than the bare infinitive. The problem for this construction is the scarcity of examples (cf. Ch.3).

Visser's survey includes some statements regarding preferred infinitival modes of *cause, force, get, have, make* and *persuade*:

Periphrastic causative	Preferred infinitival strategy
cause	ME/ModE: both; PDE *to*
force	before 1620 usually bare; later *to*
get	always *to*
have	classification problematic (see main text) in §2073, which has the highest proportion of real examples, no statement but examples of both modes until the beginning of the eModE period; bare afterwards
make	both; "later ModE": bare
persuade	usually *to*

TABLE 5. INFINITIVAL PREFERENCE OF PERIPHRASTIC CAUSATIVES ACCORDING TO VISSER (1973:2256-84)

There are three problems associated with Visser's study in this connection. First, it is not based on the kind of systematic corpus research current historical linguists would tend to carry out before making such statements. Second, it is not clear whether Visser bases these statements solely on the examples he cites, or whether he took more data into account. Third, his lists of examples are known to contain errors of various sorts. As I mentioned in Ch.4, Denison (1985:50-1) criticises Visser's classification of various tokens of *do*, cf. further Ch.3 for some criticism regarding Visser's section on *have*-based constructions with infinitival complements (1973:2265-70).

Fischer (1995) includes some useful statistics on *cause* and *make*. Her numbers for Chaucer's oeuvre and the Paston Letters are combined in Table 6, which also collapses her figures for infinitives marked by *to* and *for to*:

	bare Inf	(*for*) *to*-Inf	total
cause	1[18] (1%)	89 (99%)	90 (100%)
make	127 (47%)	143 (53%)	270 (100%)

TABLE 6. INFINITIVE MARKING IN PERIPHRASTIC CAUSATIVE *CAUSE* AND *MAKE* IN CHAUCER AND THE PASTON LETTERS (ADAPTED FROM FISCHER 1995:28-9)

I searched the Helsinki Corpus for examples of periphrastic *cause*, *get* and *make*. The results are presented in Tables 7-9 below:

	bare Inf	(*for*) *to*-Inf	total
HM3	- (0%)	1 (100%)	1 (100%)
HM4	- (0%)	11 (100%)	11 (100%)
HE1	- (0%)	39 (100%)	39 (100%)
HE2	- (0%)	52 (100%)	52 (100%)
HE3	- (0%)	28 (100%)	28 (100%)
total	- (0%)	131 (100%)	131 (100%)

TABLE 7. INFINITIVE MARKING IN PERIPHRASTIC CAUSATIVE *CAUSE* IN THE HELSINKI CORPUS

	bare Inf	(*for*) *to*-Inf	total
HE1	-	1 (100%)	1 (100%)
HE2	1 (17%)	5 (83%)	6 (100%)
HE3	-	7 (100%)	7 (100%)
total	1 (7%)	13 (93%)	14 (100%)

TABLE 8. INFINITIVE MARKING IN PERIPHRASTIC CAUSATIVE *GET* IN THE HELSINKI CORPUS

	bare Inf	(*for*) *to*-Inf	total
HM1	8 (29%)	20 (71%)	28 (100%)
HM2	29 (76%)	9 (24%)	38 (100%)
HM3	26 (47%)	29 (53%)	55 (100%)
HM4	26 (32%)	56 (68%)	82 (100%)
HE1	21 (51%)	20 (49%)	41 (100%)
HE2	50 (70%)	21 (30%)	71 (100%)
HE3	61 (84%)	12 (16%)	73 (100%)
total	221 (57%)	167 (43%)	388 (100%)

TABLE 9. INFINITIVE MARKING IN PERIPHRASTIC CAUSATIVE *MAKE* IN THE HELSINKI CORPUS

These results broadly support the proposed reconstruction. The constructions taking *to*-infinitives today do so, too, in ME, at least predominantly. *Make* started out with a high proportion of *to*-infinitives, as expected if it is a compressed form of the causative *make* + *that*-clause construction. While the high number of bare infinitives in

[18] Fischer notes that other MSs have a nominal complement here (HF 40), which on the ground that *cause* "never has the bare infinitive (…) seems the more correct" (1995:30, n.1).

my HM2 data is probably just a coincidence it seems clear that by the start of the eModE period the marked infinitive gradually became dispreferred. As for *have*, there is simply not enough data to draw conclusions from, and Visser's impressions are potentially particularly unreliable for this construction. Visser's claim about *cause* in ME might seem slightly problematic but it is contradicted by Fischer's and my data, which suggest that *cause* also behaves as expected, predominantly taking a *to*-infinitive throughout. So, it seems, does *get*, although the numbers are too low to be of true significance. Visser's statement for this construction provides some support. His claim about *persuade* also goes in the direction one would predict.

There is one little glitch: Visser's suggestion that *force* preferred the bare infinitive before 1620. Visser lists 12 examples from before 1620, 8 (67%) of which feature a *to*-infinitive. Now while this is too few to warrant strong conclusions, he may have based his claim on a larger collection of examples. The *OED* lists 4 tokens from before 1620, only 1 of them with a bare infinitive (force, *v.*1, s.v. 4.a; this example is also mentioned by Visser). Further corpus research is in order here to determine the extent to which Visser's impressionistic statement is accurate.

Zooming in on the second tier of explanation, frequency, I suggest that in the case of *make* its high token frequency (see Fischer's and my statistics) reinforced the semantically motivated preference for the bare infinitive. The erosion of the infinitival marker in causative *make* is parallelled by the phenomenon of "conjunction contraction", mentioned in passing by Fischer (1992b:318). This is the process whereby e.g. English *wanna, gonna, bounta, gotta* were derived from *want to*, etc. (Fischer does not explicitly link this process to frequency, but her general theoretical stance is compatible with it.)

Frequency may have played a similar role in *let* — which I am not primarily concerned with here. This argument cannot be made with the same confidence for *have*, which has always been rather infrequent. Still, given that strictly speaking every usage-event provides an occasion for reduction processes to take place, the bare infinitive in PDE may still be to some extent due to repeated use. More important is the date of origin of periphrastic causative *have*. When it arose, in the early fifteenth century (see my Chapter 3), the process of semantic redefinition of bare v. infinitival complements had just started, and was gaining momentum. Thus, in this case presumably there was pressure towards the bare infinitive from the outset.

4.2 Why did the change happen *when* it did?

I have already gone some way towards answering the question as to why the regulation process should have happened when it did. The start of the regulation process in causation should be seen in the light of the beginning of the redefinition of the difference between the bare and *to*-infinitive in English, at the end of ME. One must be careful with this argument, in that it is not simply a case of a general development having an impact on periphrastic causatives; these constructions are very much *part* of the development in question. Yet, as a construction class they are only one among the classes affected. (The perception verbs are another class: the examples of *feel*, *hear* and *see* in Visser (1973) and the *OED* suggest that a parallel process of regulation occurred there.) On the usage-based model it makes sense to suggest that developments in other construction classes impinged on causatives, the changes there in turn reinforcing the more general processes.

As for the *ultimate* cause of the redefinition process, which Fischer, borrowing a term from Plank (1979), calls *Ikonisierung*, Fischer proposes two factors. First, in ME *to*-infinitives started to replace *that*-clauses, which according to Fischer "have a tense domain separate from the time of the main clause" (2000:162). In line with Givón (1980) and the argument developed in the present chapter for bare v. *to*-infinitival complementation, I suggest that the function of *that*-clauses cannot be reduced to tense domains alone (cf. also Givón 1990, Ch.13). Assuming, instead, a richer perspective on *that*-clause complementation as against the more highly syntactically integrated type of complementation that is the bare infinitive, I agree that the compacting of *that*-clauses to *to*-infinitives may have been conducive to the *Ikonisierung* of the bare v. *to*-infinitive distinction. It is a weak explanation at best, though, since the replacement of *that*-clauses with *to*-infinitives should be dated mainly to the *early* ME period, as Fischer herself has argued in her (1997c) study (see also Los 1999:89-90).

As for Fischer's second factor, she suggests that the redefinition process, once set in motion,

> was further strengthened by the influx of Latin-type accusative and infinitive constructions (aci) (as in [67]), which again appear in the late Middle English period (i.e. when *to* 'reverted') showing similar 'breaks' in tense between matrix verb and infinitive
>
> (Fischer 2000:163)

(67) I expect him to be home on time.

Again allowing for an appropriately broader perspective on the function of the infinitive marker — tense domains cannot account for (68-9) below, nor indeed for lME examples such as (70-1) (the verb *expect* and the corresponding aci construction are not attested before eModE, cf. *OED* expect, *v.*) — I am convinced that the rise of these constructions was indeed important.

(68) After the heavy rains of the past days I expected them to be full, and they were, a lot fuller than when I had seen them the year before. (BNC EWB 571)

(69) This is not surprising: the military class was more concerned with conspicuous display than with the creation of national wealth, and it would be anachronistic to expect them to have any other outlook. (BNC HWG 1074)

(70) It behoveth by necessite that every thing be ryght as science comprendeth it to be. (Chaucer, Boece 5 pr.3, 130 [Visser 1973:2309])

(71) we knowen þe writer of hem, luke, to ben a phisisien. (Wyclif, Pref. Jer. 7. 160 [Visser 1973:2312)

As an additional factor, I hypothesise that the degree to which the two infinitival modes started to blur into each other's functional territory at some point resulted in too much (potential for) misunderstanding (for a similar suggestion, that confusion only becomes a problem once it arises frequently, cf. Keller's account of the elimination of the homonymic clash between German *englisch*$_1$ 'angelic' and *englisch*$_2$ 'British' (1989:125)).[19] At that point there were two solutions, logically speaking: push the change further towards a clear functional differentiation between [[A]/[X]] and [[B]/[Y]] — the right-hand state in Fig. 3 — or revert to the starting point of a single form, with (something close to) the primitive meaning — the left-hand state. Fischer's explanation as to why English should have gone "back" rather than "further" is related to the semantics of *that*-clause complements and Latin-type aci constructions. It seems to me that frequency may have played a role, too. One may assume that there was continuity in the lineage of [[A]/[X]], i.e. that the development proceeded from the intermediate state in Fig. 4 to the intermediate state in Fig. 3. Fischer (1996) shows that in ME some functional division of labour between the two strategies was in many cases upheld. If one furthermore supposes that [[B]/[Y]] never gained a very strong foothold to begin with, then it would not be surprising that this newer development died out.[20]

[19] This begs the question as to how exactly how much (potential for) misunderstanding there must be for speakers to start employing different strategies. This may be an interesting problem for future work on the usage-based model in relation to diachrony.

[20] To the extent that Lightfoot's (1979) reconstruction of the rise of modals is correct, one might suggest another factor. Modal auxiliaries feature a very high degree of integration with the infinitive (it is hard to think of a modalised situation as representing two events), which is typically bare. Now if they came into existence as a separate class in the 16th C., then they may have had a knock-on effect on causatives, such that the increasing association of *make* and *have* with the bare infinitive, and of the rest, with the *to*-infinitive,

A factor reinforcing the increasing preference of *make* for the bare infinitive may be the obsolescence of certain causatives. The two main ones to have died out right after the end of the ME period were *do* and *gar*. Both were relatively general in their semantics, and assuming that speakers still wanted to refer to causative situations just as often after as before they died out, other causatives must have taken over. Ellegård, referring in particular to the east, suggests that *make* encroached upon the terrain of *do* in the 15th C. (1953:71); at a later point he also mentions *cause* (ibid.:108). His statistics suggest that *do* decreased noticeably in the north as well around the same time (1953:44), though it is hard to determine exactly how much, given the way he presents his data: sample sizes are not in numbers of words but, instead, in numbers of lines of verse, and for prose, numbers of pages. As for the end of the loss of this *do*-construction, Visser (1973:2256-7) and Denison (1993:257) both submit the sixteenth century.

My Ch.4 offers a tentative argument, mainly based on some dialectal evidence, for a connection between *gar* and *get*. I demonstrate that as the use of *gar* gradually petered out, *get* became more frequent. However, Table 8 shows that it did not become *very* frequent — not frequent enough, presumably, for erosion processes to override the binding motivation for the *to*-infinitive. *Make* is different in this regard. Fischer's figures (Table 6) and mine (Table 9) show that certainly from lME it was very common. Semantically it would also have been a good candidate to replace *do*, as its similarly general semantics guarantee compatibility with a wide range of situations.

If *cause* and *make* (the two constructions mentioned by Ellegård) encroached on *do* one would expect to find a noticeable rise in their token frequency from the last ME period of the Helsinki Corpus (HM4), which corresponds more or less to the start of the loss of periphrastic causative *do.* One could thus compare the relative frequencies (N/1000 words) of *cause* and *make* in the last Helsinki Corpus period when causative *do* was still more or less intact (i.e. HM3) to those of the subsequent periods. Unfortunately, this exercise would be meaningless for *cause*: only having arisen in HM3 it is rare in that period virtually by definition. *Make*, which has by then been around for a good while, yields the results presented in Table 10 (which, for reasons to become clear below, includes *cause* as well):

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would be reinforced. From my point of view, however, the critiques of Lightfoot's account (Aitchison 1980, Fischer & van der Leek 1981, 1987, Warner 1983, 1990, Plank 1984, Denison 1990) are too overwhelming to accept that the class came into existence as abruptly as Lightfoot claims. The implication is that the existence of a special verb class long before that may have facilitated the "reversed grammaticalisation" of *to* (whereby the bare infinitive constructions came to be associated more strongly with high degrees of binding, the *to*-infinitive, with low degrees). But this does not really help in explaining why the regulation should have begun at the end of the ME period. I am grateful to David Denison for discussion of this point.

	cause	*make*
HM1	-	.248
HM2	-	.390
HM3	.005	.299
HM4	.051	.383
HE1	.205	.216
HE2	.274	.374
HE3	.164	.427

TABLE 10. RELATIVE FREQUENCIES OF PERIPHRASTIC CAUSATIVE *CAUSE* AND *MAKE* IN THE HELSINKI CORPUS (N/1000 WORDS)

In terms of statistical significance the results for *make* provide some support for the claim that it took over functions of *do*, though this does depend on one's method. If one compares HM3 (when *do* was still common) on the one hand, to HM4 (when it started to get lost) together with the eModE periods (when it had almost or, in the case of HE3, completely disappeared), the chi-square test reveals that the difference is not statistically significant ($p<.05$). However, if one compares the frequency of HM3 to HE3 alone, then a significant difference is obtained ($p<.05$).

One aspect of this issue has not yet been addressed: how to account for the fact that the regulation was completed around c.1800. Data from Viser (1973) and the *OED* suggest that the variable complementation patterns in perception verbs underwent a more or less parallel crystallization, which renders the issue even more interesting. The completion date presents a difficult question, which I cannot at this point answer in any conclusive way. I do have a suggestion, though, as to how one may go about finding an answer.

The present account builds on the suggestion that, from the end of the ME period, *to* underwent a process of *Ikonisierung*. Fischer has supported this claim with two kinds of evidence: first, the disappearance of those characteristics standardly associated with grammaticalisation that had appeared in the preceding centuries; second, some other developments that run counter to grammaticalisation: the rise of split infinitives, the lack of scope reduction of English *to*, and the absence of loss of semantic integrity. Now especially the frequency of split infinitives can be accurately traced in a diachronic corpus: if the increase in the use of split infinitives runs more or less parallel to the disappearance of either of the infinitival modes, depending on the construction at hand, then that would furnish some evidence as to the profile of the regulation process. However, a corpus investigation along these lines would possibly run up against the problem of having to deal with the repressive influence of prescriptive grammarians on split infinitives (see e.g. Taylor 1840:xxx, cited by Hall 1882:17; Alford 1864:171). That is, it may be very hard to

tell to what extent the point of completion of the spread of split infinitives was reached naturally, so to speak, as opposed to having been sped up by the influence of prescriptivism on 19th C. English.

A parallel avenue of investigation would be to study the spread of the Latin-type aci constructions. Again, though, one would have to allow for the possibility that prescriptivism had an influence — positive in this case —, at least to the extent that Visser is right in arguing that the aci's "proliferating in (…) Modern English [was] for a good deal owing to the disposition among learned seventeenth and eighteenth-century writers (and translators) to prefer Latin idiom to vernacular idiom" (1973:2235).

5. A brief note on infinitival strategy in the passive

Infinitival strategies may differ in the passive from the active: *make* takes a bare infinitive in the active but a *to*-infinitive in the passive:

(72) For that violation they can and should be made to pay. (BNC ACS 1047)

Cause, *force*, *persuade* and *get* (which has a marginal passive; see Ch.6) take a *to*-infinitive in both voice constructions.[21] *Have* does not passivise at all. Of the enablement/permission predicates, which are only of secondary importance, *let* is the only one to take a bare infinitive but its passive is restricted to a few fixed phrases such as *let fall*, *let fly*, *let go*:

(73) As the tide did not serve, the anchor was let go. (SIR J. D. ASTLEY *50 Yrs. Life* II. 247 [*OED*, serve, *v*.1, s.v. 24.b])

(74) The name acted as a watchword, and the moment it was pronounced, a well-directed volley of stones was let fly. (JAMES *J. Marston Hall* ix [*OED*, watchword, s.v. 2.a])

Quirk et al. suggest that "[*l*]*et* has an apparent passive in combination with such verbs as *let go* and *let fall*, but these are best regarded as fixed expressions, in which *let* has an auxiliary or particle-like function" (1985:1205).

[21] Mittwoch wrongly observes that *cause* does not passivise. Her example **Prices were caused to rise (by the inflation)* (Mittwoch 1990:119) is indeed very awkward but it would be strained with *make* as well. Now consider e.g. *Essentially, people in their work roles are caused to respond from their unconscious world of internal objects* (BNC CBH 599). The transitivity based account in my Ch.6 straightforwardly accounts for these facts: Mittwoch's sentence scores low on many parameters, e.g. causation type (physical) and individuation of O (3, common noun, inanimate, indefinite nonreferential, abstract, Pl); the human causee in the BNC example leads to higher scores on these parameters.

Duffley (1992) and Fischer (1997a) both offer accounts for (some of) the facts of infinitival complementation in passive causatives. Dixon (1991) addresses the bare infinitive in *let*.

In keeping with the monosemy character of his account Duffley explains the *to*-infinitive in *make* as being in accordance with the 'after' frame of the passive. That is, he argues that the passive is "by its very nature resultative" (Duffley 1992:77) and that therefore representing a causative event from the causee's point of view amounts not so much to focusing on the causative interaction but on the effect. He proceeds:

> Since the infinitive evokes the effect, to represent it as a mere result produced on the patient implies representing it as coming after the operation of producing this effect (= the making), whence the use of *to* to express the before/after relationship between the two events (Duffley 1992:77)

Apart from the obvious criticism, following from the discussion above, that tense domains are but one aspect of the meaning potential of *to*-infinitives in causatives (and elsewhere), the problem with Duffley's hypothesis is that the passive is not necessarily associated with resultative function. Passives may well be dynamic in meaning. Consider Duffley's example, below, where the temporal adverbial *very soon* clearly creates a sense of dynamism rather than stasis:

(75) He was very soon *made to understand* that he was not wanted in that corner of it where old Lingard and his own weak will placed him… (J. Conrad 1921:28 [Duffley 1992:77])

Duffley admits that his suggestion "requires further analysis of the passive voice before it can be considered confirmed" (1992:77).

On standard analyses the passive imposes a construal such that the patient is foregrounded at the expense of the (often non-explicit) agent (Givón 1981:168, cf. also Siewierska 1984, especially Ch.7). Fischer's explanation is more congruent with this. She discusses both cases where the matrix verb is passivised and instances where the infinitive is; here we are only concerned with the former. Referring to Hopper & Thompson's (1980) transitivity parameters volitionality and agency, she suggests that in passives "the subject is never the Agent, therefore scoring very low on this parameter [*sic*; agency and volitionality are apparently treated as one, WBH], and consequently requiring a *to*-infinitive without exception" (Fischer 1997a:121). She elaborates:

> [T]he *direct* link between the events expressed by the matrix verb and the infinitive is broken by the fact that the agent of (…) the matrix verb (…) is missing. Since the "agent" is a direct participant in the process or event described (…), the event is not an event (a completed event) without it: the direct link between subject, verb and object is no longer there.
>
> (Fischer 1997a:121)

There are two problems with this suggestion. First, agency and volitionality as defined by Hopper & Thompson apply to the agent — whether or not the agent is coded as the subject is irrelevant (see especially 1980:252, fn.1). The nature of the unexpressed agent in an example like (72) actually yields high values on both volitionality and agency. Second, from a semantic-pragmatic point of view it is too strong to say that the direct link between the matrix and lower clause events is "broken" by the absence of an explicit agent. Despite the fact that it lacks an overt agent phrase example (72) is appropriately analysed as portraying an action chain *with* an initiator (which may be something like society, as represented, perhaps, by a judge).

Fischer is still thinking in the right direction, though. In the passive, the initiator is backgrounded; therefore, so, too, are those characteristics that would constitute a higher degree of binding. Concretely, the fact that causation is intended is backgrounded if the agent is unexpressed. The absence of an intermediary is similarly backgrounded.

This proposal has an interesting advantage. In cases where the agent is overt (in a *by*-phrase) Fischer's account would imply that there is some pressure towards the bare infinitive, hence one would have to find an explanation for the use of the *to*-infinitive — analogy on agent-less cases, perhaps. On the alternative hypothesis the marginal syntactic status of the *by*-phrase agent corresponds to marginal salience of intendedness and absence of an intermediary party.

The present account also makes sense diachronically. The implication of Givón (1980) is that *to*-infinitival constructions will tend to develop into bare infinitival ones rather than vice versa. (This is not to deny that the latter may also arise directly, especially if there are enough models around in the language.) The data support this scenario. *Cause* and *get* have predominantly featured marked infinitives from the very beginning (see Tables 7, 8 and, less clearly, 6). Moreover, *make* occurred more often with the *to*-infinitive in the beginning (see Table 9 and, to a lesser extent, 6).

The answer to the question as to why it should be that passive *let*, in the idiomatic phrases *let go* etc., is found with the bare infinitive, lies in the very fact that these are idioms. Expressions can only become idioms through frequent usage — and high token frequency leads to erosion. (It would be interesting in this connection to investigate the

phonetic realisation of the infinitive marker of a passive causative such as *be made to* to a less common one such as *be got(ten) to*.)

6. Concluding remarks

The issue of infinitival strategies in English causatives and in other constructions — not accounted for satisfactorily in the formalist literature — has been discussed in a considerable amount of previous functionally oriented scholarship. In certain important respects the present approach is more comprehensive in scope. Compared to Mittwoch (1990) and Duffley (1992) it is more firmly based in the facts of the history of English, and language change in general. As for the historical dimension, compared to earlier work such as Kaluza (1890) and Ohlander (1941) I have taken sides with Fischer (1992b, 1995, 1996, 1997a, 1997b, 1997c and 2000) in arguing that functional factors must be taken into account. Differently from Fischer, I have relied rather heavily on synchronic semantic analysis. And in contrast to all these authors yet adding considerably to the overall plausibility of the present panchronic account, I have followed Givón (1980) in taking a typological perspective.

This approach has yielded new results, most prominently among them an elaborate explanation of the regulation process, whereby the complementation pattern came to be fixed in the way it still is. Another contribution is the set of implicational universals formulated in §3.2, which have not only synchronic but also diachronic implications, and which can be tested. Moreover, given appropriate definitions of binding for different verb classes, they can be multiplied for other infinitival constructions.

This account has relied heavily on insights concerning frequency effects that go back to Zipf's Law, interest in which has been revived in research on grammaticalisation and the usage-based model (see especially Bybee & Hopper 2001). My hypotheses concerning frequency are tentative: in addition to various shortcomings identified in my Ch.4, this is yet another aspect of the usage-based model that calls for precise quantification — essential if the model is ever to move away from the mainly programmatic plane.

Chapter 6. The semantics of causatives: evidence from passivisation

1. Introduction

The first part of the thesis is concerned with the semantics of English periphrastic causatives. Within functionalist linguistics, especially typology, semantic description is moving more and more towards the so-called semantic map approach, where constructions are represented as connected regions on a map representing (universal) conceptual structure (for more details cf. e.g. Croft 2001:92-104, Haspelmath 2003; cf. also my Ch.2). Once a particular function or conceptual space has been defined one could analyse the activity of drawing semantic maps as consisting of two components: firstly, the internal semantic structure of a particular construction (i.e. monosemy v. polysemy; and, in the case of the latter, the boundaries of the various senses in question); secondly, the relations (similarities and differences) between the various constructions, their *external* structure if you will.

My Ch.2, on the semantics of *make*, was primarily concerned with the first aspect, the internal structure of the semantics of causative constructions: it addressed the question as to the psychological status of different uses of the construction. The question was posed and treated with regard to one particular construction but the approach is valid across constructions and languages.

That chapter as well as other chapters of this thesis contain quite a few suggestions regarding the semantics of other English causatives — which of course have a bearing on the second aspect of semantic maps, i.e. defining the overlap and differences between various constructions with a similar function. Knowledge regarding the relevant semantic distinctions between the various causatives will enable one to draw a semantic map; the semantic differences showing up as the occupation of different regions on the overall conceptual space for causation. This exercise is the aim of the present chapter.

Some of the semantic observations made in Ch. 2 were not new: *make* has been described as the most neutral causative by e.g. Dixon (2000:36-7), who also notes that *cause* tends to involve indirect causation. My suggestion in Ch.3, that it construes the act of causation against a background of a sphere of control, i.e. a causer who is in some sense inherently superior to the causee, echoes Duffley's statement that the causer in *have* is construed as having the causee "in the bag" (1992:71):

(1) ??I had my boss give me two days off.
(2) I made my boss give me two days off.

My hypothesis in the Ch.5, that *get* carries accomplishment rather than achievement semantics (at least prototypically) is unprecedented, as far as I know.

In drawing semantic maps of periphrastic causatives I will make use of these observations, but there is more information to consider. Above all, there are semantic typologies of causatives such as Talmy (1976), Song (1996) and Dixon (2000), which were discussed in my introductory chapter. The relevance of these typologies is obvious: the aim of the semantic map approach (at least for Bill Croft, p.c.) is psychological reality or at least plausibility, and so crosslinguistic generalisations are virtually indispensable. In practical terms, however, these typologies give rise to a serious problem: the sheer overwhelming mass of distinctions proposed across the various typologies renders the task of systematically drawing up semantic maps less than straightforward, not least because printed paper is essentially only a two-dimensional medium. A less banal objection is that some parameters mentioned in the literature probably concern only a few causatives. Dixon's (2000) control, for instance, seems more or less restricted to predicates like *feed X* v. *make X eat* and posture predicates like *stand X up* v. *make X stand up* (see my Ch.5). One is hesistant to include distinctions applying only to a handful of constructions in an overall typology of a class of constructions.

The approach chosen here has not been attempted before. It starts from the observation that the available typologies are not obviously capable of accounting for a particular, very conspicuous, difference in syntactic behaviour of causatives: their different degrees of passivisability,[1] which is analysed here, fairly standardly (see e.g. Bolinger 1978, Hopper & Thompson 1980, Keenan 1985, Rice 1987), as a manifestation of a construction's degree of transitivity (cf. Siewierska 1984 for a critical appraisal of this position). Compare, for example, periphrastic causative *make*, which passivises quite readily (ex. (3), below), to *have*, which does not, cf. (4). *Get* is somewhere in between, accepting passive only marginally, cf. (5-6):

(3) Recruits (…) were made to hop on the spot. (BNC CJR 460)

[1] Subscribing to the cognitive perspective on language, I do not intend the term passivisability to be taken literally, i.e. the capability for active predicates to be converted into passives, through some kind of transformation in the generative sense of the term. Instead, in the vein of for instance Hopper & Thompson (1980), Langacker (1987) and Rice (1987), active and passive are seen as different modes of expression, which serve to highlight different aspects of a particular situation. Availability/naturalness/grammaticality depends on the nature of the predicate, i.e. how easily it lends itself to construals that are associated with the two modes.

(4) *Recruits were had to hop on the spot.
(5) ??Recruits were got to hop on the spot.
(6) The agreeableness of a thing depends (…) on the number of people who can be got to like it. (*OED*, likeableness)

In addition, inherently causative 'force' type predicates also passivise easily — interestingly, not only in English but also in various languages where more general causatives are more resistant to passive; see the following examples from Dutch and Spanish. (Ex. (8) features a so-called *Ersatzinfinitiv*, i.e. an infinitive where one would normally expect a past participial complement, cf. also (52-3), below.)

(7) Jan werd gedwongen (om) te vertrekken.
John became forced (for) to leave
'John was forced to leave'
(8) *Jan werd doen / laten vertrekken.
John became do / let leave
(9) Juan fue obligado a salir.[2]
'John was forced to leave'
(10) *Juan fue hecho / dejado a salir.
John was made / let to go
'John was made to leave / let go'

One way to approach the problem of differential passivisability would be simply to compare the semantics of the constructions that do passivise to those that do not, analyse the properties that seem to be responsible for the higher degree of transitivity of the former as compared to the latter, and explain the difference in passivisation with reference to those properties. The problem here is that some causatives are so general that it is hard to pin down their semantics to anything specific. *Make* is the clearest example: it is not uncommonly analysed as consisting of nothing more than a component [+cause], i.e. as merely representing the fact of causation (see e.g. Inoue 1992:132).

The approach chosen here sets out to turn the generality of *make* into a virtue. By carefully analysing and comparing instances of active versus passive *make* in terms of (a revised version of) Hopper & Thompson's parameters of transitivity I will

[2] María Eugenia Vázquez Laslop has pointed out to me that the Spanish passive auxiliary can vary, *estar* and *verse* also being acceptable (cf. *Juan estuvo obligado a salir* 'Juan was (i.e. in a state of being) forced to leave'; *Juan se vio obligado a salir* 'Juan saw himself obliged to leave'). I shall leave aside the question as to whether the *estar* and especially *verse* constructions are "true" passives (compared to the *ser* passive the participial form seems more adjectival), but I would like to note that Dutch displays the same variation: *Jan was gedwongen (om) te vertrekken*; *Jan zag zich gedwongen (om) te vertrekken*. Using *see oneself* is also possible in English, as well as the similar construction *find oneself* (cf. *John found himself forced to leave*). Moreover, English, at least in the more colloquial registers, also allows for the overt distinction between the more "dynamic" and "stative" passive meaning represented by Spanish *ser* v. *estar* and Dutch *worden* v. *zijn*: English uses *get* v. *be* (cf. *John got forced to leave*; for more details on the semantics of the *get*-passive, see e.g. Lakoff (1971), Givón & Yang (1994), Downing (1996)). The present study shall not be concerned with the subtle semantic differences between the various auxiliaries; for English I concentrate on the *be*-passive.

demonstrate what semantic properties go hand in hand especially naturally with passive coding. The idea is that properties of transitivity that feature significantly more frequently in passive than active *make* are likely to be the same properties that are typically present in other causatives that passivise readily, both in English and — because of the crosslinguistic validity of the parameters involved — in other languages. Conversely, properties that are not significantly more frequent in passive *make* than in the active will not be expected to be relevant to a given construction's degree of passivisability. The important underlying suggestion here is that transitivity can be analysed as a semantic/conceptual, as opposed to purely syntactic, phenomenon (cf. Hopper & Thompson 1980, Rice 1987). The passive being associated with increased semantic transitivity, passive *make* will tend to be used for situations which are conceptually highly transitive. These situations will have certain characteristics. And depending on their semantics, I contend, other causatives will be more or less compatible with those characteristics.

Thus, based on the parameters that are found to yield statistically significant differences in active v. passive *make* I will come up with some hierarchies — and corresponding universals — of transitivity/passivisability of causatives. These hierarchies can alternatively be represented as conceptual dimensions, and by associating the various causatives with points/regions on the hierarchies I will be able to draw up semantic maps for these causatives. The limitations of the two-dimensional medium that is printed paper will not be (very) problematic, as the set of parameters found to be relevant is quite small as compared to the sum total of the parameters that were proposed in earlier typologies. In line with the overall focus in this study on English periphrastic causatives, the exercise will concentrate on English causatives, but to the extent that the approach is valid, the hierarchies could also be used for other languages. The same goes for the implicational universals proposed, although this is of course subject to the language in question having a reasonably clear active/passive distinction.

Regarding the possibility of testing the hypotheses against crosslinguistic data, I would urge that this is in fact highly desirable in order to support my conclusions. Careful intralinguistic analysis is a useful basis for discovering crosslinguistic universals (Croft 2001:107) but one expects that in the light of crosslinguistic data a certain amount of fine-tuning may be required: if one focuses on a single language one may easily miss distinctions, i.e. if the different values are coded in the same way in the language under investigation.

It is worth underlining that the universals will be of the implicational type, that is to say, I shall *not* be arguing that certain types of causative verbs will *always* allow passivisation and others *never*; instead, the generalisations will be of the form: if causative construction X passivises, then any other construction that is higher on the scale of transitivity will also passive, but not necessarily ones that are lower on the hierarchy.

In addition, the scope of passive varies for each language, and so the cut-off points between causatives that do and those that do not passivise will not be constant crosslinguistically: languages that allow passivisation of relatively intransitive predicates in general will also be expected to allow passivisation of causatives that are low on transitivity; conversely, languages that allow passivisation of only highly transitive predicates will only have a passive for accordingly highly transitive causatives.

Finally, the investigation concentrates on periphrastic (infinitival) causatives, but since the proposed explanation of their passivisability is purely in conceptual/semantic terms, and because infinitival causatives and other types alike presumably all involve one and the same basic concept of causation, it should in principle be possible to carry over the conclusions to other types of causatives as well.

2. Methodology

My aim here was to find a corpus that would be large enough to get a solid number of examples (i.e. several hundred examples of passive and active *make*) and to modify Hopper and Thompson's (1980) transitivity parameters in such a way that certain interdependencies would be taken into account and that they became more suitable for causatives.

2.1 The corpus

For this study I used the British National Corpus, which I searched by means of the University of Zürich interface.[3] In principle the spoken part of the corpus would have been more desirable than the written part (as the latter will tend to be further removed from everyday language use) but there were practical problems associated with the spoken part. First, the sample size of only about 10 million words, as against 90 million words, would have made it harder to come up with a data base of the size envisaged (specified below). Second, the nature of spoken language, with its breaks, interruptions and unfinished

[3] For more information see http://www.linguistlist.org/issues/13/13-1709.html [21 August 2002].

sentences, is such that speakers' communicative intentions are not always clear. The verb *make* has a great number of different uses, the causative function being only one of them, and a brief look at a small number of examples from the spoken part of the corpus revealed that there was quite a lot of ambiguity. This would have meant that unless guesswork was to be allowed, a number of potential examples would have had to be discarded, rendering the total number of instances even lower.

Passive periphrastic causative *make* is not very common; having made a rough estimate of its frequency on the basis of a small part of the corpus I decided to collect examples from the entire written part. My search string for the passive was *BE made to*[4] (where the capitals indicate that I looked for all forms of *be*); for the active, I searched for *make* in all its morphological guises. Since the verb *make* is very frequent indeed, for the purpose of time economy I restricted my search to one of the subcorpus options that is offered: 'beginning sample'.[5] The subcorpus in question runs to some 21 million words; this size allowed me to find sufficiently high numbers of active and passive periphrastic causative *make*.

The construction of course appears in a wide variety of tense-aspect configurations: simple present, present progressive, simple past, present perfect, past perfect, *will*-future, *be going to*-future and so on. I restricted myself to the simple present and the simple past, taking 100 examples of each of these TA constructions for the active and for the passive, yielding a data base of 400 examples in total. The reason why I chose the simple present and past is that these are the only TA constructions that occurred 100 times (in fact, more often than that; the first 100 unambiguously causative[6] examples were selected). I excluded causative *make* preceded by a modal verb:

(11) Mr Shaw said that a jury's task in awarding damages would be very difficult: "It is probably a unique case, with a unique plaintiff, whom they probably felt shouldn't be made to suffer any more. (BNC A2P 327)

(12) For that violation they can and should be made to pay. (BNC ACS 1047)

[4] It is possible that this search string caused me to miss out on some examples with an adverbial phrase in between *made* and *to*.

[5] The other options are 'middle sample', 'end sample' and 'mixed'. Beginning sample is the most suitable as it features the highest number of texts. Other ways to restrict the corpus (author gender, author age, dialect, etc.) were also considered but rejected as no such restrictions were imposed on the corpus used for the passive examples. The beginning sample restriction was not imposed there either, but this was less likely to skew the results than sex, age, etc., which sociolinguists have shown often play a role in variation.

[6] For an example of ambiguity consider *These safety necessities are cleverly hidden behind panels which were made to look like original military equipment* (BNC CGL 1534), where it is not clear whether *make* is used in its causative or 'create' sense (on the latter interpretation the *to*-infinitive introduces a purpose clause).

The reason for excluding these was the resulting changes in transitivity caused by the modals.[7] The decreased transitivity of exx. (11-12) is purely the result of the modal auxiliary; it is not related to the semantics of the periphrastic causative construction itself — which is what the present study sets out to explore.

2.2 The parameters

Hopper & Thompson's (1980) parameters (see §2.2.1) form the backbone of this investigation, but I have seen fit to modify and add to them in various ways (§2.2.2).[8]

2.2.1 Hopper & Thompson (1980)

Table 1, below, presents Hopper and Thompson's (1980) parameters with their high and low transitivity values:

Parameter	High transitivity	Low transitivity
participants	2 or more participants	1 participant
kinesis	action	non-action
aspect	telic	atelic
punctuality	punctual	non-punctual
volitionality	volitional	non-volitional
affirmation	affirmative	negative
mode	realis	irrealis
agency	A high in potency	A low in potency
affectedness of O	O totally affected	O not affected
individuation of O	O highly individuated	O non-individuated

TABLE 1. HOPPER AND THOMPSON'S PARAMETERS OF TRANSITIVITY (1980:252)[9]

Most of these parameters are self-explanatory, but individuation of O is complex, comprising 6 subparameters, represented in Table 2, below, in their individuated (high transitivity) and non-individuated (low transitivity) values:

[7] Another concern here is that while Hopper & Thompson (1980) only distinguish between realis and irrealis it is not clear to me that a variation of (12) such as *For that violation they* will *be made to pay* is equally transitive as …*they* might *be made to pay*. Intuitively, the higher likelihood of the caused event in the first event would seem to represent higher transitivity. Similar observations may be made for deontic modality; consider e.g. *For that violation you must make them pay* v. *For that violation you may make them pay*. A more sophisticated scale than Hopper & Thompson's may be desirable, drawing on typological work such as Givón's (1980) binding hierarchy proposal. However, this will not be attempted here.

[8] I would like to thank Bill Croft for his advice in this matter.

[9] Hopper & Thompson's practice of representing the participants of a two-participant clause as A and O goes back to Dixon (1979). It is now fairly standard in typology (although some linguists, e.g. Croft (1990, 1991) follow Comrie (1978) in writing P for O) and will be used here as well. It should be noted that although the causee in the passive is actually the subject not the object, the abbreviation O will be used in that connection as well. This is in line with Hopper & Thompson's decision to use these terms irrespective of these participants' syntactic role (1980:252, fn.1).

Individuated	Non-individuated
proper	common
human, animate	inanimate
concrete	abstract
singular	plural
count	mass
referential, definite	non-referential

TABLE 2. SUBPARAMETERS INDIVIDUATION OF O (HOPPER AND THOMPSON 1980:253)

Affectedness of O is not self-explanatory either. It is described by Hopper & Thompson, slightly vaguely, as "how completely that patient is affected" (1980:253); they illustrate this by pointing out that the patient is affected "more effectively in, say, *I drank up the milk* than in *I drank some of the milk*" (ibid.). Example (13), below, also features "complete" affectedness (confusingly also called "total"), while (14) does not:

(13) Jerry knocked Sam down. (Hopper & Thompson 1980:253)
(14) Jerry likes beer. (ibid.)

Now while Hopper & Thompson are less than fully explicit about their notion of affectedness it is sometimes analysed in the typological literature as a complex property, consisting of 2 dimensions. The first has to do with the object itself and concerns the distinction between the causee being affected in his/her/its entirety by the caused event or only in part. Referring to Aikhenvald (2000:158) Dixon states that Tariana makes a morphological distinction between full and partial affectedness: the objects in sentences corresponding to English *You made my house fall down completely* and *They made some woodchips fall* (2000:67) are marked differently. The idea here is that the woodchips are conceptualised against the larger domain of the entire house. The first of Dixon's examples also illustrates the highly transitive value on the second subparameter, which involves not so much the participant acted on but the change-of-state event it is subjected to, specifically, whether that event is completed. The house falling down completely is conceptualised as the natural endpoint of the process in question. By contrast, scratching the surface of the house counts as incomplete affectedness, as one can always do some more scratching. The same goes for making a few woodchips fall.

Causative situations such as the event described by *mow the lawn* show that the twin dimensions of affectedness are very often two sides of the same coin. Indeed, Dowty has proposed an insightful unidimensional account of affectedness, in terms of the so-called "incremental theme" (1991:567-71 and *passim*, see also Hay, Kennedy & Levin

1998, Croft in prep.), which I will follow. The central idea is that the extent to which the lawn has been affected by the mowing (i.e. the area that has been mowed) parallels the extent to which the activity of mowing the lawn is complete. Put differently, the affecting event and the affected object are "homomorphic" (Dowty 1991:567). The incremental theme, labelled "verbal scale" by Croft (in prep.), represents the extent to which the O argument, or more accurately some property of O, has been affected in the event. The property in question depends on the lexical semantics of the predicate. Thus, in the case mowing the lawn it would be the degree to which the lawn has been mowed; in the case of making someone do something, the extent to which one has succeeded in making them comply.

As for the nature of the scale in the case of implicative causatives, the incremental theme/verbal scale has three logical values. The first is full affectedness, which is illustrated by the following example from my collection of BNC tokens of causative *make*:

(15) Having Goldberg in the room with it, as he has been in my life since that first day at college, made me grasp clearly, for the first time, just what it is I have been after, he wrote. (BNC A08 2766)

The second possibility is partial affectedness, i.e. cases where the caused event is seen as somehow incomplete. This is exceedingly rare in my *make* corpus but examples of full affectedness can be manipulated for demonstration purposes, i.e. by adding some degree adverbial:

(16) You made me forget [to some extent]. (BNC AD1 1407)

Given a scale that ranges from not making someone forget at all to making them forget everything around them, this example is somewhere in the middle. In my examples there is only one that lends itself to a partial affectedness analysis:

(17) He is the only pianist I have ever heard who does not make Balakirev's Islamey sound clumsy in places, who does not need to slow down for the middle section of Liszt's Rhapsodie espagnole, and who can play repeated notes faster than a machine-gun can shoot bullets. (BNC BMC 2438)

The plausibility of the proposed analysis depends on how likely it is that the event of making the piece sound clumsy in places is viewed against the background of making it sound clumsy in its entirety.

The third possibility is where it is not so much the event that is not complete, but where the affected O is viewed as part of a larger whole, the rest of which is not affected. An example of this indeterminate category from my data is presented below:

(18) During interrogation some detainees were made to kneel for long periods, in some cases on bottle tops and pebbles, and received severe beatings on their backs, the soles of their feet and hands. (BNC CFH 95)

In interpreting this example some detainees are seen to be affected, while others are not.

The higher end of the scale, associated with full affectedness, is scored 1. Regarding the relative ranking of the partially affected and indeterminate cases, I am not aware of any typological evidence that would suggest higher transitivity for either category. It thus seems best to give them equal scores. Now since complete lack of affectedness is a logical impossibility for implicative causatives — causation implies that the O argument must be subject to *some* impingement — partial affectedness and cases falling into the indeterminate category are both rated 0. We thus get the following partial ordering:

full<partial, indeterminate

2.2.2 Modifications

Hopper & Thompson's (1980) article provides an empirically well-supported list of transitivity parameters along which clauses may vary. Nonetheless, for my purposes their study has an important shortcoming. If instead of comparing sets of clearly contrasting sentences such as (13-14), above, one intends to compare the transitivity of hundreds of clauses it is inevitable that one use some kind of numerical scoring system. The problem with simply assigning scores for Hopper & Thompson's 10 parameters is that there exist certain interdependencies among them, such that a particular score on one parameter will imply a certain score on another parameter. Scoring examples twice or more often for properties that at some level are not conceptually distinct is undesirable. Therefore I grouped interrelated parameters together. This yields the following four "macroparameters":

1. modality (Hopper & Thompson's affirmation and mode)
2. aspect (kinesis, aspect and punctuality)
3. causality (volitionality, agency, affectedness and participants)
4. individuation of O (consists of the subparameters outlined in §2.2.1)

Affirmation and mode are connected in that negative sentences are always irrealis.

To see that kinesis, aspect and punctuality hang together one should for instance consider that a non-action such as liking beer is always atelic and nonpunctual, and that a punctual event (achievement) such as knocking someone down is inherently telic.

Volitionality implies high potency (agency). Hopper & Thompson define agency and volitionality only relative to A, but in causatives O also potentially displays these characteristics, i.e. if human or at least animate. More generally, Os — especially if human/animate — have the potential to put up *resistance* (cf. Talmy 2000:416, 458; see my Ch.2 for some discussion). Overcoming that amounts to increased transitivity. A related consideration here is the increased salience of mental participants as compared to inanimates (cf. Hopper & Thompson 1980:253). This implies that causation where the causer and causee are mental entities is more transitive than causation where both are things (all other things being equal).[10]

In terms of Talmy's (1976, 1985, 1988) four-way classification of causation types (Fig.1, below; cf. also Ch.1), then, a partial ordering presents itself. Physical causation is the least transitive type, as both the A and O participants are inanimate. The inducive type, conversely, is the most highly transitive, featuring as it does an animate causer and causee. Volitional and affective causation are somewhere in between, both of them having one mental and one inanimate participant. In order to distinguish between these types, I tentatively suggest that due to the inherent salience associated with the matrix clause subject position as compared to the lower clause subject, an animate causer is more salient than an animate causee (again, all other things being equal). This yields the following hierarchy:

inducive<volitional<affective<physical

[10] Following common practice in scholarship on causatives I analyse human institutional entities such as companies, schools and governments as human, and thus mental, entities (see e.g. Verhagen & Kemmer 1997:64).

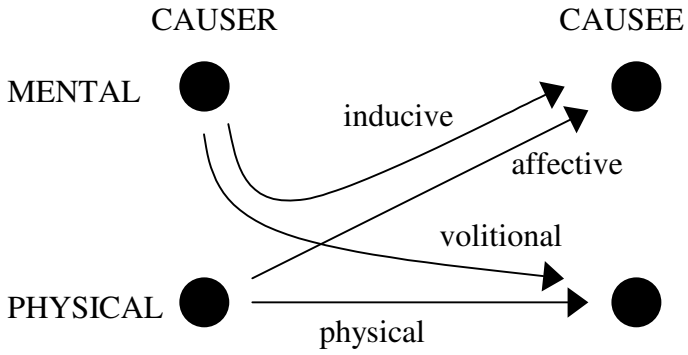

FIGURE 1. TALMY'S TYPOLOGY OF CAUSATION TYPES (AFTER CROFT 1991:167)

To see that the participants and affectedness of O parameters are also connected consider that a unary participant clause implies that the patient is not affected (since there is none). One might perhaps question the usefulness of the participants parameter in the context of causatives, as the presence of a causer and a causee at first sight would seem to imply the presence of 2 participants. This is not strictly speaking true, however:

(19) If people try to apply a "turning off the tap" strategy when they are hopping up and down in scalding water they may merely make themselves feel worse. (BNC CKS 1425)

In this example the causer and the causee are identical. Talmy's concept of the "divided self" is useful here. He introduces this notion to explain the force dynamics of a situation such as the one portrayed by *He thinks he should go* (2000:451): human beings can apparently conceive of the psyche as internally divided, the different parts being in force-dynamic conflict. Prototypical unary causal chains are a logical impossibility, but (19) demonstrates that cases of the divided self do exist; they will be analysed as being lower in transitivity than binary chains. So here we have:

binary<divided self[11]

Hopper & Thompson's individuation of O subparameters also need to be modified. The reason is that these subparameters actually form part of a larger complex of

[11] Accordingly, in a comprehensive study of transitivity (i.e. not just causatives) I would argue for a three-way hierarchy with divided self outranking unary.

properties, which comprises animacy, definiteness and number. Also, a more fine-grained view of the properties involved would tease apart Hopper & Thompson's categories of referential and/or definite NPs and of human or animate participants. The latter distinction is indeed made in the animacy hierarchy as proposed by Silverstein (1976) and Dixon (1979):

1,2<3 pronoun<proper name<human common noun<animate cn<inanimate cn

Note that person and NP type are not part of Hopper & Thompson's system. Taking into consideration number and definiteness as well, one can draw up the following hierarchies (where the distinction between definite and indefinite referential NPs is also made):

1,2<3
pronoun<proper name<common noun
human<animate<inanimate
definite<indefinite referential<indefinite nonreferential
count<noncount
concrete<abstract
Sg<Pl

In principle, these could all be combined into a single hierarchy (with a lattice structure), but for present purposes one may just as well keep them separate.

Hopper & Thompson's (1980) parameters are less than fully appropriate for the present study in several other respects. First, in typologically oriented studies on causatives there has been a lot of debate on "directness" (e.g. Fodor 1970, Jackendoff 1972, Fillmore 1972, Wierzbicka 1975; cf. Fischer 2000:162-3 for some discussion in connection with perception predicates). More recently, Duffley (1992) and Fischer (1995) have also discussed this, though only with regard to English. The reason why Hopper & Thompson left out this property may be that their study is concerned with transitivity in general. At any rate, directness of causation constitutes my fifth macroparameter.

In theory, my analysis of directness of causation would consist of three parameters (see also my Ch.5). The first is unity of time. This concerns the temporal relation between the causing and caused events, i.e. whether they occur (or are conceptualised as occurring) hand-in-hand, or with a discontinuity between them (Fodor 1970:432-3, Wierzbicka 1975:497-9). This is the type of directness relation that Duffley and Fischer are concerned with; Duffley (1992) speaks of "concurrent causation" as opposed to "antecedent causation", while Fischer (1995) refers to unity of time as "identity

of tense domains". The overwhelming majority of my examples features unity of time, but there are some that do not, see e.g.:

(20) Walker also found that none of the 11 pronouns resolved correctly by the original BFP but not by Hobbs were made to fail when the alteration was made. (BNC 898 B2X 831)

Here, the alteration that is referred to as the event causing the computer program to fail clearly precedes the failure itself. (BFP is a computer algorithm designed to carry out pronoun resolution; the cognitive scientist Jerry Hobbs has developed a program with the same function.)

The second relevant distinction concerns unity of space, which is the opposite of a spatial remove between the causing and caused events (Wierzbicka 1975:494-5, also Fillmore 1972:4). Again, most of my examples feature the more transitive value, unity of space, but there are some exceptions:

(21) One of these areas was Russia, especially because the interest that his work had aroused there made him consider the previously unthinkable possibility of a communist revolution occurring in that country. (BNC A6S 604)

(22) CINEMA [*sic*] workers were made to take lie detector tests after thousands of pounds went missing from a 10-screen UCI complex. (BNC CBF 12020)

Example (21) describes the effect that the Russians' reaction to Karl Marx's books had on him, at a point when he was clearly not in Russia. In (22) the cinema workers are presumably told at work to go and take the lie detector test at some place like the police station.

One may raise the question here as to whether unity of time and unity of space should be considered separately or as a single integrated property. There are two good arguments for keeping them apart. First, they are conceptually distinct. Second, although most examples feature unity of time and unity of space at the same time, and although it is also not very hard to find examples of a temporal discontinuity combined with a spatial remove (see e.g. (22) above and (23-4), below), examples (20-21) demonstrate that both types of indirectness can exist without the other — (20) featuring a temporal but not a spatial remove, (21), vice versa.

(23) His North Sea assault gave the environmentalists a powerful and unique spokesman; it made the government sit up and take notice; and it speeded up the long and painful process of making the public aware that there was a very real problem to solve, which was going to involve personal sacrifices. (BNC A7H 1499)

(24) My father made me attend evening lectures for a time on sound, light, and heat — with no effect. (BNC ABL 80)

While unity of time and unity of space are applicable relatively straightforwardly to my corpus, the third parameter is not. This parameter concerns the absence or presence of another causal participant in between the causer, i.e. the A argument, and the causee, i.e. the O argument (see e.g. Jackendoff 1972:28, Dixon 2000:70). If such an intermediary party is absent, the causer transfers force to the causee directly and the event is thus more transitive than if there *is* such an intermediary. For a clear illustration of a tripartite causal chain, consider the following historical example (from 1721-2):

(25) Sir, we will cause a sharper thing make you confess. (Wodrow *Suffer. Ch. Scot.* (1837) II. II. xiii. §5. 456/2 [*OED*, make, *v*.1, s.v. 54.a])

This force-dynamic flow can be schematised as follows:

we → a sharper thing → you

This sentence features the periphrastic *cause*; indeed, it has been observed that this verb typically portrays indirect causation (see e.g. Dixon 2000:37; also Duffley 1992:58-66, although, as observed above, he defines indirectness more or less only in terms of time). Example (25) features a second periphrastic causative verb: *make*. This is not a common pattern in PDE. Sometimes, the intermediary party is described in some kind of instrumental phrase (headed by e.g. *by* (*means of*), *with*, *through*):

(26) I had her lose her temper by sending John over to taunt her (Givón 1975:65)

The speaker did not *directly* make *her* lose her temper. Instead, this was brought about by the intermediary event of John's taunting her. (In certain situations the intermediary cause may be left implicit, the listener having to put it in him/herself, as it were. Thus, if the *by*-phrase in (26) were omitted in a context where the hearer somehow knows that the speaker got John to taunt the referent of *her*, then the hearer may include this intermediary event in his/her conceptualisation of the causal chain.)

The problem in the present study is that in the passive the causer is almost always left out. This renders it very difficult to determine whether there is perhaps a third (implicit) causal participant. To see that this is so, consider the passive version of (26)

presented below as (27), which is admittedly strained but serves to illustrate the point (the causative verb in this case has been changed to *make* since passive *have* would have yielded an ungrammatical sentence):

(27) She was made to lose her temper (Givón 1975:65)

How now, can one be sure what (or indeed who) is the causer? And therefore how is one to decide between presence or absence of an intermediary party? The corresponding active sentence might be (26) but for all we know (27) could also be the passive representation of some direct causal chain:

(28) I made her lose her temper (by taunting her).

For this reason the property of absence v. presence of an intermediary causal party must needs be omitted from the present investigation. As a result too much weight may be shifted toward unity of time and unity of space.

Howard (2001) proposes a fourth parameter, which he calls "connectedness" and which "can be deduced from what Chomsky (1970:218) and Wierzbicka (1975:492) call 'eventive' or 'hidden event' causation" (Howard 2001:8). The idea is that in some cases there is a gap between the causing event as explicitly described by the sentence and the caused event, rendering the action less direct. Howard supports his case by suggesting that "unconnected" chains can only occur with the periphrastic mode:

(29) John's clumsiness caused the door to open / the window to break. (Howard 2001:8)
(30) *John's clumsiness opened the door / broke the window. (ibid.)

"Connected" chains, on the other hand, can also take lexical causatives:

(31) John's clumsiness in shutting the window broke it. (Howard 2001:8, after Yang 1976)

To illustrate the sense in which he considers (31) as connected Howard proposes the following action chain analysis:

a. John shut the window by pressing down hard on one side and then the other.
b. This was a (very) clumsy way to shut a window.
c. The stress on the window overcame the strength of its internal structure.
d. The window broke.

(Howard 2001:8)

Example (29) is unconnected because of the gap in its action chain:

a. John is clumsy.
b. ?
c. The window broke.

(Howard 2001:8)

Thus, the absence of an immediate explicit connection between John's clumsiness and the breaking of the window renders lexical causative *break* impossible.

Intuitively it seems reasonable to suggest that two events that are directly (causally) connected represent higher transitivity than two events which are strictly speaking unconnected. Indeed, a similar idea underlies the parameter of absence v. presence of an intermediary causal party. However, Howard's proposal is problematic in several ways.

First, in certain contexts the purported ungrammaticality of sentences like (30) is not very pronounced. As a humorous reply to the question *Did the wind just break the window?*, for instance, *No, John's clumsiness broke it* would not be that awkward. And there is more empirical evidence against Howard's claim that an unconnected action chain (whatever it may be) cannot be encoded as a lexical causative. Consider example (32), below:

(32) John's love (e.g. for Mary) killed him.

On analogy with his analysis of (31), Howard would presumably analyse the action chain as follows:

a. John loves Mary.
b. ?
c. John died.

In view of the gap one would expect (32) to be ungrammatical. Yet it is not — in fact, it sounds more natural than a periphrastic counterpart such as *John's love caused him to die*.

A second problem is that it is hard, if not impossible, to apply Howard's parameter in a principled way. Compare his action chains, above. There is a strong contrast between the semantically rich — enriched, even — representation of (31) on the one hand, and his bare-bones analysis of (29), on the other. Where, for example, does (31) state that

John pressed down hard on one side and then the other? The window may just as well have had hinges, and supposing there was some wind John may have caused it to break by letting go of the window too quickly. And it gets worse, because the (b) component of the action chain does not deserve to be there at all. Knowledge about good and bad ways of closing windows, after all, is not part of the train of events; instead, it is a piece of frame knowledge (in the cognitive linguistic sense, which goes back to Minsky 1975). Thus, it is not on a par with subevents (a), (c) and (d), and as such should not have been included. Leaving it out, however, renders (a) and (c) much less connected. This raises the question of where to draw the line between connected and unconnected. I suspect that without taking frame knowledge into account very few, if any, events can ever be considered connected.

Because of these empirical and theoretical problems, Howard's connectedness is not included in the present investigation.[12]

The second respect in which Hopper and Thompson's (1980) account leaves something to be desired as regards a comprehensive analysis of transitivity in causatives is that they do not mention the factor "specificity", in the sense of Rice (1987). The significance of this parameter is assessed in the wider context of causatives in general; see below, especially §4.1. Suffice it to say here that since for this parameter *make* is constant across all contexts (it is always minimally specific) there was no point in including it in the analysis of my corpus data.

The third gap in Hopper & Thompson's study, from the point of view of causatives, concerns the presence v. absence of a sphere of control, which is not represented in their list of properties. (I mentioned this notion in passing in section 1, above, for discussion cf. my Ch.3.) Its implications for transitivity are explored below; see in particular §4.2. As causative *make* has a constant value for this property (i.e. indeterminate), it did not play a role in the scoring of my BNC examples.

A fourth shortcoming in Hopper & Thompson's analysis is the absence of the notion of causee resistance, as defined by Talmy (2000a) and discussed in some detail in my Ch.2. Resistance is correlated with transitivity, witness e.g. the variation in case marking on the causee in languages such as the ones studied by Cole (1983). Nonetheless, it will not feature as a parameter in my investigation. The main reason for this lies in the

[12] This discussion of course begs the question as to why (29) and (31-2) are grammatical, while (30) is so only in special circumstances. Comprehensive treatment of this question is beyond the bounds of this study, but I would venture that the subject of *break* must be a force-dynamically capable entity (which is a natural construal for people and certain actions, but not for clumsiness), and that the same goes for *kill* (love, at least in our folk understanding of it, certainly lends itself to a force-dynamic construal, witness e.g. the fixed phrase *the power of love*).

considerable degree of overlap with several other parameters. First consider causality and individuation of O: it is easier to think of human (or at least animate) than of inanimate participants as being capable of putting up variable degrees of resistance. For instance, it is difficult to think of a physical causative situation featuring a *cooperative* third-person, common noun causee. Moving on to the sphere of control, I suggest that in situations where the causer is inherently superior to the causee the likelihood of strong resistance is significantly decreased. Finally, it seems that there is a correlation with aspect such that the causing event will tend to be (seen as) nonpunctual to the extent that the causee puts up a lot of resistance. Another reason for excluding resistance from my analysis is practical: given the gradient nature of the notion it would be hard to devise a satisfactory scale against which to score the examples.

2.3 The scoring system

Every example in my corpus is rated for each of the transitivity properties that make up the five macroparameters modality, aspect, causality, individuation of O and directness. The scales of the latter three parameters were discussed in §2.2. Modality and aspect are not adapted in any way, so modality consists of:

affirmative<negative
realis<irrealis

Aspect comprises the following scales:

action<non-action
telic<atelic
punctual<non-punctual

Most parameters have two values; in these cases the intransitive value receives a score of 0, the transitive value, 1. So an affirmative, realis sentence such as (33), below, is scored 1 on affirmation and mode, while (34) is rated 0 on both:

(33) The damp wind blowing in at the open door made him shiver and he went to wake the others. (BNC A0N 2165)

(34) Sunday nights have always been a problem for the serious cinemagoer, since this is the night that brings out the lads whose parents don't make them go to bed early before a fresh week at school begins. (BNC A6C 1299)

To ensure comparability parameters with more than two possible values, such as causation type (inducive<volitional<affective<physical), also have scales that range from 0 to 1, with equal spacing between the values. Thus, (33), a case of affective causation, is scored .33, while (34), an example of inducive causation, is rated 1. (35), below, features volitional causation and is thus rated .67; (36) receives a score of 0 as causation is of the physical type:

(35) A scion is the growth that arises from an implanted bud or graft, whereas the stock — sometimes referred to as the root-stock — is the host plant that receives the bud or graft, with its own top growth removed so that its sap and energies are made to support the new guest. (BNC CMM 696)

(36) The jacket was very fitted and single-breasted, cutting in sharp at the waist — which made the trousers balloon right out. (BNC A6E 452)

In recognition of the importance of the interrelations between the various properties, the final step of the scoring process is to combine the scores of the related parameters into a single score for the relevant macroparameter. These scores (5 for each example) are again normalised to 1. Representing macroparameter P as consisting of parameters [p_1, p_2, …, p_n] the formula for calculating the score for P is $(s_1+s_2+\ldots+s_n)/n$, where *s* stands for the score on the parameter in question. Thus, (33) is rated (1+1)/2=1 on modality, while (34) scores (0+0)/2=0.

3. Results

Tense/aspect having a bearing on transitivity my data form 2 corpora, simple past (which consists of active and passive subcorpora) and simple present (also with subcorpora for the twin voices). The past and present corpora are considered separately, and also as one single corpus. The results are presented in five different subsections corresponding to the proposed macroparameters. Each subsection gives the absolute numbers (i.e. the total of the scores), the average scores (the mean, median and modal values) and the results of the significance test (i.e. the *t*-test) for the past, present and past+present corpora.

3.1 Modality

	Simple Past				Simple Present				Past+Present			
	total	mean	median	mode	total	mean	median	mode	total	mean	median	mode
Active	98.5	.985	1	1	93.5	.935	1	1	192	.96	1	1
Passive	98.5	.985	1	1	98.5	.985	1	1	197	.985	1	1

TABLE 3. TOTAL AND AVERAGE SCORES OF THE SIMPLE PAST, SIMPLE PRESENT, AND COMBINED CORPORA FOR MODALITY

The scores for active and passive in the simple past are the same so a statistical test is unnecessary. The difference that obtains in the simple present turns out to be significant ($p \leq .05$)[13], and is in the direction that Hopper & Thompson's (1980) study would lead one to predict, i.e. the events captured by the passive sentences turn out to be more transitive than in the active sentences. This difference still obtains if the 2 corpora are treated as one.

3.2 Aspect

	Simple Past				Simple Present				Past+Present			
	total	mean	median	mode	total	mean	median	mode	total	mean	median	mode
Active	98.68	.987	1	1	62.58	.626	.67	.67	161.26	.806	.67	1
Passive	98.35	.984	1	1	66.32	.663	.67	.67	164.67	.823	.67	.67

TABLE 4. TOTAL AND AVERAGE SCORES OF THE SIMPLE PAST, SIMPLE PRESENT, AND COMBINED CORPORA FOR ASPECT

There is no significant difference for the simple past, but there is a highly significant difference for the simple present ($p \leq .01$), which, again, is such that the passive causatives are on the whole more transitive than the active ones. If the simple past and simple present corpora are analysed as one big corpus, the difference is not significant.

[13] I follow the convention of referring to a significant difference at the $p \leq .05$ level as "significant", $p \leq .01$ as "highly significant" and $p \leq .001$ as "very highly significant" (see e.g. Butler 1985). In cases where the difference corresponds to one's expectation on the basis of Hopper & Thompson (i.e. if the passives score higher than the actives), the *t*-test is one-tailed; if the results oppose the hypothesis, two-tailed.

3.3 Causality

	Simple Past				Simple Present				Past+Present			
	total	mean	median	mode	total	mean	median	mode	total	mean	median	mode
Active	79.57	.796	.78	.78	77.27	.773	.78	.78	156.84	.784	.78	.78
Passive	90.65	.907	1	1	90.19	.902	1	1	180.84	.904	1	1

TABLE 5. TOTAL AND AVERAGE SCORES OF THE SIMPLE PAST, SIMPLE PRESENT, AND COMBINED CORPORA FOR CAUSALITY

There are very highly significant differences ($p \leq .0005$) across the board here, conforming to the implications of Hopper & Thompson (1980).

3.4 Individuation of O

	Simple Past				Simple Present				Past+Present			
	total	mean	median	mode	total	mean	median	mode	total	mean	median	mode
Active	76.7	.767	.86	.86	63.75	.638	.71	.71	140.45	.702	.71	.86
Passive	70.09	.701	.71	.86	55.49	.555	.57	.43	125.58	.628	.64	.86

TABLE 6. TOTAL AND AVERAGE SCORES OF THE SIMPLE PAST, SIMPLE PRESENT, AND COMBINED CORPORA FOR INDIVIDUATION OF O

Here, the differences all run counter to what Hopper & Thompson may lead one to expect. For the simple past the difference is significant ($p \leq .05$), for the simple present it is almost highly significant (approaching $p \leq .01$) and for past and present taken together it is even very highly significant ($p \leq .001$).

3.5 Directness

	Simple Past				Simple Present				Past+Present			
	total	mean	median	mode	total	mean	median	mode	total	mean	median	mode
Active	92	.92	1	1	96.5	.965	1	1	188.5	.93	1	1
Passive	86	.86	1	1	98	.98	1	1	184	.9	1	1

TABLE 7. TOTAL AND AVERAGE SCORES OF THE SIMPLE PAST, SIMPLE PRESENT, AND COMBINED CORPORA FOR DIRECTNESS

The differences here all fail to pass the test for significance.[14]

4. Implications: universals of causatives

In interpreting the results of the statistical analyses one must distinguish between those macroparameters that are related to the semantics of the causative construction and those that are purely a function of the tense-aspect construction and other higher-level factors such as negation. This is important because the goal of the present study is to shed more light on the semantics of causative constructions, and not to investigate the effects, in terms of transitivity, of constructions such as the English Simple Past, Simple Present and Negative. Affirmative v. negative and realis v. irrealis are not properties of the causative construction and so modality will not be considered any further.

My semantic analysis of the English causatives is based on evidence from the FLOB Corpus. I refer to Ch.5 for details; here I simply use the conclusions.

4.1 Aspect

Aspect is relevant, because there is a distinction between causatives whose causing event is (typically) punctual and those whose causing event is (typically) non-punctual. *Make* almost always portrays causation as instantaneous, while e.g. *get* does not. This can be illustrated by the natural collocation of *get* with the adverb *finally*, which is very awkward with *make*, at least in the interpretation where the causing event is interpreted as having taken some considerable amount of time (cf. also Ch.5):

[14] If one were to treat unity of time and space as a single parameter with 2 values (unity of time and space v. absence of unity of time and/or space; see §2.2.2 for an argument against this approach) then the difference would not be statistically significant either.

(37) The police got him to confess to the crime. (BNC HXG 799)[15]
(38) The police finally got him to confess to the crime.
(39) ??The police finally made him confess to the crime.

(39) can only be readily interpreted if it is taken to mean that the police officers in question made the referent of *him* confess after they had taken care of some other matters first.

Nonetheless, there are some examples of causative *make* where the causing event seems more naturally analysed as non-punctual, e.g.:

(40) Carrying to the block a lump so heavy that it made his shoulders ache, he jerked his head towards the end of the stables and asked, panting: "What's down there?" (BNC ACV 1652)

One's shoulders do not usually start to ache from one moment to another, but rather there is a gradual transition from no pain whatsoever via some discomfort, to pronounced pain. (On the basis of the examples I have seen I suspect that *get*, by contrast, never describes punctual causation; a comprehensive corpus study would be required to (dis)prove this.)

As for the question as to whether aspect plays a role in passivisability/transitivity, and is thus a valid parameter in this respect, my statistical results suggest that it may indeed. The evidence is not overwhelming, however: it is only in the simple present that a statistically (highly) significant difference was found such that the passive is associated with higher transitivity in terms of aspect. My findings for the simple past and the combined past and present corpora admittedly do not support the proposed universal, but they do not point in the reverse direction either. A larger-scale corpus study could give a more conclusive answer. For now, I suggest that the contrast between *make* and *get* in terms of passivisability be considered in the light of aspect. Moreover, I hypothesise that the evidence amounts to Implicational Universal 1 stated below:

Implicational Universal 1:
If a language has passivisable causative constructions that (prototypically) describe non-punctual causation, then punctual causatives are also passivisable (all other things being equal).[16]

[15] Note that while periphrastic causative *make* has a bare infinitive, *get* features a *to*-infinitive; in Ch.5 I argue that this is related to the punctual v. non-punctual distinction.
[16] I have considered the possibility that the difference in aspect was due not so much to punctuality but telicity; however, punctual causation is sufficiently more frequent in the passive than the active that it is legitimate to state the universal in the way I did. The atelic value, incidentally, is attested in examples where the causing event is not complete but, instead, habitual or inherent, as in *She makes me discover things in myself I didn't know were there* (BNC A08 2018).

In view of the prototypical aspectual meanings of *make* and *get* I propose the semantic map represented by Figure 2, below, where the left half of the space makes up the more transitive end of punctual causation, the right, the less transitive area of non-punctual causation. *Force*, *have*, and *persuade* are also included; to the extent that collocation with adverbs such as *finally* or *gradually* is a reliable indicator of nonpunctuality (cf. also §§3.1.4-3.2 of Ch.5), *force* and *have* pattern with *make* in typically portraying punctual causation, while *persuade* is like *get* in this respect. *Cause* is also represented; combining, as it does, quite happily with punctual adverbs such as *instantaneously* but apparently being rather resistant to adverbs indicating gradualness (cf. also Ch.5).

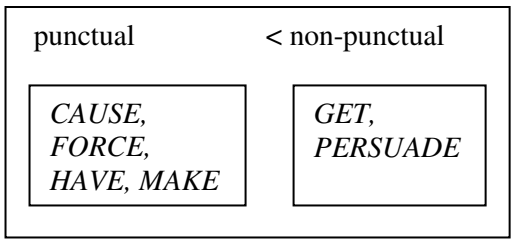

FIGURE 2. SEMANTIC MAP REPRESENTATION OF SOME ENGLISH CAUSATIVES ON THE ORGINISATIONAL PRINCIPLE OF PUNCTUALITY OF THE CAUSING EVENT[17]

One will realise that "all other things being equal" is an important stipulation in Implicational Universal 1 (as in the proposed universals to follow): causatives may differ in other respects than just aspect, and these other factors may have an impact on transitivity as well. Consider *persuade*; this construction is readily passivised (far more easily than *get*, at any rate):

(41) He was persuaded to confess to the crime.

Yet *persuade*, too, typically describes non-punctual causation: under normal circumstances an act of persuading consists of a discussion in which one party eventually manages to get the other party to do whatever it is that the first party intended. I noted above that it collocates happily with *finally*:

(42) The police finally persuaded him to confess to the crime.

[17] This and subsequent semantic maps have the constructions occupying their prototypical semantic regions only. Thus, in Fig. 2, for instance, *make* is not extended to the non-punctual region, even though it may peripherally describe this kind of causation, cf. ex. (40), above.

This might seem to constitute a problem for Implicational Universal 1, but *get* and *persuade* are not synonymous. Specifically, *persuade* normally refers to causation through spoken (or written) human interaction; *get*, by contrast, also typically features a human causee and presumably a human causer as well, but is rather vague with respect to the way in which the latter interacts with the former:

(43) The police got him to confess to the crime by carefully explaining it would ultimately be for his good / by threatening to start harassing his family / by repeatedly torturing him.

Under normal circumstances only the first option sounds natural for *persuade*. The observed difference in passivisability can be accounted in terms of Rice's (1987) claim that more specific predicates are more highly transitive than less specific ones:

(44) The narrow footbridge was walked on / tread on / run on / trampled on / stumbled on / wobbled on / slid on / slipped on / *gone on by the kindergartners. (Rice 1987:98)

(45) The playing children were focused on / gazed on / spied on / checked on / *looked on by the anxious babysitter. (ibid.:100)

As I said above, specificity was not included in the analysis of my examples of *make*: specificity — "generality" is more appropriate here — is constant across examples. There is room for further research here, not least because specificity has never been parameterised. I return to this in section 5.

As for *have*, which example (4) demonstrated is not passivisable despite being positioned on the transitive end of the semantic space in Figure 2, I come back to this in §4.2, below. *Force* does not present any problem for the hypothesis: its ease of passivisation is in line with its punctuality.

4.2 Causality

With statistically very highly significant differences for all corpora the evidence for causality being a relevant property in terms of transitivity is solid. My interpretation of Talmy's classification of causation types (inducive<volitional<affective<physical) can be interpreted as a second implicational universal:

Implicational Universal 2:
If a language allows passivisation of causative constructions towards the lower, less transitive end of the causation type scale then the constructions towards the higher, more transitive end of the scale will also be passivisable (all other things being equal).[18]

It is important to note, incidentally, that the universal as it is stated above does not imply that each point on the hierarchy be more transitive than the one to its right; only that it is not *less* so. Strictly speaking, my evidence does not prove that all four types have different degrees of transitivity associated with them, only that moving from the left end of the hierarchy to the right extreme is accompanied by a decrease in transitivity. In order to prove that all four points represent different degrees of transitivity by means of evidence from passivisation, one would ideally need four causatives, each one clearly associated with a different point on the scale but semantically identical otherwise, and study their passivisability. In view of the semantics of English causatives this is impossible for this language. Another, more practical way to go about this would be to take a large corpus of examples of periphrastic causative *make* (both voices) and study the relative frequencies of Talmy's types therein. These figures could then be compared to my statistics on their appearance in the passive.[19] (See section 5, below, for yet another suggestion.)

In section 1 I presented examples from Dutch and Spanish to suggest that 'force' type causatives passivise easily in those languages, whereas the prototypical periphrastic causatives — *doen* and *laten* in Dutch; *hacer* and *dejar* in Spanish — resist passivisation. For the sake of convenience the examples are repeated below as (46-9):

(46) Jan werd gedwongen (om) te vertrekken.
John was forced (for) to leave
'John was forced to leave'

(47) *Jan werd doen / laten vertrekken.
John was do / let leave

(48) Juan fue obligado a salir.
'John was forced / obliged to leave'

[18] I considered the role of the other parameters involved. Affectedness is especially important, as there is at least one language, Tariana, where this corresponds to a semantic distinction between causative constructions (see Dixon 2000:67, Aikhenvald 2000:158; also §2.2.1 , above). In my data affectedness is not responsible for the observed difference: in fact, the scores are slightly lower here in the passive than the active. The parameter participants is less interesting because there is no language, to the best of my knowledge, that expresses the binary v. divided self distinction in different causative constructions. At any rate, the scores for the simple present are virtually identical for active and passive. The past data do pattern according to what one would expect, i.e. there are considerably fewer cases of the divided self in the passive than in the active voice; however, the difference is far smaller than the one observed for causation type.

[19] I have not attempted this with my FLOB corpus data because it is a different corpus, and the number of examples is still quite restricted.

(49) *Juan fue hecho / dejado a salir.
John was made / let to go
'John was made to leave / let go'

Nedjalkov (1971:27) has noted the same pattern for German:[20]

(50) Der Student wurde gezwungen abzureisen.
'The student was forced to leave'
(51) *Der Student wurde abzureisen gelassen.
*The student was leave let.

The scope of passive in these languages is narrower than in English, so it is by itself not unexpected that the cut-off point should be different. What *is* surprising, in view of the existing typologies of causatives, is this systematic difference in passivisability among the causatives. Implicational Universal 2, however, helps to make sense of these data: 'force' type causatives, after all, often involve interpersonal communication, i.e. inducive causation — which is at the top of the transitivity hierarchy. Significantly, in my data inducive causation represents the median and modal values in the passive, while in the active affective causation constitutes the median and modal types of average (except for the simple present, where physical causation is the median).

As the translations of (46), (48) and (50) show, English 'force' type causatives also passivise easily, but that is somewhat less interesting from the point of view of testing Implicational Universal 2. This is because the English causative *make*, which incorporates the intransitive extreme of the causation type hierarchy, also passivises easily. Nonetheless, the English 'force' type causation facts do not constitute evidence *against* the hypothesised universal, either: that would only be case if they resisted passivisation.

There might appear to be a problem in this connection associated with English *force*: my FLOB corpus data (see Ch.5) show that it is not only frequent with inducive causation but also with the affective type, which is located towards the lower end of the causation type hierarchy. I suspect that this is not so much the case for Dutch *dwingen*, but a corpus study would be needed to be sure — likewise for Spanish. But even if affective causation should turn out to be commonly associated with 'force' verbs crosslinguistically, then passivisability is still ensured by their high scores across the parameters punctuality (see §4.1, above), specificity, sphere of control and directness, see Implicational Universals 3-5, below.

[20] I am grateful to Gary Toops for drawing my attention to this reference.

The relevance of causation type is also apparent in the case of Dutch. Verhagen & Kemmer (1997) have provided information on the animacy of causers and causees in their corpus of periphrastic causative *doen* and *laten*. (The latter, although cognate with English *let*, does not share the latter's strong association with letting causation; it can be used in that sense but is very common as a "normal" causative.) They summarise their data as follows:

	laten (N=444)		*doen* (N=130)	
causer animate	99%		42%	
with animate causee		49%		21%
with inanimate causee		51%		79%
causer inanimate	1%		58%	
with animate causee		17%		58%
with inanimate causee		83%		42%

TABLE 8. ANIMACY OF CAUSER AND CAUSEE IN DUTCH *LATEN* AND *DOEN* (AFTER VERHAGEN AND KEMMER 1997:65, TABLE 2)

Verhagen and Kemmer note that in the case of *doen* "there is a preference for *in*animate causers" (1997:64; emphasis original), i.e. this construction is more strongly associated with the lower end of the causation type transitivity scale (affective and physical causation).[21] Implicational Universal 2, then, helps explain why it cannot be passivised.

Moving on to *laten*, I should first like to point out that this construction does not seem entirely resistant to passivisation. For me (56), below, is odd but not fully ungrammatical, while a quick search in Google yielded example (57).

(52) ??Hij werd laten gaan.
'He was let go.'

(53) Niemand heeft in maanden aan Banana gedacht, totdat hij leeg werd laten
No one has in months on Banana thought until he empty was let
lopen door Ramon.
walk by Ramon
(http://www.geocities.com/bacardifela/banana2.html [3-10-2002])
'For months no one thought of Banana [an inflatable banana shaped toy, WBH], until it was deflated by Ramon'

In Verhagen & Kemmer's corpus the inducive and volitional types make up 99% of cases of *laten*. In view of the strong connection of this construction, then, with the higher end of the causation type scale, it is not surprising that it is more passivisable than *doen*. Universal 2 alone does not explain, however, why *laten* resists passivisation more

[21] There is admittedly a high percentage of volitional causation as well, but this is not higher than that of the affective type ($.42 \times .79 < .58 \times .58$).

than the 'force' type construction *dwingen*. This difference must be explained with reference to other parameters, in particular sphere of control and specificity.

The causation type facts of Dutch can be represented as the following semantic map below (Figure 3), where the left end of the space is again associated with higher transitivity. A single distinction is made here, i.e. between high and low transitivity; the line is drawn at the volitional v. affective causation divide. This may be oversimplification but it will do for now:

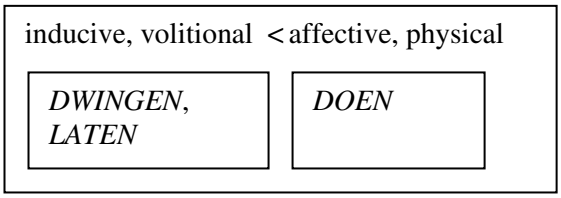

FIGURE 3. SEMANTIC MAP REPRESENTATION OF SOME DUTCH CAUSATIVES ON THE ORGINISATIONAL PRINCIPLE OF CAUSATION TYPE

As for English, my FLOB evidence suggests the semantic map below (Figure 4). *Force* and *make* are both represented as spanning the range of the scale, but they are slightly different: while *make* regularly occurs with all types, *force* prototypically portrays either inducive or affective causation.[22]

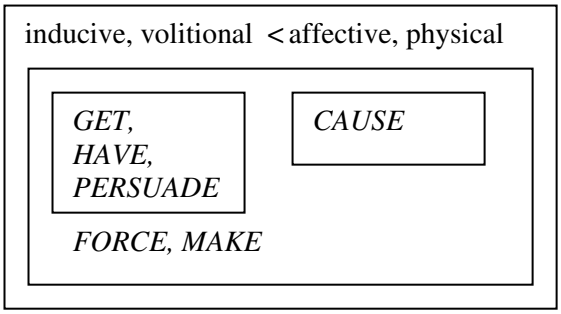

FIGURE 4. SEMANTIC MAP REPRESENTATION OF SOME ENGLISH PERIPHRASTIC CAUSATIVES ON THE ORGINISATIONAL PRINCIPLE OF CAUSATION TYPE

[22] While my FLOB data for *force* suggest that the construction is prototypically associated with inducive and affective causation, it would be too strong to say that the construction is completely incompatible with volitional causation, cf. e.g. the following example from the internet: *Take it easy. Allow it to happen. You cannot force it to happen!* (http://www.waynelee.com/merchandise.html [14/03/2001]). This is important to note since true incompatibility with the volitional type would constitute evidence for a two-way distinction (or at any rate for collapsing the inducive and volitional types), at least to the extent that Croft is correct is proposing the so-called Semantic Map Connectivity Hypothesis, which holds that "any relevant language-specific and construction-specific category should map onto a *connected region* in conceptual space (2001:96, emphasis original).

Causative *have*, which linguists traditionally treat together with *make* and *get* but not for instance *force* or *persuade* (see e.g. Baron 1977) poses an interesting puzzle. In addition to portraying the causing event as an achievement it typically describes inducive causation (cf. also Talmy 2000a:536):

(54) He had his secretary order some coffee, then closed the door and sat down behind his desk. (BNC ECK 2589)

Yet *have* does not allow passivisation at all; see example (55), below, and also (4), presented below as (56):

(55) *His secretary was had to order some coffee.
(56) *Recruits were had to hop on the spot.

I explain this with reference to the presence v. absence of a sphere of control, henceforth SC. The presence of such an SC (+SC) means that the causer is recognised as being somehow superior (socially, physically, or whatever) to the causee. Therefore, the former presumably has to put less effort into getting the latter to carry out the lower clause event than if such a hierarchical relation does not obtain. Presence of an SC thus implies decreased transitivity. This parameter neatly captures the contrast between *have* and *force*, the latter obviously describing causation where the causer is not inherently superior to the causee (otherwise the use of force would be unnecessary). A third implicational universal can now be formulated:

> *Implicational Universal 3:*
> If a language has a passivisable causative construction which specifies that causation occurs against the background of a sphere of control, then causatives that do not feature that background assumption also passivise (all other things being equal).

One may raise the question as to where this leaves causatives such as *get* or *make*, which clearly do not imply a control frame, but do not obviously specify its absence, either. I suggest that there are three values: +SC, –SC and underspecified with regard to SC, represented here as ±SC. In terms of transitivity, the last value will be analysed as intermediate, giving the following hierarchy:

–SC<±SC<+SC

This yields the following semantic map:

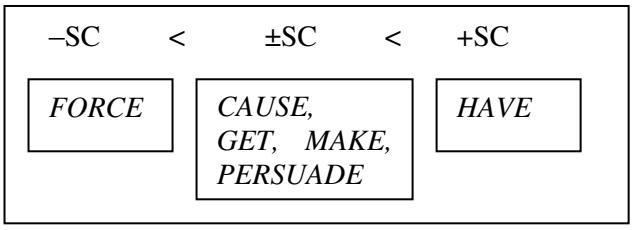

FIGURE 5. SEMANTIC MAP REPRESENTATION OF ENGLISH CAUSATIVES ON THE ORGINISATIONAL PRINCIPLE OF PRESENCE V. ABSENCE OF A SPHERE OF CONTROL FRAME

One might suggest that the universal is invalidated by the permissive/enabling causation constructions based on *allow* and *permit*, as they seem to be +SC yet passivise readily:

(57) The author was allowed to attend as an observer but not active participant in the search. (L. SANDERS *Anderson Tapes* xciv. 220 [*OED*, toss, *n*.1, s.v.3.c])
(58) The boatswain's mates' early morning shout..is a direct link with pre-Nelsonic days when certain women were permitted to live on war-ships in harbour. (J. IRVING *Royal Navalese* 156 *Show a leg*!.. [*OED*, *n*., s.v. 2.a])

However, I would submit that the behaviour of these constructions does not seriously endanger the hypothesised universal, the reason being that permissive/enabling causation is notionally really rather different from what Talmy has referred to as "the general causative category". Indeed, he classifies the difference between "the start or continuation of impingement" on the one hand (viz. *force, get, make*, etc.) and "the *cessation* of impingement" (e.g. *allow*) as a basic force-dynamic distinction, and goes on to suggest that it is only through the more general concept of force dynamics that the latter can be connected to the former (Talmy 2000a:413, 419). The universals proposed here should therefore not necessarily be expected to explain the behaviour of general causatives such as *make* and *have* on the one hand, and cessation of impingement constructions, on the other, as a single, integrated category. Instead, the behaviour of *allow* and *permit*, and the explanatory value of the hypothesised universals, is probably more properly considered relative to other permission/enablement constructions, such as *let*. This construction, which is also +SC, only passivises very marginally, in fixed phrases such as *let go* and *let fly*:

(59) The plug's coming loose let the water flow from the tank. (Talmy 2000:418)
(60) *The water was let flow from the tank.
(61) As the tide did not serve, the anchor was let go. (SIR J. D. ASTLEY *50 Yrs. Life* II. 247 [*OED*, serve, *v*.1, s.v. 24.b])

(62) The name acted as a watchword, and the moment it was pronounced, a well-directed volley of stones was let fly. (JAMES *J. Marston Hall* ix [*OED*, watchword, s.v. 2.a])

If *allow*, *permit* and *let* are treated as a category their differential behaviour actually makes sense in the light of Implicational Universal 2. The former two are probably more closely associated with the upper end of the causation type hierarchy, i.e. inducive as well as, in the case of *allow*, volitional causation, than the latter, which is presumably also relatively frequent with less transitive causation types (cf. e.g. (59)). More corpus work would be needed to substantiate this suspicion, but to the extent that it is correct, Universal 2 would lead one to expect that *allow* and *permit* passivise more easily. Another relevant factor here may be specificity: if *allow* and *permit* are more typically associated with human causers and perhaps also human causees (as well as, perhaps, specifically verbal interaction between the two human parties) than is *let*, then there is ground for claiming that they are semantically less general (see Implicational Universal 5, below).

Implicational Universal 3 could be tested by looking at other languages that have a contrast between causatives with –SC, +SC and, if possible, ±SC semantics and comparing their passivisability. (Of course, the constructions in question would need to be very similar in terms of the other transitivity properties.) I do not know of such a language — possibly because SC semantics have never been properly investigated crosslinguistically.

One may also extend one's research to nonimplicative causatives, that is, verbs of interaction which may, but need not, result in the lower clause event, e.g. *ask*, *beg* and *tell*:

(63) Miss Williams had asked me to go with her party to the Eton and Harrow cricket match at Lord's. (A. J. MUNBY *Diary* 10 July in D. Hudson *Munby* (1972) 167 [*OED*, Lord's])
(64) I begged him to stay at home.
(65) I told him to stay at home.

Since transitivity is not an exclusive property of implicatives, these constructions should be subject to the same constraints, including SC. Now since *tell* and *beg* can be analysed as +SC and –SC, respectively — see (66-9), below — these may function as a testing ground for the hypothesised universal.

(66) My boss told me to go with her.
(67) ?My boss begged me to go with her.
(68) I begged my boss to go with her.

(69) ?I told my boss to go with her.[23]

The passivisability facts of these constructions do not support the hypothesis, in that they both allow passive:

(70) Medical boards were always being begged by browned-off invalids to pass them fit for active service. (*Observer* 9 Nov. 4/4 [*OED*, browned, *ppl. a.*, s.v. 1.a])

(71) The new boys were told to go into the middle, while the others stationed themselves along opposite walls. (W. S. Maugham *Of Human Bondage* xi. 39 [*OED*, pig, *n.*1, s.v. 10])

Importantly, however, they do not contradict Universal 3, either. That would only have been the case if the *order* constructions (and similar ones) passivised easily and *beg* (and similar constructions) not at all, or only very marginally. As things stand, the apparent ease of passivisation of nonimplicative causatives is simply taken as a manifestation of the wide scope of the English Passive. The scope may be smaller in other languages, and so a crosslinguistic analysis of passivisation behaviour of nonimplicatives could throw more light on the validity of the proposed universal.

4.3 Individuation of O

The results for this macroparameter hold no particular interest for the present study, as none of the seven parameters involved corresponds to a semantic distinction between causative constructions themselves, in English or elsewhere. One is nevertheless intrigued by the results, as they run counter to what Hopper & Thompson's study would lead one to predict. A full discussion is beyond the present scope, but I note that David Denison (p.c.) has suggested that the observed difference in individuation of the causee may be due to purely syntactic reasons. Given English word order, causees in the active, where they are objects, are generally positioned considerably later in the sentence than in the passive, where they are grammatical subjects. Later position in English being associated with greater newsworthiness (see e.g. Halliday 1967), it is perhaps not surprising that causees in active sentences should show up in a more highly particularized, *casu quo* more individuated form.

[23] Sentences (67) and (69) are only acceptable if the speaker is interpreted as being somehow superior to his boss, e.g. because the former has access to sensitive private information concerning the latter.

4.4 Directness

Directness is attested as a relevant parameter in many languages. For example, Dixon (2000:67) suggests that the difference between the Hindi causative markers *–a* and *–va* should be analysed along the lines of direct v. indirect causation: in (72), below "the labourers did the work themselves", while in (73) "the contractor achieved the task indirectly (through 'the labourers', who can be included in the clause, marked by instrumental case)":

(72) Məzduuro ne məkan bənaya
labourers ERG house was.made.CAUS$_1$
'The labourers built the house' (Dixon 2000:67)

(73) Thekedar ne (məzduuro se) məkan bənvaya
contractor ERG labourers INST house was.made.CAUS$_2$
'The contractor got the house built (by the labourers)' (ibid.)

"[M]any other languages in the region (…) for example Gojri" (Dixon 2000:68; for Gojri (Indo-European) see Sharma 1982:153-4) are said to display the same distinction.

As for the other subparameters of directness, Dixon, drawing on Bruce (1984:153-9), states that in Alamblak (Sepik-Ramu) the causative verb *hay* as opposed to the prefix *ka-*, may be used in cases where unity of space is absent (2000:69-70). Dixon goes on to compare this type of indirectness to English *cause*, giving rise to the hypothesis that in this language, too, causatives differ in terms of directness. Recall, in this connection, that Duffley (1992) characterised *cause* as featuring absence of unity of time; see §2.2.2. And *cause* is not the only causative associated with indirectness. Examples of *have* such as (74), below, taken from a sermon available on-line, suggest that this construction is also compatible with indirect causation:

(74) Pilate had his soldiers kill them while their sacrifices were being killed, so that the blood of these people mingled beside the altar with the blood of their sacrifices. (http://members.iinet.net.au/~jvd/Sermons/Luke13,3b.htm [26 August 2002]).

The line in question is a commentary on the following biblical verse: "Now there were some present at that time who told Jesus about the Galileans whose blood Pilate had mixed with their sacrifices" (Luke 13:1, *New International Version*). Now Pilate quite possibly did not order his soldiers directly, achieving this, instead, through instructing some officer(s). In addition, it is likely that there was no unity of time and space.

Another case of *have* portraying indirect causation is ex. (26) above, repeated below:

(75) I had her lose her temper by sending John over to taunt her (Givón 1975:65)

Here it is not the speaker who is the immediate cause of *her* losing her temper, but John's taunting her.

The question arises as to the centrality of the element of indirectness in the semantics of *have*. Based on the examples of periphrastic causative *have* I have studied I would be hesitant to say that it is prototypically used for indirect causation (see also my classification of this construction as direct in Ch.5). Still, the fact that it does occur with some regularity suggests that in addition to the sphere of control semantics this could be another factor contributing to its strong resistance to passivisation.

Make, on the other hand, only very rarely displays indirect causation. The table in §3.5 shows that there were a few cases of absence of unity of time and/or space, but the mean values are very high and the median and modal values are those of direct causation across the board. *Make* was not a fortunate choice to test the relevance of directness; *cause* would have been better. If this construction were investigated the expected implicational universal would be as stated below; substantiation in a follow-up study seems a worthwhile undertaking:

> *Implicational Universal 4 (not substantiated):*
> If a language allows passivisation of causative constructions prototypically portraying indirect causation then constructions describing direct causation will also be passivisable.

Taking *cause*, *force*, *get*, *have*, *make* and *persuade* one could draw the following semantic map (where *have* is assigned to the direct, more transitive region, although a large-scale corpus study might reveal that it should be extended to include the lower end):

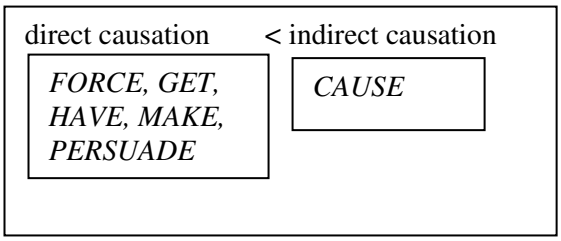

FIGURE 6. SEMANTIC MAP REPRESENTATION OF SOME ENGLISH CAUSATIVES ON THE ORGINISATIONAL PRINCIPLE OF (IN)DIRECTNESS OF CAUSATION

5. Concluding remarks

In section 1 I heralded that the facts of passivisation would yield practical evidence for a semantic map approach of English periphrastic causatives. This was felt to be desirable as the plurality of typologies, valuable as they may be by themselves, has rendered it hard to see the wood for the trees if one sets out to draw up semantic maps in a systematic way. The present study, by contrast, does allow this: it has been organised in terms of a single principle, degree of transitivity. Thus, while the semantic maps proposed in section 4 represent only a fraction of what is theoretically possible in the vast and complicated area of causatives, they do have the significant redeeming feature of being nonarbitrary.

The maps presented so far have only involved single parameters, but one ultimately wants to combine them. If one restricts oneself to two parameters, e.g. punctuality and causation type, this is relatively easy: one only needs an x-axis and a y-axis. But there are more: sphere of control, directness and also specificity, about which more must be said.

Regarding the definition of specificity as it applies to causatives, I will venture a rough proposal. On the basis of the facts collected for the present study, it seems clear that one salient difference among causatives is the absence v. presence of a feature specifying the *manner* of causation — or, for that matter, enablement. Thus, *persuade* usually involves *verbal* communication between two human beings. (I hypothesised in §4.2 that the same may hold true for *allow*/*permit* as opposed to *let*.) In that sense it is more specific than the other causatives (including *get*), which are less clearly restricted to verbal interaction. Given the prominence of verbally induced causation in everyday life, this component is likely to be crosslinguistically widely attested. The other causatives are not equally nonspecific. I argued in §4.2 that a strong association with a particular kind of causer and/or causee (i.e. mental entity v. thing), as opposed to a compatibility with the different types of causers/causees, also amounts to increased specificity. Now the corpus data obtained (see Ch.5) show that while *make* freely occurs in all types of causer/causee configurations, the other constructions are more restricted, i.e. specific. *Cause* is somewhat resistant to human causers, *force*, to situations where the causee is a thing. *Get* and *have* are strongly associated with inducive causation.[24] This yields the following hierarchy:

[24] On the present definition, the term 'specificity' is perhaps not used in the most obvious sense. If a construction representing specifically verbal inducive causation is more highly transitive than a causative that is not so strongly associated with any particular means/medium of interaction between the two parties but that is still restricted to a particular type of causer/causee combination, then the former is not necessarily a hyponym of the latter: causatives that fall into the latter category cannot be superordinates of the former if there is a semantic mismatch in one or several of the other parameters. The idea can be illustrated with

persuade<*cause*, *force, get, have*<*make*

For a fully accurate description of the underlying semantic scale crosslinguistic investigation would be desirable. For now, I will assume that specifically verbal interaction is indeed a valid type, which outranks causatives that are otherwise restricted in terms of their causer/causee configuration, which, in their turn, outrank causative constructions that are neutral as to the nature of their participants:

verbal inducive<causation type restricted<causation type underspecified

A fifth implicational universal may now be proposed:

Implicational Universal 5:
If a language allows passivisation of causative constructions prototypically associated with the lower end of the specificity scale then constructions that are associated with the higher end of the scale will also be passivisable.

Now to include all five parameters, a simple biaxial diagram will not suffice. Inspired by Croft's (2001:360) polar coordinate mapping of the syntactic-conceptual space for complex sentences Figure 7, below, uses a representation of concentric circles, where increased outward distance stands for decreased transitivity. The closer to the centre a construction is, on the whole, the higher its degree of transitivity.

It is important to note in this connection that, similar to the assumption I made with respect to the value ±SC (i.e. that it represented a midway house between maximal transitivity (–SC) and minimal transitivity (+SC)) I hypothesise that the lack of a strong association with either the higher or the lower end of the causation type scale represents intermediate transitivity. Thus, in terms of this parameter *make* and *force* are more highly transitive than *cause*, but less so than *get*, *have* and *persuade*. It is hard to come up with an appropriate way to visually represent the association of *force* with

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reference to one of Cruse and Croft's (2003) hyponymy tests (discussed more fully in Cruse 1986). The hyponym status of *punch* vis-à-vis *hit* is evidenced by the acceptability of the question and answer pair *Did she hit him? Yes, she punched him in the stomach* (Cruse & Croft 2003, Ch.6). However, it sounds awkward to answer the question *Did she persuade him to do it?* with ?*Yes, she forced him to do it*, the main reason being the mismatch in values on the sphere of control parameter. (In addition, I have analysed *force* as being prototypically associated with punctual causation. In this case, however, a nonpunctual construal seems possible, or maybe even preferred.) Replying *Yes, she got him to do it* sounds a lot better, as indeed it should if *persuade* differs from *get* only in stipulating verbal interaction. The answer *Yes, she made him do it* also sounds all right, incidentally, but then *make*, as opposed to *force*, does not clash with *persuade* in terms of presence v. absence of a control frame. (There is a conflict regarding punctuality, but again, the prototypical punctuality interpretation of *make* is presumably overridden in certain contexts.) Generalising the discussion to English causatives in general, I hypothesise that *make* is superordinate to all other members of the class, but that the category structure does not appear to be a simple three-level one with *cause*, *force, get, have* all being superordinates with respect to *persuade*.

inducive and affective causation; in Fig.7 it simply embraces both the inducive/volitional types and the affective/physical ones.

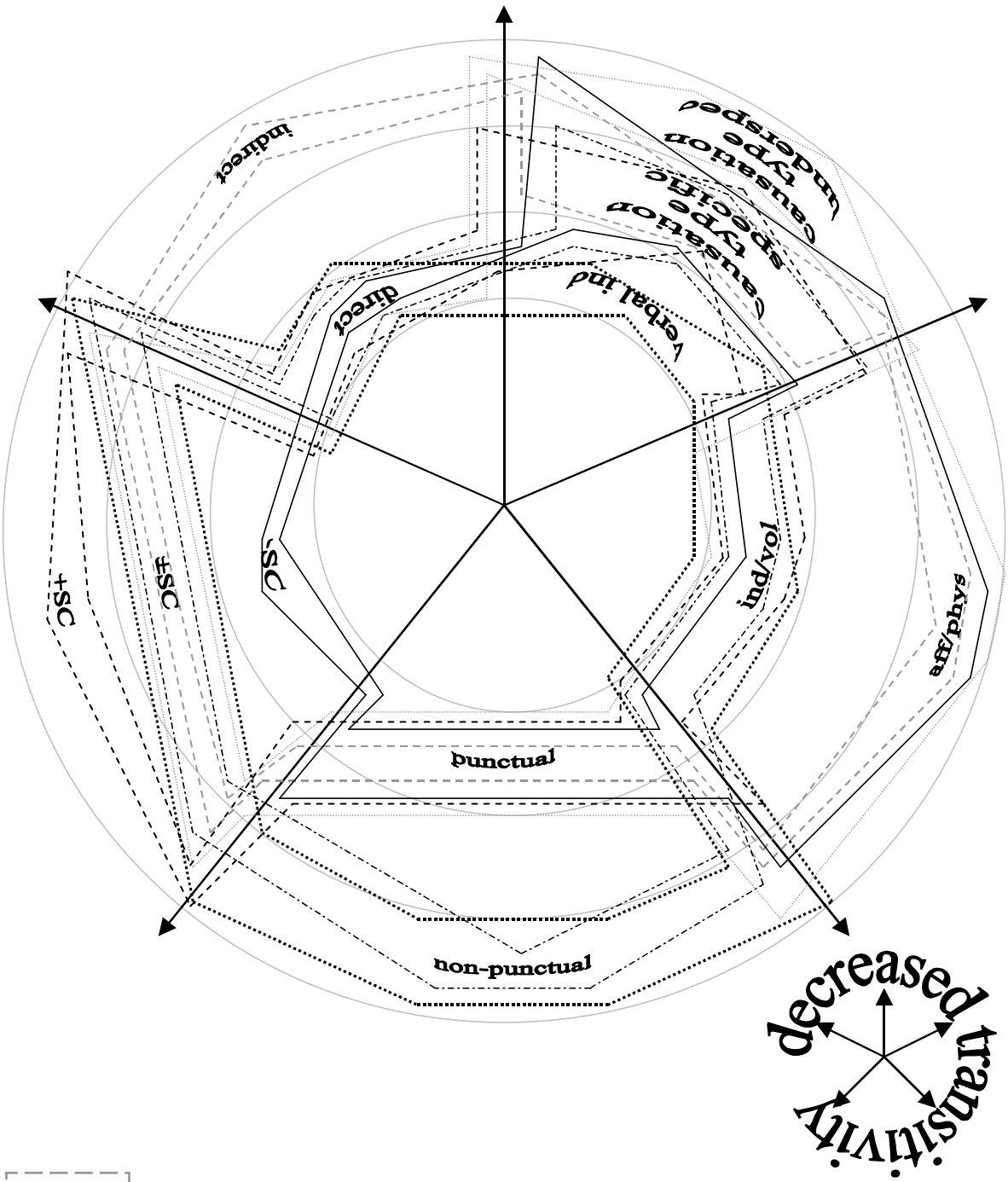
In line with the normalisation procedure outlined in §2.3, Figure 7 assumes equal weighting for all parameters, and equal spacing of values in the case of SC and specificity, where the distinctions are ternary. The boundary of each of the regions in the map corresponds to the border of the text box specifying the periphrastic causative(s) in question.

The conceptual space is supposed to be universal and should therefore be usable for other languages as well; crosslinguistic differences will manifest themselves as different boundaries of the causatives. Several other languages were mentioned in this chapter, but the exercise of mapping their semantics onto the conceptual grid of Figure 7 will not be taken up here.

To the extent that Figure 7 is a more or less comprehensive representation of the factors involved in causative constructions' differential transitivity — and if my semantic analyses are correct — the assumption that the parameters are all equally important is probably an oversimplification. There are two pieces of evidence for this.

First, comparing *cause*, *get* and *make* on the one hand, to *have*, on the other, the equal weighting assumption would predict that *have* would be easier to passivise than *cause* and *get*, and equally passivisable as *make*. *Have* outscores *cause* on the directness parameter, *get* on punctuality, *make* on specificity, and both *cause* and *make* on causation type. The absence of a +SC component in the semantics of *cause*, *get* and *make* is therefore presumably significant enough, relative to directness, punctuality and specificity, to give them the overall edge over *have*.

Second, the greater ease of passivisation of *cause* as compared to *get* suggests that punctuality is substantially more important than causation type and directness together, for it is on the former property that *cause* outscores *get*. On the latter two the tables are reversed.



CAUSE

FORCE

GET

HAVE

MAKE

PERSUADE

FIGURE 7. SEMANTIC MAP REPRESENTATION OF SOME ENGLISH CAUSATIVES ON THE ORGINISATIONAL PRINCIPLE OF TRANSITIVITY OF THE CAUSING EVENT

A more accurate semantic map representation would thus have causation type and directness deranked relative to punctuality, and all three of these, as well as specificity, relative to SC. More accurate statements, in particular concerning the exact weighting of the various factors, is at present precluded.[25]

To my knowledge this study constitutes the first systematic attempt at drawing a semantic map of English periphrastic causatives — or of any category of causatives in any language, for that matter. Novel research brings with it novel questions. Some of these questions raised in this chapter, especially those pertaining to the classification of the English causatives, can be answered by a more extensive corpus study; resolution of other issues, such as the validity of the proposed implicational universals and the possibility that they can be refined, will primarily involve studying crosslinguistic data.

Bringing in historical data may also be informative — in particular, in supporting or challenging the present layout of the conceptual space(s). Thus, to the extent that the causation type hierarchy inducive<volitional<affective<physical is valid, one would not expect a given causative construction to extend (or shift) its prototypical semantics from one point on the scale to a noncontiguous point without first extending (shifting) to the point(s) lying in between. If it does, then this may suggest that the points on the scale should be reordered. This would actually constitute a way to find out whether Talmy's four types are all conceptually different with respect to transitivity or whether they are more appropriately lumped together into two groups, as I have done for the sake of convenience. A two-way distinction — animate (human) causer v. inanimate causer — would be supported if constructions were found to extend from, say, inducive to affective/physical or from volitional to physical without also extending to the intermediate type(s) in question.

Very high on the list of questions for future research should be the sphere of control and the proposed specificity scale. Their relevance can be tested with passivisation data from other languages with a clear distinction between points on the hierarchies involved. Last but not least, the relative ranking/weighting of the various parameters needs further investigation.

[25] It is interesting to note that assigning decreasing weights to the factors SC<punctuality<causation type, specificity, directness can easily be made to give the desired results for English. If the weighting is 7:3:1, for instance, *have* comes out with the lowest transitivity score, and *get*, as the second lowest; moreover *force* then receives the highest score, in line with its apparent ease of passivisation across languages. Any specific hypothesised weighting would only be plausible in the light of crosslinguistic support, though.

Chapter 7. Concluding remarks

In this thesis I have attempted to do several things at the same time: account for various synchronic and diachronic issues related to English periphrastic causatives, drawing on electronic corpora for a considerable portion of my data and analysing these data in the light of cognitive linguistics and construction grammar, while at the same time bearing in mind, as well as adding to, typological universals of causatives. Combining and integrating these areas is not done very often. Verhagen's (2000) study of Dutch causatives may be cited as a rare example of a "panchronic", typologically responsible, corpus-based, cognitive linguistic study.

The contribution of this study to the area of English language and linguistics lies in the improvements, in terms of accuracy and plausibility, over previous scholarship on the topics related to periphrastic causatives dealt with in the various chapters. Pinpointing the ways in which I have contributed to the subfields of corpus linguistics, typology and cognitive linguistics/construction grammar is more difficult, because they blend into each other pretty much seamlessly. The following attempt is to be read with that complementariness/overlap in mind.

As for electronic corpora, the use of data to describe synchronic/diachronic patterns is not new. But corpus data are not always analysed in terms of a theory of grammar, consider e.g. many studies within the Helsinki School of historical corpus linguistics (see e.g. Kytö et al. 1994) or, for PDE, the recent corpus-based grammar by Biber et al. (1999). Descriptively-oriented work certainly has its place in linguistics, but certain explanatory insights concerning periphrastic causatives would probably have remained hidden from a more theory-neutral eye — consider for instance the conclusions that followed from the fine-grained cognitive-semantic analyses of binding and transitivity proposed in Chs. 5 and 6.

Another lesson concerning corpus research drawn from the present study involves the need for very careful attention to detail; consider the case of Gronemeyer (1999), whose historical reconstruction of periphrastic causative *get* turns out to be incongruent with the full range of data available (see my Ch.4).

An additional sense in which the present study is superior to some other corpus-based work lies in the way in which I have made sense of the data quantitatively. At various places in this thesis (cf. esp. Chs.5-6) corpus data were subjected to various types of quantitative analysis. These procedures allowed me to draw conclusions where it

would otherwise be very difficult to make any confident suggestions. The approach may be contrasted to for instance some of the studies to come out of the Helsinki School (cf. Ch.1, §1.1.2 for a case study).

The latter issue, concerning the desirability of some degree of statistical sophistication, can also be linked to cognitive linguistics. In particular, there is a growing realisation within this community that while corpus research is essential, raw frequencies and/or percentages require further quantitative analysis in order for an argument to be credible — a point vehemently made by Geeraerts (2003).

As regards typology, one of the main contributions of the present study is the proposal that the sphere of control frame is a potentially important notion for research on causatives crosslinguistically (see esp. Ch.3). The implicational universals (Chs.5-6) and the semantic map (Ch.6) also have a relevance outside English linguistics — even though the data on which they were founded are for the most part from English. On a more general level, then, this thesis represents an illustration of one of the most interesting suggestions to emerge from Croft's radical construction grammar, i.e. that careful intralinguistic research can lead to the discovery of implicational universals pertaining to mappings between form and function (2001:107).

The most important contribution to cognitive linguistics and construction grammar is the historical component of this study. From its rise, in the late 1970s/early 1980s, cognitive linguistics has been strongly focussed on the synchronic plane. Consider in this connection the textbooks by Ungerer & Schmid (1996) and Cruse & Croft (2003), neither of which is centrally concerned with language change. The synchronic bias was similarly obvious at the last editions of the large conferences on cognitive linguistics and construction grammar, ICCG 2002 (Helsinki, Finland) and ICLC 2003 (Logroño, Spain). One recent exception to the synchronic orientation is Croft (2000); in addition, there is some work on subjectification/grammaticalisation such as Sweetser (1990) and Langacker (1992, 1998).

In chapters 3-5 I have explored some of the implications of cognitive linguistics and construction grammar for language change, also bringing in, as is often done in a more synchronic context (including, increasingly, language acquisition research, see e.g. Tomasello 2000, 2003), the usage-based perspective. The benefits have been considerable. I have already mentioned the analysis of binding (Ch.5); taking a cognitive perspective in Ch.3-4 allowed me to propose reconstructions that are both detailed and truly *gradual* (in the sense in which historical linguists tend to view processes of language change).

Chapter 2 represents another sense in which cognitive linguistics may shed light on a very difficult issue. By taking seriously the notion of construal I managed to come up with a plausible semantic analysis of periphrastic causative *make* that in a sense unified several previous (and superficially markedly different) analyses of the semantics of this construction.

The overall objective of the particular constellation of viewpoints adopted in this thesis has been plausibility in terms of the organisation of linguistic knowledge, synchronic and diachronic. From the viewpoint of previous scholarship on the issues I have dealt with the achievements have been significant, and in that sense the broad, typologically oriented, corpus-based cognitive approach is promising. Still, if this approach is to make further progress, a number of theoretical questions will have to be addressed — prominently among them:

- Chapter 2 approached the question of the status of different uses of periphrastic causative *make* by combining insights from cognitive semantics with typological observations. An intuitively plausible answer, in terms of Cruse's notion of microsenses (2002; cf. also Cruse & Croft 2003) was suggested. However, one very common way of testing the status of different readings in semantics, i.e. using diagnostic frames, could not be attempted, the reason being that the standard tests have been developed with lexical not constructional semantics in mind. In connection to the ongoing monosemy v. polysemy debate (see e.g. the interchange between Croft (1998), Sandra (1998), Gibbs & Matlock (1999) and Tuggy (1999)), I would argue for more research on constructional semantics.
- Chapters 3-5 showed that cognitive linguistics and the usage-based model provide useful tools in reconstructing historical changes. Yet chapter 4 especially suggested that key concepts in the usage-based model (type and token frequency and the relation between them, the notion of similarity and the process of schema abstraction) need to be developed further if they are ever to be used in diachronically truly explanatory ways.
- The methods I developed in order to make sense of the data quantitatively in Chapters 5 and 6 yielded more detailed accounts of the phenomena under investigation (infinitive marking and passivisation/transitivity, respectively) than have been offered in previous scholarship. Nonetheless, using these kinds of scoring systems is hardly commonplace in the field. The method may benefit from further development. One particularly pertinent issue concerns the weighting of semantic parameters. In chapter 6 I argued that some transitivity properties of causatives may be more important than others. To the extent that this is plausible, research in (lexical *and* constructional) semantics on how to establish/measure importance or salience of parameters would be desirable.

All in all, the questions raised by the present study concerning broadly functional linguistics provide many avenues for future research. Since the interest in this kind of broad approach is growing, certainly within the cognitive linguistic community — especially perhaps in Europe, with leading figures such as Bill Croft, Dirk Geeraerts and Arie Verhagen — the circumstances for pursuing these avenues could hardly be better.

Appendix: Texts downloaded from the on-line *CME*

Below, I present a list of the texts that constitute the electronic corpus (1350-1500) that was used for Chapter 3. Titles and names of authors are spelt as they are in the on-line *Corpus of Middle English Prose and Verse*. Information about the editions can be found on the web page (for its URL see the References section) or in the *MED*.

Anonymous Works

The alliterative Morte Arthure

Alphabet of tales

Blanchardyn and Eglantine

An anthology of Chancery English

Everyman

Sir Gawain and the Green Knight

Gesta Romanorum

Book of the Knight of La Tour-Landry

Lincoln Diocese Documents

Melusine

Merlin

Octavian (Cambridge, University Library MS Ff.2.38)

Octavian (Lincoln, Dean, and Chapter Library, MS 91)

Pearl

Pierce the Ploughmans Crede

Prose life of Alexander

Ratis Raving, and Other Moral and Religious Pieces, in Prose and Verse

Religious Pieces in Prose and Verse

Three prose versions of the Secreta Secretorum

The siege of Jerusalem

The Three Kings' Sons

The Towneley Plays

The York Plays

Chaucer

The Canterbury Tales

Treatis on the Astrolabe

Geoffrey Chaucer's Troilus and Criseyde

Dunbar

William Dunbar's The tretis of the twa mariit women and the wedo

Gower

John Gower's Confessio Amantis

Henryson

Robert Henryson's The testament of Cresseid

Robert Henryson's The morall fabillis of Esope the Phrygian

Robert Henryson's The minor poems of Robert Henryson

Robert Henryson's Orpheus and Eurydice

Hue de Rotelande

The Lyfe of Ipomydon

Langland

William Langland's The vision of Piers Plowman

Love

Mirrour of the blessed lyf of Jesu Christ / by Nicholas Love

Malory

Le Morte Darthur / by Syr Thomas Malory

Paston

Paston letters and papers of the fifteenth century, Part I

References

Aikhenvald, Alexandra Y. 2000. Transitivity in Tariana. In R.M.W. Dixon & Alexandra Y. Aikhenvald, eds., *Changing valency. Case studies in transitivity*, 145-72. Cambridge: Cambridge University Press.

Aissen, J. 1974. Verb raising. *Linguistic Inquiry* 5:325-66.

Aitchison, Jean. 1980. Review of Lightfoot (1979). *Linguistics* 18:137-46.

Aitchison, Jean. 1987. *Words in the mind. An introduction to the mental lexicon*. Oxford: Basil Blackwell.

Alford, Henry. 1864. *The Queen's English: Stray notes on speaking and spelling*. London: Bradbury and Evans.

Amberber, Mengistu. 2000. Valency-changing and valency-encoding devices in Amharic. In R.M.W. Dixon & Alexandra Y. Aikhenvald, eds., *Changing valency. Case studies in transitivity*, 312-32. Cambridge: Cambridge University Press.

Anderson, John R. 2000. *Cognitive psychology and its implications*. New York: Worth Publishers.

Andersson, Evert. 1985. *On verb complementation in written English*. Lund Studies in English 71. Malmö: C.W.K. Gleerup.

Aston, Guy & Lou Burnard. 1998. *The BNC handbook: exploring the British National Corpus with SARA*. Edinburgh: Edinburgh University Press.

Austen, Jane. 1814/1962. *Mansfield Park*. London: The Zodiac Press.

Baron, Naomi S. 1974. The structure of English causatives. *Lingua* 33:299-342.

Baron, Naomi S. 1977. *Language acquisition and historical change*. Amsterdam: North-Holland.

Belfour, A.O. (ed.). 1909. *Twelfth century homilies*. EETS 137. London: Kegan Paul, Trench, Hübner & Co.

Bennett, J.A.W. & G.V. Smithers (eds.). 1966. *Early Middle English verse and prose*. Oxford: Oxford University Press.

Berkenfeld, Catie. 2001. The role of frequency in the realization of English *that*. In Joan Bybee & Paul J. Hopper, eds., *Frequency and the emergence of linguistic structure*, 255-80. Amsterdam/Philadelphia: John Benjamins.

Biber, Douglas, Susan Conrad, Edward Finegan, Stig Johansson & Geoffrey Leech. 1999. *Longman grammar of spoken and written English*. Harlow: Longman.

Bills, Garland D. 1969. *On case in Quechua*. Ph.D. dissertation. Austin: University of Texas.

Binnick, Robert I. 1970. Ambiguity and vagueness. In *Papers from the Sixth Regional Meeting, Chicago Linguistic Society. April 16-18, 1970*, 147-53. Chicago: Chicago Linguistic Society.

Bock, Hellmut. 1931. Studien zum präpositionalen Infinitiv und Akkusativ mit dem to-Infinitiv. *Anglia* 55:114-249.

Bolinger, Dwight. 1977. *Meaning and form.* London: Longman.

Bolinger, Dwight. 1978. Passive and transitivity again. *Forum Linguisticum* 3:25-8.

Bosworth, Joseph & T. Northcote Toller. 1882. *An Anglo-Saxon dictionary*. Oxford: Clarendon Press.

Brinton, Laurel J. 1994. The differentiation of statives and perfects in early Modern English: the development of the conclusive perfect. In Dieter Stein & Ingrid Tieken-Boon van Ostade, eds., *Towards a standard English 1600-1800*, 135-70. Berlin: Mouton de Gruyter.

Bruce, L. 1984. *The Alamblak language of Papua New Guinea (East Sepik).* Canberra: Pacific Linguistics.

Brugman, Claudia. *The story of* over. M.A. dissertation. Berkeley: University of California.

Brugman, Claudia. 1988. *The syntax and semantics of HAVE and its complements*. Ph.D. dissertation. Berkeley: University of California.

Brugman, Claudia. 1996. Mental spaces, constructional meaning, and pragmatic ambiguity. In Gilles Fauconnier & Eve Sweetser, eds., *Spaces, worlds and grammar*, 29-56. Chicago: University of Chicago Press.

Bunt, G.H.V. (ed.). 1985. *William of Palerne. An alliterative romance*. Groningen: Bouma's Boekhuis bv.

Bush, Nathan. 2001. Frequency effects and word-boundary palatalization in English. In Joan Bybee & Paul J. Hopper, eds., *Frequency and the emergence of linguistic structure*, 255-80. Amsterdam/Philadelphia: John Benjamins.

Butler, Christopher. 1985. *Statistics in linguistics*. Oxford: Blackwell.

Buyssens, Eric. 1987. The preposition *for* with an infinitive clause. *English Studies* 68:336-47.

Bybee, Joan L. 1985. *Morphology: a study into the relation between meaning and form*. Amsterdam/Philadelphia: John Benjamins.

Bybee, Joan L. 1988. The diachronic dimension in explanation. In J.A. Hawkins, ed., *Explaining language universals*, 350-79. Oxford: Basil Blackwell.

Bybee, Joan L. 1995. Regular morphology and the lexicon. *Language and Cognitive Processes* 10:425-55.

Bybee, Joan L. & Östen Dahl. 1989. The creation of tense and aspect systems in the languages of the world. *Studies in Language* 13:51-103.

Bybee, Joan L. & Paul J. Hopper, eds. 2001. *Frequency and the emergence of linguistic structure*. Amsterdam/Philadelphia: John Benjamins.

Bybee, Joan L., Revere Perkins & William Pagliuca. 1994. *The evolution of grammar. tense, aspect and modality in the languages of the world*. Chicago: University of Chicago Press.

Bybee, Joan L. & J. Scheibman. 1999. The effect of usage on degrees of constituency: the reduction of *don't* in English. *Linguistics* 37:575-96.

Bybee, Joan L. & Dan I. Slobin. 1982. Rules and schemas in the development and use of the English past tense. *Language* 58:265-89.

Catlin, Jane-Carol and Jack Catlin. 1972. Intentionality: a source of ambiguity in English? *Linguistic Inquiry* 3:504-8.

Cerrón-Palomino, R. 1976. *Gramática Quechua Junín-Huanca*. Lima: Ministerio de Educación / Instituto de Estudios Peruanos.

Chomsky, Noam. 1970. Remark on nominalization. In R. Jacobs & P. Rosenbaum, eds., *Reading in English transformational grammar*, 184-221. Waltham, MA: Ginn & Co.

Chomsky, Noam. 1980. Rules and representations. *Behavioral and Brain Sciences* 3:1-61.

Cole, Peter. 1976. A causative construction in Modern Hebrew: theoretical implications. In Peter Cole, ed., *Studies in Modern Hebrew syntax and semantics: the transformational-generative approach*, 99-128. Amsterdam: North-Holland.

Cole, Peter. 1983. The grammatical role of the causee in universal grammar. *International Journal of American Linguistics* 49:115-33.

Collins, A.M & E.F. Loftus. 1975. A spreading-activation theory of semantic processing. *Psychological Review* 82:407-28.

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 Masayoshi Shibatani, ed., *Syntax and semantics 6: the grammar of causative constructions*, 261-312. New York: Academic Press.

Comrie, Bernard. 1978. Ergativity. In Winfred Lehmann, ed., *Syntactic typology*, 329-94. Texas: University of Texas Press.

Corpus of Middle English Prose and Verse (CME). 1997— . Developed by the Humanities Text Initiative. [available: http://www.hti.umich.edu/english/mideng/, 1 September 2003].

Cristofaro, Sonia. 2003. *Subordination*. Oxford: Oxford University Press.

Croft, William. 1990. Typology and universals. Cambridge: Cambridge University Press.

Croft, William. 1991. *Syntactic categories and grammatical relations. The cognitive organization of information*. Chicago/London: University of Chicago Press.

Croft, William. 1995. Bringing chaos into order: mechanisms for the actuation of language change. Paper presented at ICHL 95, University of Manchester, Manchester.

Croft, William. 1998. Linguistic evidence and mental representations. *Cognitive Linguistics* 9:151-73.

Croft, William. 2000. *Explaining language change*. London: Longman.

Croft, William. 2001. *Radical construction grammar. Syntactic theory in typological perspective.* Oxford: Oxford University Press.

Croft, William. 2002. On the formation of construction schemas. Paper presented at the Max Planck Institut für evolutionäre Anthropologie, Leipzig.

Croft, William. In prep. *Verbs. Aspect and argument structure.* Oxford: Oxford University Press.

Cruse, D.A. 1982. On lexical ambiguity. *Nottingham Linguistic Circular* 11:65-80.

Cruse, D.A. 1986. *Lexical semantics*. Cambridge: Cambridge University Press.

Cruse, D.A. 2002. Microsenses, default specificity and the semantics-pragmatics boundary. *Axiomathes* 1:1-20.

Cruse, D.A. & William Croft. 2003. *Cognitive linguistics*. Cambridge: Cambridge University Press. [references are to chapters not pages since the book was not yet available at the time of writing this thesis]

Dahl, Östen. 1985. *Tense and aspect systems*. Oxford: Blackwell.

D'Andrade, Roy G. 1987. A folk model of the mind. In Dorothy Holland & Naomi Quinn, eds., *Cultural models in language and thought*, 112-48. Cambridge: Cambridge University Press.

Davidson, Donald. 1966. The logical form of action sentences. In N. Rescher, ed., *The logic of decision and action*, 81-95. Pittsburgh: University of Pittsburgh Press.

Dell, Gary S. 1986. A spreading activation theory of retrieval in sentence production. *Psychological Review* 93:283-321.

Dell, Gary S. 1988. The retrieval of phonological forms in production: Tests of predictions from a connectionist model. *Journal of Memory and Language* 27:124-42.

Dell, Gary S. & Peter Reich. 1980. Toward a unified model of slips of the tongue. In Victoria A. Fromkin, ed., *Errors in linguistic performance. Slips of the tongue, ear, pen, and hand*, 273-86. New York: Academic Press.

den Dikken, Marcel. 1997. The syntax of possession and the verb 'have'. *Lingua* 101:129-150.

Denison, David. 1985. The origin of periphrastic DO: Ellegård and Visser reconsidered. In R. Eaton, O. Fischer, W. Koopman & F. van der Leek, eds., *Papers from the 4th International Conference on English Historical Linguistics: Amsterdam, 10-13 April 1985*, 45-60. Amsterdam/Philadelphia: John Benjamins.

Denison, David. 1990. Auxiliary and impersonal in Old English. *Folia Linguistica Historica* 9:139-66.

Denison, David. 1993. *English historical syntax: verbal constructions*. London / New York: Longman.

Dixon, R.M.W. 1979. Ergativity. *Language* 55:59-138.

Dixon, R.M.W. 1984. The semantic basis of syntactic properties. *BLS* 10:583-95.

Dixon, R.M.W. 1991. *A new approach to English grammar, on semantic principles*. Oxford: Clarendon Press.

Dixon, R.M.W. 2000. A typology of causatives: form, syntax and meaning. In R.M.W. Dixon & Alexandra Y. Aikhenvald, eds., *Changing valency. Case studies in transitivity*, 30-83. Cambridge: Cambridge University Press.

Downing, Angela. 1996. The semantics of *get*-passives. In: Ruqaiya Hasan, Carmel Cloran & David Butt (eds.), *Functional descriptions: theory in practice*, 179-205. Amsterdam/Philadelphia: John Benjamins.

Dowty, David. 1991. Thematic proto-roles and argument selection. *Language* 67:547-619.

Duffley, Patrick J. 1992. *The English infinitive.* New York: Longman.

Ellegård, Alvar. 1953. *The auxiliary* do*. The establishment and regulation of its use in English*. Gothenburg Studies in English 11. Stockholm: Almquist & Wiksell.

Fauconnier, Gilles & Mark Turner. 1996. Blending as a central process of grammar. In Adele Goldberg, ed., *Conceptual structure, discourse and language*, 113-31. Stanford: CSLI.

Fauconnier, Gilles & Mark Turner. 1998. Conceptual integration networks. *Cognitive Science* 22:133-87.

Fidelholtz, James L. 1975. Word frequency and vowel reduction in English. *CLS* 11:200-13.

Fillmore, Charles J. 1972. Subjects, speakers, and roles. In D. Davidson and G. Harman, eds., *Semantics of natural language*, 1-24. Dordrect: D. Reidel.

Fillmore, Charles J. 1975. An alternative to checklist theories of meaning. *BLS* 1:123-31.

Fillmore, Charles J. 1982. Frame semantics. In The Linguistic Society of Korea, ed., *Linguistics in the morning calm*, 111-37. Seoul: Hanshin.

Fillmore, Charles J. 1985. Frames and the semantics of understanding. *Quaderni di Semantica* 6:222-53.

Fillmore, Charles J., Paul Kay and Catherine O'Connor. 1988. Regularity and idiomaticity in grammatical constructions: The case of *let alone*. *Language* 64:501-38.

Fillmore, Charles J., Paul Kay, Laura A. Michaelis & Ivan A. Sag. In prep. *Construction grammar*. Stanford: CSLI Publications.

Fischer, Olga. 1992a. Syntactic change and borrowing: the case of the accusative-and-infinitive construction in English. In Marinel Gerritsen & Dieter Stein, eds., *Internal and external factors in syntactic change*, 17-88. Berlin: Mouton de Gruyter.

Fischer, Olga. 1992b. Syntax. In Norman Blake, ed., *The Cambridge history of the English language. Volume II: 1066-1476*, 207-408. Cambridge: Cambridge University Press.

Fischer, Olga. 1995. The distinction between bare and *to*-infinitival complements in late Middle English. *Diachronica* 12:1-30.

Fischer, Olga. 1996. Verbal complementation in early ME: how do the infinitives fit in? In Derek Britton, ed., *English historical linguistics 1994*, 247-70. Amsterdam/Philadelphia: John Benjamins.

Fischer, Olga. 1997a. Infinitive marking in late Middle English: transitivity and changes in the English system of case. In Jacek Fisiak, ed., *Studies in Middle English linguistics*, 109-34. Berlin / New York: Mouton de Gruyter.

Fischer, Olga. 1997b. The grammaticalisation of infinitival *to* in English compared with German and Dutch. In R. Hickey and Stanislaw Puppel, eds., *Language history and linguistic modelling, a festschrift for Jacek Fisiak on his 60th birthday*, 265-280. Berlin: Mouton de Gruyter.

Fischer, Olga. 1997c. Verbal complementation in early ME: how do the infinitives fit in? In Derek Britton, ed., *English historical syntax 1994*, 247-70. Amsterdam: John Benjamins.

Fischer, Olga. 2000. Grammaticalisation: unidirectional, non-reversable? The case of *to* before the infinitive in English. In O. Fischer, A. Rosenbach & D. Stein, eds., *Pathways of change. Grammaticalization in English*, 149-69. Amsterdam: John Benjamins.

Fischer, Olga & Frederike van der Leek. 1981. Review of Lightfoot (1979). *Lingua* 55:301-49.

Fischer, Olga & Frederike van der Leek. 1987. A 'case' for the Old English impersonal. In Willem Koopman, Frederike van der Leek, Olga Fischer & Roger Eaton, eds., *Explanation and linguistic change*, 79-120. Amsterdam: Benjamins.

Fodor, J. 1970. Three reasons for not deriving 'kill' from 'cause to die'. *Linguistic Inquiry* 1: 429-438.

Fodor, Jerry A. 1983. *The modularity of mind*. Cambridge, MA: MIT/Bradford Books.

Frawley, W. 1992. *Linguistic semantics*. Hillsdale, N.J.: Lawrence Erlbaum.

Fryde, E.B., D.E. Greenway, S. Porter & I. Roy. 1986. *Handbook of British chronology*. London: Royal Historical Society.

Geeraerts, Dirk. 1993. Vagueness's puzzles, polysemy's vagaries. *Cognitive Linguistics* 4:223-72.

Geeraerts, Dirk. 1997. *Diachronic prototype semantics*. Oxford: Clarendon Press.

Geeraerts, Dirk. 2003. 'Usage-based' implies 'variational'. On the inevitability of cognitive sociolinguistics. Plenary lecture read at the 8th International Cognitive Linguistics Conference, University of La Rioja, Logroño.

Gibbs Jr., Raymond W. & Teenie Matlock. 1999. Psycholinguistics and mental representations. *Cognitive Linguistics* 10:263-9.

Givón, Talmy. 1975. Cause and control: on the semantics of interpersonal manipulation. In J. Kimball, ed., *Syntax and semantics 4*, 59-89. New York: Academic Press.

Givón, Talmy. 1980. The binding hierarchy and the typology of complements. *Studies in Language* 4:333-77.

Givón, Talmy. 1981. Typology and fucntional domains. *Studies in Language* 5:163-93.

Givón, Talmy. 1990. *Syntax. A functional-typological introduction. Volume II*. Amsterdam/Philadephia: John Benjamins.

Givón, Talmy & Lynne Yang. 1994. The rise of the English GET-passive. In Barbara Fox & Paul J. Hopper, eds., *Voice: form and function*, 119-49. Amsterdam/Philadelphia: John Benjamins.

Goldberg, Adele E. 1995. *Constructions: a construction grammar approach to argument structure*. Chicago: University of Chicago Press.

Gronemeyer, Claire. 1999. On deriving complex polysemy: the grammaticalization of *get*. *English Language and Linguistics* 3:1-39.

Gruber, Jeoffrey S. 1965. *Studies in lexical relations*. Ph.D. dissertation. Cambridge, MA: MIT.

Haiman, John. 1980. The iconicity of grammar: isomorphism and motivation. *Language* 56:515-40.

Haiman, John. 1985. *Natural syntax: iconicity and erosion*. Cambridge: Cambridge University Press.

Hall, Fitzedward. 1882. On the separation, by a word or words, of *to* and the infinitive mood. *American Journal of Philology* 3:17-24.

Halliday, Michael A.K. 1967. Notes on transitivity and theme in English. Parts 1 and 2. *Journal of Linguistics*, 3:37–81, 199–244.

Hannah, H.B. 1973. *Grammar of the Tibetan language*. India: Literary and Colloquial Books.

Hardy, Thomas. 1896/1951. *Jude the Obscure*. Edinburgh: R. & R. Clark.

Haspelmath, Martin. 2003. The geometry of grammatical meaning: semantic maps and cross-linguistic comparison. In Michael Tomasello, ed., *The new psychology of language, vol. 2*, 211-42. Mahwah, N.J.: Lawrence Erlbaum Associates.

Hay, Jennifer, Christopher Kennedy & Beth Levin. 1998. Scalar structure underlies telicity in "degree achievements". In T. Mathews & D. Strolovitch, eds., *Proceedings of SALT 9*, 127-44. Ithaca, NY: CLC Publications.

Heine, Bernd, Ulrike Claudi, Friederike Hünnemeyer. 1991. *Grammaticalization: a conceptual framework*. Chicago: University of Chicago Press.

Hetzron, Robert. 1976. On the Hungarian causative verb and its syntax. In Masayoshi Shibatani, ed., *Syntax and semantics 6: the grammar of causative constructions*, 371-98. New York: Academic Press.

Hooper, Joan B. 1976. Word frequency in lexical diffusion and the source of morphophonological change. In W. Christie, ed., *Current progress in historical linguistics*, 96-105. Amsterdam: North Holland.

Hopper, Paul J. and Sandra A. Thompson. 1980. Transitivity in grammar and discourse. *Language* 56:251-99.

Hopper, Paul J. & Elizabeth Closs Traugott. 1993. *Grammaticalization*. Cambridge: Cambridge University Press.

Horn, Laurence R. 1978. Some aspects of negation. In Joseph H. Greenberg, Charles A. Ferguson & Editch A. Moravcsik, eds., *Universals of human language, Volume 4: syntax*, 127-210. Stanford: Stanford University Press.

Howard, Harry. 2001. Entropic vs. negentropic causation. In Augusto Soares da Silva, ed., *Linguagem e cognição: a perspectiva da linguística cognitiva*, 401-21. Braga: Associação Portuguesa de Linguística. [page references in the main text are to the downloadable version on http://www.semanticsarchive.net, 1 May 2003]

Huddleston, Rodney D. 1971. *The sentence in written English: a syntactic study based on an analysis of scientific texts*. London: Cambridge University Press.

Hupe, H. 1893. Cursor studies and criticism on the dialects of its MSs. In Richard Morris, ed., *Cursor mundi (The cursur o the world). A Northumbrian poem of the XIVth century. In four versions*. Vol. 7. EETS 101, 107-264. London: Kegan Paul, Trench, Trübner & Co.

Ikegami, Yoshihiko. 1970. *The semological structure of English verbs of motion*. Tokyo: Sanseido.

Ikegami, Tadahiro, ed. 1983. *The Lyfe of Ipomydon. Vol I. Text and introduction*. Tokyo: Ohyu-sha Printing Company Ltd.

Inoue, Kazuko. 1992. *Cause* and *make* in semantic representation. *English Linguistics* 9:132-51.

Jack, George. 1991. The infinitive in early Middle English prose. *Neuphilologische Mitteilungen* 93:311-41.

Jackendoff, Ray S. 1972. *Semantic interpretation in Generative Grammar*. Cambridge, MA: MIT Press.

Jackendoff, Ray S. 1983. *Semantics and cognition*. Cambridge, MA: MIT Press.

Jakobson, Roman. 1936/1984. Contribution to the general theory of case: general meanings of the Russian cases. In Linda R. Waugh & Morris Halle, eds., *Russian and Slavic grammar: studies 1931-1981*, 59-103. (Transl. of 'Beitrag zur allgemeinen Kasuslehre', *Travaux du Cercle Linguistique de Prague* 6:240-88.)

Jespersen, Otto. 1946. *A Modern English grammar on historical principles. Part V. Syntax. Fourth volume*. Heidelberg: Carl Winters Universitätsbuchhandlung.

Johannesson, Nils-Lennart. 1995. Old English versus Old Norse vocabulary in the Ormulum: the choice of the third person plural personal pronouns. In Gunnel Melchers & Beatrice Warren, eds., *Studies in Anglistics*, 171-80. Stockholm: Almqvist & Wiksell International.

Jurafsky, Daniel, Alan Bell, Michelle Gregory & William D. Raymond. 2001. In Joan Bybee & Paul J. Hopper, eds., *Frequency and the emergence of linguistic structure*, 229-54. Amsterdam/Philadelphia: John Benjamins.

Kaartinen, Anja & Tauno F. Mustanoja. 1958. The use of the infinitive in *A Book of London English* 1384-1425. *Neuphilologische Mitteilungen* 59:179-92.

Kaluza, Max. 1890. Kleinere Publikationen aus ME. Handschriften. *Englische Studien* 16:165-88.

Katz, Jerrold J. 1977. *Propositional structure and illocutionary force: a study of the contribution of sentence meaning to speech acts.* Hassocks: Harvester Press.

Kay, Paul & Charles J. Fillmore. 1999. Grammatical constructions and linguistic generalizations: the *What's X doing Y?* construction. *Language* 75:1-33.

Keenan, Edward L. 1985. Passive in the world's languages. In Timothy Shopen, ed., *Language typology and syntactic description, Vol. 1: clause structure*, 243-81. Cambridge: Cambridge University Press.

Keller, Rudi. 1989. Invisible-hand theory and language evolution. *Lingua* 77:113-27.

Kemenade, Ans van. 1993. The history of English modals: a reanalysis. *Folia Linguistica Historica* 13:143-66.

Kemmer, Suzanne & Michael Barlow. 2000. Introduction: a usage-based conception of language. In Michael Barlow & Suzanne Kemmer, eds., *Usage-based models of language*, vii-xxviii. Stanford: CSLI.

Kemmer, Suzanne & Arie Verhagen. 1994. The grammar of causatives and the conceptual structure of events. *Cognitive Linguistics* 5:115-56.

Kenyon, John S. 1909. *The syntax of the infinitive in Chaucer*. London: Chaucer Society.

Kolia, John A. 1975. A Balawaia grammar sketch and vocabulary, in T.E. Dutton, ed., *Studies in languages of central and south-east Papua*, 107-226. Canberra: Australian National University.

Kooij, J.G. 1971. *Ambiguity in natural language: an investigation of certain problems in its linguistic description*. Amsterdam: North-Holland.

Koopman, Hilda. 1984. *The syntax of verbs: from movement rules in the Kru languages to universal grammar*. Dordrecht: Foris.

Kristensson, Gillis. 1974. *John Mirk's instructions for parish priests*. Lund Studies in English 49. Lund: CWK Gleerup.

Krug, Manfred G. 2001. Frequency, iconicity, categorization: evidence from emerging modals. In Joan Bybee & Paul J. Hopper, eds., *Frequency and the emergence of linguistic structure*, 309-36. Amsterdam/Philadelphia: John Benjamins.

Kruisinga, E. 1931. *A handbook of Present-Day English. Part II. English accidence and syntax 1*. Groningen: Noordhoff.

Kruisinga, E. & P.A. Erades. 1967. *An English grammar. Volume I: accidence and syntax. Second part*. Groningen: P. Noordhoff N.V.

Kytö, Merja. 1991. *Manual to the diachronic part of the Helsinki Corpus of English Texts: Coding conventions and lists of source texts*. Helsinki: Department of English, University of Helsinki.

Kytö, Merja. 1993. Third-person present singular verb inflection in early British and American English. *Language Variation and Change* 5:113-39.

Kytö, Merja, Matti Rissanen & Susan Wright (eds.). 1994. *Corpora across the centuries. Proceedings of the first Colloquium of English Diachronic Corpora*. Amsterdam: Rodopi.

Lakoff, George. 1970. A note on vagueness and ambiguity. *Linguistic Inquiry* 1:357-9.

Lakoff, George. 1987. *Women, fire, and dangerous things: what categories reveal about the mind*. Chicago: University of Chicago Press.

Lakoff, George. 1990. The invariance hypothesis: is abstract reason based on image-schemas? *Cognitive Linguistics* 1:39-74.

Lakoff, Robin. 1971. Passive resistance. *CLS* 7:49-62.

Langacker, Ronald W. 1987. *Foundations of cognitive grammar. Vol. I: theoretical prerequisites*. Stanford: Stanford University Press.

Langacker, Ronald W. 1988. A usage-based model. In Brygida Rudzka-Ostyn, ed., *Topics in cognitive linguistics*, 127-61. Amsterdam: Benjamins.

Langacker, Ronald W. 1991a. *Concept, image, and symbol. The cognitive basis of grammar*. Berlin: Mouton de Gruyter.

Langacker, Ronald W. 1991b. *Foundations of cognitive grammar. Vol. II: descriptive application.* Stanford: Stanford University Press.

Langacker, Ronald W. 1992. Prepositions as grammatical(izing) elements. *Leuvense Bijdragen* 81:287-309.

Langacker, Ronald W. 1998. On subjectification and grammaticization. In Jean-Pierre Koenig, ed., *Discourse and cognition. Bridging the gap*, 71-89. Stanford: CSLI.

Langacker, Ronald W. 2000. A dynamic usage-based model. In Michael Barlow & Suzanne Kemmer, eds., *Usage-based models of language*, 1-63. Stanford: CSLI.

Lass, Roger. 1990. How to do things with junk: exaptation in language change. *Journal of Linguistics* 26:79-102.

Lehmann, Christian. 1985. Grammaticalization: synchronic variation and diachronic change. *Lingua e Stile* 20:303-18.

Lehrer, Adrienne. 1987. Why *to* is not a verb. In Nils Århammar et al., eds., *Aspects of language: studies in honour of Mario Alinei. Vol. 2. Theoretical and applied semantics*, 249-60. Amsterdam: Rodopi.

Levin, Beth. 1993. *English verb classes and alternations*. Chicago: University of Chicago Press.

Lightfoot, David. 1974. The diachronic analysis of English modals. In J. Anderson & C. Jones, eds., *Historical linguistics I: proceedings of the First International Conference on Historical Linguistics*, 219-49. Amsterdam: North-Holland.

Lightfoot, David. 1979. *Principles of diachronic syntax*. Cambridge: Cambridge University Press.

Los, Bettelou. 1999. *Infinitival complementation in Old and Middle English*. Ph.D. dissertation. Amsterdam: Vrije Universiteit.

Losiewicz, B.L. 1992. *The effect of frequency on linguistic morphology*. Ph.D. dissertation. Austin: University of Texas.

Macháček, Jaroslav. 1969. Historical aspects of the accusative with infinitive and the content clause in English. *Brno Studies in English* 8:123-131.

Marckwardt, Albert H. 1958. *American English*. New York: Oxford University Press.

Marcus, G., U. Brinkmann, H. Clahsen, R. Wiese, A. Woest & S. Pinker. 1995. German inflection: The exception that proves the rule. *Cognitive Psychology* 29:189-256.

Martin, Jack B. 2000. Creek voice: beyond valency. In R.M.W. Dixon and Alexandra Y. Aikhenvald, eds., *Changing valency. Case studies in transitivity*, 375-403. Cambridge: Cambridge University Press.

McCawley, James D. 1968. Lexical insertion in a transformational grammar without deep structure. In *Papers from the Fourth Regional Meeting of the Chicago Linguistic Society*, 71-80. Chicago: Department of Linguistics, University of Chicago.

McCawley, James D. 1976. Remarks on what can cause what. In Masayoshi Shibatani, ed., *Syntax and semantics 6: The grammar of causative constructions*, 117-29. New York: Academic Press.

McKnight, George H. 1925. Conservatism in American speech. *American Speech* 1:1-17.

MED = Middle English Dictionary. 1954— . Edited by Hans Kurath, Sherman M. Kuhn & Robert E. Lewis. Ann Arbor: University of Michigan Press.

Minsky, Marvin. 1975. A framework for representing knowledge. In P.H. Winston, ed., *The psychology of computer vision*, New York: McGraw-Hill, 211-79.

Mittwoch, Anita. 1990. On the distribution of bare infinitive complements in English. *Journal of Linguistics* 26:103-31.

Montgomery, Michael. 2001. British and Irish antecedents. In John Algeo, ed., *Cambridge history of the English language. Vol. 6: American English.* Cambridge: Cambridge University Press.

Moonwoman, Birch. 1992. The mechanism of lexical diffusion. Paper presented at the Annual Meeting of the Linguistic Society of America, Philadelphia.

Moreno, Juan Carlos. 1993. 'Make' and the semantic origins of causativity: a typological study. In Bernard Comrie & Maria Polinsky, eds., *Causatives and transitivity*, 155-64. Amsterdam: John Benjamins.

Morris, Richard. 1874. Preface. In Richard Morris, ed., *Cursor Mundi (The Cursur o the world). A Northumbrian poem of the XIVth century. In four versions*. Vol. 1. EETS 57, vii-xxx. London: Kegan Paul, Trench, Trübner & Co.

Mossé, Ferdinand. 1952. *A handbook of Middle English*. Transl. James A. Walker. Baltimore: The John Hopkins Press.

Mustanoja, Tauno F. 1960. *A Middle English syntax. Vol. I.* Helsinki: Société Néophilologique.

Napier, Arthur S. (ed.). 1894. *History of the holy rood-tree*. EETS 103. London: Kegan Paul, Trench, Hübner & Co.

Nedjalkov, V.P. 1971. *Kauzativnye konstrukcii v nemeckom jazyke. Analiticheskij kauzativ.* Leningrad: Nauka.

OED = Oxford English Dictionary. 1989— . Prepared by J.A. Simpson & E.S.C. Weiner. Oxford: Clarendon Press.

Ohlander, Urban. 1941. A study on the use of the infinitive sign in Middle English. *Studia Neophilologica* 14:58-66.

Palmer, F.R. 1974. *The English verb*. London: Longman.

Panharipande, Rajeshwari V. 1997. *Marathi*. London: Routledge.

Pederson, Eric. 1991. *Subtle semantics: universals in the polysemy of reflexive and causative constructions*. Ph.D. dissertation. Berkeley: University of California.

Perlmutter, D. & P. Postal. 1974. Unpubl. lectures presented at the Linguistic Institute, University of Massachusetts.

Peterson, Clifford (ed.). 1977. *Saint Erkenwald*. Philadelphia: University of Pennsylvania Press.

Phillips, Betty. 1980. Old English *an ~ on*: a new appraisal. *Journal of English Linguistics* 14:20-3.

Phillips, Betty. 2001. Lexical diffusion, lexical frequency, and lexical analysis. In Joan Bybee & Paul J. Hopper, eds., *Frequency and the emergence of linguistic structure*, 123-36. Amsterdam/Philadelphia: John Benjamins.

Pinker, Stephen & Alan Prince. 1994. Regular and irregular morphology and the psychological status of rules of grammar. In Susan D. Lima, R.L. Corrigan & Gregory K. Iverson, eds., *The reality of linguistic rules*, 353-88. Amsterdam: John Benjamins.

Plank, Frans. 1979. Ikonisierung und De-Ikonisierung als Prinzipien des Sprachwandels. *Sprachwissenschaft* 4:121-58.

Plank, Frans. 1984. The modals story retold. *Studies in Language* 8:305-64.

Pollard, Carl & Ivan A. Sag. 1994. *Head-driven phrase structure grammar*. Stanford: CSLI.

Poutsma, H. 1926. *A grammar of late Modern English. Part II. The parts of speech. Section II, the verb and the particles*. Groningen: P. Noordhoff.

Poutsma, H. 1929. *A grammar of late Modern English. Part I. The sentence. Second half. The composite sentence*. Groningen: P. Noordhoff.

Quirk, Randolph, Sidney Greenbaum, Geoffrey Leech & Jan Svartvik. 1972. *A grammar of contemporary English*. London: Longman.

Quirk, Randolph, Sidney Greenbaum, Geoffrey Leech & Jan Svartvik. 1985. *A comprehensive grammar of the English language*. London: Longman.

Quirk, Randolph & Jan Svartvik. 1970. Types and uses of non-finite clause in Chaucer. *English Studies* 51:393-411.

Rice, Sally A. 1987. *Towards a cognitive model of transitivity*. Ph.D. dissertation. San Diego: University of California.

Ritter, Elizabeth & Sara Thomas Rosen. 1997. The function of *have*. *Lingua* 101:295-321.

Rosch, Eleanor H. 1973. Natural categories. *Cognitive Psychology* 4:328-50.

Rosch, Eleanor H. 1978. Principles of categorization. In Eleanor H. Rosch & Barbara B. Lloyd, eds., *Cognition and categorization*, 27-48. Hillside N.J., Lawrence Erlbaum Associates.

Rosch, Eleanor H., C.B. Mervis, W.D. Gray, D.M. Johnson & P. Boyes-Braem. 1976. Basic objects in natural categories. *Cognitive Psychology* 8: 382-349.

Royster, James Finch. 1918. The causative use of *hatan*. *Journal of English and Germanic Philology* 17:82-93.

Royster, James Finch. 1922. Old English causative verbs. *Studies in Philology* 19:328-56.

Sanders, Hermann. 1915. *Der syntaktische Gebrauch des Infinitivs im Frühmittelenglischen*. Kieler Studien zur englischen Philologie 7. Heidelberg: Carl Winter.

Sandra, Dominiek. 1998. What linguists can and can't tell you about the human mind: a reply to Croft. *Cognitive Linguistics* 9:361-78.

Shannon, Thomas. 1987. *Aspects of complementation and control in modern German: the syntax and semantics of permissive verbs*. Göppingen: Kümmerle.

Sharma, J.C. 1982. *Gojri grammar*. Mysore: Central Institute for Indian Languages.

Shibatani, Masayoshi. 1973. *A linguistic study of causative constructions*. Ph.D. dissertation. Berkeley: University of California.

Shibatani, Masayoshi. 1976. The grammar of causative constructions: a conspectus. In Masayoshi Shibatani, ed., *Syntax and semantics 6: the grammar of causative constructions*, 1-40. New York: Academic Press.

Shibatani, Masayoshi. 1990. *The languages of Japan*. Cambridge: Cambridge University Press.

Siewierska, Anna. 1984. *The passive. A comparative linguistic analysis.* London: Croom Helm.

Silverstein, Michael. 1976. Hierarchy of features and ergativity. In R.M.W. Dixon, *Grammatical categories in Australian languages*, 112-71. Canberra: Australian Institute of Aboriginal Studies.

Smith, Carlota S. 1978. Jespersen's 'move and change' class and causative verbs in English. In Mohammed Ali Jazayery, Edgar C. Polomé and Werner Winter, eds., *Linguistic and literary studies in honor of Archibald A. Hill, vol.II: descriptive linguistics*, 101-9. The Hague: Mouton.

Smith, Tomoko Yamashita. 1998. How 'give' and 'receive' provide structure for more abstract notions: the case of benefactives, adversatives, causatives, and passives. *BLS* 24:219-231.

Song, Jae Jung. 1996. *Causatives and causation: a universal-typological perspective*. London: Longman.

Song, Jae Jung. 2000. *Linguistic typology: morphology and syntax.* Harlow: Longman.

Sridhar, S.N. 1976. Dative subjects. *CLS* 12:582-93.

Stevens, Martin & A.C. Cawley (eds.). 1994. *The Towneley plays. Volume one: introduction and text*. EETS S.S. 13. New York: Oxford University Press.

Stone, Brian (transl.). 1971. *The owl and the nightingale, Cleanness, St. Erkenwald*. London: Penguin.

Sweetser, Eve. 1990. *From etymology to pragmatics: metaphorical and cultural aspects of semantic structure.* Cambridge: Cambridge University Press.

Tabor, Whitney & Elizabeth Closs Traugott. 1998. Structural scope expansion and grammaticalization. In Anna Giacalone Ramat & Paul J. Hopper, eds., *The limits of grammaticalization,* 227-70. Amsterdam: Benjamins.

Talmy, Leonard. 1976. Semantic causative types. In Masayoshi Shibatani, ed., *Syntax and semantics 6: the grammar of causative constructions*, 43-116. New York: Academic Press.

Talmy, Leonard. 1985. Lexicalization patterns: semantic structure in lexical forms. In Timothy Shopen, ed., *Language typology and syntactic description. Vol. 3: grammatical categories and the lexicon*, 57-149. Cambridge: Cambridge University Press.

Talmy, Leonard. 1988. Force dynamics in language and cognition. *Cognitive Science* 12:49-100.

Talmy, Leonard. 2000a. *Toward a cognitive semantics. Vol. I: concept structuring systems*. Cambridge, MA/London: MIT Press.

Talmy, Leonard. 2000b. *Toward a cognitive semantics. Vol. II: typology and process in concept structuring*. Cambridge, MA/London: MIT Press.

Taylor, A.B. (ed.). 1927. *Floris and Blancheflour. A Middle English romance*. Oxford: Clarendon Press.

Taylor, John R. 1995. *Linguistic categorization: prototypes in linguistic theory*. Oxford: Oxford University Press.

Taylor, Richard. 1840. *The diversions of Purley* [by J. Horne Tooke]. London: T. Tegg.

Terasawa, Jun. 1985. The historical development of the causative use of the verb *make* with an infinitive. *Studia Neophilologica* 57:133-43.

Timberlake, Alan. 1977. Reanalysis and actualization in syntactic change. In Charles Li, ed., *Mechanisms of syntactic change*, 141-77. Austin: University of Texas Press.

Tomasello, Michael. 2000. First steps toward a usage-based theory of language acquisition. *Cognitive Linguistics* 11:61-82.

Tomasello, Michael. 2003. *Constructing a language: a usage-based theory of language acquisition*. Cambridge, MA/London: Harvard University Press.

Trask, R.L. 1993. *A dictionary of grammatical terms in linguistics*. London: Routledge.

Traugott, Elizabeth Closs. 2001. Legitimate counterexamples to unidirectionality. Paper presented at Freiburg University. [available: http://www.stanford.edu/~traugott/ect-papersonline.html, 8 July 2003]

Traugott, Elizabeth Closs & Ekkehard König. 1991. The semantics-pragmatics of grammaticalization revisited. In Elizabeth Closs Traugott & Bernd Heine, eds., *Approaches to grammaticalization, Vol. I. Focus on theoretical and methodological issues*, 189-218. Amsterdam: John Benjamins.

Trnka, Bohumil. 1924. Příspěvky k syntaktickému a fraseologickému vývoji slovesa *to have*. *Studies in English by Members of the English seminar of the Charles University* 1:1-38.

Tuggy, David. 1999. Linguistic evidence for polysemy in the mind: a response to William Croft and Dominiek Sandra. *Cognitive Linguistics* 10:343-68.

Ungerer, Friedrich & Hans-Jörg Schmid. 1996. *An introduction to cognitive linguistics*. Harlow: Longman.

Vendler, Z. 1967a. *Linguistics in philosophy*. Ithaca, N.Y.: Cornell University Press.

Vendler, Z. 1967b. Causal relations. *Journal of Philosophy* 64:704-13.

Verhagen, Arie. 2000. Interpreting usage: construing the history of Dutch causal verbs. In Michael Barlow and Suzanne Kemmer, eds., *Usage-based models of language*, 261-86. Stanford: CSLI Publications.

Verhagen, Arie & Suzanne Kemmer. 1997. Interaction and causation: causative constructions in modern standard Dutch. *Journal of Pragmatics* 27:61-82.

Visser, Fredericus Th. 1973. *An historical syntax of the English language. Part three, second half. Syntactical units with two and with more verbs*. Leiden: E.J. Brill.

Vitale, Anthony J. 1981. *Swahili syntax*. Dordrecht: Foris.

Warner, Anthony R. 1982. *Complementation in Middle English and the methodology of historical syntax. A study of the Wyclifite Sermons*. London: Croom Helm.

Warner, Anthony R. 1983. Review article on David Lightfoot, *Principles of diachronic syntax*. *Journal of Linguistics* 19:187-209.

Warner, Anthony R. 1990. Reworking the history of the English auxiliaries. In Sylvia Adamson, Vivien Law, Nigel Vincent & Susan Wright, eds., *Papers from the 5th International Conference on English Historical Linguistics*, 537-58. Amsterdam: Benjamins.

Weld, John (ed.). 1973. *Gesta Romanorum. A record of auncient histories newly perused by Richard Robinson (1595)*. New York: Delmar.

Werth, Paul. 1999. *Text worlds: representing conceptual space in discourse*. Edinburgh: Longman.

White, Robert Meadows (ed.). 1852. *The Ormulum*. Vol. I. Oxford: The University Press.

Wierzbicka, Anna. 1975. Why “kill” does not mean “cause to die”: the semantics of action sentences. *Foundations of Language* 13:491-528.

Wierzbicka, Anna. 1988. *The semantics of grammar*. Amsterdam: Benjamins.

Williams, Edwin. 1984. *There*-insertion. *Linguistic Inquiry* 15:131-53.

Woodcock, E.C. 1959/1989. *A new Latin syntax*. London: Methuen.

Yang, I.-S. 1976. Semantics of Korean causation. *Foundations of Language* 14: 55-87.

Zandvoort, R.W. 1957. *A handbook of English grammar*. London: Longmans.

Zeitlin, Jacob. 1908. *The accusative with infinitive and some kindred constructions in English*. Ph.D. dissertation, Columbia University. Baltimore: J.H. Furst.

Zipf, G. 1935. *The psycho-biology of language*. Boston: Houghton Mifflin.

Zupitza, Julius (ed.). 1875-76. *The romance of Guy of Warwick*. EETS E.S. 25, 26. London: N. Trübner & Co.