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Constructing Causation:  
A Construction Grammar Approach to Analytic Causatives

by

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ABSTRACT

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This dissertation proposes a Construction Grammar account of how the meaning of complex constructions, specifically, analytic causatives, emerges from an aggregation of simpler constructions, which individually have fairly abstract semantics, but which in combination encode very specific event types.

The constructions investigated are make s.o. V, have s.o. V, have s.o. Ving, get s.o. to V, force s.o. to V, set s.o. (to) Ving, drive s.o. to V, move s.o. to V, lead s.o. to V, bring self to V, send s.o. Ving, give s.o. to understand, and leave s.o. Ving.

Three causation event types are posited that are relevant to an analysis of analytic causative constructions: the MANIPULATE type, where an animate causer intentionally acts on a causee in a way that influences the causee such that he or she performs some activity; the TRIGGER type, where an event occurs which influences a causee such that, given the nature of the causee, the causee will inevitably undergo some process; and the
PROMPT type, where an event occurs and a causee perceives this event and decides to react by performing some activity.

Any given analytic causative encodes a more specific version of one or more of these event types. The two simple constructions that contribute most to a given analytic causative are causation verbs (*make, have, get*, etc.) and sentential complements (the bare infinitive, the *to*-infinitive, the present participle, etc.). Which event type(s) can be encoded by a given analytic causative does not depend on the causation verb or the sentential complement alone. Instead, particular combinations of the two yield meanings that are either compatible or incompatible with a given event type.

Also discussed in the dissertation are the passivization of matrix or embedded clauses in analytic causatives, the relationship between causation verbs and their lexical sources, and the relationship between analytic causatives and transitive constructions with change-of-state or motion verbs.
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# Table of contents

1 Introduction ........................................................................................................................................... 1

2 Causation and causativity ................................................................................................................. 11

  2.1 The nature of causation .............................................................................................................. 11

  2.2 Causal chains ............................................................................................................................. 16

  2.3 Expressing causation in English: an overview ............................................................................. 25

    2.3.1 No overt marking of a causal link ....................................................................................... 25

    2.3.2 Overt expression of a causal link by a conjunction .............................................................. 28

    2.3.3 Overt expression of a causal link by a preposition ............................................................... 31

    2.3.4 Intransitive-transitive alternations ...................................................................................... 33

    2.3.5 Analytic causatives ............................................................................................................. 35

3 Construction Grammar ...................................................................................................................... 41

  3.1 Overview ...................................................................................................................................... 41

  3.2 A closer look at some important notions ..................................................................................... 51

    3.2.1 Argument structure constructions ....................................................................................... 51

    3.2.2 Extensions ........................................................................................................................... 54

    3.2.3 Semantic roles ...................................................................................................................... 57

    3.2.4 Subjeqtification .................................................................................................................... 59

    3.2.5 Gapping ................................................................................................................................ 61

    3.2.6 A note on data ..................................................................................................................... 63

  3.3 The syntax of analytic causatives ............................................................................................... 65

  3.4 The structure of causatives: a constructional account ............................................................... 71

4 Causation event types ......................................................................................................................... 85

  4.1 Attributes of causation events .................................................................................................... 86

  4.2 The semantic heterogeneity of the make-causative .................................................................. 89

  4.3 Four types of make-causative ..................................................................................................... 94

    4.3.1 The MANIPULATE configuration ....................................................................................... 97

    4.3.2 The TRIGGER configuration ............................................................................................. 108

    4.3.3 The PROMPT configuration .............................................................................................. 119

    4.3.4 Beyond the three role configurations ................................................................................... 124

  4.4 Further evidence for the four event types .................................................................................. 126

5 The major analytic causatives of English .......................................................................................... 129

  5.1 Have .......................................................................................................................................... 130

  5.2 Make revisited ............................................................................................................................ 147
5.3 Force ................................................................. 148
5.4 Get ................................................................. 154
5.5 Cause ............................................................... 159

6 The relation between constructions and event types .................................. 164
  6.1 English complementation constructions .............................................. 166
  6.2 Compatibility between causation verb and complement construction .... 172
  6.3 Compatibility between causative construction and event type .......... 176
    Have ................................................................. 177
    Force and get ..................................................... 185
    Make and cause .................................................. 187
    Set ................................................................. 188
  6.4 Passivizability ........................................................................ 196
    6.4.1 The semantics of passive voice in English .............................. 198
    6.4.2 M-passives and e-passives ................................................. 200
      Make ................................................................. 202
      Force ................................................................. 203
      Have ................................................................. 204
      Get ................................................................. 205
    6.4.3 Passivization and complementation: a closer look at get and make 205

7 Conceptual sources of causation verbs .................................................... 210
  7.1 Conceptual models ........................................................................ 211
  7.2 Make, have, force, and get ............................................................ 213
    7.2.1 Make ................................................................. 215
    7.2.2 Have ................................................................. 217
    7.2.2 Force .................................................................... 218
    7.2.4 Get ................................................................. 222
    7.2.5 Summary .................................................................... 223
  7.3 Causation is motion ........................................................................ 224
    7.3.1 Two event structure metaphors ............................................. 226
    7.3.2 Causation is forced motion of participants ............................ 228
      Drive ........................................................................ 228
      Move .......................................................................... 234
      Lead .......................................................................... 238
      Bring ......................................................................... 243
      Send .......................................................................... 249
    7.3.3 Causation is (forced) movement of states/events ................... 253
      Give .......................................................................... 253
      Leave ......................................................................... 256

8 A new look at causative alternations ......................................................... 261
8.1 Causative alternations ................................................................. 263
8.2 Caused change-of-state .................................................................. 266
  8.2.1 A constructional account of change-of-state verbs .................... 266
  8.2.2 The synthetic vs. the analytic causative for change-of-state verbs .... 273
    Burn ....................................................................................... 276
    Break .................................................................................... 283
    Melt ...................................................................................... 287
    Interim summary ....................................................................... 290
8.3 Caused motion .............................................................................. 292
  8.3.1 A constructional account of motion verbs .................................. 293
  8.3.2 The synthetic vs. the analytic causative for change-of-state verbs .... 296
    March ...................................................................................... 297
    Roll ....................................................................................... 300
    Run ....................................................................................... 302
    Interim summary ....................................................................... 306

9 Conclusion .................................................................................... 308

Data sources .................................................................................... 316

References ....................................................................................... 317
Figures and tables

Fig. 6.1: Changes in salience for the two passives.................................................. 200
Fig. 6.2: Passivization of the four major causatives of English.............................. 207
Fig. 8.1: Cline of agenthood ................................................................................. 290
Table 4.1: Verbs occurring in the result slot in the make-causative.......................... 91
Table 4.2: Configurations of participant types for the make-causative
in Switchboard ........................................................................................................ 92
Table 4.3: Resulting event types for each configuration of participant types
for the make-causative in Switchboard................................................................. 95
Table 5.1: The most frequent analytic causatives in spoken American English...... 129
Table 5.2: Referents of OBJ/OBJ2 for transitive and ditransitive uses of cause ..... 163
Table 6.1: Types of causers with set-verbing and set-to-verbing ............................ 193
Table 6.2: Types of causees with set-verbing and set-to-verbing ............................ 193
Table 6.3: Resulting events of the set-verbing construction ................................... 195
Table 6.4: Verbs occurring in the result slot of set + to + present participle .......... 195
Table 7.1: Result verbs in the drive-causative....................................................... 229
Table 7.2: Result verbs in the lead-causative....................................................... 240
Table 7.3: Result verbs in the send-causative...................................................... 250
Table 7.4: Result verbs of the leave-causative..................................................... 259
1 Introduction

This work investigates analytic causative constructions in English, i.e. constructions with the general form \([\text{NP}_x [\text{VP} \ \text{V}_{\text{cause}} \ \text{NP}_y \ \text{VP}_{\text{effect}}]]\), where \(\text{NP}_x\) is the syntactic and the logical subject of the matrix verb (i.e. of \(\text{V}_{\text{cause}}\)), and \(\text{NP}_y\) is the syntactic object of the matrix verb, and the logical subject of the embedded verb (i.e. of \(\text{VP}_{\text{effect}}\)). Some examples of such constructions from a corpus of written American English are shown in (1):

(1) a. [About Nixon’s barber] Pitts later explained that he MADE Nixon give up Brylcreem and persuaded him that the presidential hair was too high in the back and too short in the front. (NAN)

   b. He taped the songs and subsequently HAD someone transcribe them. (NAN)

   c. In a settlement reached last week, the union FORCED GM to rehire 500 workers who were previously laid off. (NAN)

   d. Bailey GOT Fuhrman to acknowledge that he was alone for a few moments at the scene of the murders. (NAN)

   e. An oncoming truck CAUSED him to swerve off the road. (NAN)

Analytic causatives have not received much attention in the literature, compared with the vast literature on morphological and lexical causatives (for summaries, cf. Comrie 1989, Payne 1997: 175ff.). Although they are sometimes dealt with in passing in the literature dealing with the differences between lexical and analytic causatives (e.g. Fodor 1970, Wierzbicka 1975, McCawley 1978) or causativity in general (cf. e.g. Shibatani 1976, Talmy 1976, McCawley 1976, Dixon 1991: 193ff., Ch. 6), there are only a handful of
studies that investigate the semantics of analytic causatives in detail (for English, cf. Givón 1975, Goldsmith 1984, Wierzbicka 1988a, 1998; see also Givón 1993, Ch. 7).\footnote{There is a substantial literature on analytic causatives in the Romance languages, but this literature deals almost exclusively with their syntactic properties (e.g. Burzi 1978, 1983, Alsina 1993, Maier 1996); there are also a number of individual studies on analytic causatives in other languages which pay attention to semantics, cf. e.g. Matisoff (1976) for Lahu (Tibeto-Burman), Vichit-Vadakan 1976 for Thai, Meyer (1992) for Khmer, Toops (1996) for Czech, Achard 1996, to appear for French, Verhagen and Kemmer 1997 for Dutch, Stefanowitsch, to appear (a) for Akawaio (Cariban).} Also, analytic causatives have not been investigated in detail from a typological perspective (but see Song 1996 for some discussion); here, the focus has been almost entirely on the case marking of arguments in morphological causative constructions; again, analytic causatives are mentioned in passing at best (e.g. Comrie 1976, 1989, Langacker 1991: 408ff., Kemmer and Verhagen 1994).

The comparatively low interest in analytic causative constructions may be due to the fact that they are perceived to be, first, cross-linguistically rare, and second, infrequent (or even unnatural) in the languages that do have them (cf. Comrie 1989: 167). In the absence of detailed studies, it is difficult to substantiate or disprove the first of these perceptions. However, the second perception is certainly not borne out by a closer look at English: although some analytic causatives, most notably the cause-causative shown in (1e) above, are indeed restricted to special contexts, there are a great number of causative constructions that are found widely in naturally occurring language. However, even if it were true that analytic causatives are rare typologically or within a given language, they still pose several challenges both descriptively and theoretically.
First, analytic causatives differ with respect to the types of causal links they can encode. For example, while the make-causative can encode both agent-like and stimulus-like participants in the NPₙ slot (as in [2a, b]), the have-causative can only encode agent-like causers (as in [3a, b]):

(2) a. AGENT: Several hours later she saw police arrive and MAKE villagers dig the graves. (NAN)
   
   b. STIMULUS: The semi-nude picture of O.J. and Nicole Simpson on the cover of People magazine MADE me shudder. (NAN)

(3) a. AGENT: Police then gave him a pick and a shovel and HAD him dig the body up himself. (TIPSTER)
   
   b. STIMULUS: *The picture of O.J. and Nicole HAD me shudder.

These differences raise two issues: a descriptive one (which causative construction encodes which type of causal event type) and a theoretical one (how does one account for cases where a given causative encodes several event types). Detailed discussion of such differences are few and far between; the semantic analysis of analytic causatives often exhausts itself in the recognition that they tend to encode less direct causal links than morphological or lexical causatives (for notable exceptions cf. Givón 1975, Goldsmith 1984, Wierzbicka 1998, cf. also Shibatani 1976, McCawley 1978). An analysis in terms of the direct–indirect distinction, though not necessarily completely off the mark (see further Chapter 8), considerably underestimates the semantic complexity of analytic causatives.
Second, an analysis of analytic causatives in terms of the distinction between direct and indirect causation is inadequate in light of the fact that languages often have several analytic causatives. In addition to the five constructions shown in (1) above, English has a large number of verbs of motion, force, transfer, etc. that can function as matrix verbs in analytic causatives. Some examples are shown in (4):

(4)  
a. Lyle and Eric Menendez [...] claimed that intense fear DROVE them to murder their wealthy parents. (NAN)

b. The blast damaged nearby houses and SENT debris flying 250 feet. (NAN)

c. The sexy actress [...] seems to favor very low-cut clothes that SET men to drooling. (NAN)

d. If Williams is MOVED to do anything by his near-death experience, his first trip should be to the site of his accident. (NAN)

e. For [some people], wandering through a famous art gallery or museum LEAVES them marveling at their own insignificance. (NAN)

The existence of these constructions suggests that analytic causatives serve more specific functions than that of signaling indirect causation, and they call for a fine-grained semantic analysis.

Third, there is considerable variation in the syntax of analytic causatives. Most importantly, different matrix verbs call for different types of complementation constructions. In English, there are four types of complementation with analytic causatives:
(5)  a.  [VP Vcaus NPobj VP infinitive], e.g. make (cf. [1a]), have (cf. [1b])

       b.  [VP Vcaus NPobj to VP infinitive], e.g. force (cf. [1c]), get (cf. [1d]), drive (cf. [4a]),
             move (cf. [4d])

       c.  [VP Vcaus NPobj VP present participle], e.g. send (cf. [4b]), leave (cf. [4e])

       d.  [VP Vcaus NPobj to VP present participle], e.g. set (cf. [4c])

These complementation constructions raise at least two questions of theoretical interest. First, why do particular causative matrix verbs occur with particular types of complements? For example, is there a motivation for the fact that make occurs with the bare infinitive, whereas force occurs with the to-infinitive? Second, why can particular matrix verbs occur with more than one type of complement, and what are the semantic consequences? For example, have can occur either with the (bare) infinitive (as in [1b] above), or with the (bare) present participle, as in (6a, b) below. The choice of complement correlates with important semantic differences; recall that have with the infinitive can only have agent-like subjects, as in (3a), but not stimulus-like subjects, as in (3b). This constraint does not hold for have with the (bare) present participle:

(6)  a. AGENT: Casey had greatly expanded the [CIA] and its operations, and HAD it fighting covert wars all over the world. (NAN)

       b. STIMULUS: [About Led Zeppelin guitarist Jimmy Page] Seeing Page crank it up again onstage has many of his fellow guitarists drooling. (NAN)

The fact that the same causative matrix verb has different semantic restrictions depending on the type of complement it occurs with raises the issue of the compositionality of analytic causative constructions: do the semantic restrictions on complex clause
constructions simply have to be posited as part of a given construction, or can they be predicted on the basis of the component constructions (in the case of analytic causatives, the causative matrix verb and the complementation construction)?

Fourth, the constructions in (1) and (4) raise a further theoretical issue of some significance: what is the relationship between the causative uses of the matrix verbs in (1) and (4) and their lexical (‘literal’) counterparts, e.g. between Brutality and viciousness [...] in cartoons [may] MOVE some shaky youths to go forth and do likewise (NAN) vs. Tribal leaders MOVED the youths to uncontested Tlingit islands (NAN). Especially the verbs in (4) lend themselves to an account of causative constructions in terms of conceptual metaphors, and it has been suggested that the semantic domain of causation is wholly structured in terms of such metaphors (Lakoff and Johnson 1999, Ch. 10). However, although it is true that the use of a particular verb in the V_{caus} slot of an analytic causative is often motivated on the basis of a general conceptual metaphor, this metaphor and the given source domain do not usually fully determine the meaning of the causation verb in question. As an example, consider the move-causative in (7):

(7)   a.   Pride and a sense of destiny MOVED them to become soldiers. (NAN)
   b.   ??The recruitment officer MOVED them to become soldiers.

Put simply, this construction requires that the result (‘becoming soldiers’) be brought about by an internal sensation, as in (7a). This accounts for the unacceptability of (7b) (which would only be acceptable in a situation where the recruitment officer triggered
some internal sensation in the referent of the object, which in turn caused them to become soldiers). Now, note that in broad terms the use of transitive *move* as a causation verb is motivated by the general conceptual mapping **CHANGE IS MOTION** (manifest in examples like *Things WENT from bad to worse* or *The nation SLIPPED INTO a depression*). However, the specific constraint on the subject of the *move*-causative is not motivated by this mapping.

This dissertation is structured as follows. Chapter 2 discusses the notions ‘causation’ (roughly, a human conceptualizer’s perception of a causal link between two events) and ‘causativity’ (i.e. the linguistic encoding of causation). I briefly review the two general views on the nature of causality found in philosophy (and psychology), rephrasing them as cognitive construal principles (in the sense of Langacker 1987, 1991a, b). I then explicate the common-sense notion of a causal chain, introducing some basic terminology in the process. Finally, I apply these notions to various ways of expressing causal links in English, touching, for example, on conjunctions, prepositions, and what I will refer to as ‘synthetic causatives.’ This survey of causative construction types serves to clarify and elaborate on the basic notions introduced in the preceding sections, and it also places analytic causatives in a wider context.

Chapter 3 introduces the theoretical framework adopted for the analyses in the subsequent chapters, Construction Grammar (cf. Fillmore 1988, Kay and Fillmore 1999, Lakoff 1987, Goldberg 1995). After giving a general overview, I touch on some issues of central relevance, such as argument structure constructions, semantic roles,
subjectification (in the sense of Langacker 1991: 315ff.), gapping (in the sense of Talmy 1996), and some methodological issues. I then sketch out a general construction-based approach to the structure of analytic causative constructions.

Chapter 4 introduces three types of causation event types, which I refer to as the MANIPULATE configuration, the TRIGGER configuration, and the PROMPT configuration. These event types differ with respect to the agentivity, the intentionality, and the degree of control of the participants involved; they account for distinctions like that between an agent-like cause and a stimulus-like cause discussed in the context of examples (2) and (3) above. These event types emerge from a detailed corpus analysis of the make-causative, but are in fact general configurations of participants that recur with many different analytic causative constructions.

Chapter 5 discusses the remaining constructions shown in (1) above, i.e. the have-causative, the force-causative, the get-causative, and the cause-causative. I show that these differ with respect to which of the causation event types they can encode. I also show that they can be described as more specific variants of one or more of these event types, and discuss the specific meanings contributed by the causation verbs make\textsubscript{caus}, have\textsubscript{caus}, force\textsubscript{caus}, get\textsubscript{caus}, and cause.

Chapter 6 addresses the relationship between causation verbs, complementation constructions, and event types. I argue that the choice of complementation construction for a given causation verb is to some degree motivated given the semantics of the causation verb and the semantics of the complementation construction, but that this
motivation is far removed from anything approaching predictability. For example, I analyze the to in (5b, d) above as signaling a delay between cause and effect. Given this analysis, it makes sense that force, which itself evokes a notion of resistance, occurs with the to-infinitive, while have, which evokes a complete lack of resistance, occurs with the bare infinitive or the bare gerund; there is simply a natural affinity between the semantics of force and to, but not between have and to.

I then argue that if one takes the combinations of causation verbs and complementation constructions as given, it is possible to predict which of the event types introduced and discussed in Chapters 4 and 5 can be encoded by a given combination. The semantics of the causation verb and the complement construction interact to place certain restrictions on the referents of the subject and the object of the causation verb, which leads to compatibility or incompatibility of these participants with those required by a particular causation event type. Thus, the fact that some constructions are polysemous in the sense that they can encode more than one causation event type is handled by assuming an invariant constructional meaning that interacts with entrenched, experientially based types of causal links.

Chapter 7 takes a closer look at the degree to which the semantics of causation verbs is motivated by that of their literal (lexical) counterparts. I show that typically there is a surprisingly high degree of motivation if we assume two general mappings from spatial relations to event structure (cf. Lakoff and Johnson 1999), but that this motivation is hardly ever absolute, i.e. that the causative uses of, for example, motion
verbs typically have additional semantic content that comes neither from the source
domain nor from the conceptual metaphor.

Finally, Chapter 8 takes up the discussion of the differences between analytic
causatives and syntetic causatives. I show that these two constructions are in
competition in a tiny part of English grammar only, namely for results encoded by
intransitive change-of-state or motion verbs, and that the analysis of analytical causatives
as simply encoding ‘indirect’ causation is largely specific to change-of-state verbs.
2  Causation and causativity

Establishing causal connections between events and their participants is one of the principal means by which we structure our experience of our social and physical environment. It is a crucial aspect of our understanding of an event that we identify its cause, or rather, that we find some entity, state, or event that we can construe as its cause.

Thus, it is not surprising that languages typically offer an abundance of ways of talking about causation. This chapter discusses the main proposals concerning the way in which we construe causal links between events and participants. It then surveys different ways of expressing causation in English, and shows how they relate to the construal of causation. Following established practice, the linguistic organization of our construal of causation will be referred to as causativity.

2.1  The nature of causation

There are two general approaches to the nature of causation in philosophy (and psychology): the empiricist approach going back at least to Hume’s *Treatise of Human Nature* (Hume 1854 [1739]), and the generative approach, going back at least to Kant’s *Kritik der reinen Vernunft* (Kant 1838 [1781]) (note that generative does not refer to ‘generative linguistics’ here). Much of the discussion in these two approaches has
centered on two related issues: first, the question of whether there are causal connections between events (or states) in the real world; and second, the question of whether we can gain knowledge of such relations (cf. e.g. Harré 1972: 116ff. for a comprehensive account of these two positions). From the perspective of cognitive approaches to language (such as the one adopted in the present work), this issue is irrelevant. Since it is widely assumed that language reflects our human conceptualization of reality rather than reality itself (Jackendoff 1983: 29ff., Lakoff 1987, Langacker 1987: 113ff.), it is of no consequence to linguistic analysis whether or not there are causal connections between events in the real world (or even whether or not there are events in the real world). Clearly, we perceive events and causal relations between these events; I will therefore summarize the philosophical positions on causality in terms of three principles of causation construal, (i.e. conceptual strategies we use to construe causal links between events and participants). In other words, I will focus on the question, what it is about our perception of events that leads us to perceive them as causally related. There are two principles related to the empiricist approach, and one related to the generative approach.

The empiricist approach as originally conceived by Hume holds that human observers (in cognitive linguistic terms: human conceptualizers) have no way of knowing whether any given two events are causally connected or not. We can only construct such connections as part of our perception of two events, based on their ‘constant conjunction’ in our experience, i.e. recurrent instances of temporal succession, and temporal or spatial contiguity (Hume 1845 [1739]: 117ff.). This simple version of the
empiricist approach can be summarized as follows:

(1) Given two events A and B, a conceptualizer C perceives A as the cause of B \textit{iff}
    (i) A (regularly) precedes B; and
    (ii) A and B are temporally contiguous; and/or
    (iii) A and B are spatially contiguous.

I will refer to this causation construal principle as the \textit{temporal succession} principle
(where necessary, I will also refer to (1 iii) separately as the \textit{spatial contiguity} principle).

Since its original inception, various modifications of the Humean approach have
been suggested. Most importantly, the idea of \textit{covariation} or \textit{unconditional succession}
has been introduced into the model shown in (1). In order for A and B to be interpreted
as causally related, they have to covary: A has to occur whenever B occurs, and B must
\textit{never} occur unless A occurs (e.g. Mill 1911 [1843]: 221ff.). This idea has been elaborated
in various ways (for some discussion cf. e.g. Mackie 1974, esp. Ch. 8 and von Wright
1971, esp. Ch. 2; for formalization cf. e.g. von Wright 1974).

Note that in order to use this principle as a basis for establishing a causal
connection between two events A and B in any given situation, a human conceptualizer
has to make assumptions about hypothetical situations in which A, B, or both did not
occur:

(2) Given two events A and B, a conceptualizer C perceives A as the cause of B \textit{iff}
    (i) A occurs and B occurs;
    (ii) (C believes that) B would not have occurred if A had not occurred.
The condition in (2 ii) is known as the ‘counterfactual conditional’; I will therefore refer to (2) as the counterfactual principle.

The second general approach mentioned above, the generative approach, holds that there are causes and effects in the real world, that effects are produced (or generated) by causes. The general assumption is that causation (in the real world) is based on a physical interaction between cause and effect (typical examples are the biochemical reaction that leads from the inhalation of tobacco smoke to the uncontrolled growth of cancerous cells in the lung tissue; the chemical and physiological mechanisms in the human body that lead from the ingestion of alcohol to a state of drunkenness; or the mechanism by which matter exerts a gravitational pull (cf. Harré 1972: 117-19). Perhaps this notion of causation can be characterized at the most general level as a transmission of energy from one event or participant to another e.g. (Shultz 1982a, b, cf. also Talmy’s notion of ‘force dynamics,’ e.g. 1988). In this view, a causal relation between two events A and B is identified (or, in cognitive terms, constructed) on the basis of knowledge about the capacity of participants to transmit energy, and knowledge about the direction in which this energy is transmitted in a given situation. We could summarize this position (in cognitive terms) as follows:

(3) Given two events A and B, a conceptualizer C perceives A as the cause of B iff
(a) C knows that A can transmit energy;
(b) C believes that A transmitted energy to some part of the real world and thereby generated B.
Leaving aside for the moment the problem that the generative view is based on (or at least couched in terms of) metaphors such as EVENTS ARE OBJECTS and CAUSATION IS THE CREATION OF OBJECTS (see further Chapter 7), note that it leaves unclear where the required knowledge comes from in the first place, if not from experience (which might lead back to principles like [1] and [2]). Some proponents of generative causation have argued that it is prior to experience (i.e. innate, cf. Kant 1838 [1781]: 170ff.). The present work will not be concerned with this issue. I will simply accept the existence of the causation construal principle in (3) and refer to it as the transmission of energy principle.

Note that the three principles introduced here are not necessarily incompatible, especially if we look at them as principles of construal rather than facts about the real world. The first two in particular are complementary rather than competing with one another, but the third one is also compatible with the other two. If we are concerned with how human conceptualizers perceive causation rather than whether there really are causal connections, it is not a contradiction to say that two events are (perceived as) causally related if one or more of the three principles apply, and in fact, psychological research shows that humans use all three principles in identifying causal relationships, depending on the situation (see Michotte 1963, White 1995 for evidence on the empiricist strategy and Shultz 1982a, b for evidence on the generative strategy). It is an open issue in psychology under what conditions which strategy is employed, but this issue is, again, not particularly relevant for the present investigation.
Instead, the three principles mentioned here are relevant in two very different respects. First, the linguistic data themselves may throw light on how these principles are employed in constructing causal relationships. Although this is not the primary focus of this work, I will comment on this issue in Section 2.3 below, and in Chapter 7. Second, the more complex causation event types introduced in Chapters 4 and 5 make reference to causal chains of events and participants. A causal chain of course presupposes some notion of causation, a point that I will return to presently.

2.2 Causal Chains

More important to the present work than the nature of causation itself is the notion of a causal chain, and of events and participants related by such a causal chain. This is very much a common-sense notion (for a previous linguistic explication, see e.g. Croft 1991). In the linguistic literature on causation, reference is often made to notions like *causer*, *causee*, and *affectee* for various types of participants, and *causing event*, *cause proposition* or *predicate of causation*, and *caused/effect event*, *effect proposition*, or *predicate of effect* for the two events on a causal chain picked out by a construction (Comrie 1976, 1989, Kemmer and Verhagen 1994, Givón 1975, Wierzbicka 1988a, 1998, etc.). These labels appear to refer directly to (the conceptualization of) a causal chain, but in fact they do not; as will become clear, they cannot be given unified definitions in terms of a causal chain. Instead, they refer to construction-specific linguistic categories which can be defined with reference to a causal chain, but not in terms of it. In other words,
they refer to causativity, not to causation.

Let us explicate the notion of a causal chain first. Take the stretch of discourse in (4); what makes it a coherent narrative is that it encodes a series of events that are causally related to one another (the text is split up into sub-examples for ease of reference):

(4) a. [About a dog] And then our fema—, she had another litter.
b. We didn’t think she was, we thought she was too old to get pregnant again. Turned out she wasn’t,
c. and, uh, she had her litter. I guess her last litter had, like, four, and two of them survived.
d. And then she didn’t make it, two days after th—, they were born.
e. She had a, she died.
f. She had some kind of an infection from it all.
g. She was just too old.
h. We had to feed the puppies.
i. We had to get up night and day with tho—, just like with a baby. (SWB)

The events recounted here are not all given in the sequence in which they presumably occurred. World knowledge tells us that the actual sequence of events must have been as follows:

(5) SEQUENCE OF EVENTS IN THE ‘DOG STORY’
i. There is a dog which is too old for a pregnancy (cf. [4b, g])
ii. The dog gets pregnant (cf. [4b])
iii. The dog gives birth to a litter (cf. [4a, c])
iv. The dog gets an infection (cf. [4f])
v. The dog dies (cf. [4d, e])
vi. The dog’s owners have to feed the puppies (cf. [4h])
vii. The dog’s owners have to get up at night (cf. [4i])
The events in (5 i-vii) not only temporally succeed one another, each event is also causally dependent on the preceding one (except for 5 i-ii). In some cases, this causal dependence is a direct one (as in [5 ii-iv] and in [5 vi-vii]). For example, the dog gives birth *because* she is pregnant, the dog gets an infection *because* she gives birth. In other cases, the causal dependence does not hold uniquely between two events. For example, there is an implication in (4e-g) that the dog died from the infection because she was old, i.e. that a younger dog may have survived. More interestingly, in some cases pieces of the causal chain are left implicit, for example between (5 v-vi) and (5 vi-vii). The owners do not *have* to feed the puppies simply because the dog died: they may not know that the dog died, or they could simply let the puppies starve. The missing links in the chain are, first, the fact that the owners saw that the dog had died, and second, that the owners decided that they did not want to let the puppies starve. Likewise, the owners do not have to get up at night simply because they have decided to feed the puppies: they could simply restrict feeding times to daytime, and let the puppies go hungry at night. The missing link is the owners’ decision to feed the puppies whenever they are hungry (and the reasons that led them to make this decision). Thus, the full causal chain would be something like (6), where causal links are marked by arrows (=>):

(6) FULLY EXPLICATED CHAIN OF EVENTS IN THE ‘DOG STORY’
   i. There is a dog which is too old for a pregnancy
   ii. The dog gets pregnant
   iii. The dog gives birth to a litter (ii => iii)
   iv. The dog gets an infection (iii => iv)
   v. The dog dies (iv + i => v)
vi. The dog’s owners perceive that their dog has died (v => vi)

vii. The dog’s owners realize that the puppies will die if nobody feeds them

viii. The dog’s owners do not want the puppies to die

ix. The dog’s owners decide that they will feed the puppies (vi + vii + viii => ix)

x. The dog’s owners have to feed the puppies (ix => x)

xi. The puppies are hungry at all times, including at night

xii. The dog’s owners perceive this (xi => xii)

xiii. The dog’s owners do not want the puppies to be hungry

xiv. The dog’s owners have to get up at night (xi + xiii => xiv)

To be clear on this point: the causal links shown here are not meant to refer to causal relations in the real world, but to causal relations as they might be perceived by someone listening to (or reading) the story in (4). I will occasionally show such links by double arrows in the explication of causative event types throughout this dissertation. By using this convention I do not take a stand on whether or not the notion of causation is a conceptual primitive (as, for example, Wierzbicka, who posits ‘because’ as a universal semantic prime, e.g. (1998: 114); or Jackendoff, who posits ‘CAUSE’ as a primitive conceptual category, e.g. 1990, Ch. 7). Instead I use A => B to mean ‘C believes that any or all of the three principles *temporal succession, counterfactuality, and transmission of energy* apply to the relation between A and B,’ leaving open the issue of whether (a) causation is a primitive notion and the three principles are derived from it, or whether (b) the notion of causation is derived from these principles. It seems preferable to use a

1 Note that this explication attempts to stay on the same level of event-structure throughout. I do include events that are not explicitly mentioned in my explication of causal chains here and throughout this work, but only if those events have the same degree of granularity on the level of event-structure as those events that are explicitly encoded. Thus I do not, for example, attempt to break up causal links into chains of more detailed events such as ‘the dog’s glands release certain chemicals => the dog’s uterus contracts => the placenta disconnects from the wall of the uterus, etc.’
symbol such as ‘\(\rightarrow\)’ for this purpose, because ‘cause,’ ‘because,’ and other candidates have their own specific semantics in English, which influences their use as metalinguistic terms in undesirable ways.

Returning to the example in (4), note that most of the causal links that I have posited are not explicitly signaled by any linguistic material. For example, the fact that the dog had a litter is not related by a linguistic expression to the fact that she got pregnant, and the fact that the owners had to feed the puppies is not explicitly related to the fact that the dog died. The causal links here can only be constructed on the basis of world knowledge. The only linguistic evidence for them comes perhaps from the fact that these events are recounted in a particular order, which might be interpreted via iconic principles as a temporal order, which would then point to the temporal succession principle. However, the fact that it was an infection that caused the dog to die is not recounted in temporal order:

\[
\begin{align*}
(4) & \quad e. \quad \text{She had a, she died.} \\
 & \quad f. \quad \text{She had some kind of an infection.}
\end{align*}
\]

The temporal (and causal) sequence here is obviously that the dog got the infection first, and then died, but the events are recounted in the opposite order. We can infer the temporal and causal sequence simply on the basis of our knowledge that an infection may cause death, but not vice versa.

The construction of causal chains on the basis of world knowledge and
assumptions about discourse coherence is a worthwhile topic for investigation (cf. e.g. Mann and Thompson 1988 for a general approach in this vein), but it will not be pursued here. Instead, note that some of the other events are explicitly related by expressions of temporality or causality. For example, the death of the dog is explicitly placed in a temporal sequence with the birth of the puppies:

(4) c. and, uh, she had her litter. I guess her last litter had, like, four, and two of them survived.

d. AND THEN she didn’t make it, two days AFTER th-, they were born.

The temporal conjunctions and then and after make clear that the birth of the puppies preceded the dog’s death. Temporal conjunctions like these often support a causal interpretation, due to the temporal succession principle (see further Section 2.3.2).

A causal connection is made fully explicit in (4f):

(4) f. She had some kind of an infection FROM it all.

In this example, the preposition from makes clear that the dog’s infection was caused by the birth of the puppies and the dog’s old age (referred to as it all). Here, the causal link is linguistically encoded rather than inferred on the basis of world knowledge, discourse coherence, or temporal expressions; the causal link in (4f) cannot be negated without resulting in a contradiction: *The dog had an infection from giving birth, but the birth wasn’t what caused the infection. The other causal links can be negated in this way without resulting in a linguistic contradiction (though they may be semantically odd due
to world knowledge): ‘She died. We had to feed the puppies. But the fact that she died wasn’t what caused us to have to feed them, or ‘She had a litter and then she died. But having the litter wasn’t what caused her to die.’ Section 2.3 will survey such explicit means of encoding causal links, and also return to the three causation construal principles introduced in Section 2.1.

Note that causal chains essentially consist of events, and philosophers typically assume that causation is a relation that always holds between events (e.g. the authors mentioned in Section 2.1 above; this view is often shared by linguists, e.g. Shibatani 1976, Talmy 1976). However, as mentioned at the beginning of this section, participants are often crucially involved in these events, either by performing them or by being affected by them. Take once again example (4f):

(4) f. She had some kind of an infection FROM it all.

This example was analyzed as encoding the following causal chain:

(7) i. There is a dog which is too old for a pregnancy
   ii. The dog gets pregnant
   iii. The dog gives birth to a litter (ii => iii)
   iv. The dog gets an infection (iii => iv)
   v. The dog dies (i + iv => v)

Clearly, there are two participants involved here (three, if we count ‘infection’): the dog,

\(^2\) A raised circle (\(\ast\)) indicates an example that is constructed but deemed acceptable (see further Section 3.2.6).
which is involved in all five events/states, and the litter of puppies which is involved in the events (7 ii-iii). The relations of these participants to the two events can roughly be characterized in terms of active and passive involvement: the puppies are passively involved in (7 ii-iii), and the dog passively involved in (7 i, ii, iv), and both actively and passively involved in (7 iii). The causal chain in (7 i-iv) can be diagrammed as in (8), where C stands for an event in the causal chain, p stands for participants, and arcs show connections between events and participants:

Only participants which are at least mentioned once are included here for the sake of readability. Obviously, there is at least one other dog involved in bringing about the pregnancy.

Arrows show the direction of causal dependence either between events (pointing from a causally prior to a causally subsequent event), or between events and participants (pointing from the participant to the event for agent-like participants, from the event to the participant for more patient-like participants, and in both directions for participants
that have agent-like and patient-like properties). Such diagrams enable us to show complex relationships between events and participants, and to relate these systematically to linguistic expressions. For example, take the construction manifested in (4f):

(9) \([\text{SUBJ V (OBJ) OBL}_{from}]\)

We can say that this construction encodes a participant in the subject slot who is the patient of the event encoded by the verb, and that the oblique slot can encode any event/s (and its/their participant/s) which are causally prior to the event encoded by the verb and which the event encoded by the verb is causally dependent on. This can be informally represented as follows (where \(x\) stands for a given point in time, and \(<x\), i.e. 'smaller than \(x\),' stands for a point in time prior to \(x\); note that the order in which the elements of the construction are shown does not matter, I have simply followed canonical word order here):

(10) The from-causative

\[
\begin{array}{c}
\text{SUBJ} \quad \text{V} \quad \text{OBL}_{from} \\
she \quad died \quad from \ it \ all
\end{array}
\]

In the case of the construction in (10), this may seem like a complicated way of stating the simple fact the oblique encodes the cause and the verb encodes the effect, but the more complex the causal chains involved become, the more useful this notation becomes
(which, like all formalisms in this work is a practical notation with no theoretical significance).

2.3 EXPRESSING CAUSATION IN ENGLISH: AN OVERVIEW

The purpose of this section is to provide an overview over constructions whose primary function it is to express causation, or which are frequently used to express causation. This overview will serve to place analytic causative constructions in a broader context, to demonstrate some of their specific properties, and introduce some basic terminology used throughout the rest of this work. Most examples in this section are from the Switchboard corpus (SWB) and the North American News corpus (NAN), which will be the primary source of data throughout this work (see further Chapter 3, Section 3.2.6.).

2.3.1 No overt marking of a causal link

As already mentioned in the preceding section, causal links are often left completely implicit in discourse: the mere juxtaposition or the simple coordination of clauses typically suggests a causal link, especially if a causal interpretation is consistent with our world knowledge:

(11) JUXTAPOSITION [S₁ S₂]

[About a dog] Last month the vet gave us the bad news: There was a tumor the size of a golf ball near her heart. She died within a month. (NAN)
(12) COORDINATION \([S_1 \text{ and } S_2], [\text{NP}_{\text{subj}} \text{ VP}_1 \text{ and } \text{VP}_2]\)

a. \([\text{About a newly planted tree}] \text{ It couldn’t take the heat and it died.} \) (SWB)

b. \([\text{It}] \text{ seems to me like the Peace Corps, they send you someplace that there’s a lot of bugs [and you] have to live in a shack with no air conditioning and no medicine and no anything.} \text{ I’d probably catch a terrible disease AND die.} \) (SWB)

As mentioned above, the causal interpretation in these examples is due mainly to our world knowledge but may to some degree be strengthened by linguistic cues. In the case of the simple juxtaposition of clauses, some notion of discourse coherence presumably encourages a causal interpretation: if two events are mentioned together, we assume that the speaker sees some connection between them. In the case of coordination with \textit{and} it may be the temporal succession often implied by \textit{and} (see R. Lakoff 1971) which encourages a causal interpretation, but it seems that the simple fact that two clauses or phrases are syntactically coordinated strengthens the assumption that the events encoded in them are in some way connected (and a causal connection is one that seems to come to mind fairly naturally in such cases). Note that the more tightly the two events are integrated syntactically, the more strongly a causal interpretation is encouraged: in the case of two coordinated clauses, a causal link can be negated comparatively felicitously, as in \textit{The tree couldn’t take the heat and it died, but it wasn’t the heat that caused it to die,} but in the case of two coordinated verb phrases, which share a subject, such a negation is much closer to a linguistic contradiction, as in \textit{I’d probably catch a terrible disease and die, but it wouldn’t be the disease that would cause me to die.}
In the case of an even closer syntactic integration, the causal interpretation is even more strongly encouraged, even if there are still no overt markers of causality, as for example in the case of relative clauses or adverbs and adverbial clauses:

(13) **SUBJECT RELATIVE CLAUSE [NP S\textsubscript{relative} VP]**

a. But my experience has been that most people THAT move into nursing homes die very quickly. (SWB)

b. Dee Dee, the man WHO was involved in the knife-wielding accident in front of the White House died last night. (CSPAЕ)

(14) **ADVERBS AND ADVERBIAL CLAUSES**

a. One brother ... died FIGHTING for the Republican cause against fascist forces in the Spanish Civil War (NAN).

b. Her mother died GIVING birth. (NAN)

c. After an El Salvadoran woman dies VIOLENTLY [...] Ana is told that the woman was her cousin (NAN).

In these examples, the causal link between the event encoded in the subordinate clause or the adverbial (i.e., ‘moving into a nursing home,’ ‘being involved in an accident,’ ‘fighting,’ ‘giving birth,’ and ‘some violet event’) and that encoded in the main clause can still be negated, but the sense of contradiction becomes stronger: *Most people who move into nursing homes die very quickly (\textquotedblright but not because they move into nursing homes); The man who was involved in the accident died (\textquotedblright but not because of the accident); He died fighting (\textquotedblright but not as a result of fighting); She died giving birth (\textquotedblright but not because she gave birth); or She died violently (\textquotedblright but not as a result of a violent event).*
As mentioned in the preceding section, constructions of this kind will not be discussed in the present work in any depth, but they do serve to demonstrate one important fact: that, as mentioned at the beginning of this chapter, a crucial aspect of our experience of the world is the establishing of causal connections between events. The fact that constructions that relate two events without specifying the relation so frequently evoke a causal connection shows how strong our tendency is to construct causal relations; it seems that we cannot normally tolerate a simple juxtaposition of events without trying to establish some kind of causal relation between them.

2.3.2 Overt expression of a causal link by a conjunction

There are a number of conjunctions in English that exclusively encode causation:

(15) CAUSAL CONJUNCTIONS [S₁ CONJcausal S₂]

a. [About introducing the metric system in the US] There are going to be people who die because of it, BECAUSE they don’t understand simple things from the amount of medicine they should take to how fast they can drive. (SWB)

b. Europe’s audiovisual sector [will] die if it continue[s] to ignore market demands. (NAN)

c. The host plant can also kill the miners via a defensive compound, so they just die in the mine. (NAN)

Obviously conjunctions link two clauses, and hence two events which may share participants or which may each have their own participants. This can be represented as follows for conjunctions like those in (15a, b):
(16) Cause conjunctions (e.g. because, since, if)

Two events that are picked out of a causal chain by a linguistic expression will be referred to throughout this work as causing event and resulting event respectively (as a consequence of this terminology, the term event sometimes covers both events and states, but where the distinction is relevant, I will make it explicit); the causer will be said to bring about the resulting event; and the causee will be said to perform the resulting event, regardless of whether the latter is an activity or a process. As the indices in (16) show, these events do not have to be contiguous on the causal chain; the causing event simply has to be causally prior to the resulting event, since a linguistic expression may leave certain aspects of the conceptualization of a situation implicit (see further Chapter 3, Section 3.2). For example, in (15a) the causing event is they don't understand simple things, and the resulting event is people will die, but clearly there is no direct causal link between these two in the conceptualizer's mind: there is an intermediate event where people act in a certain way due to their faulty understanding. The terms causing event and resulting event thus refer to causativity (the linguistic expression of causality), not to causality as such.

The figure in (16) only captures the conjunctions in (15a-b), i.e. those where the clause introduced by the conjunction encodes the causing event (another example is
since). The conjunction so in (15c), where the clause introduced by the conjunction encodes the resulting event can be represented as follows (other examples are therefore and consequently):

(17) **Effect conjunctions (e.g. so, therefore, consequently)**

```
      C∞
     /   \
S_1 ← CONJ_{causal} → S_2
     \   /
      C_x
```

It is an interesting fact about the two types of causal conjunctions shown in (16) and (17) respectively that the former allow a preposing of the subordinate clause, while the latter do not. For example, the order of the clauses can be reversed in (15a), as in *Because they don't understand simple things, people will die*, but it cannot be reversed in (15c), as in *SO they just die in the mine, the host plant can also kill the miners via a defensive compound*. In terms of the causal chain we can say that conjunctions introducing the resulting event have to iconically follow the order of events on the causal chain, while conjunctions introducing the causing event can (but do not have to) express events in reverse order.

Causal conjunctions cannot be related to any of the causation-construal principles; at least synchronically, they express causation directly. However, note that at least some of them have a transparent etymology that shows they originally encoded temporal succession (*since, consequently, the then in if...then*). Thus, they are originally based on
the temporal succession principle introduced in Section 2.1. The importance of this principle in the construction of causal links between events is further shown by the fact that, as mentioned in Section 2.2 above, temporal conjunctions are also frequently used to encode causation:

(18) TEMPORAL CONJUNCTIONS \([S_1 \text{ CONJ}_{\text{temporal}} S_2]\)

a. I didn’t ever watch *Moonlighting*, but I heard that’s what killed it, that interplay died WHEN they got married, and so the show died. (SWB)

b. The van burst into flames AS the force of the impact pushed it onto the highway median AFTER first striking a guard rail. (NAN)

c. [The prisoners] were taken from jail to a remote stretch of road, blindfolded and beaten on the head with hammers UNTIL they died. (NAN)

2.3.3 Overt expression of a causal link by a preposition

There are a number of prepositions in English that can be used to express causal links. All of these follow the pattern shown for from in Section 2.2 above:

(19) a. John Heinz, a senator from Pennsylvania, died IN an airplane crash. (NAN)

b. People are more aware of it than if someone just dies WITH cancer. (SWB)

c. To die OF lethal injection, I mean it’s as painless as you can go. (SWB)

d. In LA, people die all the time just FROM being in the way. (SWB)

e. It’s probably been two or three years now that one of the people chose to die BY the firing squad. (SWB)

f. A lot of kids would have ended up dying BECAUSE OF what he was promoting. (SWB)
In all of these constructions, the verb expresses a resulting event involving the subject, and the object of the preposition expresses the causing event. Clearly, the meanings of these constructions are more specific than that captured by this abstract characterization. *In* is typically used where the causing event is a catastrophic event affecting more than a single participant. For the verb *die*, examples from Switchboard include *a holy cause, a war, a train wreck, a rage of water*. *With* and *of* express very direct causes, examples for *die* are *AIDS* and *smoking related diseases*, but there is also the example *You may die of carrying your canoe*. *From* is fairly productive, expressing various types of events (e.g. *working, a fall, being handled*, as in *The fish died from being handled so much*), natural forces (e.g. *heat*), afflictions (e.g. *gunshot wounds*), and substances (e.g. *drugs*). Finally, *by* expresses human causes.

This is not the place for a detailed semantic analysis of prepositional causative constructions (cf. Talmy 1976: 45ff., Radden 1985, 1998). Instead, suffice it to point out the connection to the three causative-construal principles discussed in Section 2.1: *with* and *in* are clearly related to the *spatial contiguity* principle, while *from*, as a source preposition, is related to the *transmission of energy* principle. The relation is more difficult to see for *by* and *of*, which are more grammaticized than most other prepositions, and synchronically less transparent. However, etymologically *of*, like *from*, is a source preposition, and agentive *by* is of course related to spatial *by* (cf. Cuyckens 1999), and
hence based on the spatial contiguity principle.\(^3\)

2.3.4 Intransitive-transitive alternations

Intransitive-transitive alternations like that between *kill* and *die* in example (20) have received the most attention in previous work on causative constructions (see further Chapter 8):

(20) I didn’t ever watch *Moonlighting*, but I heard that’s what KILLED it, that interplay died when they got married, and so the show DIED. (SWB)

*Kill* (e.g. in *That’s what killed the show* or *The hit man killed the don*) is semantically related to *die* (e.g. in *The show died* or *The don died*) such that *kill* might roughly be paraphrased as ‘cause to die.’ Such a relationship holds for a number of verb pairs; it is especially intriguing in cases where the same verb is used both transitively and intransitively, for example (at least in some dialects/registers of American English) *croak*, as in *The don croaked* and *The hit man croaked the don*). The existence of such verb pairs has led many researchers to refer to the transitive member of such verb pairs as *causative*

---

\(^3\) Note that the construction types introduced so far are all based on spatial contiguity, temporal contiguity, and temporal succession (and occasionally on transmission of energy). Constructions based on the counterfactuality principle are difficult to find. The only obvious candidates are (i) the conjunction *unless*, as in *Dogs don’t die UNLESS they get an infection*; and (ii) the preposition *but for*, as in *BUT FOR those puppies, this dog would still be alive*. Other possible candidates are expressions like *[it NEG be until X that Y]*, as in *It WASN’T UNTIL the dog got an infection, that she died*; *[X or Y]*, as in *We have to feed the puppies OR they will die*; or *[X would not have VERB-ed if Y hadn’t VERB-ed]*, as in *That dog wouldn’t have died IF she HADN’T got an infection*. However, it is unclear whether these are actually *constructions* that are based on counterfactuality. Even if we count these expressions, the fact remains that the counterfactuality principle is less important in talking about causation than are the other principles. It would be interesting to know if this is a universal tendency, and if so, whether there are psychological reasons for it.
verbs, and to expressions containing such verbs as *lexical causatives*, although the latter term is often restricted to suppletive pairs. I will not distinguish between suppletive and non suppletive pairs, and simply refer to both of them as *synthetic causatives* (which would also cover morphological causatives). Accepting for now that verbs like *kill* and *croak* mean something like ‘cause to die’, we can represent the causal chain underlying synthetic causatives along the following lines:

(21) Two synthetic causatives

a. *kill*

\[
\begin{array}{ccc}
    & C_{C} & C_x \\
    \downarrow & & \downarrow \\
    \text{P}_i & \text{V} & \text{P}_j \\
    \text{SUBJ} & \text{OBJ} \\
    \text{The hit man} & \text{killed} & \text{the don} \\
\end{array}
\]

b. *croak*

\[
\begin{array}{ccc}
    & C_{C} & C_x \\
    \downarrow & & \downarrow \\
    \text{P}_i & \text{V} & \text{P}_j \\
    \text{SUBJ} & \text{OBJ} \\
    \text{The hit man} & \text{croaked} & \text{the don} \\
\end{array}
\]

In (21a, b), \(C_x\) stands for the event of dying (of which the object’s referent is the patient), and \(C_{C_x}\) stands for the action that caused this event (say, shooting), of which the subject’s referent is the agent. With suppletive verbs like *kill*, it is impossible to tell which of the two events is encoded; presumably both. With verbs that simply alternate between an intransitive and a transitive use, like *croak*, we could claim that it always encodes the event of dying, and that in its transitive use there is an understood causing event that is not encoded at all (the assumption that verbs like *kill* or *croak* mean ‘cause to die’ will be discussed in detail in Chapter 8 where it will be rejected in this simple form and the analysis proposed here will be considerably refined).
Note that synthetic causatives differ in one crucial respect from the other means of expressing causation that were discussed above: since they are essentially transitive constructions, they focus on participants rather than on events. In an example like "ABC killed the show" the focus is on the agent, ABC, and the patient, the show. Causing event and resulting event are in a sense both encoded by the verb, kill (see Chapter 8 for a more precise characterization). In the context of constructions expressing causativity, such participants will be referred to as causer and causee respectively. Note that again, these terms refer to causativity, not to causality.

2.3.5 Analytic causatives

Finally, let us return to analytic causatives, the main focus of the present work. Roughly, analytic causatives can be characterized as consisting of a finite matrix verb expressing a (relatively) non-specific causing event (which will be referred to as the causation verb), which takes as arguments a subject, an object, and an embedded non-finite verb phrase expressing a resulting event (which will be referred to as the result verb) (cf. for example Shibatani 1976: 28ff., 31ff., Comrie 1989, Kemmer and Verhagen 1994: 117). The italicized material in (22a, b) exemplifies this construction:

(22) a. Somebody that is holding up a bank and shoots somebody affects a fairly small circle of people, I mean the relatives and friends of the person that was killed. But, but a drug dealer, a major drug dealer is affecting what, thousands of lives and in effect CAUSING some of them to die. (SWB)

b. The equation in Haiti is that violence is CAUSING people to die (NAN).
Analytic causatives of this type seem similar to synthetic causatives in terms of the causal chain which underlies them:

(23) **Analytic causative, Version I**

![Diagram](image)

The subject of an analytic causative (which will always be referred to as the *causer* in this work) often encodes the agent of the causing event, as shown in (23). The object (which will be referred to as the *causee*) always encodes the primary participant of the resulting event, i.e. the one that would be the subject if the clausal complement were a main clause. Thus, both synthetic and analytic causatives typically focus on causal links between two participants or an event and a participant. In this, they differ from causal (or temporal) conjunctions and prepositions, which generally focus on causal links between events. Given the representation in (23), the only difference between synthetic and analytic causatives would appear to be that the causing and the resulting event are encoded separately.

However, there are several properties which are unique to analytic causatives, and which will be the main focus of this work. First, the relation between the subject and the causing event in analytic causatives is much more complex than (23) suggests; this will be discussed in detail in Chapter 4. For example, the subject typically encodes the agent of
an event prior to the actual causing event on the causation chain, which has led many
researchers to distinguish synthetic and analytic causatives in terms of direct and indirect
causation (there is a substantial literature on the semantic differences between synthetic
causatives like *That’s what killed the show* and analytic causatives like *That’s what
causedit to die*; the issues raised in this literature will be taken up in Chapter 8, so
I will not discuss them further here). For example, in (22) the drug dealer is actually the
agent of an event of selling drugs, which is not overtly mentioned. Thus a better
representation would be (24):

(24) Analytic causative, Version II

```
    pi Cx(cy) Cy(cx) pj Cz

SUBJ Vcaus OBJ VP

Drug dealers cause people to die
```

The subject may also encode such a prior event itself, as in (22b) or in *Taking drugs
causes many people to die* (in such cases, I will sometimes use the term *causer-event*
instead of *causer*). This is shown in (25) (the subscript numbers refer to the temporal
order of events):
A second difference between analytic and synthetic causatives is the type of result verb they can occur with. Consider the following examples:

(26) a. People die.  
   \textit{Synthetic causative:} \quad ^{o}\text{Drug dealers KILL people.}  
   \textit{Analytic causative:} \quad ^{o}\text{Drug dealers CAUSE people to die.}

b. The cocaine burned.  
   \textit{Synthetic causative:} \quad ^{o}\text{DEA agents BURNED the cocaine.}  
   \textit{Analytic causative:} \quad ^{o}\text{DEA agents CAUSED the cocaine to burn.}

c. The deputy arrested the drug dealer.  
   \textit{Synthetic causative:} \quad ^{*}\text{The sheriff ARRESTED the deputy the drug dealer.}  
   \textit{Analytic causative:} \quad ^{o}\text{The sheriff MADE the deputy arrest the dealer.}

d. The cocaine was burned by DEA agents.  
   \textit{Synthetic causative:} \quad ^{*}\text{The president was BURNED the cocaine by DEA agents.}^{4}  
   \textit{Analytic causative:} \quad ^{o}\text{The president HAD the cocaine burned by DEA agents.}

Synthetic causatives only occur with (a limited number) of intransitive verbs, either in the form of suppletive pairs like \textit{kill/die} (as in [26a]) or in the form of intransitive-transitive

\footnote{Of course, this example is not ungrammatical \textit{per se}; it is possible as a passive variant of the ditransitive sentence \textit{The DEA agents burned the president the cocaine} ‘The DEA agents burned the cocaine for the benefit of the president’. Likewise, \textit{The sheriff arrested the deputy a drug dealer} is acceptable if the intended meaning is ‘The sheriff arrested a drug dealer for the benefit of the deputy.’ The examples are unacceptable under a causative interpretation.}
variants of the same verb (as in [26b]). They cannot occur with transitive verbs (as in [26c]), passives (as in [26d]), or any other type of verb or construction (see further Chapter 8). Analytic causatives, on the other hand, can occur with any kind of verb or construction (as in [26a-d], see further Chapter 8).

A third difference between synthetic and analytic causatives pertains to the specific type of causation they encode. Synthetic causatives specify a fairly direct causal link, but beyond this they leave the causing event relatively unspecific. Analytic causatives, in contrast, typically encode particular configurations of participants who act on one another in various ways. These configurations differ along such parameters as intentionality, control, resistance, etc., but they also differ in the type of causal link they establish (as will be shown in Chapters 4, 5, and 7). This may seem to contradict the definition given at the beginning of this section, which says that the causing event of an analytic causative is non-specific; but of course the type of causal link encoded by the cause verb of an analytic causative cannot be completely non-specific; if it were, all analytic causative constructions in a given language would be synonymous. This is especially implausible in a language like English, which has more than a dozen different analytic causative constructions (for some discussion of the issue of specificity, see Shibatani 1976, Sec. 7 and 8).

‘Non-specific’ here simply means that the main verb does not specify the precise nature of the activity that constitutes the causing event. This distinguishes analytic causatives like *The sheriff made the deputy arrest the drug dealer* from other
constructions encoding interpersonal manipulation, such as "The sheriff ORDERED the
deputy to arrest the drug dealer," where it is clear that the causing event is a verbal
interaction between the causer and the causee. The distinction between these two types
of construction is not an absolute one; consider verbs like 
persuade or convince, which
are more specific than make or cause, in that they typically, but not necessarily, suggest
some type of verbal interaction between the causer and the causee.

Finally, note that causation verbs like cause, make, or have do not lend
themselves to a straightforward motivation in terms of the causation-construal principles
introduced so far. The issue of how they are motivated will be taken up in Chapter 7.
3 Construction Grammar


In this chapter, I will sketch out a Construction Grammar framework which draws extensively on Goldberg (1995), and which otherwise leans heavily toward cognitive linguistic theories. I will focus on those aspects of linguistic theory that are relevant to the analysis of analytic causative constructions presented in subsequent chapters, and keep general theoretical discussion to a minimum.

3.1 Overview

Construction Grammar is a theory of language that views the construction as the
fundamental principle of grammatical organization, where ‘construction’ is defined as
follows (Goldberg 1995: 4):

C is a construction iff\textsubscript{def} C is a form–meaning pair \( \langle F, S \rangle \) such that some aspect of
\( F \), or some aspect of \( S \), is not strictly predictable from C’s component parts or
from other previously established constructions.

‘Meaning’ must be understood in a broad sense here, as encompassing aspects
traditionally dealt with in semantics as well as those traditionally dealt with in
pragmatics. In other words, a construction is any formal element that is directly
associated with some meaning, pragmatic (or ‘speech act’) function, or packaging of
Stefanowitsch, to appear [b], for information structure constructions, cf. Lambrecht, e.g.

This definition of ‘construction’ covers a variety of linguistic units: (i) single
morphemes, like put ‘cause to move or be in a particular position’, or in- ‘in’, as in
insight, inborn, influx, etc.; (ii) multi-morphemic words like put-on ‘deception, hoax’ or
input ‘input’; (iii) fully filled idioms, like Put yourself in my shoes ‘try to see things from
my perspective’; (iv) partially filled idioms, like \( X \) put a stop/an end to \( Y \) ‘\( X \) causes \( Y \) to
cease to occur (as in The hit man put an end to Don Alfonso’s pain), or \( X_i \) put \( Y \) behind
PRON\textsubscript{i} ‘\( X \) try to forget \( Y, unpleasant.experience \)’ as in The hit man tried to put his past behind
him; (v) fixed phrases with a compositional meaning, like (to put one’s hands in one’s
pockets); and finally (vi) abstract syntactic patterns, like the English caused-motion
construction \([X \text{V}_{\text{nonstative}} \ Y \text{Z}_{\text{directional}}] \) '\(X_{\text{agent}} \text{causes} \ Y_{\text{theme}} \text{to move} \ Z_{\text{path}}' \) as in *Billy put milk in his coffee.*

It is the last type of construction that is of particular interest in the present context. Note that it is the construction itself which imparts a meaning of caused motion and not just the verb *put*; this meaning is present even with verbs that do not specify 'cause to move' as part of their meaning (Goldberg 1995: 81ff., 152ff., see further Section 3.2.1). Take an example like *Joe kicked the dog into the bathroom* (Goldberg 1995: 153). *Kick* simply means something like 'strike forcefully with one’s foot', thus *Joe kicked the dog* does not imply that the dog moved. However, if used in caused-motion construction, it takes on the meaning 'cause sth to move (by striking it with one’s foot).’ Thus, *Joe kicked the dog into the bathroom* cannot mean 'Joe kicked the dog on his way into the bathroom’ or 'Joe kicked the dog while the dog went into the bathroom,’ but only 'Joe kicked the dog (intentionally) such that the dog moved into the bathroom’ (Goldberg 1995, ibid.). Constructions like the caused-motion construction are referred to as *argument structure constructions*; they link a particular combination of grammatical relations (like subject, object, oblique) to a particular set of semantic roles (like agent, theme, goal).

Obviously, any given expression will instantiate several constructions at once (Goldberg 1996: 68): the sentence *Joe kicked the dog into the bathroom* instantiates the subject-predicate construction (i.e. the Construction Grammar correlate to the traditional rewrite rule \(S \rightarrow NP \ VP\), cf. e.g. Fillmore 1988: 43ff.), the caused-motion construction
(i.e. [SUBJ V OBJ OBL\textsubscript{directional}]/'SUBJ\textsubscript{agent} causes OBJ\textsubscript{theme} to move OBL\textsubscript{path}'), the past-tense construction (i.e. [V-ed]/'past'), two types of noun-phrase (or 'determination') construction ([the N] and [N\textsubscript{proper}], cf. Fillmore 1988: 41), and the lexical constructions (i.e. words) bathroom, dog, into, Joe, kick, and the.

In Construction Grammar terms, an utterance U is a well-formed utterance of a language L, if U is an instantiation of the combination of existing constructions (including morphemes and lexemes) of L. The combining of constructions is sometimes formalized in a unification-based framework (cf. e.g. Fillmore 1988). I will not be concerned with formalization here, and will therefore use the informal term 'combination' (this does not preclude the possibility of formalizing the analyses presented).

Even from the discussion so far, several differences emerge between Construction Grammar and mainstream (i.e. Chomskyan) generative theories. Most importantly, Construction Grammar is non-derivational, i.e. constructions are seen as the basic units of language rather than as the result of an interaction between lexical items and syntactic rules (as, for example, in GB theory or the Minimalist Program), or the interaction of ordered constraints (as in Optimality Theory).

Construction Grammar takes the construction to be the basic unit of linguistic organization for the simple reason that a vast number (perhaps the majority) of linguistic expressions are to some degree non-compositional or have idiosyncratic formal properties (for examples of such constructions see, for example, Kay 1984, Lambrecht 1988, 1990, Fillmore, Kay, and O'Connor 1988, Kay and Fillmore 1999). Chomskyan models relegate
such expressions to the ‘periphery’ of language and construct elaborate theories to derive those expressions that are left in the ‘core’ computationally or from universal constraints (cf. Chomsky 1981, Ch. 1 on the concept of ‘core grammar’). Construction Grammar, in contrast, aims to account for language in its entirety, and therefore needs to assume that at least the supposedly ‘peripheral’ expression types are constructions in the sense of the definition given above (an assumption that they share with some Chomskyan theorists, e.g. Jackendoff 1990: 223ff.). Once we assume the existence of such constructions, however, simple considerations of economy should force us to extend their application to ‘core’ phenomena, rather than positing a separate, computational or constraint-based mechanism for these (cf. also Langacker 1987, Sec. 2.1.4). Moreover, empirical work on supposed ‘core’ phenomena shows that even these cannot be comprehensively dealt with without the notion ‘construction’ (for construction-based analyses of two topics central to generative theorizing see Fillmore [1985] on wh-movement, and especially Goldberg [1995] on basic clause types and argument structure).

A second crucial difference between Construction Grammar and most other generative models is that Construction Grammar is non-modular: there is no strict division between syntax, morphology, the lexicon, the conceptual system, pragmatic principles, etc., since constructions directly link form and meaning/use, and hence the whole linguistic system forms an integrated inventory of linguistic signs (which, in analogy to the term lexicon, we could call ‘construct-icon’, Goldberg 1996: 68).
I will adopt here an additional assumption about the nature of the linguistic system not shared by all practitioners of Construction Grammar: that the linguistic system (the ‘construct-icon’) contains just three types of units: purely formal units, purely semantic units, and constructions (i.e. pairings of the two) (cf. Langacker 1987: 76). Purely formal and purely semantic units, while they are not constructions in the sense of the definition given above, are not fundamentally different from constructions: they simply lack a direct link to a unit of the respective opposite type. This view of the linguistic system precludes the existence of units that have neither a form nor a meaning (such as the various types of ‘empty categories’ posited in many generative models).

Some versions of Construction Grammar do not view the set of constructions that makes up a particular language as an unstructured list of items. Instead, constructions are seen as forming a highly structured inventory, and posits four types of inheritance links between constructions.

The first type of link is the polysemy link, which shows the relation between different extensions from some central meaning (Goldberg 1995: 75). For example, the caused-motion construction mentioned above is linked by a polysemy link to formally identical constructions with the meanings ‘X helps Y to move to Z’, as in Pat assisted Chris into the room, ‘X enables Y move to Z,’ as in Pat allowed Chris into the room, ‘X causes Y not to move from Z,’ as in Pat locked Chris into the room, etc. (cf. Goldberg 1995: 76, 161ff.).
The second type of link is the metaphorical extension link, which shows relations between two senses of a construction that are based on conceptual metaphors (Goldberg 1995: 81). For example, Goldberg analyzes the resultative construction ([SUBJ V OBJ OBL_{AP/PP}]‘SUBJ causes OBJ to become OBL’, as in Joe kicked the dog black and blue) as a metaphorical extension of the caused-motion construction (based on the metaphor CHANGE OF STATE AS CHANGE OF LOCATION, see further Section 3.2).

The third type of link is the instance link, which shows the relation between a general construction and a more specific instance of this construction (Goldberg 1995: 79). For example, the caused-motion construction is an instance of the subject-predicate construction; it has a subject and a predicate that share the properties of subjects and predicates in general, but it adds its own specifications, namely the exact type of verb-phrase instantiating the predicate (i.e. [VP V NP PP/AP]), as well as a particular configuration of semantic roles (i.e. CAUSE-MOVE ⟨agent, theme, path⟩).

The last type of link is the subpart link, which shows the relation between one construction and another one that is a proper subpart of the first (Goldberg 1995: 78). For example, the intransitive motion construction (i.e. [SUBJ V OBL_{directional}]‘SUBJ_theme move OBL_{path}’, as in The ball rolled down the hill), can be analyzed as a subpart of the caused-motion construction, as in Billy rolled the ball down the hill.

In conclusion of this brief overview, let me comment on the notion of ‘strict predictability’, which is given a central role in Construction Grammar both with respect to form and with respect to meaning (cf. the definition at the beginning of this section).
On the syntactic level, the reasoning behind this notion is straightforward: if a formal property of a construction cannot be predicted on the basis of other constructions of the language (cannot be 'derived computationally' in generative terms), then it must be stated as part of that construction. On the semantic level, the reasoning is similar: since every well-formed utterance of a language is interpretable (albeit not always unambiguously), the meaning of an utterance must be predictable on the basis of its component parts. This is, of course, a version of the traditional requirement that the meaning of utterances be compositional, as expressed in the following text-book definition:

[A] semantic theory of a natural language ... should reflect the fact that, except for idioms, phrases and sentences are compositional—in other words, that the meaning of a syntactically complex expression is determined by the meaning of its constituents plus their grammatical relations. (Akmajian et al. 1995: 233, emphasis added)

Note that the traditional view expressed in this definition again assumes the distinction between a periphery of idioms, which are non-compositional, and a core of non-idiomatic phrase and sentence types that are compositional. Goldberg (1995) shows that this distinction is an illusion: even basic sentence types like the intransitive motion construction, the caused motion construction, the resultative construction, and the ditransitive construction do not have compositional semantics in the sense of this definition.

By giving a central role to the construction, Construction Grammar again treats 'core' and 'periphery' in the same way: whatever is non-predictable about any utterance is shown to be part of (one of) the construction(s) manifested in that utterance, be it a
traditional 'idiom' like *Put yourself in my shoes*, where the meaning 'try to see things from my perspective' is linked to the expression as a whole, or a—seemingly compositional—utterance like *Joe kicked the dog into the bathroom*, where the meaning 'cause to move' is linked to the abstract formal pattern [SUBJ V OBJ OBL_{directional}]. As Goldberg notes:

> By recognizing the existence of contentful constructions, we can save compositionality in a weakened form: the meaning of an expression is the result of integrating the meaning of the lexical items into the meanings of constructions. (Goldberg 1995: 16)

Here, the notion *construction* replaces the notion *grammatical relation* referred to in the textbook quotation above.

The question remains, at what level of detail the construction must be posited. In the case of complex sentences (such as an analytic causative like *Billy GOT Diane to marry him*), the issue is whether the complex sentence as a whole has unpredictable semantic or formal properties, or whether its properties can be predicted on the basis of its component constructions (say, the causation verb *get*, the complementation pattern [V OBJ to VP_{infinitive}], etc.). I will argue that the formal properties of such complex sentences are unpredictable (e.g., we cannot predict that *get* will take an object and a to-infinitive), but that their semantics is typically predictable on the basis of their component constructions.

Finally, note that Construction Grammar places a great emphasis on the notion of *strict* predictability; in order to count as 'predictable' in the Construction Grammar sense, it is not enough for some aspect of form or meaning to be generally motivated.
This does not mean, however, that no place is given to motivation (which I will refer to as 'weak predictability', cf. Chapter 6). The idea of motivation can be found in many cognitively or functionally oriented frameworks; it is essentially the idea of isomorphism or relational diagrammatic iconicity (cf. e.g. Haiman 1985: 9ff., passim), summarized by Hiraga (1994: 13) as follows: "(i) difference in form reflects difference in meaning; and (ii) sameness in form reflects sameness in meaning", to which we can add, that (iii) partial sameness in form reflects partial sameness in meaning (cf. also Langacker's [1987: 466f.] notion of systemic motivation and Saussure's [1966: 133] notion of relative motivation).

The notion of isomorphism gives rise to the following two principles of language organization (Goldberg 1995: 67):

*The Principle of Maximized Motivation:* If construction A is related to construction B syntactically, then the system of construction A is motivated to the degree that it is related to construction B semantically [...]. Such motivation is maximized.

*The Principle of No Synonymy:* If two constructions are syntactically distinct, they must be semantically or pragmatically distinct.

Neither of these principles is considered to be absolute: not every aspect of every construction must be motivated, and not every formal difference has to correlate with a semantic or pragmatic difference; it is simply assumed that these principles capture what is the norm in language, and that exceptions should be few (cf. Goldberg 1995: 69ff.) for more detailed discussion).
3.2 A CLOSER LOOK AT SOME IMPORTANT NOTIONS

In this section, I will discuss in some more detail the notion argument structure construction, and two related notions, semantic role and extension, introducing at the same time some more notational conventions. I will also briefly touch on two other notions that will be relevant at various points, subjectification and gapping.

3.2.1 Argument structure constructions

Let us first take a closer look at argument structure constructions, taking as an example the caused-motion construction discussed in the preceding section (which I will compare to analytic causatives in Chapter 7), and some related constructions.

It was claimed that the syntactic pattern [SUBJ V_{nonstative} OBJ OBL_{directional}] is directly associated with the meaning ‘X cause Y to move to/along Z’, regardless of the specific verb that occurs in the V slot; evidence came from the example Joe kicked the dog into the bathroom, some further (authentic) examples are given in (1):

(1) a. He allegedly THREW her against a car. (NAN)

   b. Video footage on Russian Television showed Chechens KICKING the wounded pilot onto a stretcher. (NAN)

   c. The hot summer wind BLEW the aroma of dried grass into the tent and warmed our glasses of Viognier. (NAN)

   d. On Sunday, [Russian planes] RAINED explosives onto the city (NAN)

   e. Bulldozers ... SHOVELED the debris onto trucks. (NAN)

   f. [The pilot] NURSED a crippled jet onto the deck of the carrier Essex. (NAN)
As these examples show, the caused-motion construction may combine with three-participant verbs (like *throw* in [1a]), two-participant verbs (like *kick* in [1b], *shovel* in [1e], or *nurse* in [1f]), and even one-participant verbs (like *blow* in [1c] or *rain* in [1d]). The verb may either refer to an *instance* of the event type referred to by the construction (like *throw* in [1a], or *put*, discussed in Section 3.1 above, which are basically synonymous with the construction), or it may encode a *means* of bringing about this event (like *blow* in [1c] or *shovel* in [1e]), or it may encode a *manner* (like *nurse* [1f]). The last example also shows how far removed from the meaning of the construction a verb may actually be, while still receiving a caused-motion interpretation by virtue of occurring in the caused-motion construction.

These facts can be summarized in the following type of diagram:\(^1\)

---

\(^1\) Note that this representation, like all representations in this work, is a *practical* notation, i.e. that it has, in Lakoff's words "no cosmic significance" (1987: 486). It is a way of summarizing complex sets of facts in a fairly simple and precise way. It is thus fundamentally different from the type of mathematical or pseudo-mathematical notation used in Chomskyan generative models: in those models, great significance is attached, for example, to tree diagrams, and there are linguistic constraints and theoretical constructs that are actually stated in terms of this notation (such as *c-command*, *government*, the *binary branching* constraint and the *no crossing branches* constraint). The notation I am using here (following Goldberg 1995) will not be reified and confused with the linguistic phenomena it is representing in this way; it should be transferable into any other notational system (such as the one used by Lakoff 1987 or the one of Fillmore and Kay 1993) without any effect on the analysis as such. Note also that while the notation I use is fairly informal, this does not mean that the analyses presented cannot or should not be formalized: there are an infinite number of strictly formalized notations that could be devised to capture them (Fillmore and Kay's notation is much more strictly formalized).
(2) The caused-motion construction (after Goldberg 1995: 52)

<table>
<thead>
<tr>
<th>Sem</th>
<th>CAUSE-MOVE</th>
<th>&lt; causer theme path/goal &gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>R:</td>
<td>instance,</td>
<td>means, manner</td>
</tr>
<tr>
<td>Syn</td>
<td>V</td>
<td>SUBJ OBJ OBL&lt;directional</td>
</tr>
</tbody>
</table>

At the top of the diagram, the construction's meaning is shown (in this case a particular configuration of semantic roles), the arrows show how this meaning maps onto the syntactic form shown at the bottom. The empty space enclosed by angled brackets in the middle is a place holder for any given verb that may potentially occur in this construction. Solid lines between the argument roles of the construction and the participant roles of the verb indicate arguments that must be matched by a participant of the verb; dashed lines indicate roles that can be supplied by the construction; and bold face indicates semantic roles associated with core arguments as opposed to obliques (not important for the analyses presented in the following chapters). I will return to semantic roles below.

The diagram also shows certain restrictions on such a potential verb. First, it must be related to the construction's semantics 'cause to move' in one of the ways mentioned above (instance, means, or manner). Second, it must supply an agentive participant (a thrower, a kicker, a blower, a shoveler, etc.); the other two arguments can be supplied by the construction. For example, throw supplies three participants, a thrower, a throwee, and a location, which correspond exactly to (and are fused with) the three arguments of
the construction; *kick* supplies two participants, a kicker and a kickee, which correspond to the agent and the theme arguments of the construction, but it supplies no path/goal, which is supplied by the construction; finally *blow* supplies a single participant, a *blower*, but no participant corresponding to the construction’s *theme* or *path/goal*, and so both arguments are supplied entirely by the construction (as [1d] shows, the verb may actually also supply just a theme, in which case the construction supplies the causer. I follow Goldberg’s analysis that the verb must supply an agentive participant here for the sake of simplicity, but I will return to the issue in Chapter 7). The case of *kick* is shown in (3):

(3) The caused-motion construction with *kick*

<table>
<thead>
<tr>
<th>Sem</th>
<th>CAUSE-MOVE</th>
<th><code>&lt; causer theme path/goal</code></th>
</tr>
</thead>
<tbody>
<tr>
<td>R: means</td>
<td>KICK</td>
<td><code>&lt; kicker kickee</code></td>
</tr>
<tr>
<td>Syn</td>
<td>V</td>
<td>SUBJ OBJ OBL_directional</td>
</tr>
</tbody>
</table>

3.2.2 Extensions

In Section 3.1, several types of extension links were mentioned. Except for the subpart link and the instance link (which are implicit in the notion of ‘combination’ as used here), these will not play a central role in the present work, since I will take a different approach to the phenomena handled by these (which does not mean the existence of such links is denied, but simply that I argue that complex constructions of
the type investigated in the following chapters are dealt with more insightfully in a different way).

As an example, consider the metaphor link posited by Goldberg between the caused-motion construction and the resultative construction. The resultative construction underlies examples like (4):

(4)  
   a. Billy smashed the vase to pieces.
   b. Billy drove Diane crazy.
   c. Diane wiped the scalpel clean.

This construction has the same general form as the caused-motion construction, namely [SUBJ V OBJ OBL\text{APP}], and it also has a similar meaning, namely ‘agent CAUSE-BECOME patient result/goal’. Since there is a general metaphor CHANGE IS MOTION, in English (manifest in examples like The milk\textit{ went} bad, The frog\textit{ turned} into a prince, etc.), Goldberg argues that the resultative construction can be viewed as a metaphorical extension of the caused-motion construction, which can be represented as follows:
The caused-motion construction and the resultative construction

Note that nothing precludes the existence of additional properties for the resultative construction; although it is linked to the caused-motion construction via a metaphor link, and is thus part of the same polysemy network, it is still a construction in its own right (which, in a psycholinguistic, neurolinguistic, or computational model would have its own ‘entry,’ ‘representation,’ or ‘node’ of some sort).

Taking an alternative approach, similar to the one in the following chapters, we could argue that there is one abstract construction which captures what is common to both the resultative and the caused-motion construction, and that the differences between the two are due to the component constructions with respect to which they differ. Such a construction could be characterized as [SUBJ V OBJ OBL]/‘causer CAUSE affected.entity result’ (cf. Kay 1996 for this type of analysis). The fact that in the caused-motion
construction the result is motion to/along a location, while in the resultative it is a change to some state, could be argued to derive, for example, from the type of oblique: an AP like *crazy* or *clean* and a PP like *to pieces* denote a state, while an AP like *here* or a PP like *into the tent* denote a location. Again, this does not preclude the existence of formal or semantic differences for either of the two constructions, which may again have separate ‘entries’, but the motivation for their formal and semantic *similarities* is a different one, and neither of them is seen as more basic, or as an extension of the other.

Which type of analysis is more appropriate must be answered individually for each construction. For arguments in favor of the metaphorical analysis of the resultative, cf. Goldberg (1995: 84ff.).

### 3.2.3 Semantic roles

Let us briefly return to the issue of semantic roles. The labels used in the type of diagram introduced above are meant as descriptive labels only; they stand for types of participants that must be more precisely characterized by an exhaustive description of the type of event encoded by the construction. Take the caused-motion construction: Goldberg mentions the following characteristics of the event encoded by the caused-motion construction (among others): (i) the causer is an agent or a natural force (this is also shown by the examples in [1] above; the apparent exception *bulldozer* is a case of metonymy), (ii) there is no cognitive decision mediating between the causing event and the result (the motion toward some goal or along some path), (iii) the theme’s path of
motion must be determined in its entirety by the causing event (Goldberg 1995: 165ff.).

These restrictions can be stated as part of a detailed description of the event type encoded by the construction, for which I will use the following format (similar to the one used by Wierzbicka [e.g. 1988a, b, 1998] or Taylor [e.g. 1989]):

(6) The CAUSED-MOTION CONSTRUCTION
a. There are two participants, X and Y
b. X is an animate being or a natural force
c. Y is an animate being or a physical object
d. X acts on Y
e. $\Rightarrow$ Y moves along/toward Z
f. Y does not have a choice

This characterization now allows us to define event-specific roles that give the labels used in representations such as (2) their meaning:

(7) Semantic roles for the CAUSED-MOTION CONSTRUCTION
X: causer
Y: theme
Z: path/goal
$r(x, y, z)$: CAUSE-MOVE

Note that the precise labels given to these roles are of no consequence, since semantic roles are not treated as semantic primitives, nor as independently definable concepts, but as labels for participants in relatively richly specified event types, which I will refer to as role configurations (cf. Jackendoff's treatment of semantic roles as "structural positions in conceptual configurations" [1990: 47], cf. also Langacker [1991a, ch. 7]).
3.2.4 Subjectification

Subjectification is a particular kind of construal which involves two notions from cognitive grammar: *perspective* (cf. Langacker 1991b: 315ff.) and the *onstage/offstage* distinction (Langacker 1991b: 318ff., also referred to as the distinction between the *ground* and the *scope* of the predication).

The notion ‘perspective’ refers to the fact that linguistic expressions are typically oriented in relation to some reference point, usually one of the participants of the scene described (this is most evident with deictic elements). The onstage/offstage distinction is the distinction between the participants of the scene described in an utterance and the participants of the speech event, i.e. speaker, hearer, possible other people present, as well as their immediate surroundings. The former are referred to as ‘onstage’ (or objectively construed), the latter as offstage (or subjectively construed).

Subjectification refers to a situation in which an aspect of the onstage scene is taken offstage (or “aligned along a ‘subjective axis’” [Langacker 1991b: 326]). The examples in (8) may clarify this idea (cf. Langacker 1991b: 315):

(8) a. Raissa was seated on Nancy’s right.

b. Turn right at the next corner.

In (8a), the reference point referred to by *right* is one of the onstage participants, both of whom are objectively construed and maximally separate from the speech-event participants. Furthermore, the speech-event participants do not figure in the expression
apart from the fact that they are conceptualized as its speaker and hearer.

In (8b), on the other hand, matters are different: first, the agent of the depicted event of 'turning right' is one of the speech-event participants, and second, the reference-point required by right is one (or both) of the speech-event participants, but neither agent nor reference-point are encoded, i.e., they are not brought onstage. Instead, they have been subjectified: they are not part of the construed content, but part of the construal process itself.

Since syntactic constructions are not qualitatively different from any other type of linguistic expression, they may also be subjectified. Consider the resultative construction, [SUBJ V OBJ OBL\text{\textsubscript{AP}}]/'agent \textsc{cause-become} theme result', shown in (9a), and the structurally identical example in (9b):

(9) a. Michael \textsc{wiped} the table clean.
    b. Michael \textsc{considers} the table clean.

At first glance, it seems that the formal identity between these two constructions is accidental, i.e. that (9b) is not an instance of the resultative construction: if someone considers something to be in a certain state, then they do not cause it to be in that state. However, Verspoor (1997) argues that it is, in fact, a case of subjectification, where an objective change of state is realigned along the subjective axis of the subject of the sentence: by considering the table clean, Michael causes the table to be clean \textit{in his conceptualization of the world}. If we follow Verspoor's argument, then (9b) is an instance
of a construction that is linked to the resultative via what we might call a subjectification link. This analysis could be summarized as follows:

(10) Subjectified resultative construction

3.2.5 Gapping

Finally, let me briefly discuss the notion of gapping (Talmy 1996). The basic idea is simple. Linguistic expressions evoke ‘event frames’ (the kind of event type shown in [6] above, or the kinds of causal chains discussed in Chapter 2), but not all of the elements of the evoked event frame are actually linguistically encoded. This was already

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2 Verspoor’s ultimate solution is somewhat different: she does not posit a separate construction to account for (9b), but adds ‘subjectified construal’ to the list of possible relations between the resultative meaning and the verbs occurring in it (1997: 448). It is not clear to me whether there is a fundamental difference between the two solutions, but the one presented here will prove more useful in my discussion of the make-causative in Chapter 4.
discussed in Chapter 2, Section 2.3.5 with respect to the analytic causative with *cause.* Consider again an example like (2.22a), repeated here as (11):

(11)  *A major drug dealer is affecting thousands of lives, and in effect CAUSING some of them to die.*

There is at least one event on the causal chain between the drug dealer and the death of the people mentioned, that is not expressed at all: the selling of the drugs. A portion of the conceptualization of an event that is not expressed linguistically is referred to as *gapped,* those portions that are included are referred to as *windowed* (*for attention*) (Talmy 1996: 235).

Constructions differ in what and how much of an event type they can window or gap. For example, the *cause*-causative is well known for its ability to gap a substantial number of events between causer and result. To take another example from the domain of causation, consider the causal preposition/conjunction *by* (mentioned in Chapter 2, Section 2.3.3). Talmy points out that (when added to a simple transitive construction encoding a result), a *by*-clause has to encode "the penultimate subevent of the causal chain, i.e. the immediate cause of the final intended result" (Talmy 1996: 252), as shown by the following examples (Talmy’s acceptability judgments):

(12)  *I BROKE the window*
   a.  *by grasping a rock with my hand*
   b.  *by swinging a rock with my arm*
   c.  *by propelling a rock through the air*
   d.  ُby throwing a rock at it
   e.  by hitting it with a rock.
Of course, if the penultimate event is encoded, causally prior events may also be mentioned, e.g. *I BROKE the window by grasping a rock, propelling it through the air, and hitting the window with it*. Thus, we can say that the *by*-VERBing construction can gap all events on the causal chain except for the penultimate one.³

### 3.2.6 A note on data

This work shares the view of many proponents of Construction Grammar that linguistic analyses should be bases on attested data (cf. Goldberg 1996: 69): the analyses presented in this work are almost entirely based on a systematic analysis of data gathered from corpora of naturally occurring language. The main sources of data are the 3 million word *Switchboard* corpus of spoken American English (*SWB*) and the 350 million word *North American News* corpus of written American English (*NAN*). These are occasionally complemented by the *TIPSTER* and the *CSPAE* corpora, as well as by individual examples from various sources (all these are listed at the beginning of the references). Spoken language data are used wherever possible (i.e. wherever a construction is frequent enough to yield a sufficient number of examples in the 3-million-word *Switchboard* corpus).

There are two reasons why this work focuses on attested data rather than

³ Actually, most speakers find (12d) acceptable. What is at issue here seems to be that the *by*-VERBing construction requires that the causal chain between the event in the *by*-clause and that in the main clause must be fully inferable with a reasonable degree of certainty from the event mentioned in the *by*-clause; this is possible in the case of (12d, e), which is why they are acceptable, but not for (12a, b, c), which is why they are not acceptable.
constructed examples: first, a systematic analysis of attested data ensures that the whole range of uses of a given construction will be taken into account, and it makes it impossible for the researcher to skew his or her data by theoretical or descriptive biases of any kind. In other words, it increases both the scope and the reliability of the analysis (cf. e.g. Biber et al.: 1998: 4, Sampson 1996); and second, a systematic corpus analysis provides some sense of which uses of a construction are more frequent than others, i.e. it shows what type of situation speakers typically encode with a given construction (this will be especially relevant in Chapters 4 and 5).

However, the present work also differs from many corpus-based approaches to language. First, it is not concerned with the nature of texts (like, for example, Biber et al. 1996) or the exhaustive characterization of a given lexical item or grammatical pattern (like, for example, Hunston et al. 1997, Hunston and Francis 1999). Second, the issues addressed in this work in a sense grow out of the tradition of theoretical linguistics rather than emerging from the corpus analysis itself (like the traditions described, for example, in Stubbs 1996). Finally, this work is ultimately concerned with characterizing what a construction can not be used for just as much as what it can be used for; in order to test the limits of a construction, I will occasionally use constructed examples, or modify corpus examples to create minimal pairs. Wherever I use such examples, the following conventions are used: a raised circle (°) stands for a constructed example that is deemed acceptable (following a suggestion by Talmy 1976), and asterisks and raised question marks stand for unacceptable and marginally acceptable sentences respectively (following
established usage).

In sum, corpora are used in this dissertation as a research tool (in fairly unobtrusive ways that will become clear in Chapter 4); they are neither themselves the object of investigation, nor are they given a theoretical status.

3.3 THE SYNTAX OF ANALYTIC CAUSATIVES

Analytic causative constructions in English have one of the following four syntactic patterns in their active form (the subscripts on the two NPs refer to their surface case (nominative and accusative) and grammatical relations (subject and object) here):

\[ \text{[NP}_{\text{subj}} \ V_{\text{finite}} \text{NP}_{\text{obj}} \ V_{\text{infinite}}] \]
\[ \text{e.g. I make my kids cut the grass}^5 \text{ (cf. Chapter 4)} \]
\[ \text{[NP}_{\text{subj}} \ V_{\text{finite}} \text{NP}_{\text{obj}} \ V_{\text{present participle}}] \]
\[ \text{e.g. The earthquake sent us running} \text{ (cf. Section 6.3 and Ch. 7)} \]

---

4 The analysis of the postverbal NP as a subject is not as uncontroversial as it may seem: it is based on its position, on the fact that it receives objective case if it is a pronoun, and on the fact that it becomes the subject of a passive \textit{if such a passive is possible}. The latter is not always the case, which could point to the fact that the postverbal NP is not actually an object. However, I will account for the passivizability or non-passivizability of analytic causatives in semantic terms (cf. Chapter 6, Section 6.4); thus it cannot be used to argue for or against the object status of the postverbal NP. Another potential argument is that the postverbal NP does not seem to be in the right semantic relation to the causation verb as compared to the latter's lexical counterpart. For example, lexical \textit{make} is a transitive verb which assigns the semantic role \textit{result} to its object. In the causative use, it appears to assign the role \textit{patient} to its object, and \textit{result} to the sentential complement; also, the latter cannot be omitted in this use. From a constructional perspective, however, these arguments do not make much sense, since from this perspective it is not the verb which assigns semantic roles, but the construction. In addition, such arguments presuppose that we are dealing with the same verb in lexical uses like \textit{Billy made a wrong move} and \textit{Philip made Billy sit still}, an assumption that the present work does not share (cf. Chapter 7). I will thus simply assume that the postverbal NP is an object, although the issue is clearly far from resolved.

5 Unless otherwise indicated, all examples in this subsection are constructed (but mostly based on examples actually occurring in one of the corpora used elsewhere (NAN, SWB). They are not preceded by a raised circle (°) as they are elsewhere).
c.  \([\text{NP}_{\text{subj}} \; \text{V}_{\text{finite}} \; \text{NP}_{\text{obj}} \; \text{to} \; \text{VP}_{\text{infinitive}}]\)  
   e.g. My parents forced me to get a driver’s license (cf. Section 5.3)

d.  \([\text{NP}_{\text{subj}} \; \text{V}_{\text{finite}} \; \text{NP}_{\text{obj}} \; \text{to} \; \text{VP}_{\text{present participle}}]\)  
   e.g. The report set us to thinking about our future (cf. Section 6.3)

As (13a-d) show, there are four different complementation patterns that may occur in analytic causative constructions in English: (i) OBJ + infinitive, which is found with make and have (as well as permissive let, which is not discussed in this work); (ii) OBJ + present participle, which is found with have, send, leave and set; (iii) OBJ + to + infinitive, which is found with force, get, push, lead, drive, bring, move, and set; and OBJ + to + present participle (which occurs almost exclusively with set). The semantics of the four complementation patterns will be discussed in Chapter 6, Section 6.1. For now, note that the existence of these different complementation patterns is reason enough to claim construction status for all analytic causatives of English: although, as will be shown in Chapter 6, Section 6.2, there is some motivation for the fact that particular causation verbs occur with particular complementation patterns, these combinations are not strictly predictable in the sense of the definition given in Section 3.1.

Let us briefly discuss the constituent structure of causative constructions, beginning with the OBJ+to+infinitive pattern in (13c), which is generally considered least problematic. It is generally analyzed as having the following structure (cf. Radford 1988: 321ff., based on Chomsky 1981):

(14)  John persuaded \([\text{NP}_{\text{Mary}}] [S_{-} [C_{e}] [S_{-} \text{PRO to resign}]]\)
Ignoring for now the empty complementizer and the PRO-subject of the embedded verb phrase to resign (which I will return to below), the basic claim in (14) is that the matrix object and the embedded VP are each a constituent of the matrix verb phrase, and that they are not part of a single intermediate constituent (this analysis goes back at least as far as Jespersen [1937: 54]). In this, causation verbs (and other manipulation verbs, like persuade) differ from mental state verbs like want or believe where the object and the embedded VP do indeed form such a constituent, and where the structure is claimed to be something like John believed [S: [NP Mary] [S: to be innocent]]. This is again a relatively uncontroversial analysis as far as constituency is concerned; it is supported by facts about insertion and dislocation (cf. Chomsky 1981: 99f., 146), as well as replacement:

(15) a. John persuaded [NP Mary] firmly [S: C PRO to resign]

b. *John believed [S: Mary firmly to be innocent]

(16) a. Though I may persuade [NP her] [S: C PRO to resign] ... ~ Persuade[NP her] though I may [S: C PRO to resign] ...

b. Though I believe [S: her to be innocent] ~ *Believe [S: her though I may to be innocent]

(17) a. *John persuaded it.

b. John believed it.

An adverb modifying the matrix verb can occur between Mary and to resign in (15a) but not between Mary and to be innocent in (15b); the NP and the VP can be separated by dislocation in (16a) but not in (16b); and Mary to resign cannot be replaced by a single
word, while *Mary to be innocent* can. All this provides evidence for an analysis of the object and the embedded verb of examples like (13c, d) as separate constituents.

Such an analysis is not plausible for the OBJ+infinitive and OBJ+present participle patterns in (13a, b). First, insertion is not possible, as the following minimal pair shows:

(18)  
   a. Philip *reluctantly* made Aaron resign.
   b. Philip made Aaron *reluctantly* resign.

These two sentences mean two different things; although it is possible for an adverb to occur between *Aaron* and *resign*, this adverb cannot modify the matrix verb: while (18a) means that Philip was reluctant, (18b) means that Aaron was reluctant.

Separation of the object and the embedded verb also provides somewhat less clear evidence; it is clearly impossible in some constructions, like (19a), and felt to be odd by some speakers (though not all), in others, as in (19b, c):

(19)  
   a. Though I may make *him* resign... ~ *Make him* though I may resign...
   b. I made *Aaron* resign. ~ ?It was *Áaron* that I made resign.
   c. I made *him* resign. ~ ?It was resign that I made *him*.

On the basis of facts like these, the object and the embedded VP of examples like (13a, b) are traditionally analyzed as forming a single constituent (a *small clause*, cf. Radford 1988: 359, based on Stowell 1981; again, this analysis goes back at least to Jespersen 1937: 53, 149). For example, the structure of a *make*-causative would be *[Philip made
\([_{\text{VC}} Aaron resign]\)] (where VC stands for ‘verb clause’).

Such an analysis accounts for the fact that the object and the VP in the OBJ+infinitive and OBJ+present participle patterns do not behave like two separate constituents; however, it wrongly predicts that they will behave as a single constituent. This is not the case, as the movement tests in (20a) and the replacement test in (20b) show.\(^6\)

(20)  

a.  I made [Aaron resign]. \(\sim\) *[Aaron resign] I made. \(\sim\) *It was [Aaron resign] that I made. \(\sim\) *[Aaron resign] was made (by me).

b.  I made [Aaron resign] \(\neq\) I made it.

Thus, while the object and the embedded VP in some ways do not behave like two separate constituents, they do not behave like a single constituent either. Although this problem is so well known as to be discussed in textbooks on generative grammar (e.g. Aarts 1997: 268ff.), the analysis of the object and the VP as a single constituent is maintained even in the absence of evidence (ibid.: 271). In Construction Grammar, these facts do not pose an insurmountable problem: they simply show that the complementation patterns OBJ+infinitive and OBJ+present participle have formal properties that are not predictable on the basis of other constructions of English, and that

\(^6\) Traditionally, the ungrammaticality of such examples is accounted for by appealing to a principle whereby the NP Aaron must be assigned case by the matrix verb and this is only possible if the small clause occurs to the right of the matrix verb (cf. Haegeman 1994: 171ff.). While this explanation is internally consistent in the framework of Government and Binding, it requires reference to theoretical constructs that are rejected by the version of construction grammar adopted, for example, a functional head AGR that heads the small clause but is ‘too weak’ to assign case.
must therefore be posited as constructions (although, of course, it is still desirable to establish the constituency structure of the constructions in question, and to account in some way for their odd behavior).

More important to the present discussion is the fact that neither of the two constituent structures reflects the fact that the matrix object is at the same time the logical object of the matrix verb and the logical subject of the embedded verb, a situation that would require overlapping constituents were it to be reflected directly:

(21)

```
(21)  
    VP
      /\  
     /  \ 
    V   OBJ VP
     |    |   
Philip made Aaron resign
     |    SUBJ VP
      S   
```

This kind of overlapping structure is not possible in (most) generative models, and it is not supported by any constituency tests (although the fact that the object and the embedded VP behave like a single constituent in some ways but not in others may be relevant in this context). The structure in (21) would, however, provide a basis on which the two-fold semantic membership of the matrix object could be explicited. Instead, the relationship is traditionally shown by means of empty categories and cross-indexing. Recall the structure in (15a) above, repeated with slight modifications as (22):
(22) John persuaded [NP Mary], firmly [S C PRO, to resign]

The empty category PRO functions as the syntactic subject of the complement clause, and it is cross-indexed with the matrix object to show that the two must have the same referent. This kind of formalism theoretically allows the same referent to be assigned two different semantic roles, one by the matrix verb and one by the embedded verb. However, it requires the assumption that there are empty categories, i.e. linguistic entities lacking both form and meaning, an assumption that is rejected in the version of Construction Grammar adopted here. The next section will develop a constructional account of the semantic and the syntactic structure of causatives that will not make reference to such empty categories but still account, among other things, for the two-fold function of the matrix object.

3.4 THE STRUCTURE OF CAUSATIVES: A CONSTRUCTIONAL ACCOUNT

Before the structure of analytic causatives can be insightfully treated, there are some general theoretical issues that need to be discussed. In Section 3.2, following Goldberg (1995), constructions were represented as linking semantic roles directly to grammatical relations such as subject, object, etc. Although there are constructions for which such a direct link exists, the major argument structure constructions of English, including analytic causative constructions, are not of this type. Take as an example the transitive construction, which (using the notation employed in Goldberg (1995) and in
Section 3.2) could be represented as follows:

(23) The transitive construction, Version I

This representation is overly specific, in that it only accounts for transitive sentences in the active voice, such as *Diane kissed Billy*, but not, for example, for the passive version of the same sentence. In Construction Grammar terms, (23) shows the transitive construction combined with the subject-predicate construction and the active voice construction. On the other hand, the representation is underspecified in that it does not include information about the order of the elements. This is not an oversight on Goldberg’s part, of course, but a simplification that can be made for ease of exposition where the focus of the discussion is not on the precise syntactic structure of a construction (cf. Goldberg 1995: ch. 4 for discussion).

In this section, it will be necessary to talk about argument structure constructions separate from any particular syntactic form, i.e. to represent them in a format that is compatible with different syntactic forms. There are suggestions for formal notations that are capable of this in the literature (cf. e.g. Kay and Fillmore 1999), but for expository

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7 This representation only accounts for the type of transitive sentence that is considered prototypical in *semantic* accounts of transitivity (e.g. Rice 1987, Taylor 1989). See Chapter 8 for a more detailed discussion and justification of this analysis.
ease I will use an informal extension of Goldberg’s notation instead. Instead of showing links to grammatical relations such as SUBJECT and OBJECT, I will follow the typological practice to cast the grammatical relations in the more general terms S, A, and O (cf. e.g. Dixon [1989] and Comrie [1978]). These terms are usually defined as follows:

The S is defined as the only nominal argument of a single-argument clause. ... The A is defined as the most AGENT-like argument of a multi-argument clause. ... [O] is the most PATIENT-like argument of a multi-argument clause (Payne 1997: 133f.).

I will follow the definition of S, but define A and O in a slightly more specific way. Assuming the semantic role hierarchy in (24) (cf. Fillmore 1968: 31ff., Goldberg 1995: 57), I will define A as the argument whose semantic role is highest on the semantic role hierarchy and O as the other core argument of a multi-argument construction:

(24) Semantic role hierarchy

\begin{verbatim}
agent > \{ recipient \} > instrument > \{ stimulus \} > \{ source \}
\{ experiencer \} \{ theme \} \{ goal \}
\end{verbatim}

The transitive construction can now be represented as follows:

(25) The TRANSITIVE construction, Version II

\begin{verbatim}
Sem  ACT-ON  < agent patient >
|    |      |
|    |      |
\downarrow < \downarrow < \downarrow >
GR  PRED  \{ A O \}
\end{verbatim}

This construction does not specify a particular voice (nor does it specify any other
aspect of the form in which it may occur, for example mood, information structure (‘is,’
cf. Chafe 1994, Lambrecht 1994), the morphological realization (‘Morph’) or the linear
order (‘Pos’) of the elements, etc.). These aspects can be shown separately, as for
example in (26a, b):\(^8\)

(26) Two combinations of voice, mood, and information structure

a. **Active declarative**

<table>
<thead>
<tr>
<th>GR</th>
<th>PRED { A/S (O) }</th>
<th>Morph</th>
<th>SUBJ (OBL)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Pos</td>
<td>2 1 (3)</td>
</tr>
</tbody>
</table>

voice active
mood declarative
is unmarked

b. **Passive declarative**

<table>
<thead>
<tr>
<th>GR</th>
<th>PRED { A O }</th>
<th>Morph PASSIVE (OBL)</th>
<th>SUBJ</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Pos</td>
<td>2 (3) 1</td>
</tr>
</tbody>
</table>

voice passive
mood declarative
is marked

If the argument structure construction in (25) combines with (26a), the result is an active
declarative transitive sentence, like *Billy kissed Diane*, if it combines with (26b), the
result is a passive declarative sentence, like *Diane was kissed (by Billy).*\(^9\)

At the most abstract level, the analytic causative construction can now be
represented as follows (I use the label D.PRED for a dependent predicate, i.e. an
predicate that fills an argument slot of another predicate).

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\(^8\) Note that these are, again, informal representations, and that the representation is not meant to suggest
that these combinations of voice, mood, and information structure have construction status. The different
aspects are presumably separate constructions. Note also that (26a, b) are not meant to be serious analyses
of active and passive sentences; they are merely meant to show the most important aspects that such an
analysis would have to pay attention to.

\(^9\) Given the preceding discussion, note that it is not actually necessary to choose motivated labels like S,
A, and O: any arbitrary label would do, since their links to semantic roles are stipulated anyway as part of
the construction. However, there still seems to be a value to these labels, since they draw attention to the
fact that though links between semantic roles and grammatical relations can be arbitrary, they are usually
not (cf. e.g. Fillmore 1968, Section 3.5).
The analytic causative construction

This construction specifies a predicate that means 'cause (to perform)' and that has a causer, a causee, and a result. The construction maps the causer to A, the causee to O, and the result to D.PRED.

Any given causative construction will be a more specific instance of this construction, i.e. it will inherit this construction as well as (i) a specific causation verb (like make, have, force, or get), and (ii) a specific complement construction. For example, the make-causative in example (13a) combines the causation verb make with the OBJ+infinitive complementation construction. I will use overlapping boxes to show combinations of two (or more) constructions; where necessary, I will also use double arrows to clarify correspondences between elements or slots in these constructions:
As mentioned above, I assume that the complement constructions have a semantic import (more specifically, they are *event structure constructions*), but this is not shown here (cf. Chapter 6, Section 6.1). The representation here simply shows that this construction maps an independent predicate onto a finite verb and a dependent predicate (one that functions as an argument of another verb) onto a bare infinitive verb phrase.

The representation in (28) is intentionally unspecified with respect to voice, mode, etc.; the *make*-causative can combine with corresponding constructions, such as (26a, b), in various ways (some of which are discussed in Chapter 6, Section 6.4). More importantly, though, the representation in (28) is imprecise with respect to the result slot. Although I will often use this type of representation for expository purposes throughout this work, it is oversimplified in a way that I will discuss now.

An important difference between basic clause constructions like the caused-motion construction or the transitive construction and complex constructions like the
analytic causative is that the result slot of analytic causatives is not simply fused with a verb (or even a verb phrase), but that construction as a whole combines with another construction (the *embedded* construction) in such a way that the result slot of the analytic causative is linked to the predicate slot of this other construction, and the causee slot of the analytic causative is linked with the S/A slot of the embedded construction (or, if the A is deprofiled, with its O, see further Chapter 6, Section 6.4).

In order to justify this claim, let us briefly look at simple fusion. Anticipating the discussion of analytic causatives vs. transitives with a causative meaning in Chapter 8, consider the examples in (29):

(29)  
\[\begin{align*}
\text{a. } & \text{In Montana, a tanker plane CRASHED near the Flathead Indian Reservation on Friday, killing its two crew members. (NAN)} \\
\text{b. } & \text{Authorities first thought that Jerolaman had intentionally CRASHED the plane to commit suicide. (NAN)} \\
\text{c. } & \text{It is also possible that equipment failure or human error caused the plane to CRASH just as the pilot was trying to abort a landing. (NAN)}
\end{align*}\]

I will assume for the purposes of the following discussion that we are dealing with the same verb in (29a) and (29b), and that this verb has a single participant, a 'crashee.' The intransitive use is then straightforward: the intransitive construction's single argument role fuses with the verb’s single participant role, as in (30):
(30) Intransitive use of crash

<table>
<thead>
<tr>
<th>Sem</th>
<th>HAPPEN-TO</th>
<th>patient</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CRASH</td>
<td>crashee</td>
<td></td>
</tr>
<tr>
<td>GR</td>
<td>PRED</td>
<td>{ S }</td>
</tr>
<tr>
<td>e.g.</td>
<td>plane</td>
<td></td>
</tr>
</tbody>
</table>

The transitive use is more interesting: here, the transitive construction’s patient role fuses with the verb’s crashee role, and provides an agent in addition:

(31) Transitive use of crash

<table>
<thead>
<tr>
<th>Sem</th>
<th>ACT-ON</th>
<th>agent</th>
<th>patient</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CRASH</td>
<td></td>
<td>crashee</td>
<td></td>
</tr>
<tr>
<td>GR</td>
<td>PRED</td>
<td>{ A O }</td>
<td></td>
</tr>
<tr>
<td>e.g.</td>
<td>Jerolaman</td>
<td>his plane</td>
<td></td>
</tr>
</tbody>
</table>

It may seem plausible, at first sight, to treat the analytic causative in (29c) in the same manner, i.e. to assume that the analytic causative’s causee role fuses with the verb’s single participant role and the verb itself fuses with the construction’s result role, as shown in (32):
(32) Possible analysis of the causative use of *crash*\(^{10}\)

<table>
<thead>
<tr>
<th>Sem</th>
<th>CAUSE</th>
<th>&lt;</th>
<th>causeer</th>
<th>result</th>
<th>causee</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAUSE</td>
<td>&lt;</td>
<td>caus-er</td>
<td>crash</td>
<td>crash</td>
<td>crashee</td>
</tr>
<tr>
<td>GR</td>
<td>PRED</td>
<td>{</td>
<td>A</td>
<td>D.PRED</td>
<td>O }</td>
</tr>
<tr>
<td>e.g.</td>
<td>human error</td>
<td>the plane</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

However, such an analysis fails to capture an important distinction between the transitive construction (and other basic clause constructions) and analytic causatives (and other constructions involving verbal complementation). Consider the following examples:

(33) a. Jerolaman CRASHED his plane.

b. *Authorities don’t know what CRASHED Jerolaman his plane.

c. Authorities don’t know what CAUSED Jerolaman to crash his plane.

As (33b) shows, a transitive construction cannot be transitivized again. This is readily explainable given the account so far: since the occurrence of *crash* in the transitive construction involves simple fusion of the verb’s participant roles and the construction’s argument roles, *his plane* can only fuse with the patient argument, and the construction can only provide one additional argument, the agent (in the case of two-participant verbs, the more agent-like participant will fuse with this argument). What is obviously not possible is for the agentive participant of a verb to fuse with the patient argument of the

\(^{10}\) Since I use the terms *causer* and *causee* independently of any particular causation verb, I deprive myself of labels for the participants of the verb *cause*; I will refer to these as *caus-er* and *caus-ee* to draw the distinction.
construction, for the verb to simply add its own patient-like participant, and for the construction to provide an additional agent:

(34) Impossible transitive use of an already transitivized verb

\[
\begin{array}{|c|c|c|}
\hline
\text{Sem} & \text{ACT-ON} & \langle \text{agent} \hspace{1em} \text{patient} \rangle \\
\hline
\text{crash} & < & \text{crasher} \\
\hline
\text{GR} & \text{PRED} & \{ \hspace{1em} A \hspace{1em} O \hspace{1em} O \hspace{1em} \} \\
\hline
\text{e.g.} & \text{what} & \text{Jerolaman} & \text{his plane} \\
\hline
\end{array}
\]

However, as (33c) shows, precisely this situation is perfectly possible with the analytic causative. Note that not just intransitive verbs can be causativized, but any verb, and in fact, any construction:

(35) a. *Caused motion:* Authorities don’t know what CAUSED Jerolaman to crash his plane into the woods.

b. *Passive transitive:* The authorities don’t know what CAUSES so many planes to be crashed in Pennsylvania.

c. *Middle:* The authorities don’t know what CAUSES books about plane crashes to sell so well.

d. *Resultative:* The authorities don’t know what CAUSED Jerolaman to shoot his boss to death.

e. *Causative:* The authorities don’t know what CAUSED Jerolaman to make his plane crash.

This evidence supports the claim that the causative construction does not simply fuse its result slot with a given verb, but that it actually combines with any given simple or complex clausal construction. This is shown for a causativized intransitive construction.
in (36a), and for example (29c) in particular in (36b):

(36)  

a. A causativized intransitive construction

<table>
<thead>
<tr>
<th>Sem</th>
<th>CAUSE</th>
<th>&lt; causeer</th>
<th>result</th>
<th>causee</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\[
\text{Sem HAPPEN.TO } < \text{patient } \\
\text{Crash } < \text{crashee } \\
\text{Syn PRED } \{ \text{S} \}
\]

<table>
<thead>
<tr>
<th>Syn</th>
<th>PRED</th>
<th>{ A \</th>
<th>D.PRED</th>
<th>O }</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

b. *Human error caused the plane to CRASH*

<table>
<thead>
<tr>
<th>Sem</th>
<th>CAUSE</th>
<th>&lt; causeer</th>
<th>result</th>
<th>causee</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\[
\text{Sem HAPPEN.TO } < \text{patient } \\
\text{CRASH } < \text{crashee } \\
\text{Syn PRED } \{ \text{S} \}
\]

<table>
<thead>
<tr>
<th>Syn</th>
<th>PRED</th>
<th>{ A \</th>
<th>D.PRED</th>
<th>O }</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\[
e.g. \quad \text{human error} \quad \text{the plane}
\]

A causativized transitive construction can be represented as shown in (37a), and the specific example (33c) as shown in (37b):
(37) a. A causativized transitive construction

b. *The authorities don’t know what CAUSED Jerolaman to crash his plane.*

The other examples in (35) can be accounted for in exactly the same way: causative constructions are not basic clause constructions, but argument structure constructions that combine with any other argument structure construction, and there are no general restrictions on what other argument structure constructions they can combine with (although there are construction-specific restrictions on whether the matrix clause or the embedded clause can combine with the passive construction, see Chapter 6, Section 6.4).
The analysis proposed here captures the two-fold relationship that the matrix object has to the matrix verb and the embedded verb. It simultaneously fills the O-slot of the matrix verb and the S/A-slot of the embedded verb. No reference to empty categories in necessary, because this two-fold relation holds at the level of argument structure which is not characterized in terms of linear order (as it is in traditional generative models).

The linear order (and other aspects of morphosyntax) are provided by general constructions like the active-declarative construction in (26a) or the passive-declarative construction in (26b), as well as various types of verbal complementation constructions which are discussed in the next section. Note that there are some general principles of construction-combining that need to be posited (and ultimately explained). First, I mentioned the principle that it is the S or the A of the embedded verb that is fused with the O of the matrix verb, unless the A is de-profiled, in which case the O of the embedded verb takes its place. This principle is obviously related to the subject-selection principle for main clauses, which operates on the same basis. However, note that while this principle holds for all causation verbs (as well as other manipulation verbs) there is a group of verbs that poses a systematic exception: subject-control verbs like promise, where the S/A (or, under the circumstances mentioned, the O) is fused with the subject of the matrix verb. There is a vast literature on control (cf. esp. Panther 1994 for a cognitive linguistic treatment), but a constructional account might illuminate the issue further. Second, there is a principle that when the whole causative construction combines with a voice/mode construction, the argument of the embedded construction that is fused with
the causee of the matrix construction receives its syntactic properties based on the GR that it has to the matrix predicate (i.e. it is mapped based on the fact that it is an O in the matrix construction, regardless of what it is in the embedded construction), while any arguments that the embedded construction may have in addition, i.e. arguments that are not mapped to an argument of the matrix construction, receive their syntactic properties based on their GR to the embedded predicate. For example, the S in *THE PLANE crashed into the woods*, the A in *JEROLAMAN crashed his plane*, and the O in *THE PLANE was crashed by Jerolaman* are all mapped based on the fact that they are an O in the matrix construction: they become the object of an analytic causative in the active voice (*Someone caused... (a) ...THE PLANE to crash; (b) ...JEROLAMAN to crash his plane, (c) ...THE PLANE to be crashed*) or the subject of an analytic causative in the passive voice (*THE PLANE was caused to crash, JEROLAMAN was caused to crash his plane, THE PLANE was caused to be crashed*). On the other hand, *the plane* and *into the woods* in *Someone caused Jerolaman to crash HIS PLANE INTO THE WOODS* are mapped exactly how they would be mapped in the non-causative sentence *Jerolaman crashed HIS PLANE INTO THE WOODS*. This is not a universal principle, but a fact about English analytic causatives (for some typological discussion of the morphosyntactic properties of causees cf. Comrie 1976, 1989, for cognitive linguistic accounts cf. Langacker 1991a: 409ff. and Kemmer and Verhagen 1994).
4 Causation Event Types

A Construction Grammar approach to analytic causatives has to address the argument structure of such constructions. As mentioned in Chapter 3, this work views argument structure in terms of role configurations, i.e. of particular configurations of participants and events that have unit status due to their recurrence in our continuous construal of our environment. In this chapter, I propose three causation event types, i.e. three entrenched ways of conceptualizing causal links between events and participants.

I do not claim that the role configurations proposed here constitute an exhaustive typology of causative role configurations. They constitute only that part of such an exhaustive typology that I consider relevant to an analysis of analytic causatives. An analysis of causal conjunctions, prepositions, etc. would no doubt yield additional role configurations. In fact, I do not even claim that the configurations proposed here exhaustively represent the semantics of analytic causatives. They represent relatively abstract event types; I will show in Chapters 5 and 7 that individual analytic causative constructions encode more specific variants of one or more of these configurations.

The role configurations proposed here emerge from an analysis of the make-causative. Make is the most productive, semantically least constrained causation verb in English: it is a hyponym of almost all other causation verbs (cf. Dixon 1991: 194), and is typically used as such in dictionary definitions, for example in the *LDCE* or the *OED*. It
is thus intuitively plausible to assume that *make* is as close as possible in meaning to the type of causation expressed by analytic causatives in general, i.e. that it adds little or no additional semantic content beyond this. An analysis of the *make*-causative should thus yield the role configurations relevant to analytic causatives in English (the obvious contender, *cause*, will be discussed at the end of Chapter 5).

Of course, it is an oversimplification to assume that *make* is nothing more than a hypernym of all the other causation verbs, and I will return to the issue of its unique semantic contribution to the constructions in which it occurs. However, there is enough truth in this oversimplification to use it as a starting assumption.

### 4.1 Attributes of Causation Events

In the literature on causation, there are certain recurring semantic parameters that have proven useful in characterizing the various aspects of causation events (see e.g. the summaries of the major typological distinctions in Comrie 1989 and Payne 1997, as well as the more fine-grained distinctions suggested or summarized for example in Baron 1974, Talmy 1976, 1985, 1988, Givón 1993, or Wierzbicka 1988a, 1998: 127). Not all of these turn out to be equally relevant to the present investigation, and additional parameters will be introduced as they emerge from the data.

The parameters discussed below are not always treated as mutually independent aspects of causation events. Instead, the goal is often to arrive at characterizations of types of causation events as clusters of parameters (e.g. Talmy 1976, 1985, 1988).
However, given the corpus based methodology adopted here, it seems reasonable to treat all parameters as *a priori* independent of one another, and let the clusterings emerge from the analysis of the data.

(a) *The causer.* The major typological parameter is *animate* vs. *non-animate*. If the causer is animate, a series of further distinctions may be made: *intentional* vs. *non-intentional* (where it is possible to distinguish between the *intention to perform the causing event* and the *intention to bring about the resulting event*); *volitional* vs. *non-volitional*; the degree of the causer's *control* over the causing event and/or the resulting event, and whether or not the causer is in a position of *authority* over the causee. In the subsequent analyses, intentionality (to bring about the resulting event) and authority will be investigated. The former seems to entail volitionality and control. If the causer is inanimate, it seems useful to distinguish at least between *objects* and *events*; other distinctions that have been suggested are *instrument* and *natural force*. Distinctions such as the latter will be made here only if they emerge as relevant from the data.

(b) *The causee.* Again, the major typological parameter is *animacy*. If the causee is animate, additional parameters are the degree of *control* that the causee has over the result (i.e. whether or not the causee has a *choice* to perform the resulting event; this is related to the type of resulting event, discussed below), and whether or not the causee *resists* the causer. If the causee has a choice as to whether to perform the resulting event, there are various *motivations* that he or she may have for doing so. Finally, whether or not the causee is animate, it may be *affected* or *non-affected* by the entire event.
(c) The causing event. Here, the major distinction that has been made is direct vs. indirect. Direct causation is usually defined as involving contact between causer and causee, and often a certain degree of physical coercion or forceful manipulation. Indirect causation is then defined as the absence of contact. It seems that indirect causation is a cover term for a variety of situation types. One type that is sometimes mentioned is arranging for something to happen. In addition, it seems plausible to distinguish at least the following types: first, indirect causation covers (explicit) verbal causation, where the causer tells the causee what he or she expects of him or her, either directly (for example, as in a request or an order), or in the form of a general communication not aimed at anyone in particular (for example, as in a regulation or a law). This may be backed up by a threat of physical violence or other sanctions on the part of the causer. Related to this type of situation is one where the causer makes his or her intentions known through non-verbal behavior. Second, indirect causation at least partially covers mere presence, which may trigger inevitable automatic responses to the causing event on the part of the causee, governed by the laws of physics or biology (which may or may not involve contact between causer and causee). Similarly, indirect causation covers situations where the causee’s mental or emotional state changes due to his or her perception/interpretation of the causing event.

(d) The resulting event. The major parameters here are, first, immediacy vs. non-immediacy, i.e. whether the resulting event occurs at the same time as or directly after the causing event, or whether there is a delay between the two events; and second, whether
the resulting event is \textit{stative} or \textit{dynamic}. The latter distinction may be further elaborated: the resulting event may be an \textit{activity}, a \textit{mental experience}, an (involuntary) \textit{physical process}, etc.

4.2 \textsc{The Semantic Heterogeneity of the Make-Causative}

In its simplest form, the \textit{make}-causative has the following form:

(1) \quad [\text{SUBJ} \textit{make} \text{ OBJ} \text{ D.PRED}_{\text{infinitive}}]

As mentioned above, it is the least constrained causative construction in English, both in terms of its overall semantics and in terms of the semantic constraints on its individual slots. Before I turn to the task of introducing and justifying the three causation events mentioned above, it is necessary to show that it is not simply the case that the construction in (1) is extremely polysemous, but that any event types that emerge from an analysis are plausibly regarded as independent of each other rather than forming a network of extensions of some sort.

Consider the following representative examples:¹

(2) \quad a. There were one case where this one guy was taking women from the teller and \textsc{making} them give him money and stuff and then at the same time raping them all.

¹ Unless otherwise indicated, all examples in this chapter are from the \textit{Switchboard} corpus They are cleaned up here and in all following chapters for expository purposes: hesitation phenomena, false starts, pauses, and slips of the tongue have been removed, as have instances of the discourse marker \textit{you know}. Occasionally, actual content is omitted, but this is always indicated by [...].
b. [About a drug screening at a job interview] I wasn’t able to give a full sample, and so they MADE me sit and wait for forty-five minutes, drink a whole ton of water...

c. [About an old-people’s home] SPEAKER A: What MADE her decide to go? — SPEAKER B: Well, her husband died. They were in the military together, and she just did not want to take care of the house.

d. And there’s some people who are abusing the systems that we pay taxes to support and all that MAKES us feel bad.

e. See if I can MAKE my telephone cord stretch far enough.

f. We were trying to MAKE the house look nice to sell it and we were painting it.

Clearly, positing a unified semantic characterization of the construction in (1), even in terms of a prototype with various extensions, is implausible in the face of the heterogeneity of these data. Example (2a) describes a situation with an intentionally acting animate causer and a causee who performs a controllable activity under force from the causee. Example (2b) is similar, except that there is no force or threat of a force involved. Instead, the causer has a certain degree authority over the causee, and there is an implicit threat of sanctions if the causee does not comply. In (2c), there is a causee who performs a controllable activity as a reaction to a situation that does not involve an intentionally acting causee (the husband did not die in order to make his wife go into an old people’s home). In (2d) there is a causee who experiences a non-controllable state as a result of an event that again does not involve an intentionally acting causer. In (2e) there is an intentional animate entity acting on an inanimate entity. The same constellation can be seen in (2f), except that an additional participant is involved, who is not explicitly
mentioned: the observer who is made to judge the house as looking nice.

Thus, even in the few examples given, the causer can be an animate intentional entity, an animate unintentional entity, or an event. The causing event can be a direct application of force on the causee by the causer, it can be a verbal interaction that may or may not involve the threat of sanctions, or it may be a reaction on the causee’s part. The causee can be an animate entity performing a controllable activity, or an animate or inanimate entity undergoing some non-controllable process, which may be an emotion (in the case of feel) or a purely physical process (in the case of stretch). A complete list of result types and the verbs instantiating them is shown in Table 4.1.

<table>
<thead>
<tr>
<th>Table 4.1: Verbs occurring in the result slot in the make-causative</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACTIVITY (32.0% [79])</td>
</tr>
<tr>
<td>do (6.88% [17]), go (4.8% [12]), pay (2.4% [6]), decide (1.21% [3]), buy, come, sit, take a class, use, wear (2), become involved, drink, drive, exercise, get background check, get rid of, give, give up, go in and do, go see, help, keep looking, leave, listen, pay (‘atone’), play, quit, register, regulate, run, save, stay, stop, take off, think, try, vote, work</td>
</tr>
<tr>
<td>EMOTIONS/SENSATIONS (23.1% [57])</td>
</tr>
<tr>
<td>feel (19.0% [47]), want (2.4% [6]), enjoy, suffer, tend to want, wish</td>
</tr>
<tr>
<td>MENTAL STATES/PROCESSES (16.6% [41])</td>
</tr>
<tr>
<td>think (8.1% [20]), wonder (3.24% [8]), realize (2.02% [5]), believe, see (2), appreciate, enjoy, question, understand</td>
</tr>
<tr>
<td>PHYSICAL/BODILY PROCESSES (13.4% [33])</td>
</tr>
<tr>
<td>work (2.4% [6]), cry, laugh (1.2% [3]), hit, hurt, (2), crash, drool, get better, go up, have a cry, live, move, overheat, progress, scream, serve, shy away, sing, stretch, take longer, turn out, go up</td>
</tr>
<tr>
<td>APPEARANCE (11.7% [29])</td>
</tr>
<tr>
<td>look (8.5% [21]), seem (1.2% [3]), go by, pass quickly, seem, sound, taste</td>
</tr>
<tr>
<td>STATES</td>
</tr>
<tr>
<td>be, be able, be NP, be on call, be restored</td>
</tr>
<tr>
<td>OTHERS</td>
</tr>
<tr>
<td>meet (‘make ends meet’) (1.21% [3])</td>
</tr>
</tbody>
</table>
A prototype analysis would still be plausible if it turned out that one particular configuration of a particular type of causer, causing event, causee, and resulting event were very frequent, and that most other cases deviated from this configuration in one or two minor aspects only. However, this is not the case. As far as configurations of different types of causers and causees are concerned, no configuration is frequent enough to consider all others marginal, as shown in Table 4.2.

Table 4.2: Configurations of participant types for the make-causative in Switchboard (n = 247)

<table>
<thead>
<tr>
<th>Causee:</th>
<th>control</th>
<th>no control</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Causer:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>intentional</td>
<td>27.1% (67)</td>
<td>23.5% (58)</td>
<td>50.6% (125)</td>
</tr>
<tr>
<td>unintentional</td>
<td>4.8% (12)</td>
<td>44.5% (110)</td>
<td>49.4% (122)</td>
</tr>
<tr>
<td>Total</td>
<td>32.0% (79)</td>
<td>68.0% (168)</td>
<td></td>
</tr>
</tbody>
</table>

Intentional and unintentional causers occur with about equal frequency in the corpus, and although causees without control over the result are more frequent than those with control, this is due to the low frequency of the configuration with an unintentional causer and a causee with control. The latter is thus the only plausible candidate for a 'marginal' configuration that could possibly be defined as a deviation from one of the other configurations.

The types of resulting events shown in Table 4.1 look equally unpromising for a single prototype. The four types emotions/sensations, mental states/processes, states, and physical/bodily processes can fairly naturally be characterized as belonging to a single
category, *involuntary processes*, but this category in turn can not be straightforwardly grouped together with either *activities* or *appearance*.

Finally, the substantial differences between the different types of causing events that are encoded by the *make*-causative are equally difficult to group into a single category. On the one hand, physical force and verbal interactions with or without threat of sanctions on the part of the causer can be grouped into a single category of intentional influence, on the other hand, decisions by or reflexes of the causee can be grouped together as reactions of the causee. However, these two categories cannot be straightforwardly grouped together, nor is one plausibly derived from the other.

In sum, there are irreconcilable semantic differences for every aspect of the *make*-causative. One way of dealing with this fact would be to conclude that parameters such as *intentional/non-intentional, controllable/non-controllable, direct/indirect*, etc. are purely analytical distinctions that are not relevant for describing our construal of causation. They may even be relevant aspects of our construal of *causation* that are simply not relevant for describing *causativity*, at least in English (or, a little more modestly, that they are not relevant for describing the semantics of the *make*-causative).

A second way of dealing with the fact of irreconcilable semantic differences is to make the assumption discussed at the beginning of this chapter, namely that the parameters introduced in Section 4.1 are relevant in the analysis of causativity, but that *make* \(_{caus}\) is general enough in meaning to encompass the opposite values for each of these parameters. In other words, the *make*-causative primarily encodes a causal chain of the
type shown in (2.23) in Chapter 2, modified here for the make-causative (an arc without arrow heads, like the one linking the causee and the resulting event, means that both agentive and patientive relations are possible):

(3) Possible analysis of the make-causative

![Diagram of make-causative analysis]

The question is, of course, how to decide between the possibility that the parameters mentioned above are irrelevant and the possibility that they are relevant but that make_{caus} is indifferent with respect to them. As will become clear, there are two reasons to prefer the second possibility: first, if the parameters were irrelevant, we might assume that their values would be distributed randomly across the events, but as I will show, they cluster into recurrent configurations of events and participants; second, a crucial finding of the analysis presented below is that there are subtle formal differences that correlate with these recurrent configurations.

4.3 THREE TYPES OF MAKE-CAUSATIVE

First, let us consider again the semantic values for the different components of the causation event. As just mentioned, these do not vary independently of each other. Table
4.3 shows the resulting-event types that occur with each of the configurations of causers and causees.

Table 4.3: Resulting event types for each configuration of participant types for the make-causative in Switchboard (n = 247)

<table>
<thead>
<tr>
<th>Causer:</th>
<th>Causee:</th>
<th>control</th>
<th>no Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>intentional</td>
<td>activity</td>
<td>100% (67)</td>
<td>activity</td>
</tr>
<tr>
<td></td>
<td>others</td>
<td>— (0)</td>
<td>invol. stat./proc.</td>
</tr>
<tr>
<td></td>
<td></td>
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<td>emot./sens.</td>
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<td>phys./bodl.</td>
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<td>appearance</td>
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<td>idiom</td>
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</tbody>
</table>

|  | non-intentional | activity | 100% (12) | activity | — (0) |
|  | physical | 50% (6) | invol. stat./proc. | 86% (95) |
|  | mental  | 50% (6) | emot./sens. | 37% (41) |
|  | others | — (0) | phys./bodl. | 15% (17) |
|  |          |          | ment. | 33% (36) |
|  |          |          | other states | 1% (1) |
|  |          |          | appearance | 13% (15) |

Note: the relative frequencies are calculated for each individual cell. All percentages are rounded to whole numbers for expository ease.

This table shows that there are certain correlations between result types and configurations of causers and causees. Some of these are expected: activities are inherently controllable, and involuntary processes are inherently non-controllable (this is what makes them a semantic class in the first place). Thus, the perfect correlation between types of causees and types of results is a consequence of the way in which these were characterized in the first place. Other correlations, however, do not fall out
from these characterizations. First, it is clear that involuntary-process results occur much more often with unintentional causers than with intentional ones. Second, the more specific subtypes of involuntary-process results are not distributed uniformly across the configurations with intentional vs. non-intentional causers. While emotions and sensations are very frequent with both configurations, physical and bodily processes occur relatively more frequently with intentional causers, and mental states and processes occur much more frequently with unintentional causers, both in relative and in absolute numbers. Finally, it is clear that activity results for the most part have intentional causers, even though this is not necessarily expected.

All these facts can be accounted for if we assume the existence of three distinct causation event types, all of which can be encoded by the make-causative (these event types and the labels used for them will be justified in detail in the following subsections):

— The MANIPULATE configuration: an animate causer X intentionally acts on a causee Y in order to influence Y in such a way that Y performs an action Z that is under Y’s control; e.g. This guy was taking women from the teller and MAKING them give him money.²

² Note that a theoretically possible similar type did not occur in the corpus: one where a causer unintentionally acts on a causee in such a way that the causee performs an action Z that is under the causee’s control, as in ‘I made her fall over by accidentally pushing her. It seems that this type of situation is not naturally encoded by the make-causative or any other analytic causative (except for the cause-causative, which can encode almost any kind of causal connection, cf. Chapter 5, Section 5.5).
— The TRIGGER configuration: a causer-event X occurs (which may or may not have an intentional agent); X influences a causee Y in such a way that given the nature of Y, Y will undergo a process Z; e.g. Seeing people abuse the system MAKES me feel bad.

— The PROMPT configuration: a causer-event X occurs (which may or may not have an intentional agent); a causee Y perceives X and decides to react to X by performing an action Z that is under the Y’s control; e.g. What made her decide to go into an old people’s home?

These three causation event types are not only semantically too different to be derived from each other, but, as mentioned, they also differ formally in subtle ways.

4.3.1 The MANIPULATE configuration

You can lead a horse to water, but you can’t make him drink. 
Anonymous

A make-causative will be interpreted as encoding the MANIPULATE configuration, if the participants and events referred to by the individual slots fit the semantic characterizations shown in (4):

(4) [SUBJ\textsubscript{intentional} make OBJ\textsubscript{in.control} D.PRED\textsubscript{activity}]

I will informally refer to (4) as the ‘make-causative of action.’ The semantic constraints on the individual slots do not refer to the nature of the referents in the real world but to a speaker/hearer’s conceptualization of it, i.e. the labels can be read as ‘referents must be construable as being X’, and an utterance is acceptable as a token of this type to the
degree that such a construal is possible and/or contextually supported. I will discuss two types of apparent exceptions presently.

Examples (2a-b) above are typical instances of this type, as are the following examples:

(5) a. But they give the guy a job in prison and MAKE him pay his damn debt.

b. [About a history class in college] Why do they MAKE us take this stuff? I mean, what does this have to do with getting a computer science degree?

c. My mom’s MAKING me get rid of the bird, we have too many pets.

d. As the kids got older I MADE them help me cut the grass.

e. [About a training bicycle] At our health club they will put on these computerized machines, and you set a speed on it and the weight and it MAKES you do it. And if you’re going too slow it will say, my grandmother could do this faster than you.

As these examples show, the make-causative rarely encodes a situation where the causer uses physical force against a human causee to bring about the result. Example (2a) in Section 4.2 above is the only such example in the corpus. The examples in (5) are more typical: the causing event consists of a communicative act (the causer tells the causee to perform the result), and the causee’s motivation for the causee to comply is that this act is backed up by an explicit or implicit threat of sanctions in case of non-compliance. These sanctions range from physical force (as in [5a]), over other negative consequence for the causee (like not being able to graduate, in [5b]), or simply the accepted authority of the causer (as in [5c-e]). Example (5e) is one of the apparent exceptions to the
constraints shown in (4): it has a machine as subject, which violates the intentionality restriction. However, note that this example involves a personification metaphor (cf. Lakoff and Johnson 1980, ch. 7): the computerized bicycle is construed as a person, who can *tell* and *say* things to its user, and thus can also be attributed intentionality (cf. Taylor 1989: 215ff. for a discussion of this metaphor in connection with the subject of the transitive construction).

The potential sanction may simply consist in denying the causee something he or she wants, as in (2b) above, where the sanction would simply be not considering the causee for a position, or in the next set of examples:

(6)  a. In California they *MAKE* you register when you buy ammunition.

    b. I believe at IBM they *MAKE* you wear a blue suit and some kind of colored shirt and a tie.

    c. [About recycling] The only disadvantage is that they don't pick it up at the curb. They *MAKE* me drive it like a mile down the road and spit it out down there.

In (6a) the sanction is simply the potential denial of the desired goods (if you want the ammunition, you have to register); in (6b) it is the potential denial of a job opportunity (if you want to work for IBM, you have to wear a blue suit); finally, in (6c) it is the denial of services (the recycling company will not recycle trash unless it is brought to a particular pick-up point).

The *make*-causative of action also encompasses situations where, instead of negative sanctions, the result is brought about by promising the causee a potential
reward, as in (7a), or where the causer’s authority is based in the situation rather than established and accepted in a more conventional way, as in (7b):

(7)  

a. [About a salary] A lot of places MAKE you work like ten years or so before you get that much.

b. [About taking a Non-American visitor to a baseball game] We MADE him try a hot dog.

In the latter example it is presumably nothing more than the cultural knowledge that one eats hot dogs at basketball games that gives the causer authority over the causee: if the visitor wants to experience an authentic baseball game, he or she has to follow the causer’s suggestion.

Let us return briefly to the examples in (6a-b). They show that there need not actually be any direct contact between the causer and the causee in this type of make-causative, i.e. that there does not have to be an actual act of communication involving causer and causee. Instead, the causer may have communicated their intentions at some point in the past, to no one in particular (in the form of a law, as in [6a] or a company regulation or unwritten expectation, as in [6b]). All that is necessary for the causee to perform the result is that they know about this past communicative act, as well as the potential sanctions.

In all examples given so far, causer and causee are two distinct entities. This is typical of the make-causative, but not necessary, as examples like the following show:
(8)  a. My husband, he hates to do auto repairs, but he would rather do them himself than to pay someone else. I guess he can't MAKE himself pay someone to do the repairs when he knows, he knows how to do it.
   
b. If you can MAKE yourself do the tread mill, I mean, gosh, that's a good workout.

In such examples, one individual is construed as two participants, one of which (encoded by a noun or pronoun) acts on the other (encoded by a reflexive). The construal of an individual as consisting of two such entities is such a fundamental part of our perception of the world, that I will assume here that these entities can be treated as two participants without assuming a construction-specific metaphor link (cf. Haiman's [1985: 144] analysis of reflexives encoding a 'divided self,' cf. also Wolf [1994] and Lakoff and Johnson [1999, Ch. 13] for general analyses of this type of construal). However, the fact that causer and causee may be the same person has non-trivial consequences in the grammar of causation. I will ignore such cases here for the sake of simplicity, but return to them in the context of the bring-causative in Chapter 7, Section 7.3.2.

A final point that needs to be discussed is the animacy of the causee. As the examples so far show, the causee is typically animate (as required by the restriction that the result be an activity). However, there are a few cases with inanimate causees that can plausibly be grouped with this type, all of which are shown in (9):

(9)  a. See if I can MAKE my telephone cord stretch far enough. (= [2e])
   
b. I took one lesson one other time. Besides that I just try to MAKE the club hit the ball
c. [About a flute player] When he played 'Danny Boy' it just almost brought tears to your eyes, because he can MAKE that flute sing.

If these examples are indeed grouped as instances of the subtype of make-causative under discussion, they constitute another apparent exception to the restrictions shown in (4) above. However, on closer inspection, these examples are based on precisely these restrictions.

Note that the events described in all three examples can alternatively be expressed as simple transitives: the verb stretch in (9a) can be used transitively, as in (10a); example (9b) allows the instrumental participant the club to remain unexpressed, yielding a simple transitive use of the verb hit, as in (10b); and example (9c) can be paraphrased with the simple transitive verb play:

(10)  a. °See if I can stretch my telephone cord far enough.
    b. °Besides that I just try to hit the ball.
    c. °... because he can play that flute (well).

In all three cases, the difference between the analytic causative and the transitive construction is that in the analytic causative examples, the direct objects telephone cord, club, and flute seem to play a more crucial role in the resulting event than they do in the transitive examples. In (9a), it is understood to be some property of the telephone cord that determines whether the attempt to stretch it far enough will be successful, whereas in (10a) it is the ability of the agent to do so. Example (9b) draws attention to the fact
that a golf club requires a particular skill to handle it, i.e. there is a connotation that it has something like a mind of its own; in (10b) what is at issue is, again, simply the ability of the agent. Similarly, (9c) communicates more than the fact that the musician in question has the ability to play the flute; it suggests that he was able to push the possibilities of the flute to their limits, and perhaps also that the music had something of the quality of a human voice.

The more crucial role that the referent of the direct object plays in the resulting event in the case of analytic causatives is one of the differences between analytic and synthetic causatives in general. These will be discussed in more detail in Chapter 8. In the present context this brief discussion suffices to show why examples like those in (9) can be seen as extensions of the *make*-causative of action: the fact that the object referents play a more crucial role in the events encoded by (9a-c) makes them similar enough to human agents that they can be seen as ‘in control’ of the resulting event (possibly, such examples can again be seen as involving personification metaphors, much like example [5e] above).

The event typically encoded by the *make*-causative of action can now be characterized by listing the most frequently occurring characteristics of causer, causee, causing event, and resulting event, as shown in (11):

(11) TYPICAL EVENT ENCODED BY THE MAKE-CAUSATIVE OF ACTION
Form: [SUBJ\textsubscript{intentional} make OBJ\textsubscript{in.control} D.PRED\textsubscript{activity}]

(a) There are two participants X and Y.................................................................(100%)
(b) X and Y are distinct entities .................................................................(77%)
(c) X and Y are in the same place...........................................(60%)
(d) X is animate.................................................................(99%)
(e) Y is animate .............................................................(92%)
(f) X intends for Y to do Z...................................................(99%)
(g) X communicates this intention to Y (=X').........................(81%)\(^3\)
    (direct and indirect communication each account for roughly half the cases)
(h) Y does not want to do Z...................................................(52%)
(i) Y does not have to do Z...................................................(64%)
(j) Y knows that X has the authority to request Y (i.e. the ability to impose some sanction)...(57%)\(^4\)
(k) Y performs Z....................................................................(100%)
(l) Y performs Y immediately ...................................................(47%)
    (delayed results account for 31%, habitual results
     account for 22%)
(m) Z is under Y’s control......................................................(91%)
(n) Z has negative consequences for Y.................................(44%)
    (neutral consequences account for 30%, positive
     consequences for 26%)

The event typically encoded by the make-causative of action, then, is a situation where the causer (X) intends to bring about an activity (Z) and wants a causee (Y) to perform this activity. The causer then communicates this intention to the causee, implicitly or explicitly evoking some authority over the causee that is strong enough to ensure that the latter will perform the activity. There is no resistance on the part of the causee (although in about half the cases the causee does not want to do Z); the resulting activity is simply

\(^3\) This number includes those cases where causer and causee are the same entity. It seems justified to group these with the cases of literal communication between two entities, since there are expressions like \(\text{I told myself to go}\) that seem to suggest that self-causation can be conceptualized in this way. It is impossible to tell from a corpus how the speaker was conceptualizing the event, of course, so this solution may be an oversimplification. As mentioned, self-causation will be discussed in more detail in Chapter 7. An alternative strategy here would be to omit these cases from the calculation, which would yield a frequency of 75% for the feature ‘X communicates this intention to Y’, still high enough to consider it typical.

\(^4\) This number is arrived at by counting cases of self-causation as not instantiating this feature. If these cases were omitted altogether, the frequency would be 75%.
something that the causee would not have done of their own accord.\footnotemark

This typical event does not represent the meaning of the make-causative of action, it is simply the event type most frequently encoded. Clearly, it does not capture all examples discussed above. These examples could be seen as extensions from the prototype; they usually deviate from it with respect to one or two parameters only. For example, the causing event may (sometimes) consist of or involve physical manipulation (as in [2a]) or it may involve setting up a situation such that the causee has to act in a certain way (as in [6c]); or the causee may be a (personified) inanimate entity (as in [9a-c]). The existence of such extensions is not problematic, and their motivations have already been discussed.

However, it is desirable to make some kind of statement about the kinds of extensions that are not possible, i.e. to capture (if possible), the invariant meaning of the make-causative of action.

The definition in (12) is an attempt to do this:

(12)  \hspace{0.5cm} \text{CORE DEFINITION OF THE \textit{MAKE-CAUSATIVE OF ACTION}}

(i) \hspace{0.5cm} \text{There are two participants, X and Y}
(ii) \hspace{0.5cm} \text{X wants Y to perform Z}
(iii) \hspace{0.5cm} \text{X does something } X' \text{ (ii } \Rightarrow \text{ iii)}
(iv) \hspace{0.5cm} \text{Y is in the sphere of influence of } X' \text{ }
(v) \hspace{0.5cm} \text{Y performs Z to minimize the influence of } X' \text{ on Y}

\footnotetext{By resistance I mean active resistance here; if the intrinsic inertia of the causee (i.e. the fact that he or she would not perform the result of their own accord) is already defined as resistance (as in Talmy 1985, 1988), then of course all examples involve resistance.)}
The first three components of this definition should be self-explanatory; the last two require some discussion. The main difficulties in abstracting away from the prototype lie first, in finding a common characterization for those causing events involving communication and those involving physical manipulation, the setting up of a situation, etc., and second, in making sure this characterization captures the rare cases of inanimate causees too. Components (iii) and (iv) of the definition in (12) handle the first requirement by characterizing the causing event as some action by the causer that influence the causee. In the prototypical case, this is a communicative act directed at the causee that influences the latter because of the potential sanctions that go along with it. In the case of physical manipulation the influence is the force that is brought to bear on the causee. Component (v) handles the second requirement by characterizing the motivation of the causee to perform the result as the latter’s attempt to minimize this influence. In the prototypical case, this minimization consists in the avoidance of sanctions or in the avoidance of the denial of rewards. In the case of physical manipulation the minimization consists in yielding to the force. The characterization in (12) is not simply a characterization of the MANIPULATE configuration, since, as mentioned at the beginning of this chapter, it is an oversimplification to assume that make does not contribute any semantics of its own. I will return to this issue in the next chapter, in Section 5.2, after discussing the have-causative, which also instantiates this configuration.

The labels in (13) will be used to refer to the participants and subevents in the event encoded by the make-causative of action:
(13) SEMANTIC ROLES OF THE *MAKE*-CAUSATIVE OF ACTION (THE *MANIPULATE* CONFIGURATION)
X: instigator
X': MANIPULATE
Y: executor
Z: activity-result

The causal chain underlying this role configuration is shown in (14), where *Caus* stands for 'causal chain' and *Evt* stands for 'event type':

(14) The *MANIPULATE* configuration and its causal chain

![Diagram](image)

For now, then, we can summarize the analysis presented in this section by positing the following construction:

(15) The *make*-causative of action

![Diagram](image)
The precise relation between the make-causative and the different role configurations will be discussed in Chapter 6; for now, the link between them will simply be stipulated.

4.3.2 The TRIGGER configuration

Nobody can make you feel inferior unless you let them.

_Eleanor Roosevelt_

A make-causative is interpreted as encoding the TRIGGER configuration if the result is an involuntary (i.e. non-controllable) process as a resulting event:

(16) [SUBJ make OBJ D.PRED^{inf}_{involuntary}]

This is the only restriction on this construction, which will be referred to informally as the 'make-causative of involuntary process.' The examples in (17) are typical cases (cf. also [2d] above):

(17) a. [About credit cards] It MAKES you feel good when you whip out the cash instead of your plastic.

b. I think that Reagan and Bush were up to their necks in that Iran Contra thing, and it kind of MAKES you feel bad that the top people in your country would be lying to you like that.

c. But seeing what drugs did to him [...] MAKES me realize what it could do to people in the work force as well.

d. [About a foot injury] I can’t do any jumping [...] because it MAKES it hurt.

e. [About giving loans to third world countries] It makes pressure on the nation, and on the people, and on the leadership, and MAKES their inflation go up.

f. You have to take into account with any computer program all the type of things people can do to you to MAKE your program crash
Where humans are involved, the involuntary process is typically an emotion, as in (17a-b), a mental process, as in (17c), or a bodily process, as in (17d); but any kind of process is possible, e.g. an economic one, as in (17e) or a physical one, as in (17f). The reason for grouping all of these types of results under the single heading of ‘involuntary process’ is that this seems to be a natural semantic class, since they are all characterized by the fact that first, they occur automatically given the nature of the causing event and the causee, and second, that the causee has no control over them. Examples like (2f) above (We tried to make the house look nice) can also be analyzed as instances of this construction, but they will be discussed separately at the end of this section.

In this subtype of the make-causative, the causer is typically an event, as in (17a-e), or an agent plus an event, as in (17f) (where the unexpressed subject of the to-clause is taken to be co-referential with the whole preceding clause). However, under certain semantic and discourse-structural conditions (which will be discussed below), the causer slot may also be occupied by the agent of an unexpressed stimulus event as in examples (18a-c), or an inanimate entity seemingly not involved in an event, as in (18d-e):

(18)  a. [About a country singer] All he wants to do is MAKE the audience enjoy it.
    b. [About the speaker’s mother] She tries to MAKE me feel really guilty.
    c. I was afraid I’d MAKE the car overheat.
    d. [About Dickens’ TALE OF TWO CITIES] It still MAKES me cry, the ending of it.
    e. [About a movie] It MADE us think.
If there is an agent-causer, he or she is typically not acting intentionally (in the sense of intending to bring about the result), regardless of whether he or she is mentioned (alone or together with an event) or only inferable. For example, the president and vice-president in (17b) are not lying to people in order to make them feel bad, the speaker in (17c) is not looking at the drug abuser in order to realize what drugs can do to people, the hypothetical user in (17f) is not attempting to make the program crash, the speaker in (18c) is not doing something in order to overheat the car, etc. However, intentional agent-causers are not precluded by the semantics of the construction. The speaker in (17a) is presumably ‘whipping out the cash’ primarily in order to pay for a purchase, but she chooses this particular method of payment because it makes her feel good, and the country singer in (18a) and the mother in (18b) are clearly intending to bring about the respective emotions of joy and guilt.

The facts discussed so far can be summed up in the following characterization of the event prototypically encoded by the make-causative of involuntary process:

(19) TYPICAL EVENT ENCODED BY THE MAKE-CAUSATIVE OF INVOLUNTARY PROCESS
Form: [SUBJ make OBJ D.PRED_{involuntary}]
(a) There are two participants X and Y .............................................. (100%)
(b) X and Y are distinct entities ....................................................... (83%)
(c) X is animate ........................................................................... (72%)
(d) Y is animate ........................................................................... (95%)
(e) X and Y are in the same place .................................................... (55%)
(f) X performs an event X' ............................................................. (72%)
   (a non-performed event occurs 28%)
(g) X does not care whether Y is affected by this event............... (78%)
(h) Y perceives this event.............................................................. (58%)
(otherwise affected 27%, Y only participant 16%)
(i) Y’s current state of mind is such that X’ triggers a
change Z in Y’s state of mind.................................................. (78%)
(j) Z is not under Y’s control....................................................... (100%)
(k) Z occurs immediately ......................................................... (88%)
(l) Z is positive for Y................................................................. (43%)
(neutral 34%, negative 23%)

In other words, the prototype for this subtype of the make-causative is a situation where
the causer does something that triggers an emotion or mental state in the causee, but
where the causer has no intention of triggering such a change.

The core definition can be arrived at by abstracting away from the presence or
absence of an intentional or unintentional causer, and the animacy of the causee, and by
finding a characterization that will capture all involuntary processes:

(20) CORE DEFINITION OF THE MAKE-CAUSATIVE OF INVOLUNTARY PROCESS
i. An event X occurs
ii. An entity Y is affected by X
iii. The nature of Y is such that X automatically triggers a change Z in Y
iv. Y cannot control this change

The labels for the semantic roles of the participants in this event are as follows:

(21) SEMANTIC ROLES OF THE MAKE-CAUSATIVE OF INVOLUNTARY PROCESS (THE
TRIGGER CONFIGURATION)
X(1): stimulus
Y: experiencer
Z: result-response
r(x, y, z): TRIGGER
The analysis can be summarized by positing the construction in (22):

(22) The make-causative of involuntary process

This representation actually oversimplifies matters: recall that sometimes the active voice causer slot is taken by the agent of a stimulus event instead of the stimulus event itself.

This fact can be integrated into the analysis by taking into account the full causal chain underlying the TRIGGER configuration: it was pointed out above that the agent of a stimulus event can only occur in the causer slot under certain semantic and discourse-structural conditions. Put briefly, these conditions are as follows: if such an agent occurs in the subject slot, the stimulus event must either be encoded in the immediately preceding or subsequent discourse, or it must be unambiguously inferable from the nature of the agent.

The first situation applies to cases like (18a-c) above, which are repeated here with more context as (23a-c):
(23) a. [About a country singer] Speaker A: I mean, he’s up there moving around and smiling like he’s happy and like all he wants to do is make the audience enjoy it, too. — Speaker B: Sure. — Speaker A: And he is real fun to listen to.

b. [About the speaker’s mother] I mean, she cries every day. This has been over a year, and she tries to make me feel really guilty.

c. Speaker A: I always hated to run my air conditioner just sitting still all the time — Speaker B: Yeah. — Speaker A: I was afraid I’d make the car overheat.

The italicized passages contain the information about the stimulus event. In (23a), the singer is trying to make the audience enjoy the concert by singing (which would be obvious even without contextual support, but is nevertheless evoked by he is real fun to listen to), and by doing so in an easygoing manner (encoded in the directly preceding discourse). In (23b), the stimulus event is the mother’s crying (here portrayed by the speaker as an intentional activity performed in order to bring about the result). In (23c) the stimulus event is the running of the air conditioner.

In the 30 examples of the make-causative of involuntary process in the corpus that have a participant of the stimulus event in the causer position, the stimulus event is encoded in the immediate vicinity in two thirds of all cases. Of the remaining cases, half have a movie or a book as a causer, so the stimulus event is obviously the viewing or reading of these by the causee.6 Even though this is obvious, examples with movies or

---

6 In fact, movie could be seen as referring to an event rather than an object; in this case, these examples would not be exceptions to the general tendency to encode the stimulus event as the causer. The number of exceptions would only be 19 under this analysis, while the percentage of exceptions that have the stimulus event encoded in the immediate co-text remains about the same (68%).
books often explicitly mention this viewing event, as in (18d-e), repeated here with context as (24a-b):

(24)  
a.  [About Dickens’ A TALE OF TWO CITIES] Even when I read it now, it still MAKES me cry, the ending of it.

  b.  There were three of us who went. We were just all really grouchy when it was over. So we decided that may be the mark of a good film. It MADE us think.

The remaining cases were examples like that in (25):

(25)  I feel that if the child is healthy and as long as we MAKE it feel secure, I'd love to do something like with what you did.

Here, the speaker does not explicitly mention the specific activities that are supposed to make the child feel secure. However, there is a general culturally defined frame of parenting that provides this information: we know that to make a child feel secure you show him or her that you will always love them, be there for them when they need you, etc.

In sum, there is a strong tendency for the causer slot in the make- causative of involuntary process to encode some event that acts as a stimulus (74.1% of the examples in the corpus are of this type). Where instead of a stimulus event the agent of that event is encoded, the event itself is encoded in the immediate context in two thirds of the cases. This brings the total of examples that explicitly mention the stimulus event in one way or another to 91.4%. In the remaining 9.6%, the activity is highly accessible via a frame evoked by the causer.
The two possibilities are the result of different relationships between the elements of the causal chain underlying the TRIGGER configuration participant roles of make\textsubscript{caus}.

The more frequent case is shown in (26):

(26) **The make-causative of involuntary process with event causer**

![Diagram](image)

Here, the agent of the stimulus event is gapped, and the subject is the stimulus event itself. The less frequent case can be represented as shown in (27):

(27) **The make-causative of involuntary process with agent-causer**

![Diagram](image)

Here, the subject/causer corresponds to the agent of the stimulus event. The stimulus
event is gapped, but with the requirement that it be encoded in the co-text (or that it be inferable from the context). This contextual requirement is here argued to be directly associated with the construction; it is symbolized by the Greek letter $\kappa$.

The fact that such requirements can exist is an argument for including as part of the specification of a construction links to a fully specified causal chain. This chain also provides the link between the two variants of the construction. Additional evidence for different mappings between constructions and generalized events will be briefly discussed in the next section.

To conclude this section, let us return to the type of example pointed out in (2f) above. Some more examples are listed in (28):

(28) a. \textit{[About remodeling a house]} They made a little patio area where they can go outside [...] Just small things that \textit{MAKE} it seem a lot more homey.

b. \textit{[About remodeling]} It's interesting that the white \textit{MAKES} the rooms look bigger.

In these examples, like all others in this section, the resulting event is encoded by a verb with an experiencer argument. However, unlike in the other examples, this experiencer is not encoded as the causee, but is left unexpressed. Instead, the stimulus argument of these verbs appears in the slot usually reserved for the causee. At first glance it may actually appear to \textit{be} the causee; after all, the house in (28a) and the room in (28b) are being acted on by the respective causers. However, they are not in the right relationship to the result to be causees. After all, they don't perform the result of 'seeming homey' or
‘looking big’ (not even in the technical sense of perform adopted here). This event is instead performed by whoever sees the house or the room and perceives them as homey or big. In other words, the causing event takes place inside the head of a participant who is not actually mentioned, but who could be moved into the OBJ position, as in the following paraphrases of (28a-b):

(29)  a. °They made a little patio area where they can go outside. Just small things that make people perceive the house as more homely.

b. °It’s interesting that the white makes me perceive the rooms as bigger.

The way in which (28a-b) gap the ‘real’ causee and objectify what is, in the more explicit alternatives in (29a-b), a clearly subjective event seems to be what Langacker (1991b: 315ff.) calls subjectification (cf. also Chapter 3, Section 3.2 above): the speaker takes the causee off-stage (so that he or she is “aligned along a ‘subjective axis’” of the speaker (ibid.: 326)). This type of ‘subjectification’ can be taken a step further. Consider the following example:

(30) [About director John Waters] Back in his early days he had things — what are the titles, I can’t remember the titles any more. But, some really weird ones with quite a random crew of characters. It would have made these Fellini movies look normal.

As mentioned, in (29a-b) the apparent causee has at least one property of true causees: it is acted on by the causer, thus it is involved in the activity leading up to the causing event. In (30), there is no such event. The whole causal chain consists of the perception,
comparison, and judgment of the two movies by a participant who is itself not expressed at all. The apparent causer (the John Waters movie) is not involved in any causing event other than this mental activity by the gapped participant. Thus, an explicit version of (30) might be (31):

(31) My comparison of the early John Waters movies with Fellini’s movies makes me perceive the Fellini movies as normal.

It is an interesting question whether this type of subjectification should be formalized in the same way that the gapping phenomena discussed above were formalized. I will not pursue this issue here, except to point out that while subjectification may be a general type of gapping that has effects in many areas of grammar, it cannot simply be stated as a general principle, since it cannot apply to all causative constructions. For example, while it is possible (though somewhat wordy) to say “My comparison of the early John Waters movies with Fellini’s movies causes me to perceive the Fellini movies as normal,” the subjectified version “The early John Waters movies cause Fellini’s movies to look normal” sounds decidedly odd (it is acceptable only if the speaker assumes that there is some causal link between John Waters movies and Fellini movies). In other words, whether subjectification is possible (or even conventionalized) must be specified separately for each construction.
4.3.3 The PROMPT configuration

Don’t make me stop this car!

Dad

The PROMPT configuration is one of two configurations encoded by make-causatives that have an event as causer and an activity as result:

(32)  [SUBJ\_event make OBJ D.PRED\_activity]

Some typical examples are shown in (33) (cf. also [2c] above):

(33)  a. Speaker A: So, what MADE you decide to put her in a Montessori school? — Speaker B. Well, I checked a lot of places out [...] and there’s this Montessori school that’s nearby, and it had been recommended.

b. [About the high taxes on cigarettes] I used to smoke, you know, and that [i.e. the taxes] would have been enough to MAKE me give them up.

c. [About an old-people’s home] SPEAKER A: What MADE her decide to go? — SPEAKER B: Well, her husband died. They were in the military together, and she just did not want to take care of the house. (= 2c)

This type shares some properties both with the TRIGGER and with the MANIPULATE configurations. On the one hand, as with TRIGGER, the causer is (typically) an event which could be described as a stimulus, and which may or may not have an agent who intentionally attempts to bring about the result. On the other hand, as with MANIPULATE, the result is an activity. What distinguishes PROMPT from both of these is that the resulting event is not automatically caused by the causing event, but that there is an intermediate decision by the causee to perform the result. I will therefore refer to make-
causatives encoding this event type as 'make-causative of decision.'

Due to the small number of examples of this type of make-causative in the corpus, the frequencies do not lend themselves to a prototype definition. Instead, I will postulate a core definition straight away, and discuss prototypicality only for one feature:

(34) CORE DEFINITION OF THE MAKE-CAUSATIVE OF DECISION
(i) There are two participants, X and Y.
(ii) X performs an event X'
(iii) Y perceives X'
(iv) Y makes a decision to react to X' by performing an activity Z
(v) Y performs Z

Note that this definition does not mention the intentionality or unintentionality of X. Prototypically, X is unintentional, as in the examples in (33). In (33a), there are two potential events X' mentioned: the fact that there is a Montessori school near the speaker's home, and the fact that it has been recommended. Logically, both of these events have agents: someone built the school in that particular location, and someone recommended it. However, it is doubtful that the builder of the school is conceptualized at all, and even the person recommending the school did not necessarily act in order to bring about the result. Likewise, in (33b) there is an agent who intentionally raised the taxes, but who did not intend to make the speaker quit smoking. Finally, in (33c) there is no agent at all; there is a stimulus event (dying), with a patient (the husband), who obviously had no intentions to bring about the result. Thus, although sometimes an agent
is recoverable, this agent is not typically attempting to bring about the result.

However, consider the following example:

(35) [About restaurants competing for customers] You can get everything here from a very spicy Indian meal to the favorite barbecue, just anything your little heart desires around here, so here they have to entertain us to MAKE us come back.

Here, the agent of the event they entertain us presumably intends for the causee to come back. Thus, this example may at first glance to be an instance of the make-causative of action, discussed in the preceding section. However, note that on closer inspection, this example is exactly parallel to the ones in (33): X performs an event, that by itself cannot bring about the result, because the agent of this event has no authority over the causee and cannot back up his or her intent with a threat of sanctions. Instead, a volitional decision on the part of the causee is necessary.

Before the differences between the make-causatives of action and decision are discussed further, consider the labels for the semantic roles of the participants in the make-causative of decision, shown in (36):

(36) SEMANTIC ROLES OF THE MAKE-CAUSATIVE OF DECISION (THE PROMPT CONFIGURATION)

X: Ø
X*: stimulus
Y: reagent
r(x, y, z): PROMPT

These labels allow us to summarize the analysis by positing a second partially filled construction:
The causal chain underlying the PROMPT configuration (and the make-causative of decision) is more complex than that of MANIPULATE or TRIGGER: the stimulus event, whether or not it is performed by an (intentional or unintentional) agent is not the causing event (as in the MANIPULATE configuration); as in the TRIGGER configuration, it is the causer, which is perceived by the causee. The PROMPT configuration maps to the formal level in a fairly complicated way. First, the agent (or any other participant) of the stimulus event is gapped by the construction, i.e. it obligatorily remains unexpressed (if it is present in the conceptualization at all). Second, the causee’s decision to perform the result is optionally gapped by the construction, but it may be expressed as decide to, and in fact is expressed in this way in 20% of the examples in the corpus).

This possibility to express the causee’s decision to perform the result is one of the semantic and formal differences between constructions encoding the MANIPULATE configuration and ones encoding the TRIGGER configuration. Note that the following examples of MANIPULATE sound decidedly odd:
(38)   a.  "This one guy was taking women from the teller and **MAKING** them **decide to** give him money and stuff and then at the same time raping them all.

   b.  "[About a salary] A lot of places **MAKE** you **decide to** work like ten years or so before you get that much.

Theoretically, it might be argued that the **MANIPULATE** configuration also involves a decision by the causee, since the resulting event in this configuration is under the control of the causee. However, the fact that this decision cannot be expressed shows that it is not part of the underlying event schema, no doubt because in the **MANIPULATE** configuration the authority of the causer over the causee is too great for the causee to really have a choice.

Of course, (38a, b) are not generally unacceptable: they are acceptable under the reading that the causee’s decision itself is the resulting event, although this is not the interpretation that the **make**-causative of decision typically receives. Under this interpretation, the examples in (38) lose the implication that the activity following the decision necessarily took place, and thus the examples in (39) are acceptable:

(39)   a.  °This guy **MADE** her **decide to** give him money, but she didn’t actually have any money to give to him.

   b.  °A lot of places **MAKE** you **decide to** work like ten years or so before you get that much, but then you can quit after five years.

In contrast, constructions encoding the **PROMPT** configuration retain a high expectation of factivity even when the causee’s decision is overtly encoded:
(40)  a. °Her husband’s death MADE her decide to go into an old people’s home ("but she never did).  

    b. °The school was nearby, and that MADE me decide to put her there ("but I didn’t).  

4.3.4 Beyond the three role configurations

As mentioned at the beginning of this chapter, the three role configurations do not constitute an exhaustive typology of event types encoded by analytic causatives in English. The reason for this is that the most abstract analytic causatives (make and especially cause, cf. Chapter 5, Section 5.5) sometimes encode situations where the causal link between causer and causee is extremely tenuous. 

The make-causative, for example, is occasionally used with the primary intention of shifting responsibility away from the causee. At first glance, such examples seem to encode the MANIPULATE or the PROMPT type, like the example in (41):

(41) [About criminals] Speaker A: You have to say someone’s responsible for his actions. I never like the... — Speaker B: Society MADE me do it. — Speaker A: ...the insanity defense. 

The causer is an animate being or an event (cf. °The way they treated me MADE me do it), and the result is an activity. However, this case is different from both MANIPULATE and PROMPT. It differs from MANIPULATE in that the causer does not intend bring about the result, or to act on the causee at all. Thus, it seems more like a case of PROMPT. The
causer is clearly a stimulus rather than a manipulator. However, it also differs from the PROMPT configuration, since there is no suggestion here is that the causee made a conscious decision; in fact, the communicative point of an utterance like Society MADE me do it is precisely that the causee did not have a choice as to whether or not to perform the resulting event.

It could be argued that an additional event type should be introduced to account for examples like (41), but note that it is actually very much like the TRIGGER type introduced in Section 4.3.2; although it encodes an activity result rather than an involuntary process, it construes this activity as though it were such a process. Alternatively, it could be argued that it is simply a variant of the PROMPT type where the causee’s ability to make a decision is extremely reduced.

I will analyze this type as a variant of TRIGGER and/or PROMPT in the following chapters, and occasionally refer to this variant as the ‘PROVOKE configuration’ or the ‘PROVOKE variant’. It seems unproblematic to assume the existence of such intermediate cases (as long as they do not constitute the majority of uses); since the three event types introduced in the preceding sections are seen as experientially-based, routinized chunks of experience, there is no reason why situations should arise that share aspects of more than one of them.

Chapter 5, Section 5.5 will discuss uses of the cause-causative that also do not encode any of the three role configurations, but which differ from the case described here in that they seem to encode causal links that do not fit the event types introduced above.
at all; as is well-known, the cause-causative typically relates events that are very far apart on a causal chain, so that the exact type of causal relation is often not actually recoverable.

4.4 **Further Evidence for the Three Event Types**

This chapter introduced three causative role configurations (or event types) which differ with respect to the causal chains underlying them, both in terms of the specific kinds of causal links between the events and participants of these chains, and in terms of the way that these components of the causal chain map onto the make-causative’s form.

The evidence presented so far for the way in which the various components of the generalized event link up with those of the construction’s role configuration has been mainly semantic. First, I discussed the alternation of events and participants in the subject slot of the make-causative of involuntary process (the TRIGGER configuration), with the requirement that the stimulus event always be expressed, if not in the subject slot, then in the immediate co-text. This shows that the TRIGGER configuration differs from the MANIPULATE configuration, which has no stimulus event in the causal chain, and hence does not show this type of alternation. Second, I discussed the different semantic consequences of inserting decide to into the make-causative of action (the MANIPULATE configuration) and the make-causative of decision (the PROMPT configuration): with MANIPULATE, decide takes the result slot, and thus the activity encoded in the to-clause following decide is not part of the causal chain, and there is no expectation that it actually
occurred; with PROMPT, decide takes the slot of an event of deciding (which is usually gapped), while the verb in the to-clause takes the result slot, and thus the event encoded by this verb is part of the causal chain, and there is an expectation that it actually occurred.

There an additional piece of evidence for the difference between the role configurations. This piece of evidence hinges on the meaning of causal conjunctions like because, which were already mentioned in Chapter 2, Section 2.3.2. The semantics of these conjunctions is fairly complex, but basically, they introduce in the subordinate clause the event immediately prior on the causal chain to the event encoded in the main clause (with the various conjunctions, like because, since, as, etc. adding their own more specific semantics, which need not concern us here):

\[
\begin{align*}
\text{(42)} & \quad \text{The causal conjunction construction} \\
\text{Sem} & \quad \text{CAUSE} \quad \langle C_x \quad C_{-x} \rangle \\
\text{BECAUSE} & \quad \downarrow \quad \downarrow \\
\text{Syn} & \quad \text{CONJ}_{\text{caus}} \quad S_{\text{min}} \quad S_{\text{subordinate}}
\end{align*}
\]

This property of causal conjunctions means that they interact with the different causal chains underlying the different configurations in configuration-specific ways, depending on whether the causing event (encoded by make) coincides with the causer's activity or not.

The examples in (43) are instances of the make-causative of action, hence
according to the analysis in (14) in Section 4.3.1, *make* encodes the causer’s action. A *because*-clause should therefore encode an event that is immediately causally prior, typically the causer’s motivation for performing the causing. As the examples in (43) show, this is indeed the case.

(43)  

a. *About being tempted to buy cheesecake* I just couldn’t quite *MAKE* myself buy it *because* I do make cheesecake and somehow I didn’t want to do that...

b. *About putting an old lady into a nursing home* She had all kinds of trouble and the nursing home *MADE* them come and take her back *because* she was being a nuisance. Or worse than a nuisance.

In contrast, the examples in (44) are instances of the *make*-causative of involuntary process, where *make* encodes the causee’s reaction rather than the causer’s activity. The immediately causally prior event in the causation chain is the stimulus event, and as the examples show, this is precisely what the *because*-clauses encode:

(44)  

a. Speaker A: You know each child has to learn at his own rate, they can’t keep force feeding things to each other and, you know, at the kids. — Speaker B: And on top of that they *MAKE* the child feel inferior... — Speaker A: Uh-huh, *because* he can’t do it. — Speaker B: *because* he’s not as good as another kid his same age.

b. R.E.M. *MAKES* me laugh *because* they’ve gone from a college radio progressive group to being, you know, ultra mainstream at this point...

Thus, *because*-clauses following the *make*-causative provide evidence for (and thus a useful diagnostic for determining) which part of the causal chain is encoded by *make* in a given construction type.
5 The major analytic causatives of English

As mentioned in the introduction, I consider the *make*-causative, the *have*-causative, the *get*-causative, and the *force*-causative to be the major analytic causatives of English. There are two arguments for this claim: first, they are far more frequent than any other analytic causative construction in English. Consider Table 5.1, which show the frequencies of the most frequent analytic causative constructions from the Switchboard corpus (those that occur at least twice).

<table>
<thead>
<tr>
<th>Construction</th>
<th>Freq.</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>make</em>-causative</td>
<td>247</td>
</tr>
<tr>
<td><em>have</em>-causative</td>
<td>157</td>
</tr>
<tr>
<td><em>get</em>-causative</td>
<td>78</td>
</tr>
<tr>
<td><em>force</em>-causative</td>
<td>60</td>
</tr>
<tr>
<td><em>cause</em>-causative</td>
<td>16</td>
</tr>
</tbody>
</table>

*Note: Total corpus size = 3 million words.*

Clearly, the four constructions just mentioned are much more frequent than even the next-most-frequent construction, the *cause*-causative.

The second argument is more subtle: it can be shown that the four constructions systematically divide up the conceptual domain of causation along several parameters of central importance: the amount of energy spent by the causer in bringing about the resulting event, the degree and nature of the effect of the result on the causee, the general
motivation of the causer, and whether the focus in on the causing event or on the resulting event. Other analytic causatives (discussed in Chapter 7) differ along more specific parameters, such as the acceptability of the result to the causee or the conceptualizer, the specific motivations of causer or causee, etc.

This chapter discusses the semantics of the major analytic causatives other than *make*, as well as the *cause*-causative. While the latter is not part of the system posited below (and in fact has some properties that make it different from all other analytic causatives), it will be discussed here because it plays a central role in the comparison of analytic and lexical causatives.

The *have*-causative, the *force*-causative, and the *get*-causative can all be characterized as encoding specific variants of the role configurations introduced in the preceding chapter. I will deal with each of these three constructions in turn, and then return to the *cause*-causative, which, as mentioned in Chapter 4, Section 4.3.4, cannot be straightforwardly analyzed as encoding one or more of these role configurations.

5.1 HAVE

This construction is shown in its active form in (1):

\[(1) \quad [\text{SUBJ}_{\text{intentional}} \, \text{have OBJ D.PRED}^{\text{inf}}_{\text{activity}}]\]

The constraints on the causer and the resulting event of this construction have often been noted (e.g. Shibatani 1976: 32, Brugman 1988, Wierzbicka 1998: 121), and they are
categorical in the corpus: the causer is always an intentionally acting human, and the result is always an activity. There is a near-absolute constraint on the causee too: it is a human being who has potential control over the result in 98.1% of the cases, with systematic exceptions that will be discussed below. Note that there is a second causative use of have with a verbal complement: [SUBJ have OBJ D.PRED_{pres.part.}], as in The whole situation HAS critics crying out for reform (NAN). This construction, which will be referred to as the have-VERBing construction, is not subject to these constraints (as will be discussed below).

Typically, the have-causative encodes a situation where the causer engages the professional services of the causee in order to bring about the effected event, as in the following examples:

(2) a. [About the speaker’s household appliances] When they do go out, it’s [...] something my husband can buy the part and fix and we don’t even HAVE a repairman come.

b. [About record companies] They go to conductors and they actually HAVE them perform the music, and they record it.

c. [About building a house] We subcontracted it out ourselves. We bought the lot and HAD an architect draw the plans based on our specifications.

d. I suspect we should probably HAVE an independent auditing agency go in and look at how the government spends money.

In these examples, the causee is someone offering a particular service to anyone who is willing to pay for it. I will refer to this situation type as the service frame. This frame also encompasses employer–employee relations, where the employee has made a long-
term commitment to offer his or her manpower to their employer on a regular basis in return for regular payments, and who will therefore generally perform the activities requested of them, as in the examples in (3a-c):

(3) a. At night, they [i.e. the city] even HAVE the policemen come around at dusk and sound their sirens, pretty much telling people, be wary and get off the beach.

b. [About separating garbage] You have those garbage people that make twenty, thirty bucks an hour, HAVE them do a little bit of the sorting.

b. [About the ability to dictate a letter] We did everything on a typewriter, everything. But it's amazing, then, when someone would HAVE you type a letter, they did it right.

Finally, examples such as that in (4) can also be subsumed under this type:

(4) I assume it's the kinds of things that they HAD conscientious objectors do, when people were drafted and they refused to serve in the Army, they were allowed to do hospital service.

Although a conscientious objector is not strictly speaking in an employer-employee relationship with the government, he accepts it as part of his civil duty to perform any activity that the government asks him to perform, as long as it does not involve war (and, of course, even a conscientious objector is paid for his work).

The service frame, in sum, is a situation where the causee provides a service for the benefit of the causer. The causee himself does not directly benefit from the result then, but typically benefits indirectly from it through some compensation for the service on the part of the causer.
Such a service frame, even in the narrow sense (i.e. excluding cases like [4]), accounts for 72.0% of all examples in the corpus, and can thus clearly be seen as the prototype. There are uses of the have-causative which fall outside of this frame, which will be discussed presently.

First, note there is a difference between have-causatives that have the embedded clause in the active voice, and those that have it in the passive voice. For the former, 45% of the cases encode a service frame, while for the latter, 100% do so. Some examples are shown in (5):

(5)   a. The last auto repair I had was — I have a nineteen eighty-four Nissan truck — I HAD a tune up done and I HAD the brakes done on it.

b. [About a character in an episode of COLUMBO who hires a killer] Speaker A: He was a movie director, and he HAD that girl killed. Speaker B: Yeah, on the set or something.

c. [About Saddam Hussein] He sent planes over to shoot the people down that were on their way to Turkey. He HAD a couple of them bombarded.

d. You can have your college loans delayed now [...] if you’re joining the Peace Corps you can HAVE them delayed.

The question is whether the service frame is categorically linked to the embedded passive variant of the have-causative (which I will refer to as the e-passive). Since professional service events are clearly compatible with the slightly more abstract core meaning to be

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1 The term ‘passive’ must be understood to refer to passive voice semantics here, rather than to a particular type of syntax; on formal grounds, it can be argued that the e-passive of *I had someone do the brakes should be *I had the brakes (TO) BE done. Some e-passives of causatives do indeed occur with be, e.g. *I caused the brakes TO BE repaired; and get-caus can actually occur with or without be: *I got him to be
spelled out below, it is certainly predictable that it is possible to encode them by the embedded passive version. The fact that this construction does not encode other types of situations in the corpus is not sufficient to posit a separate construction, unless it can be shown that it cannot encode other types of events. This can, in fact, be shown. Consider the active examples in (6).

(6)  a. [On teaching children about nature] The mountains can accommodate you if you know what to find […] I HAD my boys build their own little three leg camp stools by cutting a branch off the tree and binding them together with bark.

       b. I had everyone in my department recycling and I would HAVE them drop their cans off in my office and then I would haul them here to this place for the Children’s Hospital Fund.²

Clearly these examples do not encode the service frame: the parent-child relationship and the relationship between co-workers is not typically captured by the service frame. Now consider the embedded passive counterparts of (6a, b), shown in (7a, b) (since passivization is linked with information flow, cf. Chapter 6, example [7b] has been adjusted to take information flow into account):

(7)  a. ??I HAD camp stools built by my boys.

       b. ??I had everyone in my department recycling cans; I HAD the cans dropped off in my office by my co-workers and then I would haul them here to this place for the Children’s Hospital Fund.

examined or I got him examined. Presumably, the presence or absence of be has semantic consequences, but these will not be discussed here.

² Note that this example also contains an instance of have with the present participle (I had everyone recycling); this construction type will be discussed further below).
These examples are odd under the interpretation intended in [6a-b]: the e-passive have-causative construes the situations as involving a service relation between causer and causee; this construal is not the most natural one for the depicted events. However, if the latter are construed in this way (say, if the father in [7a] paid his sons to build the camp stools, or if the speaker in [7b] were the boss rather than a co-worker), the examples would be fine. This accounts for the fact that examples like (8a, b), which explicitly evoke a service frame, are fine:

(8)  
   a. °I HAD camp stools built by a carpenter.
   b. °I had everyone in my department recycling, and I HAD their cans dropped off at this place for the Children’s Hospital Fund by my secretary.

Clearly, then, the embedded-passive have-causative is a distinct construction, although its more specific semantics are motivated to a large extent. Essentially, the embedded passive takes the focus away completely from the causer, and puts it on the result (see further Chapter 6, Section 6.4). This is highly compatible with the service frame, where a participant wants something done, but does not care who does it.\(^3\)

Coming back to the active variant of the have-causative, recall that it may also encode the service frame, but in addition it encodes a wide variety of situations other than

\(^3\) P. Davis (p.c.) pointed out to me that the service frame may be too narrow a characterization of the semantics of this construction, offering the example °I'll bury you up to your neck and have you eaten up by ants; it is not immediately clear that there could be a service relation between the speaker and the ants, but the sentence is acceptable nonetheless if we assume that the speaker knows about a particular location frequented by flesh-eating ants. He suggests that ‘exploitation’ is a more appropriate characterization for the type of situation encoded by the e-passive of the have-causative, i.e. that it encodes situations where the causer finds some circumstance that they can exploit for their own purpose.
the service frame. What all of these situations share (and what makes the *have*-causative unique) is the fact that there is a complete lack of resistance (at the time of the causing event) on the part of the causee. This lack of resistance may be due to the fact that the causee is willing to perform the result for payment (as in the service frame examples); it may also be due to other reasons, as in the following examples:

(9) a. [About a jury selection] They had summoned eight hundred people, about four hundred showed up, and it was for a murder trial. [...] And they HAD us fill out a long questionnaire.

b. [About a criminal] And he'll say, hey, that guy did it, not me. Or he'll HAVE somebody lie for him.

c. [About punishments for misbehaving students] I mean, instead HAVE them pick up around the school yard, HAVE them weed a flower bed somewhere on the school yard.

d. [About an exchange program] It would be a good idea if maybe you took some of the kids and HAD them go over to other countries and children from their countries came over to ours too, a trade off.

All of these examples suggest that the causee does not resist performing the result, even though he or she would not perform it without the causer's indication that he or she wishes him or her to do so. The lack of resistance is not so much based on willingness here (though the situations *may* involve willingness); instead the causee sees the performing of the result as part of an obligation based on the acceptance of a particular social context: certain institutions, as in (9a, c); criminal camaraderie, as in (9b); or because he has accepted a general asymmetry in the distribution of power between him and the causer, as in the teacher–student relation in (9d) (cf. also Goldsmith 1984: 119,

The lack of resistance is also clear in examples like (10a, b), which very likely involve unwillingness:

(10)  a. It would be a good idea to HAVE everybody spend some time in public service.

b. [About a character in a movie who stands trial after the Chinese revolution] They were starting to accuse her of crimes and atrocities before the revolution and HAD her write her own story over and over and over.

Again, it is the a priori acceptance of the absolute authority of the causer that accounts for the causee’s lack of resistance. In all the examples encoded by the have- causative the causee has agreed (openly or to him- or herself) to doing what the causer asks him or her to do before the specific causing event takes place. In other words, the causee does not at the time of the causing event resist performing the result, for whatever reason.\(^4\) This can be intuitively felt by replacing have in all these examples with force, which suggests considerable resistance to the causing event on the part of the causee (see further Section 5.3 below), or even just make, which is fairly neutral with respect to resistance, but is compatible with it.

\(^4\) Note that the claim is not that the have-causative cannot be used in situations involving force on the part of the causer or resistance on the part of the causee; it encodes situations where the causee does not resist the causer at the time of the causing event, but this does not preclude that the causee resisted the causer at some prior event. Example (10b) makes this clear: it is perfectly compatible with a situation where the prisoner resisted her captors for a long time, but where finally her resistance was broken. After her resistance is broken, she will do whatever is asked of her, without further resistance. It is only at this point, that the have-causative can be used (cf. in this context McCawley [1976: 120] and [1978: 245, footnote 1]).
There is also some corpus evidence for the difference between *have* on the one hand, and *make* and *force* on the other: *have* never occurs in the corpus preceded by the expressions *can't, be difficult to,* or *try to,* all of which would be suggestive of unwillingness to comply on the part of the causee. In contrast, *make* is preceded by such expressions in 21.9% of all cases (of the *make*-causative of action), and *force* in 10%.

Before the analysis presented so far can be summed up, recall that it was mentioned at the beginning of this section that there is a near-absolute constraint that the causer be animate, but that there are a few exceptions. These exceptions are systematic. Consider the following examples:

(11)  a. I had sandy loam hauled in. I *had* a dump truck come and dump it.
     b. *[About a sprinkler]* You can *have* it come on just early in the morning.
     c. *[About a word processor]* Usually it doesn't divide words. They usually *have* it space the words in a line rather than divide a word.

Example (11a) is not actually an exception at all. Although dump trucks are inanimate, *dump truck* is being used metonymically here: it is not the truck that *comes and dumps* the loam, it is the driver. Examples (11b-c) are the true exceptions, since it really is the sprinkler and the word processor which perform the respective results. However, note that these are both machines that are capable of activity that appears to be self-initiated, and thus these examples can be analyzed as being based on personification metaphors.

The prototypical event for the *have*-causative is summarized in (12):
(12) PROTOTYPE OF THE HAVE-CAUSATIVE
Form: [SUBJ\textit{intentional} have OBJ D\textit{.PRED}\_activity]

(a) There are two participants, X and Y .................................................. 100.0%
(b) X and Y are distinct entities ................................................................. 100.0%
(c) X is animate ....................................................................................... 100.0%
(d) Y is animate ....................................................................................... 98.1%
(e) X wants an event Z to occur ................................................................. 100.0%
(f) Y on a regular basis offers to perform Z for payment ............................ 72.0%
(f) X communicates (X') to Y his want for Z and his
    willingness to pay for it........................................................................... 98.1%
(g) Y performs Z ....................................................................................... 100.0%

Recall that for the embedded passive have-causative, this prototype has values of 100% for every single feature.

The core definition essentially involves abstracting away from the service frame as far as Y's professional status and X's payment are concerned. The following attempt does so by focusing on the lack of resistance of Y:

(13) CORE DEFINITION OF THE HAVE-CAUSATIVE
(i) There are two participants, X and Y
(ii) X wants an activity Z to occur
(iii) X knows that Y will perform Z if X wants Z to occur
(iv) X communicates (X') to Y that X wants Z to occur
(v) Y performs Z

Again, a core definition differing from the prototype is not necessary for the embedded passive version of the construction. The analysis in (12) and (13) can now be summarized further by assigning labels to X, X', Y, and Z, as in (14):
POSSIBLE SEMANTIC ROLES FOR THE *HAVE*-CAUSATIVE

X: benefactor-instigator
X*: REQUEST-SERVICE
Y: willing executor
Z: result-activity

Note that the participants in the event encoded by the *have*-causative are essentially more specific instances of the participants in the event encoded by the *make*-causative of action. The labels in (14) reflect this, but it would be true regardless of which labels are chosen: the event type encoded by the *have*-causative shares some major aspects of the *make*-causative of action: there is an animate causer who intentionally acts on a causee such that the causee performs an action that is under Y’s control. The difference is that for the *have*-causative, there is no resistance on the part of the causee, i.e. that the causee has accepted prior to the causing event that he or she will perform the result if asked. For the *make*-causative of action this is not the case: here the causee performs the result as a way of minimizing the effect of the causing event, and there is no prior acceptance involved. Assuming that both constructions inherit part of their meaning from the MANIPULATE configuration, the differences in meaning between them can be analyzed as being contributed by the verb (this will be discussed below).

Let me now turn to the *have*-VERBing construction mentioned at the beginning of this section. While the *have*-causative (i.e. *have* + OBJ + infinitive) occurs exclusively with the MANIPULATE configuration, the *have*-VERBing construction may occur with all three role configurations (cf. also Brugman 1988). As examples (15a-b) show, it may
encode the MANIPULATE type:

(15) a. Penetrating the Soviet KGB and military was one of many operations [the CIA was] running [...] Casey had greatly expanded the agency and its operations, and HAD it fighting covert wars all over the world. (NAN)

b. The state Attorney General’s Office HAD lawyers ‘looking all day at the situation,’ a spokesman said. (NAN)

It may encode the PROMPT type, as shown by (16a-b)

(16) a. Perhaps it’s this confusion over what’s healthful and what’s not, added to the flood of new, often hard-to-fathom flavors, that HAS Americans returning to good old vanilla ice cream. (NAN)

b. Recent observations, for example, suggest that the universe is younger that its oldest stars – an enigma that HAS astronomers scrambling for explanations. (NAN)

The have-VERBing construction may also encode the TRIGGER type, as shown by the examples in (17a-b):

(17) a. [About the movie MY FATHER THE HERO] Leering comedy about a bumbling dad [...] vacationing in the Bahamas with his bratty, teen daughter [...] To impress a prospective boyfriend, she fabricates a tale that HAS everyone believing they’re really lovers. (NAN)

b. [About exporting movies to China] With its growing economy and more than 1 billion people, the marked HAS Hollywood salivating. (NAN)

Finally, it may encode the PROVOKE variant, i.e. cases where the causee’s ability to decide is minimal, as shown in (18a-b):
(18)  a. Others are mining the same surge of fears that HAS Americans scrambling for safety in a society on the edge. From bulletproof wall treatments to Doberman-In-A-Can chemical sprays, the security industry is booming. (NAN)

   b. It was what Nintendo did not show at the expo that HAD everyone talking. The Ultra 64 [...] was scheduled for release by the end of the year, but then was pushed into the next year. (NAN)

There are at least two question that are raised by the way that have-causative and the have-VERBing construction differ, both of which must ultimately be resolved with reference to the different complementation patterns (since this is the only formal difference between the two constructions). First, the general question must be addressed, why the have-VERBing construction allows all three role configurations, while the have-causative only allows one. Note that this fact does not have to be motivated: it may simply be an arbitrary fact about the construction, that has to be stipulated as part of its specification. However, in accordance with the assumption of maximal motivation, it would be an unexpected finding that there is no motivation whatsoever. The second question concerns the difference between the have-VERBing construction and have-causative in the one situation where they directly compete with each other (i.e. when they encode a MANIPULATE event). Again, there does not have to be a difference; the two constructions may be synonymous in this case; however, again, it would be expected that there is some difference and that this difference follows from the complement pattern’s semantics. Both of these questions will be addressed in the general discussion of motivation in Chapter 6.
Let us now return to the issue of the meaning provided by $make_{caus}$ and $have_{caus}$ respectively to the constructions they occur in.\(^5\) So far, one such construction has been introduced, namely [SUBJ $V_{caus}$ OBJ D.$PRED_{\text{infinitive}}$] (note that $make$ does not occur with the present participle); the examples in (19) and (20) introduce two additional ones:

(19) [SUBJ $V_{caus}$ OBJ OBL$_{AP}$]

a. The way Eddie treated Charlie's mom HAD him angry. Insulted. Humiliated. (SRC)

b. [It] MAKES me angry when my paper boy's not there on time where I can read my paper (SWB)

(20) [SUBJ $V_{caus}$ OBJ OBL$_{NP}$]

a. °We'll HAVE you a linguist in no time.

b. °We'll MAKE you a linguist in no time

The construction in (20a) is so infrequent as to be virtually unattested with $have$, but the one in (19a) is relatively frequent at least in written language (although much less frequent than the one in (19b).

With respect to (19), the main difference between $have$ and $make$ seems to be an aspectual one: $make$ focuses on the process of the causing event, whereas $have$ focuses on the result. Thus, $have$ suggests a sudden change in the emotional state of the causee in reaction to a single act by the causer (or the last act in a series of acts), whereas $make$

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\(^5\) I am assuming that we are dealing with the same $make$ in all constructions of the form [SUBJ $make$ OBJ XP] (this is the $make$ that I am referring to as $make_{caus}$), and that we are dealing with the same $have$ in all constructions of the form [SUBJ $have$ OBJ XP] that have an agentive SUBJ and OBJ (this is the $have$ that I am referring to as $have_{caus}$).
may suggest a gradual change (cf. the contrast in [21a, b]) or a continuous causation event (cf. the contrast in [22a, b]):

(21)  a. °The way Eddie treated Charlie’s mom slowly MADE him angry

       b. *The way Eddie treated Charlie’s mom slowly HAD him angry

(22)  a. °She MADE me angry all night.

       (=°She did something all night that made me angry’)

       b. °She HAD me angry all night.

       (= ‘She did something once that made me angry for the whole night’)

Example (22b) also shows that have is highly compatible with results that last for a long period of time. Further evidence for the result focus of have is provided by resultatives with past participles (which themselves focus on the result of some process): these are possible with have (cf. [19a] above, The way Eddie treated Charlie’s mom HAD him insulted/humiliated), whereas they are impossible with make (cf. *The way Eddie treated Charlie’s mom MADE him insulted/humiliated).

In addition, it seems that the have-resultative shares some of the semantic aspects often expressed by the have-causative: first, the causer often benefits from the result, and second, the resulting emotion is often one that the causee seems to have a predisposition for, or that seems to be the normal state of the causee (corresponding to the lack of resistance in the have-causative). The most frequent use of the have-resultative is the following kind:
(23) Used vehicles can be an excellent value. The key is to by a used vehicle that has been properly inspected [...] You should expect to receive a guarantee from the dealership and a commitment to HAVE you happy as a customer. (SRC)

This example encodes a situation where the causee (the customer) is predisposed to (and unlikely to resist) being happy, and where the result will thus be instantaneous (if a customer has a predisposition for unhappiness, you would have to make him happy rather than have him happy). Differences in the causee’s predisposition may also be one of the differences between (20a) and (20b): With your talent, we’ll HAVE MAKE you a linguist in no time vs. We’ll MAKE HAVE you a linguist, but it will take a long time.

However, neither the have-causative nor the have-resultative necessarily encode these semantic aspects, thus they cannot serve to characterize a possible invariant contribution of have in these constructions.

Instead, these semantic aspects themselves can be argued to be motivated to a large extent by an invariant core meaning of have_{caus} and make_{caus} that each supplies to the causative and resultative constructions they occur in. In the case of have, this core meaning is ‘instant causation, focusing on the result’ (cf. also McCawley 1976: 120, Goldsmith 1984: 121); in the case of make, this core meaning is ‘not necessarily instant causation, focusing on the causing event’. These core meanings are in turn partly motivated by the lexical semantics of the two verbs in their basic uses: have is a stative verb, hence it is natural that it would focus on the result; make is a dynamic verb, hence it is natural that it would focus on the process of causation itself.
This difference translates into different more specific semantics depending on which construction it encodes. In the case of the analytic causative (encoding the MANIPULATE configuration) there is an agentive causee, who presents a potential barrier to achieving the result. The make-causative focuses on the process of the causing event itself, thus it is compatible with a situation where the causee resists the causer or shows considerable inertia. The have-causative focuses on the result, and is therefore only compatible with an effortless causing event, hence one where the causee does not resist. This is typically a situation where the causee is willing to perform the result (which, in Western cultures typically means that there is some form of payment involved), but it may also be one where the causee has given up all potential resistance prior to the causing event (as in [10a-b]).

In the case of the resultative construction (with adjectives or present and past participles), have suggests an instant result, whereas again, make is compatible with both instant and delayed results. This instantaneous nature may be due to the predisposition of the causee for the result, but it may also be due to the strength of the stimulus, etc.

The suggestion that is often present with animate causers both in the have-causative and in the resultative that the causer benefits from the result is also in part motivated by the lexical semantics of have, which assigns the role of a possessor to its subject (see further Section 7.2.2).
5.2 **MAKE revisited**

As the analysis presented in the preceding section shows, the role configurations introduced in Chapter 4 are not unique to the *make*-causative; some or all of them also occur with the *have*-causative and the *have*-VERBing construction, and in each case, *have* adds a focus on the result. The question thus arises, what *make* adds to them in the *make*-causative. Recall that it was simply assumed that *make*$_{caus}$ is abstract enough to ignore this issue for the purpose of isolating the causation event types encoded by analytic causatives in English, but in the context of the more detailed analysis of the major analytic causatives presented in this chapter, the issue of the semantic contribution of *make*$_{caus}$ must be addressed. I would like to suggest that all that *make* adds semantically to these constructions beyond the concept of CAUSATION is a focus on the processual nature of whichever aspect of the causation event it encodes. Recall that this may differ according to how the semantic role configurations are aligned with the generalized causation event. In the *make*-causative of action *make* puts into focus the causing event, in the *make*-causative of involuntary process it puts into focus the triggering of the result by the causing event, and in the *make*-causative of decision it puts into focus the decision prompted by the causing event. It is a non-trivial observation that *make*, being a processual verb, has a choice of processes to profile, and thus allows different construals based on different gappings, while *have*, which is non-processual (i.e. stative), does not have the ability to impose different construals.
5.3 **FORCE**

This construction can be formally defined in its active form as follows:

(24) \[ \text{SUBJ} \textit{force} \text{ OBJ} \textsubscript{animate} \text{ to} \text{ D.PRED}^{\text{inf}} \text{activity} \]

There is an absolute constraint on the OBJ that it be animate. The SUBJ is also typically animate, although events are possible in this slot. The result-VP always encodes an activity.

*Force* occurs with the MANIPULATE configuration and with the PROMPT configuration. Some examples of the MANIPULATE configuration are shown in (25):

(25) a. *About the world power status of the USA* It’s easier for us to say to an Iraq, you can’t do this, get back or we’re going to FORCE you.

b. I am not really crazy about driving. I never have been — my parents had to FORCE me to get my driver’s license when I was young.

c. They [i.e. the speaker’s university] have what they call the mandatory portion of their health insurance [that] they FORCE you to buy here. Now I’m covered by my wife’s anyway, but I still pay them a hundred dollars a semester.

d. I was FORCED to take some sort of art history course, and we all grumbled about it at first, but then, afterward, we all wound up taking extra art history classes, because it just seemed like something [we] just enjoyed very much doing.

Clearly, the most typical use of the *force*-causative is not a situation where the causer exerts physical force on the causee, as might be intuitively assumed when considering the typical uses of *force* as a full lexical verb. In these lexical uses, *force* typically refers to a
situation where the causer physically and violently acts on the causee, often with detrimental effects for the latter (as in "They had to force the lock, "He forced himself on her, "I forced the gun from his hand, etc.). Example (25a) is the one that is closest to such a situation.

The majority of examples, however are of the kind shown in (25b-d). None of these involve physical force. Instead, what seems to characterize them is, first, that the causee does not want to perform the result, and second, that the causee has no choice. The first of these properties is made explicit in (25b-d): the speaker in (25b) does not like driving, the one in (25c) does not need university health insurance, and the one in (25d) expresses her discontent by grumbling. The second property is not explicitly encoded in these examples, but it is part of the situation encoded: example (25b) does not suggest that the parents encouraged the speaker, or that they convinced her (she still does not like driving), but that they did something that left the speaker with no alternative course of action. Likewise, (25c) suggests that the speaker has no choice but to buy the insurance unless he wants to look for a new employer, and in (25d) the student has no choice but to take the art history class if she wants to fulfill the degree requirements. Issues related to choice are often explicitly encoded, as the italicized portion of (26a), and in a number of examples what is encoded is literally the removal of alternatives, as in (26b):

(26) a. [About obligatory public service for young Americans] Speaker A: It's nice to try to teach young people some civil consciousness, but forcing them to donate basically their time and efforts... — Speaker B: Yeah, it's definitely up to the person.
b.  *[About the metric system]* Speaker A: Here's this one sign's kind of funny. It says, metric signs next hundred miles. But no one will go a step further to remove the English signs. Speaker B: Yeah, that would FORCE everybody to use it. Or to quit selling tape measures in inches.

Again, what is at issue here is not physical force on the part of a causer, but an arrangement of the situation in such a way that there is only one path of action available.

The constraint that the result of the *force*-causative be an activity is sometimes implicitly made the topic of an utterance, as in (27a, b):

(27)  

a.  *[About drug abusers]* I mean, can you FORCE somebody to be a good productive citizen? I *don't think you can.*

b.  *[A salesman about his customers]* Speaker A: If they're not interested fine. You know that's it. — Speaker B: You *can't* FORCE them to be. — Speaker A: Right. And I'm not pushing something down their throat.

These are the only two examples where the result is not an activity but a state, and which therefore seem to violate this constraint. However, note that these examples explicitly negate the possibility of bringing about states by the type of causing event encoded by the *force*-causative (note the italicized portions); the point the respective speaker is trying to make is precisely that it is *not possible* to force somebody to have a property (be productive, be interested). Neither example contains any argument as to why this should not be possible, but such an argument is not necessary, because it is provided by the meaning of the construction: the *force*-causative's result is by definition an activity, and thus it cannot encode a situation where the result is not (construable as) such.
Like the make-causative of action, the force-causative can be used to express self-causation. Since self-causation will be discussed separately in connection with causative bring in Chapter 7, Section 7.3.2, this fact will simply be noted here:

(28) [About exercising] I have to FORCE myself to do it, like I said, because to me, I really don't enjoy it. But I know that I have to do it.

Note that this example also makes explicit the non-willingness of the causee to perform the result.

The prototypical situation encoded by the force-causative can be summarized as follows:

(29) PROTOTYPICAL EVENT ENCODED BY THE FORCE-CAUSATIVE
i. There are two participants, X and Y.................................................. 100.0%
ii. X and Y are distinct from each other............................................. 93.5%
iii. X is human.................................................................................. 100.0%
iv. X wants Y to do Z......................................................................... 100.0%
v. Y does not want to do Z................................................................. 100.0%
vi. X tells Y that X wants Y to do Z.................................................... 65.2%
vii. X sets up a general situation such that Y has to do Z............... 56.5%
viii. Y does Z...................................................................................... 100.0%

Most of these properties follow straightforwardly from the MANIPULATE configuration (hence they are shared with the make-causative of action). The only components that differ are (iv), and (v), (vi), and (vii). These differences are due to the meaning contributed by force. Component (iv) refers to the unwillingness of the causee. It is present in 100% of the examples, and can thus be directly attributed to the core definition. Components
(v-vii) refer to the way in which the causer brings about the result. These are not always present: in 15.2% of the examples, there is physical force, and 6.5% of the examples encode self-causation. As already suggested in the discussion above, all these situations can be unified into a single semantic class by characterizing them as a removal of alternative choices.

The core definition of force, then, is the one given in (30):

(30)  CORE DEFINITION OF FORCE
i. There are two participants, X and Y
ii. Y does not want to perform an action Z
iii. X removes all of Y’s potential paths of action except for Z

As mentioned at the beginning of this section, force can occur with the MANIPULATE or the PROMPT configuration. The specific definitions for the two types of force-causative can be derived straightforwardly by combining the respective event type with the meaning of force. For force + MANIPULATE the definition looks as follows:

(31)  CORE DEFINITION OF MANIPULATE + FORCE (‘FORCE-CAUSATIVE OF ACTION’)
i. There are two participants, X and Y
ii. X wants Y to perform an activity Z
iii. Y does not want to perform Z
iv. X communicates (X’) to Y that X wants Z to occur
v. X removes all of Y’s potential paths of action except for Z

For force + PROMPT the definition looks as follows:
(32) CORE DEFINITION OF PROMPT + FORCE (‘FORCE-CAUSATIVE OF DECISION’)
   i. There are two participants, X and Y
   ii. Y does not want to perform an action Z
   iii. X performs an event X’
   iv. Y perceives this
   v. Y assesses X’ as removing all of Y’s potential paths of action except for Z
   vi. Y decides to take the remaining path of action Z
   vii. Y performs Z

Some examples of this construction are shown in (33):

(33) a. [About the hole in the ozone layer] Speaker A: I heard it was discovered that
   the hole was bigger than they thought initially. — Speaker B: It’s kind of
   scary. — Speaker A: Well, it is scary and I think it will continue to FORCE us
   to clean up our act literally and figuratively.

   b. [About operating systems] The Macintosh is about the only one that’s going
   right, FORCING IBM and the rest of the DOS world to follow along.

   c. We have been just FORCED to budget much more because I quit working to be
   home with the kids.

These examples differ from the ones discussed previously in that they allow for
unintentional causers: the causers in (33a), i.e. the individuals responsible for the hole in
the ozone layer did not intentionally create it so that people would ‘clean up their acts’,
and the speaker in (33c) did not quit working in order to have to budget more carefully.
The causer in (33b) could have intended the result or not: what is important here and in
the other two examples is that the causee sees no alternative to the causing event but to
perform the respective result.
5.4 GET

Almost all examples of the get-causative instantiate the MANIPULATE configuration. This can be structurally characterized in its simplest form as shown in (34):

\[(34) \quad [\text{SUBJ}_{\text{intentional}} \text{ get OBJ}_{\text{in.control}} \text{ to D.PRED}_{\text{inf/activity}}] \]

The exceptions will be discussed below. Like have, get can also occur with an ing-complement, in the construction [SUBJ get OBJ D.PRED\text{pres.part}], as in It's not really the kind of exercise that GETS your heart rate going, but this construction will not be discussed here.

Some typical instantiations of the get-causative in (34) are shown in (35):

\[(35) \quad \]

a. One thing that I feel really strongly about though, is people coming up to my door, and especially religious organizations, and wanting to try and GET me to join or become interested in their religion, because I have my own.

b. And then I talked [my boss] into buying a HP Laser Jet. And that was a major ordeal to GET him to buy it. But once he bought it, he has been so pleased.

c. I told the judge that we were unable to reach a verdict because we couldn't GET one member of the jury to deliberate.

As (35a-c) show, the get-causative, like the force-causative, encodes situations that involve resistance on the part of the causee, although with get the resistance seems to be very passive, more like an inertia. This passive resistance is reflected not just by individual examples, but also by the fact that in the corpus, 33.7% of the get-causatives
are preceded by negative expressions like *try to*, *can’t, be difficult to*, etc. However, in the case of the get-causative, this resistance is not overcome by a removal of alternatives, or by the invocation authority, since both options are usually unavailable to the causer given the social status of causer and causee: missionaries, employees, and jury members have no authority over their respective targets—potential convertees, empoyer, and fellow jury members—, and they are not in a situation where it is possible or acceptable to force a particular course of action. Instead, the causee’s resistance must be overcome by convincing them, as in (35a-c) (note the paraphrases with *talk into* in [35b] and in [37b] below). This process of convincing often involves various degrees of trickery, as in (36a-b):

(36) a. Speaker A: They like to eat it, but it’s a hard one to have to prepare. But they like that with the, the cool ranch dressing that goes along with that. — Speaker B: Oh yeah we like that. That’s good that, that’s a good way to get kids to eat vegetables too.

b. Speaker A: The buffalo that they used for that scene was Neil Young’s, *buffalo* [...] he has a fetish for Oreo cookies. And he got him to run like he was running down the kid by luring him with Oreo cookies. — Speaker B: Hey, that’d work for me, let me tell you.

The causer, then, generally spends a considerable amount of energy in bringing about the result (note the explicit references to this, e.g. *major ordeal* in [35b], or *pulling teeth* in [37a] below), and thus there is often a connotation that the causing event took some time, or that there were several causing events, as in (37b):
(37)  
  
  a.  [About the movie RAIN MAN] [My husband] doesn’t really like to go see movies like that. He likes the bang them up and shoot them up things. And it was like pulling teeth to go GET him to see it.

  b.  [About exercising] Speaker A: Does your wife participate in any of this or... — Speaker B: Unfortunately not, and there’s no way I can GET her to. It’s something you either just really want to do it or you can’t talk anyone into it.

  The get-causative also has an embedded passive variant, and, like that of the have-causative, it is mainly used to express service frame situations (in 75% of all cases [15/20]). In such cases, there may not be a clear difference between the get-causative and the have-causative,\(^6\) as in (38a), although usually varying degrees of difficulty are involved, as in (38b-c):

  (38)  
  
  a.  [About the speaker’s house] I measured it one time because we had saw some termites and we thought about GETTING it sprayed.

  b.  I want a car that I can work on because I think it just costs too much even to GET the oil changed anymore.

  c.  We had a car once that we tried to have declared a lemon under the lemon law which is extremely difficult to do. We never could GET it declared a lemon.

  d.  Recently he changed the steering mechanism in the car. I was really impressed with that. We had to have it [in order] to GET the car inspected, it wouldn’t pass inspection...

  The event typically encoded by the get-causative can be characterized as follows:

\(^6\) This possibility of a ‘neutralization’ of the embedded passive variants of the two constructions in a service context is not too surprising: after all, have and get are very similar in this construction: both focus on a resulting state rather than a process and both are (possibly) possession verbs. With respect to the latter point, note that get is reasonably clearly a caused motion verb in the active variant (to get sth to = to bring/send sth to); it is less clear which of its uses is the source of get in the embedded passive, where it could be a caused motion verb (i.e. get it sprayed = get it to the state of being sprayed or have it in a state of being sprayed).
(39) TYPICAL EVENT CHARACTERIZED BY THE GET-CAUSATIVE OF ACTION
(a) There are two participants, X and Y ........................................ 100.0% 
(b) X and Y are distinct entities ................................................... 98.6% 
(c) X is animate ........................................................................ 100.0% 
(d) Y is animate ........................................................................ 100.0% 
(e) X wants an activity Z to be performed .................................... 
(f) Y is not willing to perform Z ................................................. 100.0% 
(g) X says something to Y ............................................................. 76.4% 
(h) After (h), X is willing to perform Z ......................................... 100.0% 
(i) Y performs Z ......................................................................... 100.0%

Again, many properties of this prototype follow from the MANIPULATE configuration. Of the ones that do not, (f) and (h) are present 100% of the time, and can therefore be directly attributed to causative get. Component (g), i.e. the act of verbal convincing, is a typical property, but other possibilities include the causer’s behaving in a particular way that will lead to (h), where the causer may or may not be aware of the connection between the causer’s behavior and his or her own performance of the resulting event. If the causee is not aware (in 11.1% of the examples), the causing event is seen as involving ‘trickery’, if he or she is aware, the examples differ from verbal convincing only in the mode of communication (also 11.1% of the examples). All these causing events can be summarized under the more abstract characterization ‘X does something’. Get\textsubscript{caus} can thus be characterized as follows (cf. also Goldsmith 1984: 123, Wierzbicka 1998: 124):

(40) CORE DEFINITION OF GET
i. There are two participants, X and Y
ii. Y has no intention of performing an action Z
iii. X does something X’
iv. After X does X’, Y has the intention to perform Z
Causative *get* can also occur with the PROMPT configuration, where it seems to differ from *make* in the way suggested by the core definition in (40):

(41) I just bought the Nissan that I’ve got about nine months ago [...] So the only thing that would GET me to change cars right now would be if [...] I were to get married and have a family.

Here, as in the other examples, there is passive resistance (inertia) on the part of the causee, which could be overcome and changed to a state of willingness by the requirements that a hypothetical family would make (neither *make* nor *force* would suggest that the causee actually changes his mind with respect to willingness if they were substituted for *get* in this example).

Finally, there are three examples with inanimate causees in the corpus:

(42) a. One of the reasons they fixed up the freons eleven, twelve and thirteen [...] was because they were inexpensive [...] and its properties were great with the machinery — didn’t have to have *lots of expensive machinery* to GET your heating and cooling cycles to work.

b. Speaker A: In a new house everything is white. — Speaker B: White, yeah. That’s what we’re *trying* to GET ours to look like. Speaker A: *Oh, good luck.*

Both examples differ from their counterparts with *make* in that they suggest some special difficulty in bringing about the result. These difficulties are overtly referred to in the italicized passages in both examples. These difficulties are plausibly the inanimate counterparts of the ‘change from resistance to non-resistance’ observed with the examples with animate causees.
5.5 Cause

Finally, let us return to *cause*. As mentioned at the beginning of Chapter 4, *cause* is intuitively *make*’s most natural contender for a general causation verb. The *cause*-causative, shown in (43) is implicitly assumed to be the analytic causative *par excellence* in much of the literature on lexical vs. analytic causatives:

(43) [SUBJ *cause* OBJ to D.PRED\textit{infinitive}]

There are several problems with this assumption. First, *cause* is extremely infrequent in this construction in actual usage (cf. Table 5.1 above, which shows *make* to be about 15 times more frequent. This means that it may not, in fact, be a well-entrenched construction outside of linguistic discussions of causativity. It is however, the main contender to lexical causatives at least in written English (see further Chapter 8), although it is very infrequent in this function, too.

Second, *cause* has very specific semantic restrictions in the constructions where it does occur frequently, namely the transitive construction [SUBJ *cause* OBJ], as in "Boys always cause trouble," and the ditransitive construction, [SUBJ *cause* OBJ\textsubscript{1} OBJ\textsubscript{2}], as in "My boys cause me a lot of trouble." I will briefly discuss these semantic restrictions below; for now, note that the fact that *cause* seems to have such a general meaning in the analytic causative may be due precisely to the fact that it is not well entrenched there.

In the corpus, the *cause*-causative often encodes situations that are best described as instances of the TRIGGER configuration, as in the examples in (44):
(44) a. [About badly fitted windows] There [is] a lot of vibration and it CAUSES the 
glass to crack and it's a never ending problem.

b. I had gotten some sun that day, the sweat had built up on me and built up 
under my skin and CAUSED me to peel.

c. [About managing the household budget] Taking it [i.e. the money] out of that 
envelope and seeing it in cash instead of in check form CAUSES you to realize 
how much is left.

Examples (44a-b) encode purely physical causation, a type not found in the corpus for 
make, while example (44c) encodes the causation of a mental process, a type also found 
for make. The difference in the contribution of make and cause respectively is very small 
in expressions instantiating the TRIGGER configuration; perhaps the fact that purely 
physical processes are more naturally encoded with cause suggests that there is 
something more deterministic about cause than make.

More crucially, however, it seems that the cause-causative permits the encoding 
of very distant causal links that do not correspond closely to any of the three role 
configurations. In other words, the cause-causative allows the gapping of a very long 
causal chain (which is presumably why it is typically used in the literature on simple vs. 
analytic causatives to demonstrate the possibility of the latter to dissociate causing event 
and result in space and time, e.g. Fodor 1970, Wierzbicka 1975, cf. Chapter 8 below).

This is shown in the examples in (45):

(45) a. If you did something to an individual and CAUSED them to lose the ability to 
earn a living — I remember a man drove by randomly shot a woman in the 
head while she was driving, blinded her — I think then that a life sentence to 
restitution is appropriate.
b. [About items on a mathematics test] The settings for the context in which the items are presented to the students should be ones that cause them to engage [in] the items and give us their best shot (CSPAE).

c. [About executions] There's a lot of last minute things that happen [which] cause a person not to have to go through the whole thing.

d. I don't know what's causing society to have so many broken families and things like that, because I think that's bad for us.

These examples express causal links that are far more tenuous than those typically encoded by the other analytic causatives; note that they are not easily paraphrasable by any other causation verb. In (45a), the causing event ('shooting someone in the head') leads to the result ('not being able to work') via at least one intermediate step that is not an inevitable consequence of the causing event, namely 'becoming blind.' But even this event causes an inability to work only for someone who was trained to do a job that requires being able to see. The indirectness of the type of causal link encoded by the cause-causative is even clearer in the other three examples: in (45b), the suggestion is that some property of the test item in question will appeal to a student (challenge them, get their attention, etc.) and thus bring about the result. The same example with make would suggest that there is something about the item that prompts the student to realize they are expected to 'give their best shot.' Examples (45c, d) are even less direct. Here, the direct object cannot even be said to be strictly speaking the causee of the causing event; the (very unspecific) causers in these examples are not necessarily in any direct relation with the causee at all.
It seems, then that *cause* is much more abstract than all the other verbs occurring in the $V_{caus}$ slot of analytic causatives (cf. also Shibatani 1976: 28ff.). The latter all encode specific aspects of the domain of causation, while *cause* potentially encodes any aspect of this domain, but seems to be used mostly where no specific construction exists to encode one of these aspects. In other words, as infrequent and weakly entrenched as it is, it can encode any kind of causal link, and will thus be used in those cases where the other analytic causative constructions are too far away in their meaning from the situation expressed. In addition, as mentioned before, the *cause*-causative is characterized by its ability to gap a large number of intermediate events between causing event and resulting event; this makes it different from all other analytic causatives. The latter, contrary to received wisdom, encode fairly direct causal links (cf. again Shibatani 1976: 28ff.); note that all three role configurations posited here include one intermediate event at most (and that they do so in a systematic and predictable way.

The abstract nature of *cause* also makes it difficult to determine aspects of its meaning that remain invariant across constructions. As mentioned at the beginning of this section, *cause* does not have a general ‘causation’ meaning in the two constructions in which it most frequently occurs. Consider the following, typical examples of *cause*:

(46)  [SUBJ *cause* OBJ]

  a.  *[About HOME ALONE]* I thought it was just kind of like a spoiled brat staying at home and CAUSING a lot of trouble.
  
  b.  There’s industry with all the sulfur and all that other stuff they’re dumping out into the atmosphere CAUSING acid rain and everything else.
c. Well I guess that's the fluorocarbons that's CAUSING the hole in the ozone.

(47) [SUBJ cause OBJ₁ OBJ₂] and [SUBJ cause OBJ to OBL]

a. I have mail ordered a video camera from New York. I was worried that that might CAUSE me a problem, but so far it looks like it has been a good deal.

b. It's not fair to have people working around you that could CAUSE accidents or harm to yourself.

These examples are typical in that the thing caused is always something undesirable. As table 5.2 shows, this is true of almost all examples in the corpus (with the only potential exception being a drop in the number of lawyers ;–).

Table 5.2: Referents of OBJ/OBJ₂ for transitive and ditransitive uses of cause (SWB)

<table>
<thead>
<tr>
<th>[SUBJ cause OBJ]</th>
</tr>
</thead>
<tbody>
<tr>
<td>problem/s (21), trouble (6), damage (4), pollution (4), rain (3), civil war, crime, hole in the ozone layer, smog (2), acid rain, aging, AIDS, chaos, confrontation, controversy, diseases, drop in the number of lawyers, erratic behavior, fascist revival, impact, increase in taxes, killing, quite a stir, reactions, recession, streaky pattern in the paint, suffering (1)</td>
</tr>
<tr>
<td>[SUBJ cause OBJ₁ OBJ₂] and [SUBJ cause OBJ to OBL]</td>
</tr>
<tr>
<td>problem/s (6), harm, injury (2), accident, trouble, unpopularity (1)</td>
</tr>
</tbody>
</table>

If cause in these constructions really had a completely abstract meaning, evoking the simple fact of a causal link ('A => B') and nothing else, then this restriction on the object (the OBJ₂ in the ditransitive) would be completely inexplicable. Instead, we have to assume that in the three constructions in (46) and (47), it means something like 'A => B undesirable.' The fact that cause does not have this restriction in the analytic causative construction makes it impossible to explicate a core meaning for cause beyond '=>'.
6 The relation between constructions and event types

The constructions introduced so far differ with respect to the role configurations they can encode: the make-causative can encode all three configurations, the have-causative (i.e. have + infinitive) can only encode the MANIPULATE configuration, the get-causative (i.e. get + to + infinitive) and the force-causative can encode the MANIPULATE and the PROMPT type, and the have-VERBing construction can encode all three configurations.

Since all analytic causatives have to be posited as constructions on purely formal grounds anyway (see Chapter 3), their different semantic restrictions do not pose a problem in a construction grammar framework: the set of role configurations that can be encoded by a given construction can simply be posited as part of that construction's specifications. This is most straightforward in a case like the have-causative, which always and exclusively encodes the MANIPULATE configuration: we can simply say that [SUBJ have OBJ D.PRED_{infinitive}] is paired with the semantic role configuration ('argument structure') MANIPULATE {instigator executor activity-result}, an analysis that has been implicitly assumed in Chapter 5.

An analysis of this type is less straightforward, for example, with the make-causative, which is capable of encoding three different semantic role configurations. There are essentially three ways of dealing with this state of affairs. First, it could be claimed that each of the three make-causatives discussed in Chapter 4 is a construction in its own
right, i.e. that there are three different argument structure constructions which happen to share the form [SUBJ make OBJ D.PRED\textsubscript{infinitive}] (i.e. that are homophonous). Second, it could be claimed that they are three different constructions that share their form and part of their semantics via inheritance links of some sort (polysemy links or metaphor links of the kind discussed in Chapter 3). Third, it could be claimed that there is just a single make-causative, whose meaning makes it compatible with the three role configurations, but cannot be equated with these configurations.

I will take the third approach here, arguing that each analytic causative construction typically inherits its semantics from the combination of a particular causation verb and a particular complement construction, both of which have invariant semantics across the constructions they occur in. As briefly mentioned in Chapter 3, I assume that these combinations as such are not strictly predictable on the basis of a given causation verb or complement construction, for example that, given the semantics of make and of the four possible complementation constructions, it is not possible to predict that make will occur with the bare infinitive (this unpredictability is what makes analytic causatives constructions). However, once a particular combination is established, it is generally possible to predict which role configuration(s) it will encode. Note that this does not preclude the possibility that a given analytic causative construction will have unpredictable properties; such cases can be posited as constructions in their own right. However, given the Principle of Maximized Motivation, such cases should be the exception rather than the norm (as in the case of the into-causative with talk).
The fact that I assume the particular combinations of causation verbs and complement configurations that happen to occur in a given dialect of English to be not strictly predictable does not mean that I assume them to be completely arbitrary. Instead, I will argue that they are often 'loosely predictable,' i.e. that it can be shown that there is generally a semantic affinity between a given causation verb and the complement constructions it occurs with.

6.1 English Complementation Constructions

There is a vast literature on complementation and related issues (cf. e.g. Ransom 1986, Wierzbicka 1988b, Achard 1998, and the contribution to Jaspers et al. 1989 and Horie 2000). This section will present an analysis that is not meant to do justice to all the intricacies of the topic, and cannot even begin to do so. It is, at best, the kernel of an analysis to be tested and elaborated in various semantic domains; here, it will be applied to analytic causative constructions with little regard to other domains (such as perception, cognition, attempting, etc.). The analysis presented here is based on or compatible with recent semantic and functional accounts such as Dirven (1989), Givón (1980, 1993) Langacker (1991a), and Wierzbicka (1988b); it is also generally compatible with the notion of different degrees of event integration or independence of events (cf. Givón 1993: 2ff., Langacker 1991a, Ch. 10, Achard 1998), and with the idea of iconic motivation (cf. Haiman 1985, Ch. 4), although I will not discuss this compatibility here.
Recall from Chapter 3 that I assume complementation constructions to be primarily *event structure constructions*, by which I mean that they relate two events in terms of temporality and boundedness (to be defined more precisely presently). I will refer to the first of these events as the *matrix event*, and the second as the *embedded event*, parallel to the terms adopted for the verbs that encode them (again, these are convenient labels, nothing more). As mentioned in Chapter 3, the four complementation constructions relevant here are OBJ+infinitive, OBJ+to+infinitive, OBJ+present participle, and OBJ+to+present participle. Their respective event structures are represented in (1a-d), where $e$ stands for 'event,' and $t$ is a time index that shows whether and to what extent the two events overlap temporally, and whether or not an event is bounded (i.e. is construed as having a limited duration in time):

(1)  

a. **OBJ+infinitive**  
\[
\begin{array}{c|c}
\text{Sem} & e_{0+1} & e_{0+2} \\
\downarrow & & \\
\text{Syn} & V_{\text{finite}} & \text{OBJ} \\
\end{array}
\]

b. **OBJ+to+infinitive**  
\[
\begin{array}{c|c}
\text{Sem} & e_{0+1} & e_{1} \\
\downarrow & & \\
\text{Syn} & V_{\text{finite}} & \text{OBJ} & to & VP_{\text{inf}} \\
\end{array}
\]

c. **OBJ+present participle**  
\[
\begin{array}{c|c}
\text{Sem} & e_{0+1} \\
\downarrow & \\
\text{Syn} & V_{\text{finite}} & \text{OBJ} \\
\end{array}
\]

d. **OBJ+to+present participle**  
\[
\begin{array}{c|c}
\text{Sem} & e_{0+1} & e_{1+2} \\
\downarrow & & \\
\text{Syn} & V_{\text{finite}} & \text{OBJ} & to & VP_{\text{ing}} \\
\end{array}
\]

According to this account of the four complementation constructions, event structure is analyzed in temporal terms at the most general level. It is important to keep in mind that
the abstract temporal relationships posited here will manifest themselves in different ways in different semantic domains, and that therefore they cannot simply be taken at face value. Ultimately an analysis of event structure would be desirable, that is not couched in temporal terms, but for our purposes it will be sufficient to assume the analyses in (1a-d) and to show how exactly they manifest themselves in the domain of causation.

The OBJ+bare-infinitive construction in (1a) typically encodes a situation where the matrix event and the embedded event are (construed as) fully co-temporal, bounded events; they both last from some point in time $t_0$ to some point in time $t_1$ (what is meant by co-temporality here is, of course, not an absolute temporal coinciding, but a degree of coincidence that allows the events to be construed as occurring simultaneously). To take an example from the domain of perception, if the matrix event is a perception event and the embedded event is the perceived event, as in *We saw the ship sink* (Langacker 1991a: 442), the meaning contributed by the OBJ+infinitive complement is that the seeing event and the sinking event lasted for the same stretch of time, i.e. that the referent of the subject saw the ship sink from beginning to end.

In the domain of causation, the full co-temporality assumed to be encoded by this complement construction manifests itself in two ways. First, the construction suggests that the resulting event begins immediately after the onset of the causing event (i.e. that the two events begin simultaneously (or close to simultaneously). Second, the construction may encode a situation where the causing event lasts all through the
resulting event, and where they both end simultaneously; however, often the suggestion is that the causing event fully determines the resulting event, rather than that the two events literally last for the same stretch of time. With animate causers, this means that the resulting event is fully under the control of the causer. These points will be discussed in more detail in Section 6.3 below; roughly, the claim is that The general had the captain sink the ship suggests that the general has full control over the captain, that the captain complies immediately, etc.

The OBJ+to-infinitive construction in (1b) encodes a situation where the matrix event precedes the embedded event, by a noticeable amount of time, and where both events are bounded in time and end at the same point in time. Perception verbs do not occur with this complement construction, but verbs of desire typically do. The contribution of to in We wanted the ship to sink is to focus on the fact that the desire precedes the embedded event (or, in fact, that the embedded event has not yet taken place at the time of speaking, and perhaps never will; cf. in this context the suggestion that elements like to highlight a conceptual path of some sort, e.g. Achard 1998).

In the domain of causation, the OBJ+to-infinitive construction suggests that the causee does not perform the result immediately, but that there is a delay between the onset of the causing event and the onset of the resulting event (but that the causing event is still ongoing at the time of the result’s onset). Also, the suggestion is again that the causing event lasts through the whole resulting event, or that it fully determines it. Roughly, in The general forced the captain to sink the ship, the suggestion is that the
captain resists for a while before yielding to the pressure exerted by the general (cf. the contrast between this and the OBJ+infinitive construction discussed above), and that the general determined exactly when and how the ship should be sunk (cf. the contrast between this and the OBJ+infinitive construction on the one hand, and the OBJ+present participle construction discussed next on the other hand).

The OBJ+present-participle construction in (1c) encodes a situation where the inceptive phase of the embedded event is co-temporal with the matrix event, but where the matrix event is bounded (lasts until \( t_1 \)), while the embedded event lasts longer than the matrix event (at least until \( t_2 \)), and is potentially unbounded (symbolized by three dots). In the domain of perception, this means that the perceived event lasts longer than the perception event, and is thus not perceived in its entirety. For example, in *We saw the ship sinking*, the suggestion is that the subject leaves the scene before the ship has fully gone under, or that something obstructs his or her view at a particular point, etc.

In the domain of causation, the OBJ+present-participle construction suggests that the resulting event begins immediately after the onset of the causing event, but lasts longer than the latter. This means that it need not be fully determined by the causing event (and need not be fully under the control of the causer), but may develop autonomously, in a way unforeseen and not influenceable by the causer. Roughly, *The general had the captain sinking ships* suggests that the general gave an order, but that the captain then carried out these orders autonomously, for example, deciding for himself how many and which ships to sink. Evidence for the fact that this meaning is (in part)
contributed by the construction, and not just, as one could claim, be the plural noun phrase in the result-VP, comes from the fact that a plural noun phrase is much more felicitous here than a singular one (cf. *The general had the captain sinking the ship*).

Finally, the OBJ+to+present-participle construction in (1d) encodes a situation where the inceptive phase of the embedded event occurs some time after the onset of the matrix event. The embedded event is again unbounded, and thus carries on longer than the matrix event (and again, potentially for an unlimited length of time). This pattern is extremely rare in the domain of causation, and does not occur in other domains as far as I can tell. I will not give an example here, but return to it in Section 6.3.

A remark on the two present-participle constructions: at least when they are instantiated in the domain of causation, they not only construe the causer as not fully in control of the resulting event, but they often also construe the causee as less in control of the result than the infinitival constructions. This is probably a result of their unboundedness: a bounded event can potentially be under the control of some agent from beginning to end, while an unbounded event does not have an end (or rather, its end is not conceptualized), and therefore it cannot be conceptualized as being completely under the agent’s control (M. Achard, p.c.).

Finally, note that the complementation constructions in (1a-d) may not necessarily seem to be constructions at all: their meanings have been characterized in a way that seems to allow us to derive them compositionally from the presence or the absence of *to* and from the distinction between a present participle and an infinitive.
However, there are two reasons for positing the patterns as constructions: first, the fact that to may combine with the present participle and the infinitive in this way is not itself predictable (if we assume that to is a preposition, it should only occur with nouns, if it is an infinitival marker, it should only occur with infinitives), and second, to has the particular meaning posited here (i.e. ‘temporal delay’) only in these constructions.

6.2 COMPATIBILITY BETWEEN CAUSATION VERB AND COMPLEMENT CONSTRUCTION

Let us begin with the second issue mentioned in the introduction of this chapter: to what degree is the co-occurrence of particular causation verbs with particular complementation constructions motivated. In order to show that a particular combinations of causation verb and complementation construction is motivated to some degree (i.e. ‘loosely predictable’), it is not necessary to predict that the respective complementation construction is the only one that could occur with the respective causation verb. Instead, it merely needs to be shown that there is some semantic affinity between the two.

I will focus here on what I have argued to constitute the major analytic causatives of English: the make-, have-, force-, and get-causatives. These take either the Obj+infinitive or the Obj+to+infinitive construction (for the have-VERBing construction, see next section), i.e. they differ with respect to the presence or absence of to.

In the analysis suggested in the preceding section, the semantic import of the
presence or absence of to is roughly one of co-temporality. Specifically, the absence of to signals that the matrix event and the embedded event are fully co-temporal; in contrast, the presence of to signals that the inception of the second event is delayed with respect to the first. In the domain of causation, co-temporality means, of course, that the causee performs the result immediately, while a delay means that the causee does not perform the result immediately. It is plausible, that such a delay is typically due to the fact that the causee resists performing the result, but it may also be due to the fact that the causing event is not immediately prior to the result on the causal chain, i.e. that there are several intervening events.

Let us begin with the notion of resistance: to may signal resistance on the part of the causee that must be overcome by the causer in order to bring about the result. Recall the characterization of the four major causation verbs in terms of the resistance of the causee in Chapters 4 and 5: it was claimed that make caus is neutral with respect to resistance, that have caus encodes the absence of resistance, and that get caus and force caus both involve initial resistance on the part of the causee (as do drive caus, bring caus, and move caus, which will be discussed in Chapter 7). There is thus some motivation for the fact that make caus and have caus take the OBJ+infinitive construction, which signals no delay (and hence no resistance)¹, while get caus and force caus (as well as do drive, bring, and

¹ Also, note that permissive let as in *The general LET the captain sink the ship* takes the OBJ+infinitive construction. This makes sense, given that a permissive construction encodes a situation where the causee (or rather the 'permittee') wants to perform the result, and the causer ('permitter') simply gives his or her consent; in such a situation, a temporal delay (let alone resistance on the part of the causee) is very unlikely.
move) take the OBJ+to+infinitive construction (cf. in this context Achard’s [1996, to appear] analysis of French causation verbs taking à and de respectively). Let us look at the four major causation verbs more closely, beginning with get and force.

In the case of get\textsubscript{caus}, the causee’s resistance is overcome by convincing the causee verbally or non-verbally to perform the result, or by tricking him or her into doing so. In other words, a situation where the causee’s resistance prevents the result is changed to a situation where this resistance disappears, or where it ceases to be of any consequence. The presence of to profiles the development from one situation to the other and the energy spent in achieving the change. In the case of force\textsubscript{caus}, the causee is in a state of resistance and remains in this state throughout performing the result. This means that the energy spent on the part of the causer is even greater than in the case of the get-causative, and it is again this energy spent in achieving the result that is profiled by to.

In contrast to these two causation verbs, have\textsubscript{caus} involves a causee who is willing to perform the result even before the causing event occurs, and thus will not resist. The causer therefore needs to spend a minimal amount of energy in bringing about the result. In addition, recall that have\textsubscript{caus} focuses on the result, thus, while it is not strictly incompatible with a construction encoding a delay of this result (and hence focusing on the process of bringing it about), the fact that it does to occur with to (in General American or Standard British English)\textsuperscript{2}, is to some degree motivated.

\textsuperscript{2} In Southern US dialects, the OBJ+to+infinitive construction is found with causative have, as in I’ll HAVE him to do it (cf. Butters and Stettler 1986, Wolfram and Schilling-Estes 1998: 332). This may be
*Make* caus presents a slightly different case: it was argued to be neutral with respect to the causee's resistance, but it was also analyzed as focusing on the causing event, rather than the result; thus, it is not logically incompatible with the presence of *to*. In fact, it does occur with the OBJ+*to*+infinitive construction if the matrix-clause is passivized (as in *The captain was MADE TO sink the ship*). As will be shown in Section 6.4, the appearance of *to* in passive variant of the *make*-causative can be explained on the basis of the same principles put forth in the present section.

Finally, let us briefly turn to *cause*. Recall that it was impossible to postulate a core meaning for this causation verb beyond the fact that it encodes a causal link of some sort. Thus, it clearly does not encode a situation where the causee resists. However, recall that *to* does not encode resistance *per se*, but a temporal delay: the causee's resistance is merely one possible reason for such a delay. As mentioned above, another possible reason is that there are several intervening events between causing event and result. Such a situation, of course, is exactly what the *cause*-causative typically encodes, thus the presence of *to* is motivated in this construction too.

In conclusion, note that the account developed in this section makes heavy use of the concept of resistance, which is a notion that strictly speaking makes sense only with respect to animate (or personified) causees. It can easily be generalized beyond such cases by replacing the notion of resistance by a notion of 'shaping the world': does the due to the possibility that the OBJ+*to*+infinitive construction has a different meaning in these dialects, but more likely it shows that the motivation for *have* to occur with the bare infinitive is far from absolute.
causer have to shape the world to fit his or her goals (as in the case of $get_{caus}$ and $force_{caus}$), or does he or she simply have to take advantage of the way the world is (as most evident in the case of $have_{caus}$). Overcoming the causee’s resistance (by convincing or by force) is simply a special case of shaping the world, whereas utilizing the causee’s willingness to perform the result is a case of taking advantage of the way the world is.

6.3 **Compatibility between causative construction and event type**

As mentioned in the introduction to this chapter, I will argue that for most analytic causative constructions it is possible to predict which of the three role configurations they can encode. In order to show this, it is necessary to be more explicit than has so far been the case about the similarities and differences between these configurations with respect to the semantic roles of causers and causees. Consider the examples in (2), which characterize causers and causees in terms of traditional semantic roles for all three configurations (note that the semantic roles are meant to represent the participants of the role configurations; they are not claimed to be assigned by $make_{caus}$):

(2) a. The **MANIPULATE** configuration

\[
\begin{array}{llll}
I & \text{MADE} & \text{them} & \text{cut the grass.} \\
\text{agent} & \text{PRED} & \text{patient agent} & \text{PRED}
\end{array}
\]

b. The **TRIGGER** configuration

\[
\begin{array}{llll}
The \text{movie} & \text{MADE} & \text{me} & \text{cry.} \\
\text{stimulus} & \text{PRED} & \text{experiencer patient} & \text{PRED}
\end{array}
\]
The MANIPULATE configuration is the only configuration that has an agentive causer, while the other two have a stimulus as a causer. On the other hand, MANIPULATE and PROMPT have agentive causees, while TRIGGER doesn’t. Thus, PROMPT shares the same type of causee with MANIPULATE, and the same type of causer with TRIGGER.

I will look at the causative constructions discussed so far, as well as some additional ones, showing how the combination of a given causation verb and a given complement construction yields a meaning that is compatible with one or more role configurations. I will begin with *have*caus, which presents a special challenge as it occurs with two different complementation patterns, with different restrictions in each case.

**Have**

Recall from Chapter 5, Section 5.1 that the *have*-VERBing construction encodes all three role configurations; some relevant examples are repeated in (3):

(3)  
   a. MANIPULATE: Casey had greatly expanded the [CIA] and its operations, and HAD it fighting covert wars all over the world.
   
   b. TRIGGER: *[About exporting movies to China]* With its growing economy and more than 1 billion people, the market HAS Hollywood salivating.
   
   c. PROMPT: Perhaps it’s this confusion over what’s healthful and what’s not [...] that HAS Americans returning to good old vanilla ice cream.
The *have*-causative, in contrast, only encodes the MANIPULATE configuration, as argued in detail in Chapter 5, and as evidenced by the following minimal pairs to (3a-d):

(4) a. °Casey HAD the agency fight warS all over the world.
   c. *This confusion HAS Americans return to good old vanilla ice cream.

Obviously, the restriction on the *have*-causative cannot be directly related to the semantics of *have*<sub>caus</sub>, since this occurs in the *have*-VERBing construction as well, which does not have the same restrictions. The obvious formal difference between the two constructions is the fact that the *have*-causative has an OBJ+infinitive complement, while the *have*-VERBing construction has an OBJ+present participle complement. But the restriction on the *have*-causative cannot be linked to the complement construction either; the *make*-causative has the same complementation construction, but as shown in Chapter 4 and in the examples in (2) above, it can encode all three configurations. At first glance, therefore, it may seem that the restriction on the *have*-causative is an idiosyncratic property of this construction, that must simply be included as part of its specification. However, as mentioned earlier, if we take into account both *have*<sub>caus</sub> and the respective complementation construction, the restriction falls out from the combination of the two.

Take the *have*-causative first. Consider (5), which shows in an informal notation the crucial constructions contributing to it (the subject-predicate construction, the OBJ+infinitive construction, and the *have*<sub>caus</sub> construction):
(5) *Some constructions contributing to [SUBJ have OBJ D.PRED\textsuperscript{infinitive}]*

\[\text{Sem} \xrightarrow{X} \text{Syn} \xrightarrow{\text{CAUSE; result in focus}} \text{Sem} \]

*Have\textsubscript{caus} suggests effortless causation (due to its focus on the result and the lack of resistance of the causee); thus, it construes the causer as having total control over the resulting event. The OBJ+infinitive construction construes the two events as fully co-temporal, or rather, construes the resulting event as fully determined by the causing event, and thus reinforces the construal of the causer as fully in control. Such a causer is not compatible with the causer slot in any role configuration except for MANIPULATE, which has an agentive causer. In the other role configurations, the causer is a stimulus, which by definition cannot have control over the result. Therefore, the *have*-causative can only encode the MANIPULATE configuration.*

To clarify this analysis, consider the representations in (6) which show how *have* requires a highly agentive causer and is thus fully compatible with the MANIPULATE configuration (as in [6a]), but incompatible with the TRIGGER configuration (as in [6b]; the same relation of incompatibility holds for PROMPT):
The question is why the have-VERBing construction does not have the same incompatibility, since have\textsubscript{caus} should put the same requirement on the causer. Consider
(7), which shows the constructions contributing to this construction:

(7) *Some constructions contributing to [SUBJ have OBJ D.PRED\text{pres.part.}]*

*\textit{Have}_{\text{caus}}* does indeed contribute this restriction to the construction. However, in contrast to the OBJ+infinitive construction in the *have*-causative, the OBJ + present participle complement encodes a resulting event that does not coincide temporally with the causing event, but keeps happening after the causing event has stopped; this reduces the control of the causer over the resulting event, and thus counteracts the requirement of *have\textit{caus}* that the causer have complete control. This makes the *have*-VERBing construction also compatible with those configurations that have a stimulus causer (PROMPT and TRIGGER). In other words, the combination of causation verb and complementation pattern is such in this case, that the construction is neutral with respect to the causer's degree of control over the result (shown in [8] for the TRIGGER configuration):
The analysis proposed here raises the question whether there is a difference between the *have*-causative and the *have*-VERBing construction in the case of the MANIPULATE configuration, which can be encoded by both. In order to address this issue insightfully, let us first look once more at the invariant contribution of the OBJ+present participle construction across the different types of role configurations (in addition to the obvious temporal profile of the result as an activity or process that lasts for some time).

3 There are several other causation verbs that take the OBJ+present participle, for example *send* and *leave* (discussed in chapter 7), and *set* (discussed below). As might be expected on the basis of their lexical (i.e. motion verb) counterparts, *send* and *leave* inherently specify a causer who is not in full control of the resulting event (if you send someone/something away, or if you leave someone/something behind, that someone/something is no longer in your sphere of influence). In combination with the OBJ+present participle construction, which reinforces this lack of control, these verbs yield meanings that are incompatible with the agentive causer of the MANIPULATE configuration; as will be shown in chapter 7, it is indeed the case that they cannot encode it. The reason that the *have*-VERBing construction *can* encode it is that the semantics of the OBJ+present participle construction are counteracted by *have*, just as *vice versa*. 
One semantic contribution has already been introduced in the preceding discussion: the OBJ+present participle construction reduces the control of the causer over the result. However, there is a second contribution, which is irrelevant to the preceding discussion, but which is relevant in the present context: recall that it was claimed in Section 6.1 that this construction also reduces the control of the causee over the result.

Take the TRIGGER configuration, where the control of the causer seems to be minimal even with the make-causative. It may seem implausible to claim that the have-VERBing construction reduces this agentivity any further than the verb semantics of involuntary process verbs already do. However, compare the following contrast:

(9)  a. Nobody can make you feel inadequate unless you let them. (SRC)
    b. Nobody can have you feeling inadequate unless you let them.

The first example (often attributed to Eleanor Roosevelt), while clearly an example of pep talk, and hence not usually regarded as strictly speaking true, has a certain plausibility that is lacking in the second example. I would argue that the apparent plausibility of (9a) stems from the fact that the OBJ+infinitive construction increases the agentivity of the causee somewhat, and hence allows for a reconstrual of an involuntary emotional response as a voluntary activity. Since the OBJ+present participle construction decreases the already low agentivity of the causee, such a reconstrual is not possible in the case of (9b).
The same argument applies to the MANIPULATE configuration. Consider the following pair of examples:

(10) a. The Attorney General’s office HAD lawyers looking at the situation all day.
   b. "The Attorney General’s office HAD lawyers look at the situation" (all day).

First of all, (10a) conveys a sense that the result-activity went on for some time and/or that there were repeated instances of it. Example (10b) does not convey this (accounting for the oddity of the adverbial all day). In addition, there is a sense of reduced control in the first example as opposed to the second. Even though the difference is very subtle, it can be teased out. For example, (10b) is more likely to encode a situation where the causee decides when, where, and how the result should be performed (i.e. where the causee has more autonomy). Thus, one of the lawyers could come home after work and tell her husband "The Attorney General is HAVING me LOOK at the allegations against the SEC. I don’t think I’ll start until next week though. The same utterance is odd with the have-VERBing construction: "The Attorney General is HAVING me LOOKING at the allegations against the SEC. I don’t think I’ll start until next week though. Here, the reduced causee-control conveyed by having me looking clashes with the idea that the causee decides when to perform the result."
**Force and get**

*Force*$_{caus}$ and *get*$_{caus}$ are similar in certain respects in their semantics (both of them encode situations where the causee initially resists), and they both occur with the OBJ+to+infinitive construction, which encodes a situation where there is a delay between causing event and result. This complement construction reinforces the causee’s resistance. Clearly, only an agentive causee can resist, thus the prediction is that the *force*-causative and the *get*-causative can only encode the MANIPULATE and the PROMPT configuration, but not the TRIGGER configuration (which has an experiencer/patient causee). As was argued in detail in Chapter 5, Sections 5.3 and 5.4, and as is demonstrated by the following examples, this prediction is borne out by the data:

(11) a. MANIPULATE: əCasey GOT/FORCED the agency to fight wars all over the world.

b. TRIGGER: *The market GOT/FORCED Hollywood to salivate.

c. PROMPT: əThis confusion GOT/FORCED Americans to return to good old vanilla ice cream.

The combination of constructions is shown for the *get*-causative in (12):
Interestingly, $get_{caus}$ also occurs occasionally with the OBJ+present participle construction, as in the following examples:

(13) a. It's not really the kind of exercise that GETS your heart rate going.

       [About an old lady who had to go into an old people's home] They worked with her and GOT her walking and got her taking care of herself and so she was able to come back home.

It seems that this construction can also encode the TRIGGER configuration (unlike the get-causative itself). This makes sense to some degree, since the OBJ+present participle construction does not reinforce the causee's agentivity in the same way the OBJ+to+infinitive construction does. The causee's resistance (encoded by $get_{caus}$) is still present in some sense; the examples seem to suggest that there is some inability of the causee (some 'passive resistance') that must be overcome in order to restore a resulting event that should be the norm for the causee.
**Make and cause**

The *make*-causative can encode all three role configurations. This is to be expected given that *make* is very unspecific with respect to the type of causer or causee it requires. Together with the *cause*-causative, the *make*-causative is the most neutral analytic causative construction; its combination of constructions is shown in (14):

(14) Some important constructions contributing to the *make*-causative

![Diagram of the *make*-causative construction]

The only semantics that both *make*\textsubscript{caus} and the OBJ+infinitive construction supply is the focus on the causing event. This motivates the fact that the *make*-causative (unlike the *cause*-causative) encodes comparatively direct causal links (gapping one event at most, as shown in the preceding chapter).

The *cause*-causative can also encode all three role configurations (as well as any other type of causal link). Due to the abstractness of the causation verb *cause*, it is difficult to show whether or not this is motivated by the combination of verb and complementation pattern. As mentioned in Chapter 5, Section 5.5, the *cause*-causative is
capable of gapping a large number of events between cause and event on the causal chain (i.e. it can encode very indirect causal links, cf. Chapter 8). Given this fact, it is perhaps not surprising that it is extremely unrestricted with respect to the event types it can encode.

Set

Finally, let us turn to a causation verb that has not been discussed so far, but that is interesting in that it occurs with three different complement patterns: OBJ+to+infinitive, OBJ+present participle, and OBJ+to+present participle. The first of these, which I will refer to as the set-causative, is very infrequent, and semantically very restricted (mainly occurring in the expression set sb. to work). I will return to it at the end of the section.

For now, I will focus on the last two, shown in (15a) and (15b) respectively:

(15)  a. The set-VERBing construction: [SUBJ set OBJ D.PRED_{pres.part.}]

b. The set-to-VERBing construction: [SUBJ set OBJ to D.PRED_{pres.part.}]

These constructions are interesting in two ways. First, they demonstrate in a very subtle way the difference between the presence and absence of to, and second, the construction in (15b) is the only analytic causative that takes the OBJ+to+present participle complementation construction.

Both constructions are capable of encoding all three role configurations. This is
predictable given that *set* requires a causer that is agentive to some extent (see the discussion of the *set*-causative at the end of this section), but that this requirement is counteracted by the present participle of the respective complementation construction (just as in the case of *have*). Although they can encode all three configurations, they most frequently encode the TRIGGER configuration, and they encode very similar specific manifestations of it.

To take just three examples, both constructions often encode the TRIGGER configuration with motion results:

(16) a. NASA waited [for] a momentary calm, and *set* Atlantis flying almost straight up on a northward path from the Kennedy Space Center.

b. [About levees that are waterlogged and soft] We’re not letting anybody walk on them because the least little thing can *set* them to rolling.

They both encode the TRIGGER configuration with mental process verbs:

(17) a. [About an exhibition] Text panels pose one question after another that *sets* the mind thinking. Why do we wear portraits? asks one panel next to a T-shirt with Malcolm X’s image on it.

b. Sliding prices for securities ranging from high-quality U.S. Treasury bonds to obscure stocks traded on exchanges in Malaysia and Peru could *set* others to thinking about trimming their exposure.

They also encode involuntary bodily responses:

(18) a. The enticing smell[s] of [various foods] all intermingle in the market air and *set* stomachs growling in anticipation.
b. Dana Delany, the sexy actress who seems to favor very low-cut clothes that set men to drooling, apparently still has the hots for Jack Germond.

However, despite their superficial similarity these examples differ in some subtle, but important ways, that can be motivated by the presence or absence of to. Consider (19a, b) which show the most important constructions contributing to the set- VERBing construction and the set-to-VERBing construction respectively:

(19) a. Some constructions contributing to the set-VERBing construction

![Diagram showing constructions contributing to the set-VERBing construction]
b. Some constructions contributing to the set-to-VERBing construction

Both constructions take a present participle and thus encode a situation where the causer and the causee have reduced control (which is why they most frequently encode the TRIGGER configuration), and in both constructions, set focuses on the beginning of the resulting event. The difference between the two is that in the set-to-VERBing construction the presence of to focuses on the fact that the causing event and the caused event do not coincide temporally, and on the energy the causer has to spend to shape the world in such a way that the result will be brought about.

Consider again examples (16a, b). Even though both of these have inanimate causees, they differ in the automaticity of the response: the space shuttle in (16a) is supposed to fly, it was built for precisely this purpose, and thus it will fly automatically given that someone pushes the right button. The levee in (16b), in contrast, is not supposed to roll. On the contrary, it was built for exactly the opposite purpose, namely staying in place (and keeping the river in place). Thus, it will resist the result as long as
possible, and only give in if it is sufficiently weakened. By the same token, strongly entrenched subpatterns like *set the clock ticking/running, set the ball rolling*, and *set tongues wagging* do not take a *to*: in these cases, the resulting event is a natural process for the respective causee to undergo, and thus there is no question of resistance.

Next, consider the examples in (17a, b). Both of them encode a triggering of an (involuntary) mental process, but the *set-VERBing* construction encodes an ‘organ’ (the mind) as the causee, while the *set-to-VERBing* construction encodes a human being as the causee. This suggests, again, a difference in automaticity. Example (17a) encodes a situation where a particular stimulus is designed to evoke an associative thought process automatically and without a possibility for the causee to resist or a need to convince the causee to perform it (i.e. without a need to change the world). Example (17b) encodes a situation where a human causee decides to think about appropriate measures to be taken in response to the stimulus. *Thinking* is a much more active process in (17b) than in (17a). This is further supported by the fact that all examples with *thinking* with *set* + present participle are simple intransitive ones (*...sets the mind THINKING*), while all examples with *set + to + present participle* have a PP denoting the content of the thought process (*...set others to THINKING ABOUT...*).

Finally, consider again the examples in (18). Both of them encode a triggering of a bodily response, but (18a) has the bodily organ responsible for this response as a causee while (18b) has a human causee (parallel to [17a, b]). This difference between an organ, which has no potential at all to resist the processes that it undergoes, and a conscious
human being, who has at least a minimal potential to do so, correlates with the absence and the presence of *to* respectively: in the first case, there is not even a potential delay between cause and result, and there is no need to change the world in order for the result to occur. In the second case, there is a potential delay or resistance as an animate causee does not respond as automatically as an inanimate one, and *to* profiles this (note that the issue is not whether human beings can really control bodily responses, but that they are routinely conceptualized as being able to do so).

The analysis in (19) is also borne out by the statistical distribution of animate and inanimate causers and causees and the distribution of different result verbs across the two constructions. Recall that there are no absolute restrictions on these aspects of the two constructions. However a corpus analysis reveals clear patterns of preference.

First, consider the distribution of types of causers (shown in Table 6.1), and types of causees, shown in Table 6.2).

<table>
<thead>
<tr>
<th>Table 6.1: Types of causers with set-VERBing and set-to-VERBing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>set + pres. part.</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>set + to + pres. prt.</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Table 6.2: Types of causees with set-VERBing and set-to-VERBing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>set + pres. part.</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>set + to + pres. prt.</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

As Table 6.1 shows, both constructions occur mainly with inanimate causers, but they nevertheless differ significantly in the number of examples with animate causers. While a
third of the examples of set + to + present participle have an animate causer, this is true for less than half that proportion of examples of set + present participle. Relating this finding to the analysis in (19), one could say that animate causees are more likely to shape the world according to their intentions, whereas inanimate causees are more likely to trigger events that are inevitable given the state of the world.

More interesting, however, is the distribution of animate and inanimate causees. As Table 6.2 shows, the clear majority of causees with the set-VERBing construction is inanimate, whereas the clear majority of causees with the set-to-VERBing construction is animate. This fits exactly with the type of explanation provided in the discussion of the individual examples above: animate causees have a higher potential to resist, thus, there is a greater delay between causing event and resulting event, profiled by to. This is further supported by the distribution of the types of results. While neither of the two constructions is restricted to a particular type of result, there are clear preferences for each of the constructions, as Table 6.3 and 6.4 show: both of them occur fairly frequently with bodily processes, but while beyond this the set-VERBing construction occurs mostly with (externally controlled) motion and physical processes, and much less frequently with human activities (verbal or mental), the set-to-VERBing construction shows exactly the opposite weighting.
Table 6.3: Resulting events of the set-VERBing construction

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>MOTION</td>
<td>44.6%</td>
<td>29</td>
</tr>
<tr>
<td>(ball) rolling</td>
<td>7.69%</td>
<td>5</td>
</tr>
<tr>
<td>racing</td>
<td>6.15%</td>
<td>4</td>
</tr>
<tr>
<td>spinning</td>
<td>6.15%</td>
<td>4</td>
</tr>
<tr>
<td>flying</td>
<td></td>
<td></td>
</tr>
<tr>
<td>running</td>
<td></td>
<td></td>
</tr>
<tr>
<td>swaying</td>
<td>2</td>
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</tr>
<tr>
<td>dropping</td>
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<td></td>
</tr>
<tr>
<td>going</td>
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</tr>
<tr>
<td>jumping</td>
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<td>moving</td>
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<td>pouring</td>
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<td>scouting</td>
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<td>scrambling</td>
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<tr>
<td>swinging</td>
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<td></td>
</tr>
<tr>
<td>zooming</td>
<td></td>
<td></td>
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<tr>
<td>BODILY PROCESSES</td>
<td>21.5%</td>
<td>14</td>
</tr>
<tr>
<td>(tongues) wagging</td>
<td>13.85%</td>
<td>9</td>
</tr>
<tr>
<td>(knees) knocking</td>
<td></td>
<td></td>
</tr>
<tr>
<td>panting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>shaking</td>
<td></td>
<td></td>
</tr>
<tr>
<td>squirming</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(hearts) throbbing</td>
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<td></td>
</tr>
<tr>
<td>PHYSICAL PROCESSES</td>
<td>13.8%</td>
<td>9</td>
</tr>
<tr>
<td>(clock) ticking</td>
<td>10.77%</td>
<td>7</td>
</tr>
<tr>
<td>flashing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ringing</td>
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<tr>
<td>VERBAL BEHAVIOR</td>
<td>12.3%</td>
<td>8</td>
</tr>
<tr>
<td>cheering</td>
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<tr>
<td>growling</td>
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</tr>
<tr>
<td>gurgling</td>
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<td>howling</td>
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<td></td>
</tr>
<tr>
<td>laughing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>stammering</td>
<td></td>
<td></td>
</tr>
<tr>
<td>whooping</td>
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</tr>
<tr>
<td>MENTAL STATES</td>
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<td></td>
</tr>
<tr>
<td>thinking</td>
<td>4.62%</td>
<td>3</td>
</tr>
<tr>
<td>wondering</td>
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<td></td>
</tr>
</tbody>
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Table 6.4: Verbs occurring in the result slot of set + to + present participle

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>MENTAL STATES AND PROCESSES</td>
<td>40.9%</td>
<td>9</td>
</tr>
<tr>
<td>thinking</td>
<td>22.73%</td>
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</tr>
<tr>
<td>wondering</td>
<td>13.64%</td>
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</tr>
<tr>
<td>dreaming</td>
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<td></td>
</tr>
<tr>
<td>BODILY PROCESSES</td>
<td>18.2%</td>
<td>4</td>
</tr>
<tr>
<td>drooling</td>
<td></td>
<td></td>
</tr>
<tr>
<td>growing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>slobbering</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(mouth) watering</td>
<td></td>
<td></td>
</tr>
<tr>
<td>VERBAL BEHAVIOR</td>
<td>18.2%</td>
<td>4</td>
</tr>
<tr>
<td>howling</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>moaning</td>
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<td></td>
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<tr>
<td>muttering</td>
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<td>ACTIVITIES</td>
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<td>singing</td>
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<tr>
<td>working</td>
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<td></td>
</tr>
<tr>
<td>dislocating oneself</td>
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</tr>
<tr>
<td>PHYSICAL PROCESSES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>boiling</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MOTION</td>
<td></td>
<td></td>
</tr>
<tr>
<td>rolling</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In conclusion, let us return to the set-causative. As already mentioned, it is extremely infrequent. There are only fifteen examples in the combined NAN and TIPSTER corpora.

Half of these examples (7/15) are instances of the expression set to work:

(20) a. The Mexican capital [...] became a crucible as the Reagan administration set the CIA to battle in Central America. (NAN)

b. They set them to work cutting pulp up on Mill Mountain. (NAN)
However, a variety of other verbs occurs, e.g. *battle*, as in (21a), and *prepare*, as in (21b)—which also shows that the result slot in this construction is indeed filled by a verb, rather than a noun:

(21)  

a. Even before May’s scheduled elections, the provisional government has **set** commissions to **battle** the blight imposed by Ceausescu’s rule (NAN)

b. He **set** a small group of planners to **prepare** a war plan.

All of these examples encode the MANIPULATE configuration. Due to the small number of attested examples, it is difficult to say whether this is an absolute restriction, but certainly such a restriction would make sense: *set*, whose literal (i.e. motion verb) source is a verb of manipulation in space plausibly requires an agentive causer, and the OBJ+to+infinitive construction would enforce this further (unlike the two present-participle constructions discussed above, which actually counteract it).

6.4 PASSIVIZABILITY

There are some intriguing differences between the four major analytic causatives with respect to passivization. Like the differences in the role configurations that they encode, these could be claimed to be idiosyncratic properties of the respective construction, but like these differences, they can be shown to fall out from the semantic characterization of the constructions.

There are two potential passive forms of analytic causative constructions: either the causing event or the resulting event may be encoded with passive morphosyntax, as
exemplified in (22) for cause:

(22)  

a.  ᶊJohn caused Mary to bake a cake  
    ACTIVE

b.  ᶊJohn caused a cake to be baked (by Mary)  
    RESULT IN PASSIVE

c.  ᶊMary was caused to bake a cake (by John)  
    CAUSE IN PASSIVE

The case with the resulting event in the passive is referred to as e(mbedded)-passive here, the case with the causing event in the passive as m(atrix)-passive.⁴

There are several aspects of passivization that merit closer discussion. First, not all causative constructions allow both m- and e-passives. This issue will be discussed in Section 6.4.2. Second, while some passives behave as expected formally and semantically, others have unexpected formal or semantic properties. One such case is the e-passive variant of the have-causative, whose unpredictable semantics were discussed in Section 5.1 above. Another is the m-passive of make, which requires a to-infinitive instead of the bare infinitive of the active variant. Yet another is the e-passive of the get-causative, which requires a bare participle instead of the expected to-infinitive. The last two cases will be discussed in Section 6.4.3. Both issues will be discussed under the assumption that passivization is semantically driven, and that any restrictions on passivization are

⁴ Note that there are two more potential passive forms: one with both the causing and the resulting event in the passive, as in (i), and one where a sentence like (22b) is passivized again, as in (ii):

(i)  *Mary was caused a cake to be baked (by John)

(ii)  *The cake was caused to be [baked (by Mary)] (by John)

The first of these potential possibilities clearly yields ungrammatical sentences. The grammaticality of the second possibility is more difficult to judge; however, it is clearly a non-occurring sentence type (0 occurrences in SWB, NAN, and TIPSTER). Both cases will be ignored here.
therefore semantically motivated. The semantic analysis of passivization assumed here will be briefly sketched out in Section 6.4.1.

6.4.1 The semantics of passive voice in English

The literature on the semantics and/or the discourse function of the passive in English and in other languages is, if anything, even vaster than that on complementation. Again, the analysis adopted here is not meant to do justice to this body of work, but to provide a basis on which the subsequent discussion can be built.

I will assume, largely uncontroversially, that the function of passive voice is to increase the salience of the O, and to decrease the salience of the A. An increased salience of the O means that typical patients are highly compatible with the passive (cf. e.g. Rice 1987), since they are highly affected and hence central to the event, but the passive voice is by no means limited to AGENT-PATIENT configurations. A decreased salience of A means that the passive voice is particularly compatible with non-agentive or non-individuated A’s, but again, this is not a categorical fact about passives.

The increased salience of O and the decreased salience of A correlate with discourse situations where the O is highly accessible (or ‘topical’) while the A has a comparatively low degree of accessibility (cf. e.g. Givón 1993: 47f., 50).

Syntactically, the passive construction removes the status of A as a core argument of the predicate (it ‘shades’ it, cf. Goldberg 1995: 57). If the A is expressed at all (which it generally is not, cf. e.g. Givón 1993: 49f.), it is expressed as an oblique.
This analysis of the passive is summarized in (23), which is a slightly revised version of (3.26b) in Chapter 3, Section 3.4 above:

(23) **The PASSIVE voice construction**

<table>
<thead>
<tr>
<th>Sem</th>
<th>low salience</th>
<th>high salience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accessibility</td>
<td>low</td>
<td>high</td>
</tr>
<tr>
<td>GR</td>
<td>PRED { A O }</td>
<td></td>
</tr>
<tr>
<td>Syn</td>
<td>PASS (OBL-by) SUBJ</td>
<td></td>
</tr>
</tbody>
</table>

This construction can be unified with the matrix construction of an analytic causative, yielding an m-passive, or with the embedded construction, yielding an e-passive. The second case is shown in (24):

(24) **Embedded passive**

The overall changes in saliency for the m-passive are shown in Figure 6.1a: the causer’s saliency is decreased, and the causee’s saliency is increased. The overall changes in
saliency for the e-passive are shown in Fig. 6.1b: the causee’s saliency is decreased, and
the affectee’s saliency is increased. Due to the tight connection of patients to the action
or process they undergo, the saliency of the resulting event is also increased.

\[ \downarrow \text{causer} \quad \text{causing event} \quad \uparrow \text{causee} \quad \text{result/affectee} \]

(a) \textit{M-passive}

\[ \downarrow \text{causer} \quad \text{causing event} \quad \downarrow \text{causee} \quad \uparrow \text{result/affectee} \]

(b) \textit{E-passive}

Fig. 6.1: \textit{Changes in salience for the two passives}

6.4.2 \textbf{M-passives and e-passives}

In categorical terms, the passivization facts about the causative constructions
discussed in Chapters 4 and 5 are as follows. The \textit{make}- and the \textit{force}-causative have m-
passives, but they do not have e-passives: \footnote{Actually, it seems that the \textit{force}-causative can have an e-passive under certain conditions, as in \textit{He forced Mary to be examined by the doctor} (Givón 1975: 78). However, as Givón points out, this is only possible if the subject of the embedded passive (in this case, Mary), is an agent, i.e. if the interpretation of the sentence is something like ‘He forced Mary to go to see a doctor in order to be examined by him’; this is shown by the unacceptability of \textit{He forced Mary to be pronounced guilty by the judge} (Givón 1975: 79). In other words, the embedded-passive variant of the \textit{force}-causative does not mean the same thing as the active variant, \textit{He forced the doctor to examine Mary}, and should thus not be considered a ‘variant’ at all.}

(25) a. əJohn made Mary bake a cake
   b. *John made a cake (be) baked (by Mary)
   c. əMary was made to bake a cake (by John)
(26) a. °John forced Mary to bake a cake
   b. *John forced a cake (to be) baked (by Mary)
   c. °Mary was forced to bake a cake (by John)

The *have- and the *get-causative, in contrast, have e-passives, but no m-passives:

(27) a. °John had Mary bake a cake
   b. °John had a cake baked (by Mary)
   c. *Mary was had to bake a cake (by John)

(28) a. °John got Mary to bake a cake
   b. °John got a cake baked (by Mary)
   c. *Mary was got to bake a cake (by John)

There is no formal difference between the constructions that accounts for these passivization facts. As shown in Chapter 3, Section 3.3, there is no difference in the constituent structure of the various causative constructions to which passivization could be linked. Obviously, passivization does not depend on the type of complement pattern either, since the two properties cut across each other:

(29)

<table>
<thead>
<tr>
<th>PASSIVE CAUSE</th>
<th>BARE INFINITIVE</th>
<th>TO-INFINITIVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>make</td>
<td>force</td>
<td></td>
</tr>
<tr>
<td>have</td>
<td>get</td>
<td></td>
</tr>
</tbody>
</table>

In other words, to the extent that the passivization facts are motivated at all, they must be motivated by the interaction of the semantics of the passive construction and the
respective causative construction.

*Make*

The *make*-causative can be m-passivized, though examples of m-passives are extremely infrequent (2/248), and it cannot be e-passivized. Let us deal with the second fact first. E-passivization requires a causee that is suitable for deprofiling. This is not the case for the causee of the *make*-causative, since this causee (whether an executor, a responder, or a reagent) is affected by the causing event, and they are crucially involved in the resulting event as an individual (in the case of the MANIPULATE and the PROMPT configuration they are highly agentive, in the case of the TRIGGER configuration they are actually the locus of the causing event). In addition, recall that *make* focuses on the causing event rather than the result, while the e-passive essentially imposes the opposite focus. Thus, the fact that the *make*-causative does not have an e-passive variant is motivated by the fact that the semantics of the two constructions are not compatible.

The same semantic facts partly motivate the acceptability of the m-passive: this construction requires an affected causee, who is directly acted on, and a focus on the causing event. Both criteria are fulfilled by the *make*-causative, although the affectedness of the causee is not typically extreme. M-passivization also requires a causer who is suitable for deprofiling, i.e. one that is non-individuated or weakly agentive. Not every example of the *make*-causative fits this description, but such a causer is at least compatible with the semantics of the construction. If such a causer is present, the *make*-
causative becomes a construction that simply shifts responsibility away from the causee, as in the following example:

(30) But also like you said the industry pollution and [the] regulation that’s placed on them is— I mean, it’s better than it used to be but it’s incredible that they still don’t have— they’re not MADE to regulate the amount of pollutants that they put into the air.

The m-passive of the make-causative will be taken up again in the next section.

Force

Like the make-causative, the force-causative has an m-passive but no e-passive. Again beginning with the second fact, the motivation is even more clear here than for the make-causative: like make, force highlights the causing event rather than the result, and, crucially the causee is resisting throughout the entire performance of the resulting event, is directly acted upon by the causer, and thus highly affected. These properties make it highly salient, and a non-candidate for deprofiling. At the same time, they make it a likely candidate for the subject slot in the m-passive. The m-passive requires in addition a causer which can be deprofiled. The causer in a force-causative fits this requirement, since what matters is the removal of possible paths of action for the causee, with little regard to how or by whom these paths are removed. As noted in passing in Section 5.3, the m-passive of the force-causative often takes on a generic sense of ‘having to do something’, as in the following examples:
(31) a. It's terrible for divorced women, you know, who are FORCED to work who maybe don't have a college education.

b. We have a pilot program in Arlington going on ... where they have people separate the trash as they put it out. And I think that is what it is going to have to come to. Where we are just FORCED to.

Although the causer may be recoverable in these examples, it is not a crucial aspect of the event's conceptualization. The focus in all these examples is clearly on the fact that the causee has no choice but to perform the result.

**Have**

With the *have*-causative, the situation is reversed: it has an e-passive, but no m-passive. Again starting with the unacceptable case, recall that an m-passive requires a deprofile-able causer. The *have*-causative's causer does not fit this requirement very well: it is the beneficiary of the result, i.e. not just the entity *because* of which, but also the entity *for* which the result is performed. In addition, the m-passive requires a highly salient causee. Again, the *have*-causative does not offer this: the causee shows no resistance at all, it is acted upon only minimally, and virtually always unaffected by the result. Although it is instrumental in bringing about the event, it does not play a part as an individuated entity. It is a means of bringing about the event, but it is typically replaceable by any other entity with the same qualities. These facts make the *have*-causative a perfect candidate for an e-passive: in addition, it matches the latter's focus on the result rather than the causing event.
The specific semantics of the m-passive variant have already been discussed, and will not be commented on further here.

Get

Finally, the get-causative, like the have-causative, has an e-passive but no m-passive. The motivation for this very much parallels that for have: for get the result rather than the causing event is in focus, making it compatible with the result-focus of the m-passive. Likewise, the causer is very agentive, having to act on the causee for a prolonged period of time, and the causer is also typically the benefactor of the result, both properties making it an unlikely candidate for de-profiling. The causee is affected in a sense: it is convinced or tricked into doing something it would not have done otherwise, i.e. there is a change of opinion with respect to the willingness to perform the result. However, this change is not the fundamental affectedness found with force, where the causee's resistance is broken by the removal of alternatives. Again, the semantics of the e-passive of the get-causative have been discussed, and its similarity to that of the have-causative has been noted.

6.4.3 Passivization and complementation: a closer look at get and make

The passive variants of the have- and the force-causative behave formally as expected. The active variant of the have-causative does not have an overt complementizer, and neither does the passive variant. Likewise, the active variant of the
force-causative does have an overt complementizer, and so does the passive variant. In contrast, the make- and the get-causative show unexpected behavior: the active variant of the former does not have an overt complementizer in the active variant, but does have one in the passive; the latter is like a mirror image, having an overt complementizer in the active but not in the passive.

These irregularities may at first glance seem to pose a problem for a semantically based account of complementation and passivization, but in fact they follow from the same semantic properties of the passive construction and the causative constructions already discussed. Consider Fig. 6.2, which summarizes the relevant semantic properties of the four causatives.
Fig. 6.2: Passivization of the four major causatives of English

The force- and the have-causative occupy opposite poles of the relevant semantic continua, and thus mesh perfectly with the semantics of the m- and the e-passives respectively. The force-causative has a causer who is highly agentive but not the beneficiary of the result, a causee who is highly affected, and a focus on the causing event. It is therefore maximally compatible with the m-passive, which deprofiles highly agentive causers and increases the salience of highly affected causees, as well as highlighting the causing event. The have-causative, on the other hand, has a minimally
agentive causer, who is clearly the beneficiary of the result, and a minimally affected, but highly agentive causee, as well as a focus on the result. It is therefore maximally compatible with the e-passive, which deprofiles agentive causees and increases the focus on the result, as well as increasing the beneficiary status of the causer.

The make- and the get-causative are somewhere in between these two extremes. The make-causative shares with the force-causative a non-beneficiary causer and a focus on the causing event, although both of these aspects are slightly less pronounced. It differs from the force-causative, however, in having a causer who expends relatively little energy, and a causee who is only less strongly affected. Thus, although the make-causative and the m-passive are not fundamentally incompatible, there is some friction between their semantics. The presence of an overt complementizer in the passive variant reduces this friction: the overt complementizer focuses on the energy expended by the causer, making it more agentive, and hence a better candidate for de-profiling; it also construes the causing event as prolonged, implying more resistance on the part of (and hence a higher affectedness of) the causee, making it a better candidate for highlighting. Essentially, the presence of the complementizer moves the make-causative closer to the force-causative both formally and semantically.

Similarly, the get-causative is very close to the have-causative in having a beneficiary causer and a focus on the result, though, again, these aspects are slightly less pronounced. It also differs in some major ways, first in having a relatively agentive causer, who would be a natural candidate for deprofiling, as well as a relatively affected
causee, who seems an unlikely choice for deprofiling. Thus, while the *get*-causative is fundamentally compatible with the e-passive, there is, again, some semantic friction. The absence of an overt complementizer in the passive variant of the *get*-causative reduces this friction by deprefiling the energy expended by the causee, as well as reconstruing the causing event as less extended in duration, and thus reducing the affectedness of the causee. Again, the *get*-causative is essentially moved closer to the *have*-causative formally and semantically in the passive variant.

In sum, then, it seems that passivization forces a conceptual reorganization of the semantic continua into discrete regions of the conceptual territory, as well as a reduction of semantic incompatibilities within these regions.
7 Conceptual sources of causation verbs

The question of predictability and motivation arises not only with respect to the combination of causation verb and complement, or the compatibility of causative constructions and role configurations, but also with respect to the causation verb itself. I have assumed so far that the various verbs that occur in the $V_{caus}$ slot of analytic causative constructions are separate lexical items from their non-causative counterparts, i.e. that there is, for example, a non-causative *make* meaning ‘create’ or a non-causative *have* meaning ‘possess’, and a causative *make* or a causative *have* with the meanings outlined in Section 5.2 and 5.3. In other words, although the causation verbs and their non-causative counterparts are transparently diachronically related, I have largely ignored the issue of whether they are also related synchronically. However, I have hinted in various places at the fact that often at least some of the properties of a causation verb are shared with its non-causative counterpart, as in the case of the dynamicity of *make*, the stativity of *have*, the causee’s resistance with *force*, etc.

In this chapter, I take a closer look at the semantic relationship between causation verbs and their lexical sources, i.e. the degree to which the meaning of a causation verb is motivated by the meaning of its lexical source. In doing so I discuss various general metaphorical mappings and grammaticization paths, which do indeed motivate the meaning of causation verbs to some degree, but ultimately do not allow us to strictly predict their exact semantic properties.
7.1 CONCEPTUAL MODELS

Following the work of Lakoff (1987) and Lakoff and Johnson (1980, 1999, esp. ch. 11), the following discussion will show that English causation verbs are related to their lexical sources via metaphor links of the type briefly mentioned in Sections 3.1 and 3.2.2. These metaphor links are based on general metaphorical models of event structure that have reflexes in many areas of the grammar of causation, i.e. that are not limited to particular analytic causatives or even causative constructions in general.

As will become clear, these metaphor links are not sufficient to fully motivate the semantic properties of the causation verbs or the constructions in which they occur, but in many cases they do motivate these properties to a large extent. In other words, it can be shown that the semantic properties of a given causation verb are partially expected given the semantics of the lexical source and the existence of general conceptual metaphors relating causation to various more concrete semantic domains.

I will sidestep the synchrony/diachrony debate to a large extent. I follow Heine (1997a, b) in assuming that wherever there is a case of genetic motivation (i.e. where two uses of a linguistic expression—or two linguistic expressions—can be traced to a common origin), the primary analytical task is to uncover the conceptual models that allowed the semantic diversification of the expression under investigation in the first place. Whether or not these models motivate the relationship between the two uses or two expressions synchronically, or whether the motivation is a purely diachronic one, is a separate issue
that cannot be decided on linguistic evidence alone.\(^1\) A general assumption adopted here is that the more productively a conceptual model manifests itself linguistically, the more likely a synchronic motivation holds, and the more transparent this motivation should be. From a conceptual perspective, the synchrony/diachrony distinction is not fundamental, except insofar as there may be several stages of conceptual transfer involved in getting from a source concept to a target concept, or that the meaning of an item may have changed since the transfer occurred, making the original meaning unavailable.

As an example of a relationship involving several stages of transfer, consider *have*; the fact that it is used as a causation verb may lead us to posit a conceptual mapping CAUSATION IS POSSESSION. However, there are several problems with this hypothetical mapping. First, it is not supported by linguistic facts elsewhere in the language, i.e. there are few (if any) other linguistic expressions from the semantic domain of POSSESSION that can be used to talk about causation (but cf. the discussion of *give* in Section 7.3.3 below). Second, possession itself is a domain that is largely metaphorically structured (cf. Heine 1997a). Third, the existence of such a mapping is hard to motivate conceptually. These problems disappear when we look at the sense history of causative *have*, which shows that the extension from possession to causation involved a particular discourse-contextual ambiguity (which will be discussed in Section 7.2.2).

\(^1\) Lakoff and Johnson (1980, 1999) and Lakoff (1987) argue convincingly for such a synchronic motivation in many cases, but Rice (1996) and Sandra and Rice (1995) provide evidence against such a motivation for example in the case of the typologically widespread and very productive metaphor TIME IS SPACE.
As an example of the second kind, consider *make*. Again, we might be tempted to posit a simple mapping from what in present-day English seems to be the basic sense of *make*, i.e. ‘creation’, to the domain of causation (as does, for example, Lee 1996). However, the mapping CREATION IS CAUSATION, while conceptually much more plausible than POSSESSION IS CAUSATION, is also not supported by other linguistic expressions in English.² Again, the mystery is solved when the history of causative *make* is considered: at the time when it was extended to expressing causation, it was a general action verb; the relevant mapping thus is CAUSATION IS ACTION (cf. Section 7.2.1).

The next section briefly deals with the major causation verbs, showing that their semantic properties as causation verbs are motivated to some extent either by their sense history, or by the conceptual mappings on which they are based. Section 7.3 then discusses in detail the central issue of this chapter, degrees of motivation, using as examples a number of motion verbs that are used in causative constructions in English.

### 7.2 MAKE, HAVE, FORCE, AND GET

In the preceding chapters, the four major causation verbs and the causative

² Except insofar as the concept of creation itself necessarily crosscuts the domain of causation; *create* and verbs like it (such as *produce*, *build*, etc.) essentially mean ‘cause to exist’, i.e., in Langacker’s terminology (cf. Langacker 1987), the concept CREATION profiles the intersection of the domains of CAUSATION and EXISTENCE. There are expressions in English that look like they may be based on a metaphorical mapping CREATION IS CAUSATION, e.g. *He created a major disturbance*, *They forged a long-lasting alliance*, or *We have to build a relationship of trust*. However, given that verbs of creation can be seen as verbs of caused existence, as just suggested, these expressions are easily accounted for by the much more general metaphor STATES/EVENTS ARE PHYSICAL OBJECTS (which accounts for expressions like *She kept a GRIP on the situation, You have let THINGS get OUT OF hand*). Note that this metaphor also underlies the Kantian idea that causes generate or produce their effects (cf. Chapter 2).
constructions in which they occur were argued to form a fairly coherent system (cf. Section 5.6, 6.3.2 and 6.4.3), dividing up the conceptual territory along such parameters as the energy expended by the causer, the causee’s willingness or unwillingness to perform the resulting event (or, more generally, whether the causee needs to change the world or simply take advantage of the way it is), the affectedness of the causee, and whether the focus is on the causing event or the resulting event. By dividing up the conceptual territory in this way, they enable speakers of English to talk about a range of causation event types, or to construe a particular event in a range of different ways.

The causative system in its present form emerged relatively recently in the history of English, and its various elements have different diachronic histories, and they are based on different types of conceptual mappings: causative *make* is based on a general mapping CAUSATION IS ACTION, while *have* is the result of a grammaticization process that largely explains its semantics, but that is not based on conceptual mappings. *Force* is based on the fairly transparent (and fairly productive) mapping CAUSATION IS EXERTION OF FORCE (cf. Talmy 1988, Lakoff and Johnson 1999: 179). Finally, *get* is based on a general MOTION metaphor to be discussed in detail in Section 7.3.³

³ The following discussion will focus on the semantics of the causation verbs rather than the form of their complement or other aspects of the syntactic frame that they occur in. For the development of the frame [SUBJ NP (to) Vinf (OBJ)] see Denison’s (1993, ch. 8) comprehensive review of the literature.
7.2.1 Make

*Make* (i.e. its OldE precursor *macian*) is very infrequent in Old English. Its earliest recorded uses are already causative (cf. OED, sv. *make*), with a clausal complement introduced by *that*, as in (1a), with a nominal complement, as in (1b), or with an adjectival complement, as in (1c) (all citations are from Ælfric (1000 AD), cit. OED s.v. *make*):

(1) a. ʒe habbað. ʒEMACOD þæt hiʒ wyllað us mid hyra swurdum ofslean.

b. Pone ðe he ær ehtende martyr ʒEMACODE.

c. Hi..heora luþʒendne ʒEMACIAÐ welʒne ecelic.

The Germanic root *mak*- probably meant ‘to fit, arrange’ (cf. OED, s.v. *make*, cf. also Royster 1918: 85, 1922), but at the time of the extension it seems to have been a general verb of action in Old English, competing with *do* for the semantic space encoded by Lat. *facere* (cf. OED, ibid.), as it still does, for example, in Modern German. The first recorded examples of the meaning ‘create’ are from the twelfth century, i.e. they emerge after the causation meaning (cf. OED, ibid.; cf. Baron 1976: 43ff. for a different view).

The assumption that *make* had general action meaning at the time of the emergence of the causation meaning accounts nicely for the dynamicity of the *make*-causative, as discussed in Section 5.2. Under this interpretation, *make* would be an instance of the cross-linguistically well-established tendency for general action verbs (corresponding to ModE *do*) to become causation verbs (cf. Dutch *doen* ‘do’, e.g.
Verhagen and Kemmer 1994; Akawaio (Cariban) *kubi* ‘do’, Stefanowitsch to appear [a]).

Old English *don* ‘do’ was also used in analytic causative constructions (cf. e.g. Royster 1922), declining in use as the *make*-causative started to spread in Middle English.

In sum, *make* is motivated by a general mapping of the kind posited in (2):

(2) **CAUSATION IS ACTION**

The conceptual basis for this mapping is straightforward: causation and action are so closely intertwined that they are often indistinguishable (cf. Lakoff and Johnson 1980, ch. 14).

Turning briefly to the question, how plausible a candidate (2) is for a synchronic mapping, note that present-day English does not use its general action verbs *do* as a causation verb (while, as just mentioned, Old English did). However, it does use general verbs of inception and termination, like *start* in (3a, b), or *stop (from)* in (3c, d):

(3)  
   a. He remembered best of all poetry, and visiting friends could always START him reciting by lining out a verse or two.

   b. We’ve got to introduce uncertainty into the process to START the Serbs guessing.

   c. They are now trying to STOP them establishing mountain bases from which to wage a partisan war.

   d. [The commander] had given him orders to STOP the rebel movement from capturing the town or going beyond it.

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4 Unless otherwise indicated, all examples in this chapter are from the North American News corpus (NAN).
It could be argued that the use of these verbs as causation verbs is based on the general mapping in (2), and that the inception and termination of an action stands metonymically for causing the whole action.

Note also that the fact that *do* is not used as a causation verb does not argue against the synchronic status of (2), for the simple reason that a language typically only has one or two general action verbs, and every conceptual mapping leaves some words from the source domain unaffected: thus, the chance that a single word may, for historical reasons, not be affected by a particular mapping does not argue for or against the existence of the mapping.

7.2.2 Have

Causative *have* is not based on a conceptual mapping of the type just discussed. Instead, it is widely agreed that it emerged from a reanalysis of a resulting-state construction of the type *He HÆFDE hine gebundenne* ‘He had him in-a-state-of-boundness’ (Traugott’s example and gloss, 1972: 121). In this construction, *have* still has its basic meaning ‘possession’: the example just given means that the referent of the subject possesses the referent of the object who is in a state of having previously been bound.

Traugott argues that the reanalysis of the past participle as a passive led to the causative semantics (ibid., cf. also Yamawaka 1958). In other words, a construction that originally encoded the fact that an entity or person existed in a certain state under the
control of another person came to be interpreted as encoding the event that led to this state (via the metonymy RESULT FOR ACTION, which plays a role in many areas of English grammar, cf. Panther and Thornburg 2000).

Thus, *have* became a causative verb in a construction which originally encoded a resultant state, and this original construction itself is transparently based on the possessive use of *have*. This diachronic origin of the construction accounts for the properties of *have*caus discussed in Chapter 5, Section 5.2; its stative character, the fact that it focuses on the result, and the fact that it is often used to describe an event where the causer is the benefactor of the resulting event.

### 7.2.3 Force

*Force* was borrowed from French in the fourteenth century with the meanings ‘use violence toward’, as in (4a), ‘exert oneself’, as in (4b), or (more specifically) ‘rape’, as in (4c):

(4)  

a. Thai..FORCED hem with mani dent hard (1330 AD, OED)  

b. Sothely fra þat tym furthe I FORCED me for to luf Jhesu (1340 AD, OED)  

c. Wimmen þai FORCED a-mang þaim (1300 AD, OED)

It was extended to causative constructions soon after, either with a nominal complement, as in (5a), or with an infinitive, as in (5b):
(5)  a. Æ grekes...were FORSIT to Æ fight (1400 AD, OED)

   b. Æ spake to Æ kyng, For to FORCE hym to fight, & his feris help (1400 AD, OED)

Verbs of physical force are plausible candidates for causation verbs conceptually, given the close connection between the notions of influence and (generative) causation (cf. Section 2.1). However, recall that *force* is not limited to (or even especially frequent with) situations in which the causer uses physical force or violence to bring about the result. Thus, physical force and causation cannot be equated. Instead, physical force is a particular type of causation, and expressions of physical force routinely become expressions of more general causation (cf. Royster 1918: 86ff., 1922 for some examples from Old English). This development can be represented in the form of a general mapping such as that in (6):

(6)  **CAUSATION IS PHYSICAL FORCE**

Note that this is a metonymic mapping, where a specific kind of causation stands for causation in general.

Although in present-day English, the *force*-causative is not limited to situations involving physical force, its central semantic properties are motivated by the mapping in

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5 Old English had several verbs of physical force that could be used causatively (cf. Royster 1918: 87), e.g. *nydan* 'force, compel, constrain', as in *Eft se papa nedde þone abbud Adriamus, þæt he þiscophade anfenge* (ibid.: 86). Royster observes that these verbs often derive from bases with meanings like 'strike, split, cut, shove, push, drive'.
(6): the resistance of the causee, and the overcoming of this resistance by a removal of all alternatives.

Note also that the mapping in (6) is very productive, as would be expected given that the connection between causation and exertion of force is so close that they are often taken to be synonymous (as in Talmy’s notion of force dynamics). There is a range of verbs of physical force that are used as causation verbs in English, e.g. press, as in Katie PRESSED me to stay a little longer (LDCE), pressure, as in “The union PRESSURED its members to join the strike, push, as in Her husband keeps PUSHING her to accept the job (LDCE), as well as a number of verbs of forced motion, such as jostle, bundle, etc.

Of interest in the present context is the degree to which the specific semantics of the causative uses of these verbs are motivated by their literal meaning as verbs of physical force. The degree of motivation is generally very high with these verbs. Take the following examples of push and press:

(7) a. I’ve been discouraged with the way I’ve been playing and I wanted to quit, but [my wife] PUSHED me to keep trying, telling me that I can win again.

b. Pilots have long believed that airlines will PUSH them to meet flight schedules, when their judgment dictates that they should refuse to take off.

c. Witness says Starr prosecutors PRESSURED her to testify against Clinton (SRC)

d. Carillo said [he could not] recognize anyone as having been involved in the shooting. [But] Sclater did not want to hear his denials, and PRESSED him to make an identification. (SRC)

Like their literal counterparts, push can occur with animate agents or inanimate forces as
causers, while press can occur only with animate agents; cf. the acceptability of Our natural biological rhythms PUSH us to doze at certain times of the day (NAN) with the unacceptability of *Our natural biological rhythms PRESS us to doze at certain times of the day (NAN). Also like their counterparts, press seems to denote a continuous acting on the patient, while push may be continuous, as in (7a) or non-continuous, as in (7b).

However, note that causative push can encode a situation where the causee resists the result, as in (7b), or it can encode a situation where the causee does not resist the result, as in (7a). In the latter case, the event encoded is one where the causer helps or supports the causee in bringing about the result, rather than one where the causer instigates the result. In contrast, press can never have this second interpretation: the result is always something that the causee does not want (at least initially), and that he or she resists as long as possible. This difference is not motivated by the literal meanings of push and press. Instead, it is partly motivated by the interaction of the MANIPULATE configuration with the continuous and non-continuous nature of the activity encoded by these verbs. Continuous exertion of force (and thus continuous instigation) is more compatible with a situation where the causee resists, and thus press behaves like force in this respect, while non-continuous exertion of force is also compatible with a situation where the causee just needs an initial impulse but will then bring about the result willingly.
7.2.4 Get

Get already had its motion meaning at the time when it was extended to the causative construction. In fact, as Baron (1976: 50f.) shows, it was used in a caused motion construction before it was used in an analytic causative: uses like (8a) presumably served as a direct model for uses like (8b).

(8)  
   a. Þe grettest of þe grim bestes he GAT to prison sone (1350 AD, OED, cit. Baron 1976: 51)
   b. I bad the rascal knocke vpon your gate, And could not GET him for my heart to do it (1596 AD, OED)

The extension from (8a) to (8b) is based on a general metaphorical mapping, to be more fully discussed in the next section:

(9) CAUSATION IS FORCED MOVEMENT (FROM LOCATION A TO LOCATION B) (cf. Lakoff and Johnson 1999: 179)

It is possible, of course, that the embedded-passive variant and the embedded-active variant of the get-causative have distinct historical sources, with the embedded passive variant emerging from a discourse context like that discussed for the have-causative (above).

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This is only one possible hypothesis (Yamawaka 1958 instead suggests a development parallel to that discussed for have. Baron (1976) argues against this, proposing the analysis adopted here. She gives an early example of the causative use, Yf it were by wille, þou ne getest not that maide to spylle (1400 AD) ‘If it be your pleasure, do not have that maid killed.’ This example suggests a resultative step between the caused motion and the causative use. This would make sense, since, as Goldberg (1995) argues, the resultative is a metaphorical extension of the caused motion construction (cf. Chapter 3, Section 3.2.2).
This is a point that cannot be argued in detail here. However, note that the semantic properties posited for causative *get* in 5.40 are motivated by the mapping in (9): the initial unwillingness of the causee corresponds to location A, the causing event corresponds to the forced movement, and the ensuing willingness of the causee to perform the event corresponds to location B. The more specific readings often present in the embedded passive variant, on the other hand, are plausibly motivated by a grammaticalization scenario like that discussed for have: if the causative reading of "I *got the horse bridled*, ‘I caused the horse to be bridled by someone’, developed as an implicature of a reading ‘I received the horse in a state of bridled-ness’, this would mesh well with the prevalence of the service frame for this reading.

7.2.5 Summary

Given the historical processes and the various conceptual mappings that relate the four causation verbs to their lexical sources, their semantic contribution to the constructions in which they occur is clearly motivated to some extent. Their meanings are certainly not strictly predictable (especially in the case of *make* and *have*), so that it seems justified to posit them as constructions separate from their lexical counterparts.

From a conceptual perspective, what is more important though is that the nature of the major causative *system* of English cannot be predicted on the basis of the source verbs, either on diachronic or on synchronic principles. Even though the lexical sources partially motivate the semantics of their causative counterparts, there is nothing that
would motivate why these particular four verbs should develop into a coherent system. The systematic way in which they divide up their corner of the domain of causation cannot be reduced to the various source domains and conceptual mappings involved, and is thus better understood as resulting from the nature of that domain itself.

7.3 **Causation is Motion**

There is a whole series of causation verbs in English that are based on verbs of motion (self-propelled or forced), and other verbs making reference to spatial relations, like *bring*, *drive*, *move*, *lead*, *put*, *send*, and *set*. The connection between the spatial and the causative meanings of these verbs is provided via two very general event-structure metaphors, of which the mapping **Causation is Motion** in (9) above is just one manifestation. These metaphors will be discussed presently. First, however, let us touch once more on the issue of grammaticization.

In some cases, a motion verb occurs (or can occur) in the same syntactic frame in the source and the target domain, whereas in others the syntactic frames are different in the two domains.

As an example of the first kind, take the verb *move*, which can occur in the pattern [SUBJ V OBJ to OBL] in both domains: it expresses its basic meaning of motion through space in *I moved the car from the driveway to the garage* and it expresses causation in *We are committed to moving the disadvantaged from welfare to work* (NAN).

As a second example, consider *send*, which may occur in the pattern [SUBJ V OBJ into
OBL] in the motion domain, as in "Mother SENT Little Red Riding Hood into the woods, as well as the causation domain, as in The monkeys pounce on the cage of the rare Mexican hairless dogs, SENDING the pack into a barking fury (NAN).

These cases are transparently based on the mapping in (9) above. Note that both are examples of the caused-motion construction already discussed in Section 3.2.1, and that it is the construction itself rather than any given verb occurring in it that is mapped from the domain of motion to the domain of causation. Thus, any verb that is capable of occurring in the caused-motion construction can be used causatively. As an example, consider prod and nudge, neither of which are motion verbs, but both of which can occur in the caused-motion construction by virtue of the fact that they can encode the means by which forced motion can be brought about. As the following examples show, they can also be used causatively: We just need something to PROD them into action (LDCE), and We're trying to NUDGE them towards a practical solution (LDCE).

As an example of the second kind, take again the verbs move and send. Move can be used causatively in the frame [SUBJ Vcaus OBJ to D.PREDinf], as in Pride and a sense of destiny MOVED them to become soldiers, and send can be used causatively in the frame [SUBJ Vcaus OBJ D.PREDpres.part], as in A murderous turf war between biker gangs has SENT citizens scurrying for cover in Canada's second-largest city. Neither of these constructions (i.e. OBJ+infinitive and OBJ+present participle) can occur in the purely spatial domain. Instead, both of them represent syntactic frames, already familiar from the preceding chapters that are frequently used with causation verbs that are not derived
from motion verbs.

In this work, I will concentrate on cases of the second kind. The assumption here is that extension to a new (more abstract) syntactic pattern represents an early stage of grammaticization (cf. Heine 1997b: 7f.), and that such cases are more interesting than the relatively transparent cases of the first kind when it comes to studying the interaction between source and target domains.

The two event-structure metaphors that mediate between motion and causation are discussed in Lakoff and Johnson (1999, ch. 11), who also discuss various linguistic manifestations of these metaphors. In the domain of causation they focus on cases where the caused-motion construction is mapped into the domain of causation (ibid.: 186f.). They show how, in these cases, the source domain and the systematic mapping account for the semantics of the causative expression to a large extent (perhaps entirely). As will be shown in the next section, this is not entirely true for many of the more grammaticized examples that are discussed in the following sections.

7.3.1 Two event-structure metaphors

English has two ways of exploiting motion to conceptualize the structure of events. The first one, which, following Lakoff and Johnson, I will refer to as the location event-structure metaphor (or simply location metaphor), is shown in (10):
   a. States are locations.
   b. Changes are movements out of, away from, towards or into a location.
   c. Actions are self-propelled movements.
   d. Causation is forced movement (cf. [9] above).

There are many specific aspects of this metaphor that follow from these general properties (cf. Lakoff and Johnson, ibid.), but for our purposes, only (10c, d) are important.

The second model, which I will refer to as the *moving object (event-structure) metaphor* is shown in (11). It is based on Lakoff and Johnson 1999: 196, but the characterizing of the metaphor is slightly more abstract than theirs:

(11) THE MOVING OBJECT EVENT-STRUCTURE METAPHOR
   a. Events are objects
   b. Changes are movements of these objects toward or away from participants
   c. Causation is the forced movement of these objects (in the case of animate causees, we may find this forced movement conceptualized as a transfer of possessions).

As Lakoff and Johnson point out (1999: 198f.), these two models are essentially figure-ground reversals of each other. They have in common that time is conceptualized as motion, and they differ only in whether the participants are seen as (moving) figures against the states/events as a stable ground, or vice versa. It is plausible that participants are more naturally construed as figures, and thus the location metaphor should manifest itself more frequently in language than the object metaphor. With respect to analytic
causatives in English, this prediction is right: there are far more cases that are based on the movement metaphor.

7.3.2 Causation is forced motion of participants

The location metaphor was already briefly discussed with respect to the get-causative. There are many other verbs that instantiate it, most of them occurring in the frame [SUBJ V OBJ to D.PRED_mfl], like bring, drive, lead, move, push, and one, send, occurring in the frame [SUBJ V OBJ D.PRED_{pres.part.}]. Two additional ones, set and put can occur with different complements; they were mentioned above, and will not be taken up here. The various verbs will be discussed individually in this section. To reiterate a point that has already been made in this chapter: the verbs in the V_{caus} slot partially motivate the meaning of a given construction, and showing this motivation is one of the points of the following discussion. However, this motivation is only partial, and each construction has properties that, although they may be intuitively understandable, do not actually follow from the structure of the source domain and the location metaphor. Since our primary interest is with causation, these properties will take up a large portion of the discussion.

Drive

This verb occurs with a causative meaning in a number of syntactic frames, for example the resultatives [V NP Adj], as in drive s.o. insane, and [V NP to NP], as in
*drive s.o. to despair*. The frame that is relevant here, though, is the one shown in (12):

(12) \[ \text{SUBJ} \text{ drive OBJ to D.PRED}_{\text{inf}} \]

In terms of the causative event types developed in Chapters 4 and 5, this construction is essentially limited to the PROMPT type (which often approaches the PROVOKE variant in meaning). It typically encodes a situation where the result is something that is wrong from the perspective of social or legal norms (e.g., 20% of the examples in the corpus involve killing oneself or others, see Table 7.1), prompting dictionaries to define causative *drive* along the lines of ‘to make someone ... do something bad or unpleasant’ (LDCE, s.v. *drive*).

<table>
<thead>
<tr>
<th>Table 7.1: Result verbs in the drive-causative (NAN)</th>
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<tbody>
<tr>
<td><strong>ACTIVITY</strong> (94.55% [156])</td>
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<tr>
<td><em>do</em> (5.45% [9]), <em>murder</em> (4.24% [7]), <em>kill</em>, <em>seek</em> (3.03% [5]), <em>drink</em> (2.42% [4]), <em>abandon</em>, <em>attack</em>, <em>become</em>, <em>be best</em>, <em>leave</em>, <em>play</em>, <em>produce</em>, <em>propose</em>, <em>say</em>, <em>seek alternative</em>, <em>side with</em>, <em>work hard</em> (1.21% [2]), <em>act</em>, <em>adopt principles</em>, <em>attempt escape</em>, <em>attempt feat</em>, <em>attempt suicide</em>, <em>beseech</em>, <em>be better</em>, <em>be recognized as best</em>, <em>be successful</em>, <em>blow up</em>, <em>blow whistle</em>, <em>bomb</em>, <em>call</em>, <em>check out</em>, <em>classify</em>, <em>commit crimes</em>, <em>commit illegal acts</em>, <em>complain</em>, <em>confide</em>, <em>consider</em>, <em>consume</em>, <em>despair and flee on rafts</em>, <em>create</em>, <em>deal</em>, <em>diet</em>, <em>dig for roots</em>, <em>dismiss</em>, <em>dodge draft</em>, <em>drown</em>, <em>elect</em>, <em>enter</em>, <em>extend credit</em>, <em>flee</em>, <em>gather</em>, <em>give pounding</em>, <em>hand x to y</em>, <em>hoard weapons</em>, <em>hurt</em>, <em>impose death sentence</em>, <em>improve</em>, <em>introduce</em>, <em>invade</em>, <em>keep up grades</em>, <em>kill oneself</em>, <em>leave behind</em>, <em>leave home</em>, <em>look at</em>, <em>make film</em>, <em>march to death</em>, <em>migrate</em>, <em>move against</em>, <em>move</em>, <em>offer</em>, <em>open</em>, <em>open up</em>, <em>oppose</em>, <em>overcome injuries</em>, <em>pick up</em>, <em>plant bomb</em>, <em>press for</em>, <em>push to trial</em>, <em>put life on line</em>, <em>quantify</em>, <em>raise</em>, <em>rape</em>, <em>reclaim</em>, <em>resign</em>, <em>risk freedom</em>, <em>risk life</em>, <em>roll car into lake</em>, <em>rush recovery</em>, <em>say prayer</em>, <em>scale</em>, <em>seek cover</em>, <em>seek help</em>, <em>separate</em>, <em>set sail</em>, <em>shoot</em>, <em>speed</em>, <em>spend time</em>, <em>sputter</em>, <em>succeed</em>, <em>support</em>, <em>surrender</em>, <em>suspect</em>, <em>swipe</em>, <em>take</em>, <em>take cover</em>, <em>take life</em>, <em>take look</em>, <em>take on</em>, <em>tap</em>, <em>threaten</em>, <em>try to effect change</em>, <em>try for</em>, <em>try suicide</em>, <em>vanquish</em>, <em>vote</em>, <em>wander off</em>, <em>wash</em>, <em>win</em>, <em>write</em></td>
</tr>
<tr>
<td><strong>MENTAL</strong> (3.03% [5])</td>
</tr>
<tr>
<td><em>conclude</em>, <em>contemplate</em>, <em>contemplate suicide</em>, <em>see</em>, <em>want to get back</em></td>
</tr>
<tr>
<td><strong>IN VOLUNTARY</strong> (2.42% [4])</td>
</tr>
<tr>
<td><em>endure</em> (2), <em>emit</em>, <em>grow</em></td>
</tr>
</tbody>
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Some examples of this kind are shown in (13):

(13)  a. The letters from McVeigh show that he was steaming with passion before the two events that [...] DROVE him to bomb a building.

b. [W]hatever DROVE Smith to roll her car into the John D. Long Lake with her boys strapped inside was, to a critical degree, not her fault.

c. [About paranoid schizophrenia] [T]his illness of the brain... can DRIVE people to do things they would not ordinarily do.

d. Lyle and Eric Menendez [...] claimed that intense fear DROVE them to murder their wealthy parents.

These examples also demonstrate some other typical properties of the drive-causative. First, in the vast majority of cases (98.1%) the causer is inanimate, either an event, as in (13a), or an internal state, as in the other three examples. Second, example (13a) shows that the causee is often not fully in control of him- or herself even before the causing event occurs. Third all examples show that the causee is not in control of the result, and may not even be accountable for his or her action (this is made explicit in the italicized material in [13b]). Fourth, there is a suggestion in all four examples, that the stimulus persisted over a certain period of time. In (13a), the causee was already agitated by other events before the last two events finally brought about the result, the paranoid schizophrenia in (13c) is a condition that will last for a long time, and the intense fear claimed by the Menendez brothers in (13d) presumably was not a sudden impulse but something that built up slowly. Finally, the result is an action that the causee not only would not perform of their own accord at the time of the causing event; it is an action
that they would not ordinarily perform at all, because it is outside of their own norm of acceptable behavior (example [13c] makes this explicit). Thus, it is not enough for a result to be ‘unpleasant or bad’, shown by the oddness of a sentence like “The payment of $5000 dollars drove the hit man to kill Don Alfonso.

The last point is important in arriving at a more encompassing definition of the drive- causative. The characterization of the resulting event as ‘bad or undesirable’ is too narrow. Quite often, the result is not undesirable or bad in itself, but is simply an extreme or desperate response to a situation, as in (14a-b):

(14) a. FBI officials [...] feared that worsening conditions inside the compound might DRIVE Koresh to attempt an escape to bring the stand-off to an apocalyptic end.

b. [About refugees] [I]t is in our national interest to do something about the conditions that DRIVE Haitians to set sail for Florida.

Even this notion of an extreme or desperate situation is not a necessary aspect of the semantics of the drive-causative. As mentioned above, and as the examples in (15) show, the result often is simply something that is unusual for the causee (cf. the italicized portion of [15b]), and that may be decidedly positive, as (15c-e) show:

(15) a. He says it was boredom with his job that DROVE him to write to “Golden Dreams,” one of Malaysian television’s most popular locally produced shows.

b. It was one more attack on the condition of universities, this one on the cover of The Atlantic Monthly, that DROVE the young professor to wander off the academic reservation and fire back from a decidedly non-scholastic New York publication, The Village Voice.
c. North Korea’s bad economy will DRIVE Kim to open up his country and improve relations with the rest of the world.

d. The competition that is going on among the major commercial online services [...] is DRIVING them to offer lots of new, additional services.

e. We’re trying to show what DRIVES athletes to be successful ... what separates the champion from the average man.

The invariant core of the drive-causative, then, is captured by the following definition:

(16) CORE DEFINITION OF THE DRIVE-CAUSATIVE
i. There is a participant Y, and a set of behaviors Y’ that are acceptable for Y to perform
ii. An event or series of events X occur
iii. Y is affected by X
iv. Being affected by X changes Y’s internal state changes such that Y sees no alternative to performing an activity Z that is outside of Y’
v. Y performs Z

This definition shows why the PROMPT configuration often approaches the PROVOKE variant in the case of the drive-causative. The change of the causee’s internal state is inevitable given the nature of the stimulus event, but it may or may not be consciously experienced by the causee, making it more similar or less similar to the ‘decision’ component that distinguishes the two variants.

Let us turn to the issue of the degree to which the semantics of the drive-causative is motivated by the source domain of forced motion and the degree to which it is motivated by the target domain of causation. On the one hand, note that there are clear correspondences between the manner of motion suggested by spatial drive and the manner of causation suggested by causative drive. The relevant sense of spatial drive is
something like ‘exert a large amount physical pressure on an entity continually or repeatedly, causing the entity to move in a particular direction.’ The causative use reflects the continuous/repeated nature of the pressure in the continuous/repeated nature of the causing event.

On the other hand, the fact that the *drive*-causative is used to encode results that lie outside of the domain of generally expected/acceptable behaviors for the causee is not straightforwardly predictable from the spatial sense of *drive*. In a typical spatial sentence like "*Buffy drove the wooden stake through the vampire’s heart*, there is no suggestion that it is unusual for the stake go through the vampire’s heart. On the contrary, this is, in the relevant context, what wooden stakes are for. The unacceptable/expected nature of the *drive*-causative’s result makes sense, however, when the target domain of causation is taken into consideration. The PROMPT configuration captures our experience of a type of causation event where the causee performs an activity that is typically under their control because of some stimulus event (that the causee may or may not notice). There is a certain plausibility to the fact that, as the intensity of the stimulus event increases, the set of possible result activities becomes larger, at a certain point extending beyond the point of previously acceptable/expected behaviors. Put simply, the stronger the stimulus, the more likely it will provide a sufficiently strong impetus to the causee to leave the path of previously possible behaviors. However, note that the motivation for this semantic effect is provided in part by the source domain and in part by the target domain.
**Move**

This verb occurs with a causative meaning in the caused-motion construction [SUBJ V OBJ to OBL], as in "The vampire’s fate MOVED us to tears," and it occurs with a to-infinitive in the frame relevant here:

(17)  [SUBJ move OBJ to D.PRED\text{int}]

The move-causative is essentially limited to the PROMPT type. It encodes a wide variety of result types, with no clustering of unacceptable or generally unexpected actions. There are no strong collocates (the most frequent result verbs are say (6.67%), write (6.67%), do (4.76%), and act (3.81%).

The move-causative typically has an event as a causer. As the following examples show, this event is often quite drastic:

(18)  a. Hundreds of taxi drivers hurled fire bombs, used makeshift flame throwers and fought running battles with police in central Taipei Thursday, MOVING the city’s mayor-elect to appeal for calm.

b. As a result of the nation’s shock, Congress was MOVED to require that drug companies prove to the FDA that their products were safe.

c. [This was] more than twice the food needed in Somalia during the height of a famine that MOVED Washington to send U.S. combat forces to aid the relief effort.

d. If Williams is MOVED to do anything by his near-death experience, his first trip should be to the site of his accident.

These examples also show that the result is not generally something unexpected or
unacceptable—on the contrary, as (18a-c) show, it is often a desirable action given the situation: an appeal for calm, a requirement that drugs be safe, or the dispatching of relief forces to a disaster area are perfectly acceptable reactions to the situations described in the respective examples.

However, although unacceptable actions rarely occur in the result slot, they theoretically can as the following example shows:

(19) Mrs. Lennon might have been MOVED to kill her husband when he refused to sign an agreement that would have given her $50,000 cash and $3,000 a month in living expenses...

Nor does the causer actually have to be some drastic event, as the following example shows:

(20) [About Madeleine Albright responding to criticism of the US Balkan policies] ‘They [the U.N.] should remember who’s paying their salaries,’ she said crisply, MOVING some U.N. officials to note that the United States at the time was more than $1 billion in arrears on its payments for U.N. spending.

Thus, the move- causative cannot be characterized with reference to the type of causer or the type of result. Instead, what seems to be at issue is the fact that the event causes some kind of internal state in the causee that motivates his or her action. This internal state may be explicit, as in the italicized material in the examples in (21):

(21) a. If pride and a sense of destiny MOVED them to become soldiers, the harsh economics of rural Nepal now are driving many former Gurkhas to be private guards for hire.
b. Mikasa said he was MOVED to write the speech, which flatly denounced the army’s “policy of aggression,” by repugnance at atrocities committed against the Chinese people

c. The fact that the British have been MOVED to discuss the issues -- and they’ve done so with us at a very, very senior level -- shows their sense of urgency.

It may also be implicit, as in the following examples:

(22)  

a. Should you, too, be MOVED to sponsor a child in Egypt, Foster Parents Plan can be reached at 800-556-7918.

b. It was the sublime poetry of this concluding scene that MOVED me to undertake the task, and I do not know whether I shall ever publish it.

c. [About a mother whose son was murdered] Watching Davis in court that day MOVED me to write about two mothers losing their sons.

Here, the causer is not a drastic event in an objective sense, but all cases are clearly the kind of stimuli that would cause a strong emotion in the causee. It seems that this change of the causee’s internal state would also account for the fact that the event often is drastic (as in the examples in [18]): changes in the internal state of a person are less likely to be caused by minor occurrences.

Thus, the move-causative can be summarized as follows:

(23)  

THE MOVE-CAUSATIVE

(i) An event X’ occurs (which may involve a participant X)
(ii) A participant Y perceives this
(iii) Y feels an emotion/internal state X”
(iv) X” motivates Y to do Z
(v) Y does not have to do Z
(vi) Y does Z
The *move*-causative may encode X, X', or X'' in the SUBJ position, and gap the other two (if present in the conceptualization).

Let us again turn to the degree of motivation of the semantics of the *move*-causative. Again, the fact that *move* can occur as a causation verb is of course motivated by the general mapping described in Section 7.3.1 above. However, the specific manner of causation is not: *move* is a general (perhaps the most general) motion verb, and thus one might expect that as a causation verb it also has a very general meaning. The fact that it does not, but that it instead encodes the type of situation in (23) is not motivated by the lexical semantics of spatial *move* and the mapping CAUSATION IS MOTION. Instead, it is motivated by one of the conventionalized meanings of the verb *move* itself, ‘to affect with feelings’, as in *This week’s episode of Buffy moved me, or I am not easily moved, but this show makes me cry every time*. This conventionalized meaning is itself a (lexical) construction, since it is also not predictable: although the lexical semantics of spatial *move* might lead us to predict that it can encode a change of state, we cannot predict the more specific meaning of ‘change from a weakly emotional state to a highly emotional state’.  

---

7 Note that *move* cannot encode simply *any* kind of change of state: *The floor moved from wet to dry, His face moved (to) pale, The milk moved (to) sour*, etc. Thus, the fact that *move* can encode some changes of state does not allow us to predict in which domains this is possible.
**Lead**

This verb occurs with a causative meaning in several constructions, by far the most frequent of which is the one shown in (24):\(^8\)

(24)  [SUBJ *lead* OBJ to D.PRED\(_{inv}\)]

This construction most frequently encodes a PROMPT situation, as in the following examples:

(25)  a.  *[About the Kurdish Communist Party]* A series of spectacular attacks on Turkish travel agencies, consulates [...] LED Bonn to ban the PKK.

b. China’s inflation fell in June for the eighth month and economic growth has cooled, LEADING experts to forecast a soft landing for an overheated economy.

c. Saturday’s withering heat spell ... damaged roads that buckled under the fierce sun, and LED thousands to seek emergency medical help

d. Weaver’s absence from court was not entirely his fault. A court clerk’s error had LED authorities to mail him a summons with the wrong date...

In all four examples, the causee deliberately responds to a stimulus event on the basis of his or her own chain of reasoning, which is often based on a series of events, as in (25a-b). The resulting event is not inevitable from the perspective of the causee, i.e. there is not necessarily the type of subjectively felt necessity discussed for the *drive*-causative, although such a necessity may be there, as (25c) shows. The majority of examples in the

\(^8\) Other patterns are [*lead NP to V-ing*], as in *Psoriasis [is] a disfiguring skin disease that can cause a lifetime of suffering and in some severe cases may LEAD patients to becoming social recluses*, and [*lead
corpus has events rather than human agents as causers, but (25d) shows that even if this event-causer has an (overtly encoded) agent, that agent does not intend to bring about the resulting event.

As Table 7.2 shows, activities are the most frequent type of result, but mental states and processes, also make up a sizable proportion, with strong collocates such as believe and conclude. Such mental processes might suggest that these cases, of which some typical examples are listed in (26), are instances of the TRIGGER type:

(26) a. [About a volcano] Continuing seismic activity and sulfuric gases LEAD researchers to believe that a full-scale eruption could come at any time.

b. In the kind of decision that LEADS fans to wonder whether boxing is fixed, WBC lightweight champion Miguel Angel Gonzalez was awarded a victory over Lamar Murphy.

c. Harmon hopes that his repeated references to Blake’s presence during the state agency’s testing, when combined with his expected failure to testify, will LEAD jurors to conclude that [the test results] must be unassailable.

However, the examples all refer to situations where the causee arrives at the mental process or state through their own reasoning. While one cannot strictly speaking decide to believe, wonder about, or conclude something, the decision element of the PROMPT configuration is represented by this reasoning process.

to NP], as in Progress on these points could LEAD to warmer relations.
Table 7.2: Result verbs in the lead-causative (NAN)

<table>
<thead>
<tr>
<th>ACTIVITIES (67.29% [179])</th>
</tr>
</thead>
<tbody>
<tr>
<td>ask (1.50% [4]), leave (1.50% [4]), predict (1.13% [3]), say (1.13% [3]), warn (1.13% [3]), acquire, announce, argue, engage, explore, find sentence, flee, focus, impose, investigate, make decision, meet, order, remark, shift, write (2), abandon, accept, acknowledge, adopt policy, advocate, agree, approach, assume guise, attach, banish, ban, beg, block, branch out, broaden, buy, cancel, cave in, censor, change, chase, check, close, commit murder, commute, complain, compliment, construe, criticize, cut back, cut flights, cut off aid, cut sentence, declare, defy, describe, direct, disband, dismiss, doctor, drop, dub, eat, end strike, evacuate, extend deadline, favor, fight, finger, follow, force, forecast, get, give priority, gloat, go home, grant, help, hold, ignore, initiate, inspect, issue warning, join, link, lobby, mail, make generalization, make mistake, make way, mock, mope, move up, nominate, open, pass law, penetrate, pick on, pick, pinpoint, proceed, produce, propose, pull back, purge, put, quip, reduce, reexamine, reject, remove, revise, rummage, search, seek allies, seek help, seek love, seek out, send, shove, side, sit out, slash, spare, speak out, spend, squander, stray, strike, study, submit, sue, suggest, switch side, take action, take hostage, take leave, take look, tell, throw, thwart, treat, try to frame, try to override, try to preempt, try to prop up, try to put brakes on, venture, veto, vote</td>
</tr>
<tr>
<td>MENTAL (29.32% [78])</td>
</tr>
<tr>
<td>believe (16.17% [43]), conclude (5.26% [14]), suspect (1.88% [5]), think (1.50% [4]), expect (1.13% [3]), question, realize, wonder (2), estimate, overlook, remember</td>
</tr>
<tr>
<td>EMOTION (1.5% [4])</td>
</tr>
<tr>
<td>begin worrying, develop sympathy, feel in danger, rejoice</td>
</tr>
<tr>
<td>STATES (1.9% [5])</td>
</tr>
<tr>
<td>become a power, become runaways, be concerned, develop insights, get interested</td>
</tr>
</tbody>
</table>

The lead-causative with mental states or processes sometimes appears with an intentional animate causer in the SUBJ slot, as in the examples in (27):

(27) a. Koresh often would LEAD DeGuerin to believe he had bargained a breakthrough in negotiations only to later 'cut his legs out from under him.'

b. Colin Ferguson would LEAD you to believe there is a conspiracy against him, but in fact it is Colin Ferguson who is against the world.

These examples are analogous to those with other verbs encoding the PROMPT type, where the intentional agent of the stimulus event is mentioned while the event itself is gapped. There is an interesting twist to the lead-causative, however: in all examples
where the agent of the stimulus event rather than the event itself is encoded in the subject position, the content of the mental state is false (as is made explicit in the italicized portions of (27a-b). Thus, it is possible to say °Galileo made the king understand that the earth revolves around the sun or °Galileo got the king to believe that the Earth revolves around the sun, but °Galileo lead the King to believe/understand that the Earth revolves around the sun is odd unless the speaker believes that the Earth does not in fact revolve around the sun. This restriction on the content of the mental state is absent where the SUBJ is an event: °Galileo’s observations lead him to believe that the Earth revolves around the sun is semantically normal whether or not the speaker believes in the truth of the content.

This restriction is not predictable. The general difference between the lead-causative and causatives with, for example, make and get, or drive and move is that with lead the causee retains a maximum of freedom, in that the causee responds volitionally, based on their own decision or reasoning. This does explain why the lead-causative is less direct in examples with events as causes (cf. °His observations MADE him conclude... with °His observations LEAD him to conclude...). It also accounts for the fact that in a sentence like °The pope made the king believe that Galileo was wrong the pope is felt to be more directly responsible for the content of the belief than in °The pope led the king to believe that Galileo was wrong. It is also clear that the latter example should be compatible with a situation where the belief is wrong, but it is unclear why it should be limited to such situations. Thus, [SUBJhuman lead OBJhuman to D.PREDinf mental[content: false]]
must be posited as a construction in its own right.

The more general core meaning of the lead-causative can be captured as follows:

(28) THE LEAD-CAUSATIVE
(i) An event X' occurs (which may involve a participant X)
(ii) A participant Y perceives this
(iii) Y reasons on the basis of X' (and possibly other facts) and arrives at a conclusion X''
(iv) X'' motivates Y to do Z
(v) Y does not have to do Z
(vi) Y does Z

Let us turn again to the issue to what extent this meaning is motivated by the lexical meaning of spatial lead. First, note that spatial lead is compatible with two types of situations: one where some entity X is moving along a path and some other entity Y follows X on Y's own accord (as in "The pope led the procession across the square," and one where some entity X physically influences the direction of movement of some entity Y, but Y is still moving under their own power (as in "Galileo was blindfolded and led to the dungeons"). In the first case, X may or may not be aware that Y is following, and the responsibility for the whole event lies primarily with Y. In the second case, the responsibility lies with X, and Y may or may not actually want to move in the direction chosen by X. Thus, the spatial meaning of lead is very indeterminate with respect to agency and intentionality of both X and Y.

The same indeterminacy is found with causative lead. In the examples in (25) and (26a-b), the causer is either an event or an unintentional human, and the causee is solely
or to a large degree responsible for the resulting event. In (26c), the causer intends for the causee to perform the result, but there is still no direct influence, i.e. the causee must still perform it (i.e. ‘follow’ the causee) on his or her own accord. In contrast, the examples in (27) are more like the second sense of spatial lead, where the causer actively encourages the causee to take a particular path of action.

Thus, there is a certain degree of motivation for the behavior of causative lead with respect to the animacy, intentionality, and responsibility of causer and causee. However, the parallel behavior of spatial and causative lead does not account for the specific restriction on the lead-causative with intentional animate causers discussed above.

**Bring**

Bring occurs with a causative meaning in a variety of uses. The one relevant to the present discussion is shown in (29)⁹:

(29) a. [SUBJ bring REFL to D.PRED\_ infinitive]
   b. [SUBJ₁ bring OBJ₂ to D.PRED\_ infinitive]

The variant in (29a) is vastly more frequent than that in (29b): 94.4% of all bring- causatives are of this type. I will therefore be take it as primary, and show that the non-

⁹ Other patterns are [bring about NP\_event], as in *Kim Jong Il has been associated with attempts to bring about economic reform*, [bring NP to NP\_result], as in *Bring the milk to a boil*, BRING matters to a conclusion/an end, and BRING him to his knees), and [bring NP PP\_loc], as in *What brings you here.*
reflexive type in (29b) is an extension that is possible only under very specific circumstances that follow from the semantics of the construction. In this, the bring-causative is different from all other analytic causatives; many of these can be used reflexively (e.g. the make-causative in examples [4.08a, b] or the force-causative in examples [5.28], see further below), but the bring-causative is the only one that is primarily used to express self-causation.

The construction in (29a) encodes a situation where an individual attempts to overcome his or her inclinations against acting in a certain way. Some typical examples of this construction are shown in (30):

(30) a. [About a law requiring doctors to destroy frozen embryos] I could not BRING myself to destroy the embryos and I could not ask my staff to do it either although I suppose we could be imprisoned.

b. For 50 years, former concentration camp prisoner Jerzy Kanal could never BRING himself to return to Auschwitz-Birkenau, haunted by the memories of the ashes he saw spewing from the crematorium chimney and the screams of those about to die.

c. [About a Czechoslovakian artist] He defected to the United States, where artistic freedom consisted of a series of slammed doors and a job offer—drawing backgrounds for Smurf cartoons—that he couldn’t BRING himself to accept.

d. Cordova said that after taking Teranishi’s course, there was a limit to how much he would try to innovate. “I couldn’t BRING myself to make Italian sushi filled with mozzarella and tomato,” he explained.

As these examples show, the resulting event of the bring-causative is very similar to that of the drive-causative: it may be a generally unacceptable activity, as in (30a), or one that
is simply unacceptable to the individual causee, as in the other three examples. This unacceptability may be based on strong emotions, as in (30b), or on an individual’s ideas of what constitutes acceptable behavior to him- or herself in a particular domain, as in the examples (30b-c) (which involve resulting events that are certainly not generally unacceptable).

However, there is one clear difference between the resulting event of the drive-causative and that of the bring-causative. While the former generally encodes results that are outside of the expected behavior of the causee, the bring-causative normally encodes results that the causee is expected to perform. In other words, the bring-causative encodes situations where some result is necessary but is not acceptable to the causee. Example (30a) shows this, as do the following examples:

(31)  a. Maybe you’ve forgotten about how you learned about sex, about how your parents couldn’t quite BRING themselves to explain it and just handed you a book.

    b. As a dad, McCann is so loving that he can just barely BRING himself to discipline his child.

    c. [T]he president privately takes responsibility now for fatal mistakes in Chechnya and is seeking broad advice for a peaceful, face-saving way out—but can not BRING himself to dump the men who misled him.

All three examples encode situations where the causee is aware of the necessity to act in a certain way (to explain the facts of life to one’s children, to discipline one’s children, or to disassociate oneself from political enemies). Hence, all of them would sound decidedly odd with drive. However, in all three cases, the causee has a strong internal resistance
against taking the necessary action (prudishness, a tender heart, misguided loyalty).

Note that all examples given so far encode situations of unsuccessful causation, i.e. situations where the causee does not perform the result. This is evidence for the analysis just proposed; the fact that normally (in 92% of all examples, and 98% of the reflexive ones) the causee does not perform the result shows how strong his or her disinclination to do so is. However, this is not an absolute constraint, as the following example shows:

(32) 'I persist in thinking that Sam would not have wanted *Eleutheria* to be published,' Lindon wrote. 'Yet as I see you are staunchly bent on publishing your translation, I BRING myself to grant you that publication right for the United States.'

Here, the causee's resistance is overcome and the result is performed.

Finally, turning to the non-reflexive examples, note that half of them are of the kind in (33), where the causer is an internal state of the causee:

(33) *[About a child asking about his former foster family]* [The child always asks,] "Does Carrie still live there? Does Chad? Does Andrew? Why don't I still live there?" "The pain that would BRING a child to ask me that—there's no words," said Mrs. Fell.

Such examples are very similar semantically to the overtly reflexive ones, in that there is still only one real-world entity filling both the causer and the causee participant slots.

Thus, the meaning of the *bring*-causative can be summarized as follows (the fact that X and Y are the same entity in most cases will be discussed below):
(34) THE BRING-CAUSATIVE
i. There are two participants, X and Y, and a set of behaviors Y' that Y regards as acceptable for Y
ii. X expects Y to perform Z
iii. There is a strong conflict between Z and Y'
iv. Y accepts the necessity to perform Z
v. Y suppresses Y'
vii. Y performs Z

The fact that the resulting event is outside of the set of behaviors that Y regards as acceptable for him- or herself distinguishes the bring-causative from reflexive uses of other analytic causatives. Consider examples (35a, b):

(35) a. If you can MAKE yourself do the treadmill, that’s a good workout (=4.08).

b. [About exercising] I have to FORCE myself to do it, because I really don’t enjoy it (=5.28).

Reflexive analytic causatives always express some element of internal obstacle that the causer/causee has to overcome in order to perform the result. They differ in the precise nature of this obstacle: (35a) is fairly neutral, the suggestion is that what needs to be overcome is mainly one’s own inertia; in (35b), on the other hand, it is clear that what needs to be overcome is active resistance. However, in both cases the result is something that the causer/causee ultimately wants to perform, i.e. both (35a) and (35b) encode situations where the causer/causee believes that exercising is a good thing, both in general and for them personally. The bring-causative is different: an utterance like "If you can BRING yourself to do the treadmill, that’s a good workout" suggests that the causer/causee
may believe that exercising is a good thing, but that it would violate a deep-rooted personal belief or principle to engage in it.

Finally, there is a remainder of 3.1% where the causer and the causee are actually different entities, as in the following examples:

(36)  a. The history of the imperial war started by Japan and carried on over two decades. It would have continued in all its unspeakable ferocity unless the empire was BROUGHT to surrender.

b. On Friday, the National Labor Relations Board showed both the owners and the players a path to clearheaded negotiating by BRINGING the owners to kill the divisive salary cap that had been imposed.

These examples will be regarded as an extension of the more typical use here. They seem to be motivated by the extreme unwillingness of the causee and the extreme difficulty involved in overcoming this unwillingness.

At the most abstract level, we might characterize the bring-causative as encoding a situation where the whole causation event, from the causing event up to the resulting event, is fully under the control of the causer. This restriction is so strong that the causer and the causee are in most cases identical. In other words, the degree of control required by this construction is so great that the self is the only entity over which we can exercise such control, accounting for the fact that the vast majority of examples is reflexive. Extensions are only possible for very asymmetrical power relations, i.e. situations involving extreme force (as in [36a]) or authority (as in [36b]).

The semantics of the bring-causative is partially motivated by the semantics of
spatial bring, which encodes a situation where an entity X carries or accompanies an entity Y to a particular location, i.e. where, just like in the causative use, Y is fully under the control of X at all times (cf. also Lakoff and Johnson 1999: 185).

**Send**

This verb occurs with a causative meaning in the caused-motion construction, as well as with a bare present participle. The second pattern is the one relevant here:

(37) [SUBJ send OBJ D.PRED\_pres.part.]

In contrast to the bring-causative, this construction construes the resulting event as completely outside of the causer’s or the causee’s control. As Table 7.3 shows with it occurs overwhelmingly with (intransitive) motion verbs. Some typical examples are shown in (38):

(38) a. Investigators were trying to determine why the plane went into a sudden and unexpected roll that SENT it plunging more than 9,000 feet into the farm field.

b. The blast damaged nearby houses and SENT debris flying 250 feet.

c. [T]he firefighters [were] killed when a collapsing roof SENT them tumbling into the inferno

d. [T]he police believe that at least two people shot into the crowd and into the air, SENDING spectators scrambling for cover...

e. A murderous turf war between biker gangs has SENT citizens scurrying for cover in Canada’s second-largest city, with parents pulling their children off the streets and tourists packing their bags for safer sightseeing destinations.
The causee is generally an event, typically a catastrophic one that does not directly involve an agent, like a mechanical failure, an explosion, the collapse of a building, although of course the event may involve agents, like the gun men in (38d) or the bikers in (38d). The causee is often inanimate, as in the first two examples, or animate but unintentional, as in (38c).

Table 7.3: Result verbs in the send-causative

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>MOTION</td>
<td>92.3% [228]</td>
</tr>
<tr>
<td>soaring</td>
<td>9.31% [23]</td>
</tr>
<tr>
<td>running</td>
<td>8.50% [21]</td>
</tr>
<tr>
<td>crashing,</td>
<td>6.48% [16]</td>
</tr>
<tr>
<td>flying</td>
<td>6.07% [15]</td>
</tr>
<tr>
<td>fleeing,</td>
<td>tumbling</td>
</tr>
<tr>
<td>scrambling,</td>
<td>scurrying</td>
</tr>
<tr>
<td>plummeting,</td>
<td>plunging</td>
</tr>
<tr>
<td>reeling,</td>
<td>spinning</td>
</tr>
<tr>
<td>sprawling</td>
<td>2.02% [5]</td>
</tr>
<tr>
<td>hurtling,</td>
<td>rushing,</td>
</tr>
<tr>
<td>cascading,</td>
<td>flooding,</td>
</tr>
<tr>
<td>careening,</td>
<td>careering,</td>
</tr>
<tr>
<td>charging,</td>
<td>collapsing,</td>
</tr>
<tr>
<td>OTHERS</td>
<td>7.7% [19]</td>
</tr>
<tr>
<td>screaming</td>
<td>2.43% [6]</td>
</tr>
<tr>
<td>searching</td>
<td>1.21% [3]</td>
</tr>
<tr>
<td>burrowing,</td>
<td>cheering,</td>
</tr>
</tbody>
</table>

If the causee is animate and intentional, the resulting event is one that is guided by instinct rather than reason, as (38d-e) show, and thus retains the out-of-control quality of the examples with inanimate causees. That the construal of the resulting event as out-of-control is not due to the lexical semantics of the result verbs in (38) is shown by the examples in (39):

(39) a. [A] February army push in the southern state of Chiapas SENT the Zapatista rebels retreating into their Lacandon jungle stronghold from villages they had occupied.

b. [S]kittish residents say they live in fear of another explosion, and can not forget the fire that SENT them running for their lives.
Here, the verbs denote activities that could theoretically be performed in a calm and planned manner (retreating, running), but the examples encode situations where instead these activities are performed in a hasty and unplanned manner. Note also the oddness of the send-causative with manner adverbials encoding calmness or orderliness: "The army push SENT the rebels calmly retreating to their jungle stronghold, "The explosion SENT them running for cover in the orderly fashion that they had practiced during fire drills. Thus, the send-causative is essentially a ‘caused out-of-control motion construction’. This construction can be extended in two ways.

First, it may be used with a metaphorical meaning of the motion verb, often in an economic context, as in (40a-c), but essentially in any kind of context where the respective motion verb can be metaphorically used to refer to fast, hasty, or sudden actions, as in (40d):

(40) a. [This is] a country that has been starved for decent communications, and where newly emerging businesses have SENT demand soaring.

b. Worried investors bailed out of the Mexican new peso and SENT it tumbling to historic lows Monday amid growing uncertainty about the future of Mexico’s troubled economy.

c. The decision immediately SENT the shaky lira crashing to a record low of 1,170 against the German mark.

d. The Orange County calamity broke in the wake of midterm elections that SENT Democrats sprawling and Republicans scrambling to grab control of the congressional reins for the first time since the Eisenhower era.

Secondly, and more interestingly, the construction can also be used with non-motion
verbs, as the examples in (41) show:

(41)  
a.  [A] skimpy black jumpsuit that emphasized Naomi Campbell’s goddess-like measurements SENT the photographers cheering.

b.  [About a sports event] The results SENT historians leafing through Henley’s record books, dating to the first race in 1839, but no one could find a similar sweep of the major events by any country.

c.  And at one point Walsh said he used a 20- or 30-pound sandbag to do about 20 repetitions of bicep curls. Simpson tried one and could not finish, Meraz said—an observation that SENT jurors scribbling notes.

d.  And the tingle of a ringing phone in a restaurant SENDS a dozen diners digging through coats and handbags to see if the call is for them.

In all these examples, the activity is construed as hasty, fervent, and somewhat out of control of the causee.

As for the issue of motivation, note that the send-causative encodes a causative situation that shares some similarities with both the TRIGGER configuration and the PROVOKE variant: the stimulus event that affects the causee and the fact that neither the causer (if present), nor the causee can control the resulting event. The latter aspect is very pronounced in the send-causative. This is due in part to the complementation pattern (the present participle reduces both participants’ control over the result, cf. Section 6.3), and in part to the semantics of send. In its spatial meaning, send describes forced motion where an entity X transfers energy to an entity Y such that Y moves away from X while X stays in place. This translates straightforwardly into what Michotte (1966) has referred to as the launching type of causation: the causer acts on the causee,
but once the latter has been set on some path of events, these are beyond the two participants’ control. This aspect of the send-causative’s semantics de-profiles the issue whether the result is a process or an activity that is theoretically under the causee’s control. The nature of the resulting event may influence the construction’s semantics in subtle ways. If the causee is inanimate or animate but unintentional (i.e. with verbs like plunge, roll, tumble, etc.), the event is more similar to the TRIGGER type. If the causee is animate and intentional (i.e. with verbs like scurry, scramble, run, etc.), the event is more similar to the PROMPT type.

7.3.3 Causation is (forced) movement of states/events

As mentioned in Section 7.3.1 above, the moving object metaphor is much less frequent than the location metaphor with analytic causatives. There are two slightly different cases: give, where the causer could be seen as moving the resulting event to the causee, and leave, where the causing event moves past the causee, who is left behind with the resulting event.

Give

There is a range of causative uses of give, some of which are dealt with in (Cattell 1984, Ch. 7). The use that is of concern here is the one represented in (42):

(42)  [[SUBJ be given to D.PRED\_BELIEVE (that) S (OBL\_by)]]
The result slot is essentially limited to the verbs *understand* and *believe*, although occasionally other verbs are found.

The following are some typical examples:

(43)  

a. Firefighter Bjorn Ralbring told the [...] newspaper that he was GIVEN to understand that everyone was safely evacuated by the time he arrived [...] He said he was surprised to stumble over bodies. (TIPSTER)

b. Simex was GIVEN to understand that Barings’ positions in Singapore were undertaken for arbitrage trading purposes which involve less risk

c. I was GIVEN to believe if you say anything or do anything, the government will put you in jail, which is total nonsense.

d. [Said by an employee who was laid off as a result of downsizing] I was GIVEN to believe I’d have a job as long as I didn’t lie, cheat or steal. (TIPSTER)

These examples show an important aspect of the *give*-causative: the content of the resulting belief is typically false. This is explicitly mentioned in (43a, c), and it is made clear by the context in the other two examples. However, this restriction is not absolute, as the following example shows:

(44)  

Gallucci refused to be drawn out on the possible implications for the negotiations of a change of leadership in Pyongyang, saying only that he had been GIVEN to understand by Kang that North Korea would not alter course

Here, the content of the resulting belief is presumably true. What is at issue, instead, is that the causee does not take responsibility for this content. The difference between the *give*-causative and the *lead*-causative is that the former encodes situations where the causer says something that is meant to make him or her believe something, and where the causee has no other evidence to go by. The *lead*-causative, on the other hand involves
some reasoning on the part of the causee. The give-causative and the passive variant of
the lead-causative thus encode very similar situations, where the difference is in the
directness with which the causer conveys the resulting belief and the degree to which the
causee plays an active role in constructing this belief.

The interpretation of the result predicate as a belief is due to the construction
rather than the specific verb that occurs in this slot. This is shown by the contrast
between "He had been MADE to understand by Kang that North Korea would not alter
course" and "He had been GIVEN to understand by Kang that North Korea would not alter
course." The first suggests that the contents of the that-clause is true; in other words the
verb understand is interpreted to mean 'come to know'. In the second example,
understand is interpreted to mean 'come to believe', so that the construction does not
construe the content of the that-clause as necessarily true. This is why it is used in
precisely those situations where the speaker or the causee have doubts about this
content. Occasional extensions to verbs other than believe or understand also show this.
Consider example (45):

(45) My instincts tell me never to trust a trailer. I have been promised comedy by a
trailer for a movie that had none. I have been GIVEN to expect original suspenseful
drama and gotten the trite and formulaic.

The verb expect usually encodes situations where a person has concluded that something
will happen on the basis of some evidence. Thus, if someone says I expect original
suspenseful drama, it will be assumed that that person has some evidence for this
expectation, and is committed to the truth of its content. In (45), this is not the case.

As for the motivation of the meaning of causative give, note that first, the fact that the give-causative is restricted to believe verbs is not at all motivated by the literal meaning of give; on the other hand, the fact that the give-causative construes the result as very much the causer’s responsibility is plausibly motivated by the literal meaning of give, where it is also the giver who is solely responsible for the giving event. However, this is also true of most other causative constructions, which do not have the restriction.

*Leave*

This verb occurs in the resultative construction with adjectival or adverbial/PP complements, as well as in the pattern in (46):

(46)  [SUBJ leave OBJ D.PRED

The meaning of (46) is close to that of a true resultative construction: it encodes a resulting event that begins after the causing event is over.\(^{10}\)

This resulting event can be a mental state or activity, as in the examples in (47):

\(^{10}\) The meaning relevant here must be distinguished from a superficially similar one that encodes a situation where someone literally leaves some entity in a particular state. Consider the following examples:

(i) The power failure left the space station drifting helplessly
(ii) The astronauts left the space station orbiting the earth when they abandoned it

Example (i) is a case of the lead-causative; note that here the space station was not drifting before the power failure. In contrast, example (ii) is a case of literal abandonment; note that here, the space station is assumed to have already been orbiting the earth. The latter type of example always has an animate causer, while the lead-causative typically has an event as a causer.
(47)  a. *Angels in the Outfield* wants very badly to be a feel-good picture, but mostly it leaves you wondering by what cosmic rationale the angels decide to assist one team while trashing the competition.

b. For [some people], wandering through a famous art gallery or museum leaves them marveling at their own insignificance and looking inward for meaning to life.

c. The accident [...] in which a bad driver took someone’s life [...] left a woman mourning both her husband and son.

These examples also demonstrate the semantic properties just mentioned: the *leave*-causative encodes a situation that we might characterize as ‘aftermath causation’, since the causee performs the result after the causing event is completed. The situation described in (47a-b) suggest that the causee experiences the causing event, and afterwards, as they think about the experience, they start performing the resulting event. Likewise, in (47c) the suggestion is that the mourning begins as the realization sets in that the causee’s husband and son are dead. Thus, the *leave*-causative is odd in situations where the causation is instant: while it sounds perfectly normal, for example, to say *The movie made me wonder about the angels’ motives right from the start*, it sounds odd to say *The movie left me wondering about the angels’ motives right from the start*. The latter is conceivable in a situation where the causee/speaker stops paying attention to the movie after a few minutes to follow his or her own train of thoughts, which only supports the analysis proposed, since in such a situation the causing event would be over the minute the causee stops paying attention to it.

The *leave*-causative also occurs with activity results, as the following examples
show:

(48)  

a. [About the TV show EMERGENCY ROOM] The rapid-fire introductory 10 minutes of the pilot will LEAVE you begging for a commercial break.

b. [About the Apollo 13 mission] [T]he spacecraft carrying three astronauts was crippled by an oxygen-tank explosion that LEFT the men on board desperately trying to return to Earth.

c. The 1994 Atlantic hurricane season ended Wednesday and was a relatively mild one, but LEFT weathermen lamenting their ability to forecast capricious storm movement.

These examples also support the analysis proposed, in that they also encode situations where the result occurs after the causing event is over. This is made explicit in (48a) by the mention of a particular length of time, and in (48c) by the mention that the causing event has ended. The examples and the lists in Table 7.4 also show that, although the results are activities, they are not fully under the respective causees' control (most clearly shown in [48b] by the adverb desperately).
Table 7.4: Result verbs of the leave-causative (NAN)

<table>
<thead>
<tr>
<th>Activity (30.13% [72])</th>
</tr>
</thead>
<tbody>
<tr>
<td>scramble, struggle (3.35% [8]), search (2.09% [5]), try (4), cheer, grasp, lament, scratch, serve (2), ask oneself, beg for, change, clamor, cling, complain, curse, demand, do, dote, drag, express horror, fight, flop about, go home, grope for answers, look at, look for, murmur, mutter, pick, play, quest, question, root, say, seek, stumble, threaten, tremble, use walker, voice, vow, wait, wander, want, wave</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>States (24.27% [58])</th>
</tr>
</thead>
<tbody>
<tr>
<td>hold the bag (4.18% [10]), face (3.77% [9]), hang (2.09% [5]), have to, hold, dangle, need, sit (1.26% [3]), lie, spin, trail (2), drift, live, founder, miss, occupy, reel, run behind, sink, smart, stand, twist</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mental (21.34% [51])</th>
</tr>
</thead>
<tbody>
<tr>
<td>wonder (15.09% [36]), think (1.26% [3]), guess, ponder (2), believe, doubt, expect, fantasize, marvel, muse, question, speculate</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Involuntary (11.30% [27])</th>
</tr>
</thead>
<tbody>
<tr>
<td>shake head (3.77% [9]), gasp (1.67% [4]), fume (2), blush, break down, buzz, chuckle, frown, howl, roar with laughter, salivate, slobber, smile, sweat, wilt</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Emotion (8.79% [21])</th>
</tr>
</thead>
<tbody>
<tr>
<td>feel (4.18% [10]), wish (1.26% [3]), want more, worry (2), envy, fear, grieve, mourn</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Appearance (4.18% [10])</th>
</tr>
</thead>
<tbody>
<tr>
<td>look (3.77% [9]), resemble</td>
</tr>
</tbody>
</table>

As a final observation, note that the causer is often a catastrophic event, as in (47c), (48a-b), as well as in the following examples:

(49) a. Kirk's case of shingles LEFT him using a walker.

b. Popular support for the Middle East peace process is slumping in Israel, and small wonder. A peace that LEAVES Israelis picking small bits of their children, friends and neighbors out of the brickwork does not recommend itself to enthusiasm.

c. He relates one particularly terrifying moment when his wheelchair was sideswiped by a bus at an intersection, LEAVING him flopping helplessly about in a New York City street.

d. [D]eath-penalty opponents and a Vatican theologian were LEFT expressing horror that an innocent man had just been killed.

This is not an absolute restriction, but a third of the examples in the corpus have such a causer. The affinity of the leave-causative to such situations is motivated by its general
semantic properties: it is a consequence of the reduced control of the causee in combination with the fact that the causing event is already over at the time of the resulting event and thus the causee has no opportunity to influence the causing event in any way.

The motivation of the semantics of causative *leave* by the semantics of spatial *leave* and the general event structure metaphor is fairly transparent: spatial *leave* encodes a situation where a person X moves away from an entity or location Y. This corresponds to the fact that with causative *leave* the causing event is completely over by the time of the resulting event. In accordance with the conceptualization of events as moving objects, the causing event is seen as moving through the area in which the causee is located, leaving the latter behind in a particular state (i.e. in the act of performing the result).
8 A new look at causative alternations

As mentioned in the Introduction, much of the work on causatives has been concerned with the derivation of transitive sentences encoding a causation event—such as *Floyd broke the glass* or *Peter killed Harry*—from intransitive sentences encoding a process encoded by the same or a semantically related verb—such as *The glass broke* or *Harry died*; much of this work has also to some extent dealt with the difference in meaning between transitive sentences with a causative meaning (which I will refer to as synthetic causative constructions\(^1\)) and analytic causative constructions of the type discussed in the previous chapters (early discussions of these issues can be found in McCawley 1968, 1978, Lakoff 1970, Fodor 1970, Katz 1970, Wierzbicka 1975.; the points made in this work have since been reiterated or elaborated upon countless times, for some examples see Cruse 1972, Liner 1974, Kovaleva 1979, Davis 1981). I will be concerned here almost exclusively with those cases where the same verb is used both intransitively and transitively (like \(\text{break}_\text{it} \sim \text{break}_\text{tr}\)), which I will refer to as ‘causative alternations’ (cf. e.g. Levin [1993]). However, the analysis proposed would easily accommodate cases of semantically related verbs (like \(\text{die} \sim \text{kill}\)).

---

\(^1\) Since Modern English does not have overt morphology marking the causativized variant of a verb, this term is perhaps not optimal. A better term might be ‘transitive causative construction’, but this can potentially be confused with ‘causatives of transitives’, and thus is not optimal either.
Recall from Chapter 2, Section 2.3.5, that synthetic and analytic causative constructions are in competition only in a limited area of English grammar: both may be used to causativize one-participant verbs encoding change-of-state, as in (1a-c) or motion, as in (2a-c) (cf. Levin [1993: 27ff.] for more precise characterizations of these classes and for lists of verbs instantiating them):

(1)  (a) The glass broke ~ (b) Floyd broke the glass ~ (c) Floyd caused the glass to break

(2)  (a) The glass rolled off the table ~ (b) Floyd rolled the glass off the table ~ (c) Floyd caused the glass to roll off the table

In contrast, only analytic causative constructions can be used to causativize multi-participant verbs (like kill, give) and other verbs occurring in multi-argument constructions (like the transitive construction, the middle construction, etc., cf. chapter 3, section 3.4, esp. example [3.35]).

My basic argument will be that in those cases where the synthetic causatives and analytic causatives are in competition, the former are simply instances of the transitive construction (in the case of change-of-state verbs) or the caused-motion construction (in the case of motion verbs), while the latter are, of course, instances of one of the analytic causative constructions discussed in the preceding chapters. Thus, any semantic differences between synthetic and analytic causatives can be explained in terms of the differences in the semantics of these constructions. In keeping with the methodological premises of this work, I will be concerned almost exclusively with those semantic
differences between synthetic and analytic causatives that can be found in actual usage, although the analysis proposed also accounts for other differences that have been observed in the previous literature, and this will be pointed out in the appropriate places.

8.1 CAUSATIVE ALTERNATIONS

It is generally agreed that that synthetic causatives encode direct causation, whereas analytic causatives encode indirect causation (Fodor 1970, Wierzbicka 1975, cf. Comrie 1989, Ch. 8, Payne 1997: 182 for summaries of the typological literature), or more precisely, have the potential to do so (cf. McCawley 1978: 249ff., Jackendoff 1990: 150).

A direct causation event is one where causer and causee are in the same place (cf. Wierzbicka 1975: 494ff., Comrie 1989, Ch. 8, Payne 1997: 181ff.); some authors have even stricter definitions, such as physical contact between them (Wierzbicka 1975: 495ff., Comrie 1989, Ch. 8, Payne 1997: 181ff.), or careful manipulation on the part of the causer (Dixon 1991: 54); direct causation also requires temporal contiguity between causing event and resulting event (Fodor 1970: 433ff., Wierzbicka 1975: 497ff.), and finally, direct causation is characterized by a causing event that brings about the resulting event naturally and without being impeded (Dixon 1991: 295).

Indirect causation is essentially defined as the opposite of direct causation, i.e. as a situation where causer and causee are spatially and/or temporally removed from one another (Fodor 1970: 433ff., Comrie 1989, Ch. 8, Payne 1997: 181ff.), or where the
causer has to overcome some difficulty in order to bring about the result (Dixon 1991: 294).

It has also been noted that synthetic causatives require animate subjects (Chomsky 1970), or, more precisely, occur with an inanimate subjects only in sentences with a specific stylistic effect (Wierzbicka 1975: 492). Analytic causatives, in contrast, seem to have no restrictions on the type of subject they take.

These observations have been used to argue for or against various linguistic constructs and models, not all of which are relevant outside of the particular theoretical debate which they were a part of. However, some explanations of more general validity have emerged.

To begin with, there are some generalizations about the differences between synthetic and analytic expressions in general, that also apply to the issue at hand. The former are typically to some degree lexicalized and thus behave like lexical items, whereas the latter express their semantics periphrastically and are thus more syntactic in their behavior. For causative constructions this means that the synthetic alternative (i.e. the transitive use of a primarily intransitive verb) may have conventionalized semantics associated with it that go beyond what might be predictable on the basis of the meaning of the corresponding intransitive verb and a general notion of causation (cf. e.g. Jackendoff 1990: 151). This is presumably especially important in the case of suppletive pairs like (kill ~ cause to die), but it is also true of many non-suppletive pairs. For example, intransitive walk is a motion verb that is primarily applied to bi-pedal motion,
and thus to humans (as in *She walked), although animals can be said to walk too. In contrast, transitive walk is restricted to animals (as in *She walked the dog, but not *She walked her friend; cf. also Jackendoff’s [1990: 151] examples smoke and jump).

Also, as McCawley (1978) has noted, if there is partial synonymy between a lexical item and an analytic construction, the lexical alternative tends to be used for more central (‘prototypical’) cases. Again, this phenomenon is especially clear in the case of suppletive pairs, but since, as McCawley notes (1978: 250), it is based on general pragmatic principles (i.e., conversational implicature), it may presumably play a role for non-suppletive pairs too.

Both these explanations will be touched on again in the remainder of this chapter, but more relevant to the following discussion is a second set of explanations that focus more on the structural differences between a synthetic and an analytic causative. First, the former is clearly monoclausal, and any adverbials of space or time can only modify the clause as a whole. The latter, on the other hand, is bi-clausal, and thus the two clauses can be independently modified (cf. e.g. Jackendoff 1990: 151). This is important in accounting for the temporal and spatial contiguity restrictions. Second, causer and causee have different grammatical relations and hence different semantic roles with respect to the causing and/or resulting event in synthetic vs. analytic causatives (Dixon 1991: 294-5).

2 Although of course walk can have a human object in the caused-motion construction, as in *She walked her friend to the door, cf. Section 8.3).
3 A related (or rather, orthogonal) observation comes from Haiman (1985: 108ff.), who claims that the direct/indirect distinction is due to iconic principles: the causer is formally closer to the result in the transitive than in the analytic causative.
I will focus here on the last explanation for two reasons: first, as will become clear, it is the one most relevant to the natural data if properly framed; second, the other explanations actually fall out from it.

8.2 Caused Change-of-State

Within the literature on intransitive–transitive–causative alternations, change-of-state verbs have received most attention, and thus any account of analytic causatives would thus be incomplete without discussing them. However, they occur almost exclusively with the cause-causative, which was shown in Chapter 5, Section 5.4 to be somewhat untypical of analytic causatives in general. Thus, while the following discussion does point out some general differences between transitivized and causativized change-of-state verbs, it should be kept in mind that these differences do not necessarily generalize to all analytic causative constructions. Matters are different with motion verbs, which are discussed in Section 8.3.

8.2.1 A constructional account of change-of-state verbs

Change-of-state verbs alternate between an intransitive use and a transitive use, as shown in (3):

(3) a. This winter’s snow MELTED early and rains pelted down in unseasonably large volumes.

4 Unless otherwise indicated, all examples in this chapter are from NAN.
b. The sun came out for a while and MELTED the snow.

Assuming that in their basic meaning verbs like melt have a single participant, namely an entity undergoing a change-of-state, their occurrence in the intransitive construction can be straightforwardly represented as follows:

(4) Intransitive use of melt

```
Sem   CHANGE < patient >
R: instance melt < meltee >
Syn   V SUBJ
```

The construction calls for a patient argument, of which a change is predicated. The meltee participant of melt is naturally fused with this argument, while the verb melt itself encodes an instance of change.

The occurrence of melt in the transitive construction, on the other hand, can be represented as shown in (5):

---

5 I am not assuming that every instance of the syntactic pattern [SUBJ V] is an instance of the construction shown in (4), i.e. that all intransitive sentences express a change of state. There is at least one other type, one that has only an agent. English does not distinguish these two constructions in their basic morphosyntactic form (as some split intransitive languages, such as Lakhota, do), but of course, English shows reflexes of the distinction between these two types of intransitive verbs/constructions (cf. the literature on unaccusativity and unergativity, e.g. Levin and Rappaport Hovav 1995). Even for those intransitives with only a patient, however, it is clear that not all of them encode change. A more accurate analysis of this type of intransitive could be framed in terms of Dowty’s (1991) ‘proto-patient’, i.e. as a prototypical category. However, since we are dealing exclusively with change-of-state verbs here, the representation in (4) will do.
(5) **Transitive use of melt**

<table>
<thead>
<tr>
<th>Sem</th>
<th>ACT.ON</th>
<th>agent</th>
<th>patient</th>
</tr>
</thead>
<tbody>
<tr>
<td>R: result</td>
<td>melt</td>
<td></td>
<td>meltee</td>
</tr>
<tr>
<td>Syn</td>
<td>V</td>
<td>SUBJ</td>
<td>OBJ</td>
</tr>
</tbody>
</table>

Here, the construction calls for an agent argument and a patient argument, and predicates of the former that it acts on the latter. The meltee participant of *melt* is again naturally fused with the patient argument. Since *melt* does not lexically profile any other participant, the construction itself contributes the agent argument. The change of state encoded by *melt* is interpreted as a *result* of the agent’s acting on the patient/meltee.

Note that the construction in (5) is only one of several argument structure constructions in English that has the syntactic form [SUBJ V OBJ], namely the one that is ‘transitive’ in the semantic use of the term (cf. Rice 1987: 423, Taylor 1989: 206f, cf. also Lakoff 1977, Hopper and Thompson 1980, Langacker 1991a: 285f.). Drawing on the work just cited, and on other work dealing with the semantics of agents and patients (e.g. Dowty 1991, Wierzbicka 1975), this construction can be characterized as follows (using the format introduced in chapter 4):

(6) **TYPICAL EVENT ENCODED BY THE TRANSITIVE CONSTRUCTION**

Form: [SUBJ V OBJ]

a. There are two participants, X and Y
b. X and Y are in the same location in space and time
c. X and Y are individuated entities (different from each other and different from the setting of the event)
d. X has a higher capacity than Y (i.e. a higher potential for releasing energy, cf. section)
e. X consciously and volitionally instigates an interaction between X and Y
f. This interaction is unidirectional, and involves X moving toward Y
g. At the endpoint of this interaction there is (punctual) physical contact between X and Y
h. This contact changes the state of Y

(7) SEMANTIC ROLES OF THE TRANSITIVE EVENT

X: agent
Y: patient
r(X,Y): ACT.ON

There is a variety of relations that may hold between the meaning of a verb occurring in
the transitive construction and the semantics of the transitive construction itself;
‘instance,’ as in kill, cut, twist; ‘means,’ as in paint, towel, poke, or, relevant for the
present discussion, ‘result,’ as in break, grow, open; etc.\(^6\)

Note that the analysis in (5) accounts for the fact that transitive uses of change-
of-state verbs encode a very unspecific causation event type. A sentence like "Diane
melted the ice" could encode any acting on the ice on the part of Diane that results in the
ice’s melting. In this, synthetic causatives in English are similar to morphological
causatives in many other languages. The analysis also naturally accommodates

\(^6\) Other verbs that occur in the syntactic frame [SUBJ V OBJ] bear no relation to the semantics ‘ACT-ON,’
for example, experiencer verbs (see, love, admire), verbs of possession (have, own, hold), and a number
of other well-known problematic cases (resemble, circle, etc.). These have sometimes been analyzed as non-
prototypical instances of the kind of construction posited in (5) (cf. e.g. Rice 1987, Taylor 1989).
However, while a small number of individual lexical exceptions to the semantics of a construction like (5)
would not be problematic (cf. Goldberg 1995: 117), the existence of whole classes of verbs (experience,
possession), each of which is characterized by its own set of argument roles, is better analyzed as evidence
for several different argument structure constructions with the form [SUBJ V OBJ]: the one that I am
referring to is the transitive construction, which could more precisely be labeled AGENT-PATIENT
construction, an EXPERIENCER-STIMULUS construction, a POSSESSOR-Possessee construction, etc.
(cf. Pinker 1989 for arguments in the same direction), since it is unclear why an experiencer or a possessor
should be described as a non-prototypical agent.
intransitive–transitive alternations where the transitive variant has a more specialized meaning than the intransitive variant. For example, grow in its intransitive use can take any kind of organism or expanding structure as an argument (humans, animals, plants, hair, beards, stalagmites, etc.), but in its transitive use can not generally take humans or animals as a patient argument. Here, the transitive use has simply lexicalized and acquired additional lexical semantic constraints, but the relationship of the verb’s semantics to the transitive construction’s semantics is exactly the same as that for fully transparent alternating verbs like melt, namely ‘result.’

Now consider the following typical example of melt in an analytic causative:

(8) The reduced high atmospheric pressure intensity in Siberia, Mongolia and Northern China has allowed more warmer European and Atlantic air to enter Siberia, CAUSING snow to melt sooner ...

This example clearly shows the greater indirectness of the analytic causative as compared to the synthetic causative (see further below). This type of use was argued to be best represented as follows (cf. Chapter 3, Section 3.4):
Recall the claim from Ch. 6, Section 4, that analytic causatives do not add an argument to their result verb, but to the construction in which the result verb appears (in this case, the intransitive. The single participant of *melt* is aligned with the most patient-like role of the TRIGGER configuration which is linked to the caus-ee argument of *cause*, and the change-of-state encoded by *melt* itself is aligned with the result-process role of TRIGGER and the caus-ed argument of *cause*.

The difference between the analytic and the synthetic causative can thus be stated as follows: in the transitive construction, the referent of the subject-NP is a direct argument of the causativized verb, i.e. the transitive construction adds a (proto-)agent to the verb. As Chafe (1970: 129) puts it, the process denoted by the verb in question becomes an action in addition to being a process when the verb appears in the transitive construction. This is not the case when the same verb appears in an analytic causative construction. Here, the process remains just a process, since the referent of the subject-NP does not become a direct argument of the result verb. This means that in the synthetic
causative it is the transitive construction that determines the role of the subject, which must thus always be an agent-like participant. In contrast, in the analytic causative it is the causation verb that determines the roles of the subject, which can thus be a stimulus, an instigator, etc. (depending on the role configurations with which the causation verb is compatible).

In other words, the relationship of the causer to the process denoted by the result verb is handled on different levels in the two constructions. In the transitive construction, the process (e.g. melt) is construed as a result of the ACT-ON event encoded by the construction, and the lexically profiled participant (e.g. the meltee) is fused with the patient slot of the construction. The construction adds the second argument; since this argument requires an agentive participant, it is naturally identified with the immediate, high capacity causes that we know to exist for the process denoted by the verb (cf. next section). In the causative construction, in contrast, the process (e.g. melt) is fused with the result-process slot of the TRIGGER configuration (or whichever other role configuration is given), and the single participant (e.g. the meltee) is aligned with the causer; however, the stimulus slot is already fused with the first participant of the causation verb (in this case, the caus-er of cause), and thus does not need to be identified with a potential participant in the semantics of melt. This is precisely why analytic causatives can be applied to verbs of any syntactic-semantic type, e.g. unergative, unaccusative, transitive, ditransitive, as well as to constructions, e.g. conative, caused-motion, etc. (cf. Chapter 3, Section 3.4).
8.2.2 The synthetic vs. the analytic causative for change-of-state verbs

Before a fruitful discussion of some relevant data can be attempted, it is necessary to be still more precise the formulation of our analysis. In the foregoing discussion I have assumed that *melt* only has one participant role, namely a *meltee*. This is, of course, somewhat of an oversimplification. It would be more precise to say that *melt* only has one participant in its semantic frame that is lexically profiled (in the sense of Goldberg [1995: 44ff.]), i.e. that is obligatorily expressed irrespective of context. A typical transitive verb like *kick*, in contrast, has two lexically profiled participants, a *kicker* and a *kickee*. Goldberg offers the following frame as a heuristic for determining the lexically profiled participants of a verb (1995: 43f):

(10) No _____ing occurred.

Those participants that are implicitly understood to be present in the event encoded by a verb in this frame are those that are lexically profiled. For example, the sentence *No kicking occurred* evokes a two-participant interpretation, while the sentence *No sneezing occurred* evokes a one-participant interpretation (ibid.). This is a useful heuristic, but it does not always lead to unambiguous results. The kind of change-of-state verbs discussed in this chapter clearly all evoke at least one participant: the entity undergoing the change, and for all of them this is clearly the only lexically profiled
participant, since all of these verbs have straightforward intransitive uses.\textsuperscript{7} However, they also evoke to different degrees a second participant, namely the immediate cause of the change. For example, a verb like grow does not evoke such an immediate cause at all (or rather, it only does so in the specialized sense discussed above): No growing occurred receives a straightforward one-participant interpretation. This is because growing is a change that is internally-driven by the entity undergoing it. A verb like break on the other hand evokes an immediate cause fairly strongly: No breaking occurred can in principle be given a one-participant interpretation, since things can break without an apparent external cause (for example due to fatigue), but more typically it would be interpreted as involving two participants. Thus, while lexical profile is a matter of all or none, the degree of salience of other participants, such as an immediate cause in the case of change-of-state verbs is a matter of degree.

These potential immediate causes evoked by a verb might interact with the transitive construction and the analytic causative construction in different ways. Take the example of melt again: we know that melting occurs under a certain environmental condition, namely under the influence of heat. We also know that this environmental condition has an external cause, namely some source of heat. Thus, there is a potential immediate cause in the semantics of melt, which is not, however, lexically profiled. In an

\textsuperscript{7} In other words, all of them can be used intransitively without forcing a middle voice interpretation. Note that the fact that a verb can be used intransitively is not enough to claim that it only has one lexically profiled participant, since the middle construction serves to cut a lexically profiled argument (cf. Goldberg 1995: 57f., for a detailed discussion of middle semantics cf. Kemmer 1993), and thus a number of two-participant verbs can actually occur intransitively.
analytic causative, this potential immediate cause may be aligned with the causer slot of
the respective role configuration, but it does not have to be syntactically realized at all,
since the causer does not become a direct argument of the result verb. If the potential
immediate cause is aligned with the causer slot, the analytic causatives expresses direct
causation ("The sun caused the snow to melt"), if not, as in example (8) above, it expresses
indirect causation. In the case of the transitive construction, in contrast, the potential
immediate cause must be aligned with the agent slot of the transitive role configuration
(as in [3b] above), since there is no other participant in the verb’s lexical semantics
available for this slot. This is why analytic causatives can encode either direct or indirect
causation, while synthetic causative can encode direct causation only.

A second difference between the two construction types is that since the
transitive construction specifies the role of agent for the subject slot, the potential
immediate cause must be agent-like in order for the verb to occur felicitously in the
transitive construction (or, more precisely, the verb will occur felicitously in the
transitive construction to the degree that its potential immediate cause is construable as
agent-like). Analytic causatives, on the other hand, place no such constraint on the
potential immediate cause, since (i) the causer slot is compatible with a variety of types
of causes, and (ii) the immediate cause may remain unelaborated.

I will now look at the semantic conditions under which the synthetic and the
analytic causative are used with change-of-state verbs, and show, that the semantic
differences between them fall out from the analysis sketched out above. In light of the
different degrees to which such verbs evoke a second participant in addition to the
lexically profiled participant undergoing the change of state, I will discuss three verbs
which intuitively seem to differ with respect to this parameter: *break*, which seems to
evoke such a participant relatively strongly, *melt*, which hardly seems to evoke such a
participant at all, and *burn*, which seems to fall in between these two. For each of these
verbs, a sample of fifty literal uses from the NAN is the basis of the analysis; since
analytic causatives are extremely infrequent, the causative examples were drawn from the
entire corpus.

**Burn**

The intransitive use of *burn* can take as its argument either the entity that is
consumed by a heat source (as in [11a-c]), or the heat source itself (as in [11d])

(11)  
a. Mathews BURNED to death after a 34-hour standoff with FBI agents. *The
agents accidentally ignited the house...*  
b. Nearly two months later, *in a federal attack*, the compound BURNED to the
ground, killing 85 men, women and children.  
c. [There is] an unusually high growth of vegetation in many areas that have not
BURNED recently, increasing the risk of brushfires later this year.  
d. Thursday’s early-morning pipeline explosion ignited a fire that BURNED for
more than two hours.

---

8 Following a terminological suggestion of Quirk et al. (1991, 10.29, note b), I will refer to this case as a
‘cognate subject’, i.e. as a subject whose "meaning ... is presupposed by the verb". Quirk et al. give the
examples *The frost froze hard, Day dawned, and The wind is blowing*. Quirk et al. say of cognate objects
(like *sing A SONG* or *fight A CLEAN FIGHT*) that they cannot “be considered a participant”, and that their
“function is to repeat, wholly or partially, the meaning of the verb”, and I will assume, as Quirk et al.
seem to suggest, that this is also true of cognate subjects.
While both of these types can be causativized (*She CAUSED the vegetation to burn and *She CAUSED the fire to burn), only the first type can be transitivized (She BURNED the vegetation, but not *She BURNED the fire). If the causee is an entity consumed by heat, there is often an implicit agent involved (which may be explicitly referred to in the immediate co-text, as in the italicized portions of [11a, b]), but there does not have to be such an implicit agent (as in [11c]). In all the cases in the sample where such an implicit agent is present, it is an unintentional agent, i.e. a participant who is performing some activity that may itself be intentional, but who does not intend to bring about the result by doing so.

In those cases where no implicit agent is present, there is of course still a recoverable immediate cause, namely some heat source, which is an obligatory part of the conceptualization of any burning event. However, (11c) does not imply that this heat source was intentionally applied to the burnee by an agent. Finally, note that (11c, d) show that intransitive burn encodes a potentially unbounded process, which may be construed as bounded by a resultative adverbial like to death or to the ground, as in (11a, b).

The transitive uses of burn have very different semantic properties. First, the clear majority (84.6%) of transitive uses in the sample involve intentionally acting human agents, as in the following examples:

(12) a. Russian forces bombed, shelled or BURNED at least three southeastern Chechen villages last week.
b. When Saigon fell, my mother told me to BURN all documents showing that I was an officer.

c. Food and weapons have been rationed, and shivering recruits have BURNED oil siphoned from their armored vehicles to stay warm.

d. [About Waco] Eighty-six women, children and men were killed. Some were shot to death; the rest were gassed and BURNED alive.

Clearly, the meaning of burn\(_{v}\) in these examples is more specific than ‘cause to burn’: with inanimate burnees it is something like ‘destroy by burning’, as in (12a) (sometimes with the sole intention of getting rid of the burnee, as in [12b]), or ‘use for fuel’, as in (12c); with animate burnees the meaning is ‘hurt/kill by burning’, as in (12d).

The few examples with inanimate causees in the sample fall into two types: one that is similar to the type just discussed except that the burner is an inanimate source of heat, as in (13a), and one where the burner is a machine of some sort that consumes the burnee as fuel, as in (13b)\(^9\):

(13) a. A toaster should not be able to BURN toast.

b. The ship ... was so heavy that it BURNED fuel oil in drastic amounts to maintain fleet speed of 26 knots.

\(^9\) This use is a case of a lexicalized transitive use of an intransitive verb: the use of burn to mean ‘consume by burning’ is more specific than anything that would be predictable from the meaning of intransitive burn and the process of transitivization or causativization. Note that this use of burn does not actually have an intransitive counterpart: \(^9\)Fuel oil burned in drastic amounts cannot refer to the same event as (13b). However, this use does have a middle use, as will be discussed below.
Examples like (13a) always involve the construal of the heat source as agentive, i.e. as having a high degree of capacity: the point of (13a) is precisely this high degree of capacity, namely the ability to burn toast.

Thus, transitive uses of burn are very close to the typical transitive event. Apart from the properties just outlined, the examples in the sample also share most of the other properties of the characterization in (6), such as the spatio-temporal contiguity of agent and patient and the direct contact between them. Note that none of these properties are present for the implied agents in the intransitive uses.

Finally, note that the transitive examples, unlike the intransitive ones, do not encode potentially unbounded processes, but bounded processes with a specific end-state. I have pointed out that \( X \) burns \( Y \) often does not simply mean ‘\( X \) causes \( Y \) to burn’ but rather something like ‘\( X \) destroys/kills \( Y \) by causing \( Y \) to burn.’ This notion of destroying or killing is derived from the transitive construction, which encodes telic and bounded events, and thus may interact with the meaning of burn to yield the meaning ‘burn completely’; thus a still more precise way of paraphrasing \( X \) burns \( Y \) is ‘\( X \) destroys/kills \( Y \) by causing \( Y \) to burn up completely’.

Turning now to the causative uses, it is clear that they differ sharply in meaning from the transitive ones. To begin with, there are two types that do not have a transitive counterpart at all. First, consider the following examples:

(14) a. [About a new method for regulating airflow] The increased efficiency MAKES the fuel burn more completely at all speeds, improving mileage.
b. Officials said other additives could be used to MAKE the gasoline burn cleaner to improve air quality...

These are examples of causativized uses of burn that already have middle semantics: the transitive counterpart of examples like (14a, b), *Fuel burns cleaner/more completely than it used to, can be paraphrased as Engines (can) burn this fuel cleaner/more completely than they used to, because of some new property of the fuel. Thus, there are no transitive counterpart to (14a, b), as the following examples show:

(15) a. *The increased efficiency BURNS the fuel more completely at all speeds, improving mileage.

b. ??Officials said other additives could be used to BURN the gasoline cleaner to improve air quality...

To the extent that these are acceptable at all, they have a very different meaning to (14a, b). Example (15b) refers to a specific instance of burning rather than to generic qualities of the burnee, and it evokes an event where the fuel is simply burned to get rid of it, rather than being consumed by an engine.

The second type of causativized burn that does not have a transitive counterpart is the one where the burnee is the heat source itself (as in [11d] above):

(16) Dry debris on forest floors will CAUSE fires to burn eight times as hot and three times as large as usual.

Both types of examples show that analytic causatives are less restrictive with respect to which aspect of the event is encoded in the subject slot than transitives. The
latter can only pick out agents, which are essentially unavailable with middles and with cognate subjects. Analytic causatives, on the other hand, can pick out any kind of immediate or non-immediate cause.

The NAN corpus only contains three examples of analytic causatives with burn that potentially have transitive counterparts, i.e. that have the entity that is being consumed as the burnee participant, and that do not have middle semantics. One of these has an animate causer, and will be discussed below, the other two do not involve animate agents. The TIPSTER yields two additional examples:

(17) a. Without the fuse, a power surge from a defective generator can cause the wires to burn and possibly ignite a larger fire under the hood. (TIPSTER)

b. [F]looding had swamped municipal pumping stations, CAUSING generators to burn out.

c. The quake tore down power lines and caused fuses to burn out. (TIPSTER)

d. The rear section of the aircraft came to rest on part of the house and CAUSED it to burn.

The events encoded in these examples are far removed from the typical transitive event in several respects: first, none of them involve animate agents, but instead they typically have events as causers. To the extent that we can speak of these events as participants at all, it is clear that these participants are not highly individuated, i.e. they are not distinct from the setting but part of it; hence the two participants (causer and causee) are not clearly distinct from each other, since the causer is an event involving the causee. Second, the causee has a certain responsibility for the resulting event, at least in (17b, c), since the
nature of the causee is crucially involved in bringing about the result. The only example that is fairly transitive semantically is (17d). Here, causer and causee are highly individuated, and the causer (i.e. the rear section of the aircraft), though inanimate, has a high degree of capacity. However, it does not have the capacity to set fire to an entity, since it is not a heat source. Clearly, the house in this example caught fire because the section of the plane that crashed into it destroyed it to some degree, so that the house’s own wiring short-circuited, or something along these lines. Note that the transitive version of (17d), "The rear section of the aircraft came to rest on part of the house and burned it" suggests that the plane itself was on fire (i.e. that it actually was a heat source). Another reason for using an analytic causative instead of a transitive construction here is that the event of burning is unbounded, like in the intransitive uses above, while a transitive example would imply a bounded process. Example (17d) does not entail that the house burned up completely, whereas the transitive version would mean precisely that. Thus, the analytic causative differs from the transitive construction in the same way as the intransitive construction in that it encodes potentially unbounded processes. This difference is presumably the motivation for the sole example involving an animate agent:

(18) Iziddin al-Qassam’s answer will be to make Gaza burn.

The transitive counterpart to this example, "His answer will be to burn Gaza", suggests that the burner causes the burnee to burn completely; it also suggests that the burner does
so single-handedly, thus another important motivation for the analytic causative here is that the causer does not have the capacity to bring about the resulting event directly.

**Break**

The vast majority (94.1%) of the intransitive uses of *break* in the sample do not imply any kind of agent, as in (19a-c), although they all involve easily recoverable causes, often made explicit in the immediate co-text (the italicized portions of the examples). The only example that does imply an agent is shown in (19d), which has an unintentional agent (i.e. one that does not intend to bring about the result):

(19)  

a. [The plane] slashed through a wooded area, struck a small block structure, then BROKE into pieces *when it hit two large oak trees*.

b. His eardrums BROKE *while surfacing in a 100-foot-deep tank* in which Navy personnel practiced submarine escape maneuver

c. Some parachutes failed to open. A few pallets BROKE *on impact*, spilling wheat flour onto the muddy terrain.

d. I had a regular stool and it always BROKE *when my dad slammed it into the door*.

Thus, intransitive *break* follows the pattern already observed for *burn*. It encodes a process that occurs as the inevitable result of some event which is not brought about intentionally by a human agent.

Transitive *break* again differs from intransitive *break* in the ways expected on the basis of the typical transitive event. Most importantly, almost two thirds (60.6%) of the
cases in the sample involve intentionally acting human agents, as in the following examples:

(20) a. Thieves simply snip a portion of the vehicle’s steering wheel and remove the Club; or they drill and BREAK the Club’s protruding central lock mechanism...

b. Frustrated people charged into the street, BROKE bottles and threw rocks, with no particular target.

These examples also have the other properties of the typical transitive event (asymmetrical distribution of intrinsic capacity, direct contact, spatio-temporal contiguity). The few examples with unintentional human agents share those properties, as example (21) shows (such examples make up 15.2%):

(21) Workmen accidentally BROKE the wall of Charles’ tomb at the family vault at Windsor Castle in 1813.

This is also true of the remaining examples (24.2%) with inanimate subjects. These are of two types: examples where the subject has some property that makes it directly responsible for the event, as in (22a), or those like (22b), which strongly evoke an intentional agent (in this case, the persons throwing the rocks):

(22) a. Over the centuries because their branches twist so much they BROKE blades when sawed.

b. Stronger things than curses were flung at Cedras as he left the 25-minute ceremony -- rocks BROKE his car window, resulting in at least two bursts of warning shots.
Note that there is some overlap between the situation types encoded by transitive and intransitive break respectively: Example (21) and example (19d) encode very similar events, and each of them could be naturally paraphrased with the other's syntax: "My dad accidentally broke my stool or "The wall of Charles' tomb broke when workmen were working on it in 1813. Such overlap is not problematic for the analysis presented here: such events fall somewhere between the typical transitive event and the typical intransitive change-of-state event; they have agents, but those agents do not act with the intention to bring about the result. Thus they may be encoded by the transitive construction, but they are also compatible with the semantics of the intransitive construction.

The causative uses of burn again follow the pattern of the intransitive uses. Fewer than a third of them have a human agent at all, and even in those cases the agent is acting unintentionally:

(23) a. Attempting to bend a cold shingle will usually cause it to break. It is best to wait for a warm day, when the heat of the sun makes the shingles pliable.
   b. Juste claims the guards forcibly yanked the cassette out of his video camera causing the device to break.

The fact that causative uses are closer to intransitive uses with respect to the type of event they encode was already observed with burn; note that it provides additional evidence for the analysis presented in Section 8.2: the transitive construction adds an argument to the verb and thus changes its meaning in accordance with the semantics of
the transitive construction; the causative construction does not add an argument to the verb but simply picks out some prior event on the causal chain leading up to the event described by the verb.

In addition, note that the causees of the analytic causatives again have a heightened responsibility for the resulting event because the causing event itself does not inevitably lead to the result, but instead it is some property of the causee that interacts with the causing event to bring about the result (this is especially clear in the first example).

The majority of the causative uses of break do not have animate agents at all, but encode in the subject slot the types of immediate or less immediate causes that are also recoverable for the intransitive uses:

(24)  
a. They came within 16 miles of the pole in 1992 but had to turn back when warm weather CAUSED the ice to break up.

b. [Their weakness], coupled with heavy rains, often CAUSES branches to break ... 

c. The movement of the giant iceberg toward warmer waters will CAUSE it to break into numerous smaller chunks of ice ...

Again, there is some degree of overlap between the transitive construction and the causative construction: where the event described is still relatively close to a typical transitive event, it is still fairly naturally encoded transitively. Thus, (24a), where the warm weather still has some of the properties of an agent (namely the high capacity) could be paraphrased as °...when the warm weather broke up the ice. Where this is not
the case, transitive paraphrases become odd: "The branches' weakness BREAKS them, or 
"The movement of the giant iceberg toward warmer waters will break it into smaller 
chunks."

Finally, the corpus contains an example that shows that the semantics of a 
particular causative verb may motivate the choice of an analytic causative over a 
transitive:

(25) [The viruses] hijack[] the host's protein- and gene-producing machinery, 
proliferating until their sheer numbers FORCE the cells to break open in a death 
spasm, freeing the newly made viruses to infect other cells and other hosts.

Here, it is clearly the causee's prolonged resistance to the result which motivates the 
choice of the force-causative.

Melt

Finally, let us come back to melt, which was already used as an example in section 
8.1.2 above. For the most part, it follows the pattern of the other two verbs, but it has a 
property which differs from these, and which provides additional evidence for the 
analysis suggested here. Note that there are two kinds of meltee, which bear a somewhat 
different relation to the process of melting: entities like metal, which are solid under 
normal environmental conditions, and which melt only under extreme conditions (like 
heat); and entities like water, which normally liquid, become solid only under extreme 
conditions (i.e. coldness), and which melt again under normal conditions. These two
types of moltenes interact with the semantics of the transitive and the causative construction in interesting ways.

Almost exactly half of the intransitive uses of melt (51.6%) implicitly evoke an intentionally acting human agent (like the person stirring in [26a]) or a high capacity force (like the heat in [26b]), while the other half (48.4%) do not evoke any human agent or force (as in [26c]):

(26)  
   a. Stir until sugar MELTS and sauce is well blended.
   b. In the southwestern German town of Goeppingen, it got so hot that the wires for traffic lights MELTED; repair workers found temperatures of 176 degrees inside control boxes.
   c. [About the movie WATERWORLD] [The movie is] set in a post-apocalyptic future when polar ice caps have MELTED, submerging the Earth in water.

This difference largely coincides with the difference between liquid and solid moltenes: 15 out of 16 examples evoking an agent/force have solid moltenes (like [26a, b]), while 12 out of 15 examples not evoking an agent/force have liquid moltenes (like [26c]). Thus, intransitive melt can encode two types of event, one that is fairly close to the typical event, since it involves two individuated participants and a transfer of energy from one to the other, and one that is further away from it, since it involves only one participant.

Transitive melt in the clear majority of cases encodes the first type: 73.7% of the examples in the sample involve solid moltenes, as in (27a):

(27)  
   a. [About the movie TOM AND VIV] Vivien MELTS chocolate and pours it through the mail slot of her now-famous husband’s offices.
b. But then soaring temperatures start MELTING the ice and snow, turning it all into... slush?

This is expected given the semantics of the transitive construction. Of course, the transitive construction is not incompatible with liquid melteees, as (27b) shows. With both kinds of melteees, the properties of the typical transitive event are present. Note also that the *temperature* in (27b) is portrayed as a high capacity force by the addition of the adjective *soaring*.

Turning to the causative uses, we find that they are like the intransitive uses in encoding roughly the same number of events involving solid and liquid melteees. They also follow the by now familiar pattern of causativized change-of-state verbs in that none of them involve animate agents:

(28)  

a. The reduced high atmospheric pressure intensity ... has allowed more warmer European and Atlantic air to enter Siberia, CAUSING snow to melt sooner ...

b. Severe deficiency causes the cornea ... to MELT away, leaving behind opaque scar tissue and permanent blindness.

c. Rain CAUSES strawberries to melt, just like the wicked witch in the 'Wizard of Oz.'

They do not involve high capacity forces either, but encode as subjects non-individuated aspects of the setting, as in (28a) or properties of the meltee, as in (28b). In example (28c), which comes closest to involving a high capacity force, it is again some property of the causee that interacts with this force to bring about the result: rain does not in general have the capacity to melt solid objects.
Summary

To reiterate the most important point of the above discussion, synthetic causatives are semantically simply instances of the transitive construction, and they have the semantics of the typical transitive event. This is most evident in the restrictions on the subject: a human intentional agent is always the agent of a transitive construction, an inanimate force can be the agent of a transitive construction or the causer of a causative construction, depending on their degree of capacity, inanimate objects are mostly, and events are always causers of a causative construction. This distribution, which is summarized in Figure f8.1, is due to the fact that there is a cline in agenthood from human agents to events, and that the transitive construction encodes transitive events, which have agents, while causative constructions encode a variety of causative event types, of which the one most relevant to change-of-state verbs is the TRIGGER configuration which does not place any restrictions on the causer.

![Cline of agenthood](image)

Fig. f8.1: Cline of agenthood

However, the differences related to agenthood (most importantly, capacity and individuation) are not the only manifestation of the semantic difference between the typical transitive event and the TRIGGER configuration. Another crucial difference is the
degree to which the causee is responsible for the result. While the patient of a transitive event is (portrayed as) not involved in the kind and the extent of the change which it undergoes, the causee of the TRIGGER configuration is involved in the resulting change in that it is some aspect of its nature that interacts with the causing event to bring about the result.

A third difference between transitives and causatives is that, where the semantics of the verb allow this, the former construe the event as bounded (due to the telicity of the transitive event), while the latter construe it as unbounded. Like intransitives, they construe the result as a relatively autonomous process, that runs its course once it has been triggered, but that is not inherently telic, since it does not involve human agents with aims or goals. Of course, they may have an endpoint, which can be highlighted by an adverbial.

Finally, the semantic differences between the TRANSITIVE configuration and the TRIGGER configuration also account for the other differences between the two types of construction that have been observed in the literature: the fact that the transitive construction overwhelmingly encodes situations where agent and patient are in the same place at the same time and come into physical contact, whereas the causative construction encodes events that may or may not have these properties follows from the semantic characterization of an agent (as shown in [6] above) vs. that of a responder (as shown in 4.19 in Chapter 4).
8.3 **Caused motion**

As noted at the beginning of the chapter, motion verbs do not show exactly the same alternation that change-of-state verbs do. In their intransitive use, they can occur with or without a directional PP, as (37a, b) show, but in their transitive use they can only occur with a directional PP, as (29c, d) show:\(^{10}\)

(29)    a. On Wednesday and Thursday, soldiers MARCHED through the streets of the capital in an apparent show of force.

          b. [The camp] is an impossible 60 miles away, meaning already weak refugees will have to MARCH another four days.

          c. The guerrillas MARCHED scores of Cambodians, three Vietnamese and three Western tourists to a fortified Khmer Rouge village to work at forced labor until ransoms were paid.

          d. *The guerrillas MARCHED scores of hostages.

In other words, while one-participant change-of-state verbs can occur in the intransitive or the transitive construction, one-participant motion verbs can occur in the intransitive construction, the intransitive motion construction, or the caused-motion construction but not in the transitive construction. Of course, motion verbs can also occur as the result verb of analytic causatives, with or without a directional PP:

(30)    a. Thousands of soldiers [were] FORCED to march without food or water through the jungle.

\(^{10}\) Except for lexicalized exceptions like *walk* which, as mentioned in Section 8.2.1 above can occur transitively, but only in the specialized meaning ‘take a pet for a walk.’ Another set of exceptions is the non-literal use of motion verbs: these sometimes have simple transitive uses, e.g. *The ad ran for several weeks* ~ *They ran the ad for several weeks.*
b. The guards MADE the prisoners march without food or water for long periods.

Thus, the question that needs to be addressed in this section is how the caused-motion construction differs semantically from analytic causatives such as (30a, b).

8.3.1 A constructional account of motion verbs

Assuming that motion verbs in their basic use have a single argument, they differ from change-of-state verbs in that this argument is not a patient but a mover, by which I mean an entity that differs from a patient in two ways: first, it undergoes a change in position rather than a change of state, and second, and more importantly, this change may (but need not be) self-instigated. This has an interesting consequence when a motion verb combines with the caused motion construction: in the intransitive use, shown in (31), the mover participant of the verb straightforwardly fuses with the theme argument provided by the construction:

(31) Intransitive motion use of march

<table>
<thead>
<tr>
<th>Sem</th>
<th>MOVE</th>
<th>&lt; theme</th>
<th>path</th>
</tr>
</thead>
<tbody>
<tr>
<td>R: instance</td>
<td>MARCH</td>
<td>&lt; meltee</td>
<td></td>
</tr>
<tr>
<td>Syn</td>
<td>V</td>
<td>SUBJECT</td>
<td>OBL_{dir}</td>
</tr>
</tbody>
</table>

When the verb combines with the caused-motion construction, matters are not quite as straightforward: as with the intransitive use the mover typically fuses with the theme
argument (based on the fact that movers and themes both share the property that they change position):

(32) Transitive use of march

<table>
<thead>
<tr>
<th>Sem</th>
<th>CAUSE-MOVE</th>
<th>agent</th>
<th>theme</th>
<th>path</th>
</tr>
</thead>
<tbody>
<tr>
<td>R: manner</td>
<td>R</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Syn</td>
<td>V</td>
<td>SUBJ</td>
<td>OBJ</td>
<td>OBL&lt;sub&gt;dir&lt;/sub&gt;</td>
</tr>
<tr>
<td></td>
<td>MARCH</td>
<td></td>
<td>marchee</td>
<td></td>
</tr>
</tbody>
</table>

However, with self-propelled themes the implication is often that the agent moves in the same manner as the theme, or at least that the agent moves along with the theme (cf. Levin 1993: 31). It is as though the agent-like aspect of the mover is fused with the agent argument of the construction, and the theme-like aspect is fused with the theme-argument.\(^{11}\) As an example, consider (29c) above, where not just the hostages, but also the guerrillas are marching (note that this is not a general property of the caused-motion

\(^{11}\) In fact, if the mover participant is self-propelled, it may actually fuse exclusively with the agent argument instead of the theme argument, based on the fact that both of them are characterized as instigating the action denoted by the verb:

<table>
<thead>
<tr>
<th>Sem</th>
<th>CAUSE-MOVE</th>
<th>agent</th>
<th>theme</th>
<th>path</th>
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</thead>
<tbody>
<tr>
<td>R: manner</td>
<td>R</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Syn</td>
<td>V</td>
<td>SUBJ</td>
<td>OBJ</td>
<td>OBL&lt;sub&gt;dir&lt;/sub&gt;</td>
</tr>
<tr>
<td></td>
<td>MARCH</td>
<td></td>
<td>marchee</td>
<td></td>
</tr>
</tbody>
</table>

An example of this is shown in (i):

(i) The Rural Electrification Administration ... gave low-interest loans to rural cooperatives to MARCH power lines out to farms and remote homes.

Some motion verbs actually routinely receive this type of interpretation, e.g. drive: "Billy drove Emily to school" can only alternate with "Billy drove to school", not with "Emily drove to school." To my knowledge, this phenomenon has not been discussed in detail in the literature, and this is not the place to do so, other than to note that presumably, the more agentive the participant of a given motion verb is, the more likely this type of interpretation.
construction, but of the interaction of the construction with verbs of self-propelled motion).

Causativized motion verbs do not show this behavior. Here, the mover is always straightforwardly fused with the causee argument of the given construction, as in examples (30a, b). This can be represented as follows:

(33)  Causative use of march

This difference between the caused-motion construction and a motion verb in a causative construction is again due to the fact that the causative construction adds an argument to a construction, in this case the intransitive (motion) construction, and not to the verb itself.

Before the differences between the caused-motion construction and analytic causative constructions are examined more closely, the semantics of caused-motion construction, hinted at in Chapter 3, Section 3.2.1, must be more fully explicated.

The caused-motion construction is discussed in some detail in Goldberg (1995, ch. 7). Goldberg does not offer a detailed semantic analysis of the construction, but she lists
its core properties. Drawing on this work (cf. Goldberg 1995, ch. 7, esp. 174) and on the fact that the caused-motion construction inherits part of its syntax (and hence its semantics) from the transitive construction, I will assume that the construction can be characterized as follows:

(34) TYPICAL EVENT ENCODED BY THE CAUSED-MOTION CONSTRUCTION
Form: [SUBJ V OBJ OBL\textsubscript{directional}]

a. There are two participants, X and Y
b. X and Y are in the same location in space and time
c. X and Y are individuated entities (different from each other and different from the setting of the event)
d. X has a higher capacity than Y
e. X consciously and volitionally instigates an interaction between X and Y
f. This interaction is unidirectional from X to Y
g. At the endpoint of this interaction there is physical contact between X and Y
h. This contact transfers kinetic energy to Y
i. Y moves along a path\textsuperscript{12} Z that is entirely determined by the contact.
   (Y does not have a choice, i.e. cannot make a decision to move or not to move)

(35) SEMANTIC ROLES
X: agent
Y: theme
Z: path
r(x,y,z): CAUSE-MOVE

8.3.2 The synthetic vs. the analytic causative for motion verbs

For the investigation of the differences between the caused-motion construction and analytic causative constructions with motion verbs, three motion verbs were selected

\textsuperscript{12} The semantics of the oblique are actually more complex than the simple term path suggests, but this will not concern me here (cf. Stefanowitsch and Rohde, forthcoming, and Rohde 2001 for some discussion of this element).
from the list given by Levin (1993: 31): *march*, *run*, and *roll*. Intuitively, these seem to
differ with respect to whether or not the mover is self-propelled. For *march*, the mover is
always self-propelled, for *run* the mover is self-propelled in the case of animate entities,
and externally propelled in the case of inanimates, and for *roll* both self- and externally
propelled themes are possible. The idea is again to choose verbs with a variety of
different properties to ensure that the observations made below can plausibly be
generalized.

Note that in contrast to the change-of-state verbs, where the synthetic and the
analytic causatives are in competition for the TRIGGER and the MANIPULATE
configurations, they are in competition only for the MANIPULATE configuration in the
case of motion verbs, since this is the only configuration that is compatible with the
semantics of the caused-motion construction.

*March*

In its intransitive use, *march* always has a human, self-propelled theme (typically
soldiers, as in [29a], refugees, as in [29b], or demonstrators, as in [36a], but on occasion
individuals, as in [36b]):

(36)  a. Hundreds of Haitians MARCHED near the U.S. Embassy Thursday and said
they wanted no more ... invasions.

b. Peggy Santiglia ... MARCHED into a radio station clutching her songs and
wheedled an audition with Murray Kaufman, a popular disc jockey ...
In its transitive use, *march* always has a human agent in the examples in the sample. Transitive *march* overwhelmingly describes events where both agent and theme are moving along the path encoded by the oblique, as in (37a, b). Only one out of twenty examples involves an agent who does not move himself, namely (37c), to which I will return presently:

(37)  a. You can see the possibility of law enforcement agents in the United States rounding up a town, MARCHING the citizens to a police station and asking everybody if they’re willing to give a blood sample.

       b. They MARCHED two women to a river bank, stoned them to death and torched their battered bodies.

       c. By MARCHING his troops a short way down the road toward Kuwait, [Hussein] sent the British and U.S. armies frantically scrambling.

In contrast, none of the six examples of causative *march* in the *NAN* corpus involve a causer who moves along with the causee. Consider the following typical examples:

(38)  a. Also missing [was] the story of American veterans forced to MARCH under atomic test clouds who later were stricken with cancers ... attributed to radiation.

       b. Chinese prisoners were made to MARCH on the plains of Manchuria for poison gas experiments on humans.

       c. The dreams of marijuana and rock music that drew 300,000 fans and hippies to the Catskills had little more sanity than the impulses that drive the lemmings to MARCH to their deaths in the sea.
Five of the six examples involve the MANIPULATE configuration and thus have human causers. All of these are of the type in (38a, b), which clearly encode events where the causer does not want to be anywhere near the causee for the marching.

While these examples can theoretically be paraphrased by transitive march (albeit with a different meaning), the only other example, shown in (38c) encodes the TRIGGER configuration and thus cannot be paraphrased as *...the impulses that MARCH them to their deaths in the sea. This is an example where the specific semantics of the causative construction in question (the drive-causative), motivates the choice.

In sum, in the case of march (and presumably other verbs of self-propelled motion), the direct–indirect distinction manifests itself in such a way that the caused-motion construction encodes events where the agent moves along with the theme and the analytic causatives encode events where this is not the case. This is due to properties (34g-i) of the caused–motion construction, which specify a transfer of kinetic energy from agent to theme that entirely determines the path of the theme: in the case of self-propelled motion, such a determination of the path is only possible through continued contact between the instigator of the motion and the theme. The analytic causative does not require a complete determination of the theme’s path, and thus no continued contact is necessary. Coming back to (37c), where the agent does not move along with the theme, note that the motivation for this example too falls out from this difference in the semantics of the two constructions: it describes an event where a military commander orders his troops to do something and where there is nothing that might keep the troops
from obeying. In such a situation, we can assume that the path is completely determined even without a continued presence of the instigator. This situation contrasts nicely with the one described in (38a), which is similar in that it also involves a chain of command that should theoretically determine the path, but that involves a good reason for the troops to resist the order. In this situation, the transitive paraphrase *American veterans were Marched under atomic test clouds* would suggest that the instigator of the event marched with them.

**Roll**

Intransitive *roll* occurs both with animate movers, as in (39a), and with inanimate movers, which are typically, but not always, vehicles, as in (39b) and (39c) respectively:

(39) a. LaBelle crooned, she wailed, she literally lay down and ROLLED across the floor as she sang a selection of her biggest hits.

b. At nightfall, a military police car ROLLED up to the crowd and four uniformed men and one in civilian clothes jumped out.

c. [A plum] came ROLLING down the roof, sounding for all the world like some kind of fruity bowling ball on a shake shingle lane.

All caused-motion uses of *roll* in the sample have intentionally acting agents, and all of them either have inanimate movers (typically vehicles, as in [40a, b], but occasionally with other inanimate entities, as in [40c]), or they have animate movers who have lost all potential to act volitionally (like the sick child in [40d]):
(40)  a. Patrick Fleursint, unemployed and crippled, ROLLED his wheelchair nearly three miles from his ramshackle home to the Champs du Mar park area ...

b. Susan Smith, 23, falsely reported the children kidnapped—after actually having ROLLED her 1990 Mazda Protege into a lake, with the boys still strapped into their car seats, police say ...

c. Sisyphus ... was doomed forever to roll uphill a huge stone that always rolled back down.

d. [A] UNICEF worker ... ROLLS another Rwandan child from the plastic sheeting of the Munigi Camp cholera aid station onto a prickly blanket.

As with march, there is typically continued contact between the agent and the theme, as (40a, c, d) show, but this is not absolutely necessary if the mover rolls down an incline, and the path is thus determined by the instigating contact alone.

There are only three examples of analytic causatives with roll. Like the caused-motion uses, all of these have inanimate movers:

(41)  a. Safety Ricky Spears blitzed and had a clear shot at Cook, jarring him as he tried to throw and CAUSING the ball to roll into the end zone.

b. His most serious injury occurred eight years ago. He was cutting limbs off a log and it moved, CAUSING another log to roll over his head.

c. The slight mistake at 17 will be what everyone remembers. The 106-yard sand wedge hit a spot that CAUSED it to roll down the slope away from the hole, leaving Norman with a very tricky putt coming back.

None of these examples involves continuous contact, but as just noted such a continuous contact is not necessary for caused-motion roll either. However, note that the analytic causative does not require the path to be completely determined by the contact, and thus
non-continuous causation is possible even where the mover does not roll down an incline (as in [41a]).

More importantly, all of the analytic causatives in the corpus have unintentional causers. This is not an absolute restriction, as examples with intentional causers can easily be constructed: "LaBelle’s choreographer made her roll across the stage" sounds perfectly natural. In other words, the analytic causative is compatible with both intentional and unintentional causers (but in actual usage occurs with unintentional ones), while the caused-motion construction is only compatible with unintentional ones.

Run

In its intransitive use, run may have animate movers, as in (42a), or inanimate movers, which in the sample are either vehicles, as in (42b), or liquids, as in (42c):

(42) a. Simpson had a 70-minute window of time to commit the murders, drop the glove, drive home in his Bronco and **run** into the house.

b. In this southwestern Georgia city, a van **ran** off the road and into the Flint River late Thursday.

c. Blood is **running** down my face.

Animate themes are much more frequent, comprising 93% of all examples.

The caused-motion uses are very different: all examples in the sample have animate agents and inanimate themes, which are all either vehicles, as in (43a), or liquids, as in (43b):

b. So far, they have not placed [the artificial liver] inside patients, choosing instead to keep it in a sterile container and RUN patients' blood through the device like a dialysis machine.

The causative uses of *run* must again be divided into two classes: those that encode the MANIPULATE configuration, and those that do not. Again, I will deal with the former first, since these are the ones that can at least theoretically be paraphrased by the caused-motion construction.

There are 34 examples of intransitive causativized *run* in the entire NAM corpus. Twelve of these encode the MANIPULATE configuration. Seven of these twelve have animate causees, like (44a, b), and five have inanimate causees, like (44c):\(^{13}\)

(44)  a. When kids drive you up the walls on road trips [...] stop the car and let them run around where it's safe. One father told her he MAKES the kids run around the car seven times.

b. They took the boys into a large meeting room where 15 to 20 other people were and FORCED them to run between lines of these people.

c. While the ride-share mandate tries to get cars off the road by altering commuting behavior, the proposed alternatives focus more on MAKING cars run *cleaner*.

The examples with inanimate causees all have the middle semantics of (44c), and they all have the manner adverbial associated with this semantics (italicized in (44c). These

\(^{13}\) Of course, strictly speaking only those examples of the MANIPULATE configuration that have a directional PP, like (44a), are in competition with the caused-motion construction. However, these are
examples can be accounted for in the same way that middle examples with *burn were accounted for in section 8.2.2 above; they are not actually in competition with the caused-motion construction (cf. *...the proposed alternatives focus on *RUNNING cars cleaner) and do not need to concern us here.

Thus, if we look only at those examples of *run with the MANIPULATE configuration that are structurally compatible with both the caused-motion construction and the analytic causative, there is a perfect correlation between the animacy of the mover and the choice of construction: inanimate movers occur in the caused-motion construction, while animate movers occur in the analytic causative. This is simply a different manifestation of the semantic differences between the caused-motion construction and the analytic causative: the former requires a complete determination of the path and the absence of a choice, while the latter does not. We saw that *march interacts with this semantic difference in such a way that the caused-motion construction implies continued causation while the analytic causative does not. *Run also implies this difference (at least with vehicles, as in [43a]), but more importantly, it interacts with the semantics of the two constructions such that inanimate movers, which by definition do not have the choice to change the path of motion, are encoded in the caused-motion

semantically just like those examples that do not have such a PP, and I will therefore include the latter in my account.
construction, while animate movers, who potentially do have this choice, are encoded in the analytic causative.\textsuperscript{14}

Returning to those examples mentioned above that do not encode the MANIPULATE configuration, note that these make up the majority of the analytic causatives with run in the NAN corpus (64.7\%). By far the most frequent configuration is PROMPT, as in examples (45a, b), but there are also two examples of TRIGGER, as in (45c):

(45) a. The city’s overloaded buses ... seldom halt at bus stops, FORCING riders to run and leap aboard, and to spring off the moving vehicle at their destinations.

b. Gromit’s dissatisfaction—and suspicion—increases when Wallace takes in a penguin as a boarder. The mysterious bird soon claims Gromit’s room and Wallace’s attention, CAUSING the heartbroken dog to run away.

c. [Tilling the field] causes erosion that MAKES silt run into a nearby river which depletes oxygen and thereby injures protected fish.

As noted above, none of these can even theoretically be paraphrased by the caused-motion construction: *The buses seldom halt, RUNNING and leaping riders aboard, *The bird RUNS the dog away, ??Erosion RUNS silt into the river. This is due to the semantic incompatibility of the two role configurations with the caused-motion construction: the PROMPT configuration encodes precisely the causee’s decision to act that is disallowed

\textsuperscript{14} It seems that an animate mover can also occur in the caused-motion construction with verbs of self-propelled motion, if that mover is fully under the control of the agent, and there is no possibility that the causee has a choice (cf. Levin’s [1993] examples *Sylvia jumped the horse over the fence and *The scientists ran the rat through the maze).
by the caused-motion construction, and both PROMPT and TRIGGER do not have the intentional agent, the interaction directed at the mover, or the difference in capacity required by its semantics. The abundance of such examples shows again that the difference between direct and indirect causation is not sufficient to account for causative alternations, but that analytic causative constructions are capable of encoding completely different types of causation than transitive constructions.

**Summary**

To some extent the differences between the caused-motion construction and the analytic causative with motion results mirror those between the transitive construction and the analytic causative with change-of-state results: there are the same general differences in terms of the directness of causation. Applied to the domain of motion, the directness of synthetic causativization yields the requirement on the caused-motion construction that the causer typically accompany the mover, while the potential indirectness of analytic causativization means that this requirement is absent, and analytic causatives typically encode caused motion where the causer does not accompany the mover; also, the caused-motion construction again picks out agentive causes, while the analytic causative may pick out different types of causes.

However, unlike the change-of-state verbs, motion verbs are compatible with the MANIPULATE configuration, which opens up the possibility to use a wider range of analytic causatives than just the cause-causative. This means that often the motivation to
choose an analytic rather than a synthetic causative can be found in the specific semantics of the analytic causative construction in question.

Thus, the difference between synthetic and analytic causatives cannot be reduced to the direct–indirect distinction, as was possible with change-of-state verbs. The direct–indirect distinction essentially only accounts for the semantic differences between synthetic causatives and the cause-causative; for all other analytic causatives, the difference lies in the specific semantics that the respective causation verbs brings into the construction.
9 Conclusion

A major aim of this work has been to develop a principled account of how the meaning of complex constructions—in this case, analytic causatives—emerges from an aggregation of simpler elements, which individually have fairly abstract, non-elaborated semantics, but which appear to encode very specific event types when they combine.

Chapter 2 provided an explication of some basic concepts related to causation and causativity—primarily the nature of causation (where three principles of causative construal were proposed), and the notion of a causal chain; it also introduced some basic terminology. It then surveyed the most important constructions for expressing causation in English. The purpose of this survey was first, to apply the notions ‘causative construal’ and ‘causal chain’ to various causative constructions, and second, to situate analytic causatives in a broader ecology of constructions.

Chapter 3 introduced the fundamental notions and assumptions of Construction Grammar, the framework adopted in this work. Most importantly, it introduced the notions ‘construction’ in general and ‘argument structure construction’ in particular, as well as presenting a particular view of the nature of semantic roles and of the best way to handle the polysemy of argument structure constructions. Here, the idea of ‘event types’ or ‘role configurations’ was first introduced, i.e. the notion that there are recurring clusters of participants and relations between these participants which perhaps can be
thought of as independent of particular constructions (see further below). In addition, some more peripheral assumptions were introduced, such as the notions of subjectification and gapping.

The set of assumptions introduced in Chapter 3 has essentially been taken for granted in this work; one issue that I have not been concerned with at all is the question of whether other frameworks might allow a better (more elegant, more economical) description or a more insightful analysis of the data. However, the choice of framework was not completely arbitrary. The phenomena that this work has been concerned with encompass formal, semantic, and general conceptual aspects of language; thus, a model is needed that allows an integrated perspective on these. Once this requirement is met, the choice of linguistic model becomes secondary; presumably, some other version of construction grammar, cognitive grammar, or any other model that recognizes the status of constructions as signs would have served the same purpose.

Chapter 4 introduced the three causation event types (or ‘role configurations’) that were argued to be relevant to an analysis of analytic causative constructions (at least in English): (i) the MANIPULATE configuration, where an animate causer intentionally acts on a causee in a way that influences the causee in such a way that he or she performs some activity; (ii) the TRIGGER configuration, where an event occurs which influences a causee in such a way that, given the nature of the causee, the causee will inevitably undergo some process; and finally, (iii) the PROMPT configuration, where an event occurs, and where a causee perceives this event and decides to react by performing some activity.
These three role configurations emerged as clusters of co-occurring properties of situations encoded by the *make*-causative, which was argued to be abstract enough to be regarded as a hyperonym for all other analytic causatives in English (with the exception of the *cause*-causative). Role configurations were assumed to be conceptual entities that are independent of the meaning of individual constructions. Their exact status cannot, in my view, be determined by linguistic evidence alone, and consequently I have been hesitant to comment on this issue or on issues of ‘mental representation’ in general in this work. However, in light of the analysis proposed in Chapters 5 and 6, the assumption that they are in some sense independent of particular constructions seems reasonably plausible to serve as a working assumption.

In the context of the discussion of the nature of causation presented in Chapter 2, it would perhaps be interesting to determine the status of these role configurations or event types more precisely. For example, we might ask whether they are derived from experience or whether they are they in some way prior to experience, thus making a construal of the world possible in the first place. They could also fall in between these two extremes; for example, they could derive from experience but integrate a pre-experiential general notion of a causal link. Assuming that role configurations are derived (wholly or partially) from experience, another question we might ask is whether they are purely linguistic entities (e.g. semantic units which are not uniquely tied to a particular form), or whether they are non-linguistic entities (entrenched chunks of experience)?
The question of whether role configurations are experiential, pre-experiential, or some mixture of the two cannot and will not be answered here, except to note that at least for the TRIGGER and the PROMPT configurations it is implausible to assume that they are entirely pre-experiential, since they seem to require some sort of a ‘theory of mind’ which seems to emerge after the age of three. The question of whether role configurations are linguistic or non-linguistic in nature can also not be answered definitively here, but perhaps a good way of thinking about them is to assume that they are not exclusively linguistic in nature; regardless of whether they emerge from linguistic experience or from non-linguistic experience, the fact that they are not uniquely linked to one linguistic form seems to suggest that they may be utilized in our non-linguistic as well as our linguistic construal of our environment.

Chapter 5 presented the main argument for the claim that the MANIPULATE, TRIGGER, and PROMPT configurations are not tied to individual constructions, but that they recur across the four different analytic causatives that were argued to constitute the ‘major’ analytic causatives of English. Chapter 5 also presented the first step of an analysis of analytic causatives as arrays of more basic structures, by factoring out the invariant core meanings of the causation verbs $make_{caus}$, $have_{caus}$, $get_{caus}$, and $force_{caus}$, and showing that these meanings are not identical with the role configurations introduced in Chapter 4. Finally, it was also shown that the cause-causative (which is often taken to be the paradigm case of an analytic causative) differs from the other analytic causatives of English in that, while the latter encode particular configurations of causers and causees
that can be characterized in terms of intention, resistance, dynamicity, process vs. result orientation, etc., the cause-causative essentially encodes causing events and resulting events of indeterminate distance on a causal chain (which is why it often, but not always, encodes ‘indirect’ causation).

Chapter 6 presented the heart of proposal as to how the meanings of complex constructions emerge from the aggregation of simpler constructions. It was shown that these meanings can be accounted for only on the basis of the interplay of the various simple constructions on the one hand, and the (at least partially independent) role configurations on the other hand.

The case of the have-causative (which can only encode the MANIPULATE configuration) and the have-VERBing construction (which can encode all three configurations) is crucial in this context, because it clearly demonstrates that the ability to encode a particular role configuration cannot be linked solely to a given causation verb. Similarly, the difference between the have-causative (with its single role configuration) and the make-causative (which can encode all three configurations) provides evidence for the fact that this ability cannot be tied to a particular complementation construction either, since the have-causative and the make-causative both take the bare infinitive.

It was shown how the combination of causation verb and complementation construction yields a meaning that, while still fairly abstract, is specific enough to be either compatible or incompatible with a given role configuration. A complex construction can thus be thought of as an array of more basic structures that come together in a way
that is compatible with some entrenched aspect of experience; it is this entrenched aspect of experience from which the construction gets its meaning.

Note that the fact that complex constructions are seen as combinations of more basic structures does not mean that these combinations do not achieve some kind of autonomy; as has repeatedly been pointed out throughout this work, they typically have construction status themselves, and thus may (but typically do not) have additional semantic restrictions not derivable from the basic constructions of which they consist (this was made especially clear with respect to the constructions discussed in Chapter 7).

Chapters 7 and 8 presented issues that were partly elaborations of the approach presented in Chapter 6, and partly orthogonal to it. Chapter 7 took a closer look at the relation between the causative and the non-causative (‘lexical’) uses of the matrix verbs of English analytic causatives, and thus essentially presented a different perspective on the issue of how the meaning of causative constructions arises from their component elements. It was shown that the causative uses of the various matrix verbs typically share some characteristics of their lexical counterparts, and that these characteristics are inherited from the lexical verbs via various very general conceptual metaphors. However, the motivation of most causation verbs through their lexical counterparts is not complete; causation verbs overwhelmingly have some unpredictable semantic properties. Such partial motivation points to the likelihood that the domain of causation itself contributes to the meaning of analytic causatives (and, presumably, causative constructions in general).
Finally, Chapter 8 placed lexical causatives in the context of the construction-based approach to analytic causatives developed in the preceding chapters. It was argued that lexical causatives are best regarded as instances of the transitive construction (if the resulting event is a change of state) or the caused-motion construction (if the result is a motion event), since lexical causatives share all semantic properties of transitive events (in the sense of Rice 1987, Langacker 1991, Ch. 7) in general. Chapter 8 also provided additional evidence for the argument that the primary function of analytic causatives is not to encode indirect causation; this function is largely unique to the cause-causative with change-of-state results. As the case of causativized motion verbs shows, however, lexical and analytic causatives differ not so much in terms of 'directness,' but rather in terms of the specificity of the causal link between causer and causee: while lexical causatives specify little more than the fact of a causal link itself, analytic causatives encode more specific types of causation events and thus allow a variety of construals of the causal link that are more specific than that encoded by lexical causatives.

In conclusion, let me briefly discuss the place of this work in the wider context of cognitive approaches to language. Cognitive linguists have rightly pointed out that the meaning (and more often than not, the formal behavior) of linguistic expressions requires reference to experiential knowledge that would not traditionally be considered linguistic. The conclusion that they have drawn is that the distinction between linguistic knowledge and world knowledge should be abandoned, and they have included ever more world knowledge in the semantic specifications of linguistic expressions. The account proposed
in this study also recognizes the importance of non-linguistic knowledge for an account of how language works, but it suggests that, while there may not be a strict dividing line between linguistic and non-linguistic knowledge, there is a distinction between the invariant meanings of constructions and the highly contextualized chunks of experience that they can encode, and that the relation between these two is highly systematic and amenable to analysis.
Data Sources

CSPAE

*Corpus of Spoken Professional American English.* Compiled by Michael Barlow, 2000. Distributed by Athelstan, Houston, TX.

LDCE


NAN


OED


SWB

*Switchboard Corpus of Recorded Telephone Conversations.* Distributed by the Linguistic Data Consortium, University of Pennsylvania. Online at http://www.ldc.upenn.edu [Last access: 4/5/01].

TIPSTER


OTHER SOURCES (listed by chapter and example no.)

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