The verb slot in causative constructions. Finding the best fit

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Abstract

Using the technique of multiple distinctive collexeme analysis, this paper seeks to determine the verbs that are distinctively associated with the non-finite verb slot of English periphrastic causative constructions. Not only does the analysis reveal that the various causative constructions are attracted to essentially different verbs, but by examining how these verbs fall into semantic classes, it also hints at subtle differences in meaning between the constructions. In addition, the paper shows how the technique of multiple distinctive collexeme analysis can be usefully combined with other, complementary methods, and briefly discusses a number of factors which influence the results of multiple distinctive collexeme analysis and should therefore ideally be taken into account.

1. Introduction

It is widely accepted, if only implicitly, that periphrastic causative constructions are "always safe" (Stocker 1990: 61) and that causatives such as *cause*, *get*, *have* or *make* can therefore be combined with any verb to express causation. This paper, by contrast, argues that certain verbs are more likely than others to occur in a particular causative construction. By means of a technique known as multiple distinctive collexeme analysis, it sets out to bring to light the "collexemes" of the causative constructions under investigation, i.e. the verbs which are the most distinctive for each of these constructions. As will be shown, not only does this technique make it possible to distinguish between several constructions that are regularly considered interchangeable in the literature, but it also helps assign each of them a semantic value by examining the classes of verbs attracted to it.

After taking stock of what is known about the verb slot of causative constructions, the data and methodology used in this study will be briefly presented and two possible objections will be considered. The results of the multiple distinctive collexeme analysis of causative constructions will then be discussed and, when necessary, supplemented with findings obtained through other

methods. Finally, it will be shown that some stylistic, formal and semantic parameters can have an influence on the results and hence should ideally be taken into account in a multiple distinctive collexeme analysis.

While this article is an illustration of the way a multiple distinctive collexeme analysis can be carried out and how its results can be exploited to describe the particular meanings of several related constructions, it is also a plea for a more integrated approach to the analysis of collexemes, one that would integrate additional parameters shown to be influential, but also additional techniques when their results can fruitfully be combined with the multiple distinctive collexeme analysis.

2. The verb slot of causative constructions in the literature

Ten different periphrastic causative constructions, illustrated in table 1, have been chosen to form the basis of this analysis. The focus will be on the verb slot of these constructions (V),[1] which can be realised as an infinitive preceded by *to* (*to*-inf), a bare infinitive (inf), a past participle (pp) or a present participle (prp). In what follows, the causative verb (*cause*, *get*, *have* or *make*) will be referred to simply as "causative", in order to avoid any possible confusion with the verb of the V slot. In addition, the terms CAUSER, CAUSEE and PATIENT will be used to refer to the different participants involved in the causative process, cf.[2]

(1)   [The drought] (CAUSER) has **caused** [millions of people] (CAUSEE) *to leave* [their homes] (PATIENT).
         (B12 1050)

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[1] This is not to say, of course, that this is the only slot in causative constructions that is worth investigating. The nominal element of the non-finite clause, for instance, might also have a role in distinguishing between the various constructions. Thus, according to Deutschbein and Klitscher (1959: 136), the past participle construction with *get* is particularly common with body parts or clothes, e.g. *I* **got** *my boots mended*. The V slot, however, is central in determining the type of causation expressed by the construction and is therefore particularly interesting.

[2] In this example and the following ones, the causative is in bold and the V slot in italics. The code between brackets is the reference of the sentence in the British National Corpus.

Construction	Example
[X *CAUSE* Y V$_{to\text{-inf}}$]	The recession **caused** the price of aluminium *to fall*. (KP0 846)
[X *GET* Y V$_{to\text{-inf}}$]	Why can't he **get** Jes *to do* it? (KB1 4489)
[X *GET* Y V$_{pp}$]	We'll **get** everything *sorted out* this week. (KD3 2801)
[X *GET* Y V$_{prp}$]	I couldn't **get** these earphones *working*. (KDH 539)
[X *HAVE* Y V$_{inf}$]	Jane **has** Roche *inspect* the hut. (A05 47)
[X *HAVE* Y V$_{pp}$]	Did you **have** the blades *sharpened*? (KCB 674)
[X *HAVE* Y V$_{prp}$]	I've not **had** a blow lamp *going* this morning. (KBP 4407)
[X *MAKE* Y V$_{inf}$]	It **makes** our house and garden *seem* so small. (KDE 2533)
[X *BE made* V$_{to\text{-inf}}$]	They're being taken to court and **made** *to pay*. (KBF 6320)
[X *MAKE* Y V$_{pp}$]	They **made** their voices *heard* at the conference. (CNA 215)

Table 1. Periphrastic causative constructions

While periphrastic causative constructions have been dealt with a lot in the literature and from many different perspectives (e.g. Kastovsky 1973; Kemmer & Verhagen 1994; Wierzbicka 1998), there is one aspect that has been largely ignored, namely the question of whether causative constructions exhibit any lexical preferences with respect to the V slot. In other words, can we assume that all verbs are equally likely to occur in a causative construction, or do causatives prefer the company of certain verbs, possibly specific to each construction?

Paradoxically, the few scholars who do study the nature of the V slot tend to focus on the least frequent construction, [X *MAKE* Y V$_{pp}$].[3] Van Ek and Robat (1984: 327) restrict this structure to "collocations denoting the exercise and recognition of influence in the widest sense". According to Van Roey (1982: 84), it is especially common with *felt* and *known*, a hypothesis which is nicely illustrated by the following example, taken from Eckersley & Eckersley (1967: 239):

(2)   He soon **made** his presence *felt* and his wishes *known*.

Berland-Delépine (1990: 173) gives the following list of possible past participles: *heard*, *obeyed*, *respected* and *understood*, which can all be said to involve some sort of influence. The same is true of Van Ek's (1966) corpus-derived list: *felt* (five occurrences), *heard* (two occurrences), *respected*, *established*, *understood* and *valued* (one occurrence each).

Van Ek (1966) also provides us with some information about two other constructions, namely [X *MAKE* Y V$_{inf}$] and [X *GET* Y V$_{prp}$].[4] The former is said to be common with the following verbs: *feel* (12.5% in Van Ek's data), *look* and *seem* (8.75% each), *think* (5%), *laugh* and *smile* (4.4% each), while the latter arguably tends to contain verbs denoting motion such as *coming* or *going*.[5]

Francis et al.'s (1996: 306) *Collins COBUILD Grammar Patterns – Verbs*, finally, contains quite a long list of examples for [X *GET* Y V$_{pp}$] and [X *HAVE* Y V$_{pp}$] (cf. table 2), but no real

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[3] This construction has a relative frequency of only 0.32 per 100,000 words in the corpus data, as opposed to e.g. 11.73 for [X *MAKE* Y V$_{inf}$].

[4] He actually discusses all the ten patterns investigated here (although not specifically in their causative use). For most of them, however, his description of the V slot is stated in very general terms, with indications such as 'activity', 'state' or 'occurrence'.

[5] It should be emphasised, however, that Van Ek does not distinguish between the causative and the other uses of the construction, and most of the examples he gives with a verb of motion are not causative, cf. *But I suppose you* **get** *dozens of women throwing themselves at your head*.

distinction is made between the two constructions, with only seven patterns presented as solely characteristic of *have* (in bold in the table).[6]

have a limb amputated	get/have something overhauled
get/have your teeth capped	**have someone paged**
get/have a job costed	get/have your hair permed
get/have your hair cut	get/have your ears pierced
get/have your house decorated	get/have something printed
get/have your windows double-glazed	**have your stomach pumped**
have a tooth extracted	get/have something remade
get/have a prescription filled	get/have something repaired
get/have something fixed	get/have your house rewired
have someone followed	get/have your car serviced
get/have yourself immunized	**have someone tailed**
have a boil lanced	get/have yourself vaccinated
get/have something made	get/have something valued
get/have something mended	get/have your legs waxed
get/have an animal neutered	
get/have a job costed out	get/have something printed up
get/have your house done up	get/have a tooth taken out
get/have a washing machine plumbed in	

Table 2. Frequent noun phrases and verbs in [X *GET* Y V_{pp}] and [X *HAVE* Y V_{pp}] (Francis et al. 1996: 306)

The V slot of the other periphrastic causative constructions is not dealt with at all in the literature. This lack of attention for the lexical preferences of causative constructions can probably be linked to the fact that few linguists have relied on corpus data to investigate these constructions (some exceptions are Kemmer 2001; Stefanowitsch 2001 or Hollmann 2003, as well as Van Ek 1966 and Francis et al. 1996, cited above, but who do not deal exclusively with causative

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[6] It should also be added that some of the combinations mentioned in this table would be more appropriately labelled as experiential, rather than causative constructions (cf. *have a limb amputated*).

constructions). While one can arrive at a relatively good description of the syntactic and (perhaps more tentatively) semantic behaviour of causatives using one's intuition alone, it is more difficult to make reliable claims about their collocational behaviour, that is the preferential lexical company they keep, for, as Sinclair (1991: 116) points out, collocations are often perceived at a subliminal level and hence cannot be retrieved by introspection. To remedy this situation, the present study is based on a large set of authentic examples, from which the V slot is directly observable. The data and the way they were collected are described in the next section.

3. Collecting the corpus data

Use was made of a subset of the British National Corpus, World Edition (BNC 2000), made up of five million words of written English (academic prose) and five million words of spoken English (mainly spontaneous conversations). The collection of the data involved three stages. First, syntactic patterns corresponding to the ten causative constructions were extracted automatically by means of BNCweb 2.0 (2002). The search string specified the causative (*cause*, *get*, *have* or *make*), the form of the V slot (inf, *to*-inf, pp or prp) and the maximum span between the two.[7] Second, all the hits of the query were examined one by one in order to discard sentences that had the same structure as causative constructions but were not causative (e.g. a structure with an infinitive of purpose such as *Rules are made to be broken*, or a construction such as *She had her car stolen* which, according to the most likely interpretation, is experiential).[8] Third, the V slot of each construction was identified manually and its lemma was encoded in a database.[9]

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[7] Since the BNC is only tagged (i.e. annotated for part of speech), not parsed (i.e. annotated for syntactic structure), no attempt was made to specify the nature of the intervening noun phrase.

[8] Note that a number of concordances were ambiguous between the causative and non-causative reading. In these cases, the decisive factor was context. When the context was unclear but the causative interpretation was theoretically possible, the sentence was included in the data.

[9] Spelling variants were grouped together (e.g. *realise* and *realize* or *co-operate* and *cooperate*). Phrasal verbs, on the other hand, were treated separately.

Construction	Speech	Writing	Total
[X *MAKE* Y V$_{pp}$]	9	22	31
[X *HAVE* Y V$_{prp}$]	70	3	73
[X *HAVE* Y V$_{inf}$]	48	29	77
[X *be made* V$_{to\text{-}inf}$]	23	80	103
[X *GET* Y V$_{prp}$]	130	4	134
[X *CAUSE* Y V$_{to\text{-}inf}$]	15	207	222
[X *GET* Y V$_{to\text{-}inf}$]	350	52	402
[X *HAVE* Y V$_{pp}$]	637	50	687
[X *GET* Y V$_{pp}$]	809	19	828
[X *MAKE* Y V$_{inf}$]	898	258	1,156
Total	2,989	724	3,713

Table 3. Frequency of periphrastic causative constructions

Table 3 shows the frequency of causative constructions in speech, writing and in the whole corpus.[10] It will be noticed that, with the exceptions of [X *MAKE* Y V$_{pp}$], [X *BE made* V$_{to\text{-}inf}$] and [X *CAUSE* Y V$_{to\text{-}inf}$], the constructions are more frequent in speech than in writing,[11] sometimes considerably so (cf. [X *GET* Y V$_{pp}$], with 809 occurrences in speech and 19 in writing). The influence of medium will be briefly discussed in section 7, but the main analysis will be based on the total number of constructions (i.e. in speech **and** writing), following a methodology outlined in the next section.

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[10] For the sake of convenience, I will refer to the frequency of the constructions. Note, however, that in some cases a construction contains more than one non-finite verb, e.g. (i), and that the figures given actually correspond to the number of non-finite verbs in the constructions.

(i)   Well that'll **make** them *sit up* and *think* that's for sure.
        (KD7 37)

[11] This, incidentally, is also the case for causative *have*, which is usually described in the literature as more formal (see e.g. Murphy 1985: 92 or Thomson & Martinet 1980: 107).

4. The technique of multiple distinctive collexeme analysis

Relying on the notion of collocation and the theoretical framework of Construction Grammar, Gries and Stefanowitsch have developed a method aimed at investigating the interaction between words and constructions. The method, known as collostructional analysis, measures the association strength between a particular construction and the lexemes occurring in a given slot of this construction.[12] The lexemes attracted to a construction are referred to as "collexemes", and the combination of a construction and a collexeme is called a "collostruction". Collostructional analysis includes three different techniques, viz.

(i)   collexeme analysis, which studies one slot in a particular construction, e.g. the V slot in the [X *think nothing of* V_{gerund}] construction;
(see Stefanowitsch & Gries 2003)

(ii)   distinctive collexeme analysis, which studies one slot in two or more similar constructions, e.g. the verb in the ditransitive and *to*-dative constructions;
(see Gries & Stefanowitsch 2004a)

(iii)   covarying collexeme analysis, which studies the interaction between two slots in a particular construction, e.g. V_1 and V_2 in the [X V_1 Y *into* $V_{2gerund}$] causative construction.
(see Gries & Stefanowitsch 2004b)

The technique that will be used here is that of distinctive collexeme analysis or, more precisely, multiple distinctive collexeme analysis, as it will involve more than two alternating constructions.[13] In order to qualify for distinctive collexeme analysis, the various constructions should be functionally and/or semantically near-equivalent. This is clearly the case of the dative alternation, mentioned above. Periphrastic causative constructions can claim to this status, too.

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[12] The idea of slot is what distinguishes collostructional analysis from collocational analysis. While collocational analysis examines all the words occurring in a specified span around the node, collostructional analysis limits its investigation to the words occurring in a particular slot of a construction.

[13] A "simple" distinctive collexeme analysis (i.e. with only two alternatives) will be used in section 7 to determine the influence of medium on collexemes.

They all result from the process of causative formation (Siewierska 1991: 29), by which the valency of the verb is increased by one. They are often claimed to share the same basic meaning, namely that of indirect causation (as opposed to lexical causative verbs, which are said to express more direct causation, see e.g. Baron 1974: 327), and they are sometimes presented as synonymous (Visser 1973: 2269, for instance, writes that, when used with a causative meaning, *have* "might be apprehended as a synonym of *make* or *get to*, and consequently is often replaceable by them"). Finally, although the different structures do not necessarily involve the same participants at the syntactic level, they all include a CAUSER and a CAUSEE at the conceptual level.[14] Compare:

(3) I [CAUSER] **had** Elsie [CAUSEE] *go* on a Wednesday night.
     (KCP 566)

(4) He [CAUSER] **had** him [CAUSEE] *playing* yesterday.
     (KBD 8829)

(5) They [CAUSER]'ve just **had** a new double glazed back door *put on* [by CAUSEE].
     (KCR 59)

Given this near-equivalence, the technique of multiple distinctive collexemes can therefore be applied to periphrastic causative constructions.

Let us now illustrate the computation of multiple distinctive collexemes by means of the example of *take* (cf. table 4).[15] The multiple distinctive collexeme analysis first examines the observed frequency of the verb in each causative construction (5 occurrences in [X *CAUSE* Y $V_{to\text{-}inf}$], 8 occurrences in [X *GET* Y $V_{to\text{-}inf}$], 2 occurrences in [X *GET* Y V_{pp}], etc., for a total of 35

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[14] The PATIENT, by contrast, is optional, only appearing in cases where the non-finite verb is transitive. Compare (4) with:

(i) You [CAUSER] can't **have** Joe [CAUSEE] *doing* it [PATIENT].
     (KST 3266)

[15] See also the help files accompanying the program Coll.analysis 3 (Gries 2004).

occurrences). On the basis of the total frequency of each construction (see table 3), it then establishes the expected frequency, that is the frequency that would be expected if the 35 occurrences of *take* were distributed in proportions matching those of the different constructions. For each construction, a binomial test is performed in order to establish the probability of a particular observed frequency given the expected frequency (e.g. the probability to find 5 occurrences of *take* in [X *CAUSE* Y $V_{to\text{-}inf}$] when you would have expected it 2.09 times). This probability is then log-transformed ($= \log_{10} p_{binomial}$ value) and gets a positive sign when the verb occurs more frequently than expected in the construction and a negative sign when the verb occurs less frequently than expected.[16] The resulting value, the distinctiveness value, makes it possible to determine (i) whether a given verb is distinctive for a particular construction or not (positive values indicate attracted collexemes, negative values indicate repelled collexemes), and (ii) whether the co-occurrence between the verb and the construction is statistically significant or not (the co-occurrence is statistically significant if the absolute distinctiveness value is higher than 1.30103, $p < 0.05$). *Take*, for instance, appears to be attracted to [X *CAUSE* Y $V_{to\text{-}inf}$], [X *GET* Y $V_{to\text{-}inf}$], [X *HAVE* Y V_{inf}] and [X *HAVE* Y V_{pp}], but repelled by the other constructions (cf. negative values). The co-occurrence, however, is only statistically significant in the case of [X *GET* Y $V_{to\text{-}inf}$] and [X *GET* Y V_{pp}] (absolute distinctiveness value > 1.30103).

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[16] Note that in their earlier papers, Gries and Stefanowitsch used the p-value as the measure of association strength between a word and a construction. See Gries et al. (2005) for a study using a log-transformed p-value and why such a value is preferable to the p-value.

take	*cause* + *to*	*get* + *to*	*get* + pp	*get* + prp	*have* + inf	*have* + pp	*have* + prp	*make* + inf	*make* + *to*	*make* + pp
observed frequency	5	8	2	1	2	9	0	8	0	0
expected frequency	2.09	3.79	7.81	1.26	0.73	6.48	0.69	10.90	0.97	0.29
distinctive-ness value	1.26	1.51	-2.06	-0.20	0.79	0.73	-0.30	-0.72	-0.43	-0.13

Table 4. Observed frequency, expected frequency and distinctiveness value for *take*

The multiple distinctive collexeme analysis was performed by means of Coll.analysis 3 (Gries 2004), a program for R for Windows which can be used for the computations necessary for the different techniques belonging to the family of collostructional analysis (see above). For a multiple distinctive collexeme analysis, the program requires as input a file listing the constructions in one column and the verbs occurring in them in the other column, with one line per occurrence of a construction, as illustrated by (6).[17]

(6) **construction**   **v_slot**
     cause_to   approach
     cause_to   be
     get_pp   clean
     get_pp   do
     get_pp   do
     get_prp   go
     get_to   buy

Next to the observed and expected frequencies and the distinctiveness value, the output file also provides a measure called "SumAbsDev", which is the sum of all absolute distinctiveness

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[17] Note that it is the lemma of the non-finite verb, not its form, which is used in the analysis. An analysis based on the form of the verb (e.g. *approach, cleaned, going*) could only compare those constructions which have the same type of non-finite complement (e.g. [X *GET* Y V_{pp}], [X *HAVE* Y V_{pp}], and [X *MAKE* Y V_{pp}] for the past participle complement). Since here we are aiming at a comparison of all the ten causative constructions presented in table 1, all verb forms have been lemmatised.

values for a particular verb. The higher the result, the more strongly the verb deviates from its expected distribution. Finally, the file specifies the construction which displays the strongest deviation of observed from expected (LargestDev). This deviation can correspond to the highest degree of attraction (with a positive distinctiveness value) or the highest degree of repulsion (with a negative distinctiveness value). In the case of *take*, SumAbsDev = 8.11 and the strongest deviation is displayed by [X *GET* Y V_{pp}] (repulsion).

The results of a multiple distinctive collexeme analysis will prove particularly insightful in the case of periphrastic causative constructions, especially given the lack of information available about the verbs found in the V slot (see section 2) and the fact that these constructions are regularly regarded as synonyms. On the one hand, the analysis will highlight the verbs that exhibit a strong preference for one of the ten causative constructions as opposed to the others (i.e. its collexemes). On the other hand, comparing the constructions' collexemes and examining them as for their potential associations with semantic fields will help us identify the distinctive meanings of the different constructions, thus supporting the argument defended here that each construction should be considered as a construction in its own right with its own semantics. Before going on to the presentation and discussion of the results, however, it might be worth considering two objections that could be raised against an analysis such as the one proposed here, namely the possibility of using raw frequency counts instead, and the suggestion that a more abstract construction schema might be preferable.

5. Two possible objections

5.1. Frequency

Here is how Gries et al. (2005: 648) summarise the advantages of collexeme analysis over frequency-based approaches:

(i)   collexeme analysis does not neglect the word's and the construction's overall frequencies;

(ii)   collexeme analysis allows for identifying cases where a construction and a word repel each other;

(iii)   collexeme analysis allows for separating the wheat from the chaff by distinguishing significant from random co-occurrence.

The same types of arguments can be invoked in favour of multiple distinctive collexeme analysis. Besides the frequency of a word in a particular construction, multiple distinctive collexeme analysis also takes into account the frequency of each of the alternating constructions and the overall frequency of the word in these constructions. As will be briefly exemplified below, this can lead to results which are different from, but more accurate than the results produced by an analysis relying merely on the frequency of the word in the construction. Second, it has already been noted that, next to the positive distinctiveness values, which show that a word is attracted to a construction, the computation also produces negative values, which are indicative of repulsion between the word and the construction. Although in this study the focus will be on the most distinctive collexemes of the different constructions, and little will be said about the verbs that are repelled by them, a more detailed analysis could also exploit the relations of repulsion to provide a more precise description of the constructions. Third, the distinctiveness values can be labelled as statistically significant or not (cf. threshold value of 1.30103). In the tables of results presented in section 6, the values are statistically significant[18] and the preference of the verbs for a particular construction can therefore not be attributed to chance.

Let us come back to the first advantage of the multiple distinctive collexeme analysis and illustrate it with a couple of examples. As will appear from the results for [X *MAKE* Y V_{pp}] (table 7), the distinctiveness values and the raw frequencies do not necessarily correspond to each other. Thus, *feel* has a raw frequency of 5 and a distinctiveness value of 1.98, whereas *understand* has a

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[18] The occasional non-significant values are put between brackets.

lower raw frequency of 2 but a higher distinctiveness value of 2.99. This mismatch is due to the fact that, although *feel* is more frequent in [X *MAKE* Y V$_{pp}$] than *understand*, it is also more frequent in the other constructions (in total, it occurs 156 times, while *understand* occurs 6 times only), which makes it less distinctive for [X *MAKE* Y V$_{pp}$]. Bringing into question which measure, frequency or distinctiveness, is more appropriate, Gries et al. (2005, to appear) argue for the latter. Using experimental data, they demonstrate that collexeme analysis significantly outperforms frequency when it comes to predicting speakers' behaviour, both in terms of production (sentence-completion tasks) and comprehension (reading tasks). It can reasonably be assumed that the same is true of multiple distinctive collexeme analysis.

Another case in point is the occurrence of *do* in the V slot of [X *GET* Y V$_{pp}$] and [X *HAVE* Y V$_{pp}$] (see table 9). While a frequency-based approach would underline the predominance of this verb in both constructions, the multiple distinctive collexeme analysis highlights two other verbs, *sort out* and *cut*, as the most distinctive collexemes of [X *GET* Y V$_{pp}$] and [X *HAVE* Y V$_{pp}$] respectively and thus helps us identify the typical meanings of these constructions more easily. The verb *do* still occupies a prominent position, being ranked second and third respectively, but given that it is frequent in both constructions and in fact occurs in most of the other causative constructions, too, it does not really distinguish between them and its importance is therefore slightly less.

5.2. Construction schema

The second possible objection concerns the degree of abstraction of the construction schema. While this analysis is based on ten constructions, corresponding to each of the four causatives *cause*, *get*, *have* and *make*, together with the different non-finite complements they take, one might wonder whether it would not be more economical to adopt a more abstract schema of the causative construction, centred around the causative alone. In other words, would we not obtain

the same results, but with less computation, if we simply considered the four schemas under (7),

instead of the ten schemas listed in table 1?

(7)   [X *CAUSE* Y V]

      [X *GET* Y V]

      [X *HAVE* Y V]

      [X *MAKE* Y V]

The answer to this question is no. A detailed examination of periphrastic causative

constructions (cf. Gilquin 2004) reveals some common features among the different specific

schemas related to one and the same causative (for instance, the three patterns with *get* are all

almost exclusively used with an animate CAUSER and tend to involve some sort of difficulty, see

later). However, it also shows that these schemas present major differences which justify making a

distinction between them (the CAUSEE, for example, is usually animate in [X *GET* Y $V_{to\text{-}inf}$],

inanimate in [X *GET* Y V_{prp}] and unexpressed in [X *GET* Y V_{pp}]). The same is true of their

collexemes. As a rule, the different patterns are associated with different collexemes in the V slot.

This is obvious from table 5, which lists, for each pattern with *have*, the three most distinctive

collexemes and compares their distinctiveness values and ranks with those of the other two

patterns.[19] With only two exceptions (in bold), the verbs that are the most distinctive for one

pattern are repelled by the other patterns (cf. negative values). Of course, the repulsion can

sometimes be explained by characteristics of the verb. Thus, *come* and *go* cannot be used in the

passive voice and so cannot possibly appear in the past participle construction. *Know* and *believe*

are normally not found in the progressive form, which makes their appearance in the present

participle construction unlikely. These characteristics, however, are clearly not the sole

explanation, since certain verbs could theoretically be found in any of the three patterns, but still

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[19] This table is based on a multiple distinctive collexeme analysis of the *have*-constructions only, which explains why the results are different from those presented later, where the analysis was carried out for all the causative constructions together.

show a strong preference for one of them. Thus, the verb *do*, which can be used both in the active and passive voice and both as a simple and progressive form, is significantly more distinctive for the past participle construction, as in (8), than for the infinitive or present participle construction, cf. (9) and (10).[20]

(8)   Well we've got to **have** ours [= sewing machine] *done*.
       (KCB 384)

(9)   They gotta **have** an electrician *do* the job.
       (KB7 7728)

(10)   And of course we **had** a machine *doing* all that work.
       (KP1 4928)

	[X *HAVE* Y V$_{inf}$]		[X *HAVE* Y V$_{pp}$]		[X *HAVE* Y V$_{prp}$]	
know	(1)	7.25	(265)	-5.23	(252)	-0.28
come	(2)	4.84	(266)	-5.97	(27)	**0.82**
believe	(3)	3.11	(263)	-2.24	(237)	-0.12
do	(267)	-5.07	(1)	4.99	(266)	-1.16
cut	(266)	-2.22	(2)	4.55	(267)	-2.10
perm	(265)	-0.92	(3)	1.89	(265)	-0.87
go	(46)	**0.56**	(267)	-14.93	(1)	15.06
work	(256)	-0.29	(264)	-5.23	(2)	7.42
go on	(241)	-0.13	(259)	-2.24	(3)	3.18

Table 5. Distinctiveness values and ranks of some verbs in the three *have* causative patterns

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[20] Besides this quantitative difference, we also notice a qualitative difference between the three constructions. In (8), *do* has a vague meaning and actually replaces the verb *fixed*. In (10), it is used to refer to the action of an inanimate CAUSEE ("a machine"). (9), by contrast, has neither of these characteristics. Gilquin (forthcoming) examines the differences in sense often exhibited by collexemes shared by several constructions.

The same differences in attraction/repulsion exist with [X *GET* Y V] and [X *MAKE* Y V].[21] From now on, the ten patterns listed in table 1 will therefore be considered as individual constructions and analysed as such.

6. Results and discussion

6.1. Deviation from expected frequency

For each verb, the multiple distinctive collexeme analysis compares the observed frequency with the expected frequency, that is the frequency of the verb if it were distributed in proportions matching those of the different constructions. If, as the literature seems to suggest, there were no significant differences between the V slots of the various causative constructions, we would not expect great deviations of observed from expected, since each verb would be distributed in a way corresponding to the frequencies of the constructions. In the corpus data, however, SumAbsDev, which measures the extent to which a verb deviates from its expected distribution, has values up to 122 and indicates potentially significant tendencies up to rank 514 (out of 843 ranks).[22] This shows that the observed frequencies of the verbs across the causative constructions can strongly diverge from the expected ones and, consequently, that causative constructions do differ in the filling of their V slots, attracting and repelling essentially different verbs.

Table 6 presents the collexemes with a SumAbsDev value superior to 50, i.e. the verbs with the strongest overall deviation of observed from expected. It appears that the verb with the highest SumAbsDev, *do*, significantly disprefers the [X *MAKE* Y V$_{inf}$] construction. It is, on the other hand, significantly distinctive for [X *GET* Y V$_{pp}$] and, to a lower degree, [X *HAVE* Y V$_{pp}$]. These two opposite tendencies explain the very high value of SumAbsDev (which, it will be reminded, takes account of the **absolute** distinctiveness values). The second verb, *go*, is highly

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[21] With *cause*, only one type of pattern is possible, namely [X *CAUSE* Y V$_{to\text{-}inf}$].

[22] After rank 514, SumAbsDev is smaller than 1.30103, the value for p = 0.05, so that none of the individual distinctiveness values can possibly reach the threshold level of significance.

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distinctive for [X *GET* Y V$_{prp}$], but also occurs significantly in [X *HAVE* Y V$_{prp}$]. *Feel, laugh* and *look* significantly prefer [X *MAKE* Y V$_{inf}$] (with *feel* also showing a significant distinctiveness value in [X *MAKE* Y V$_{pp}$]), while *sort out* is significantly attracted to [X *GET* Y V$_{pp}$]. Verbs with a smaller SumAbsDev also display such preferences for one or two constructions, which challenges the view that periphrastic causative constructions are "always safe", but also potentially hints at subtle semantic differences.

	cause + *to*	*get* + *to*	*get* + pp	*get* + prp	*have* + inf	*have* + pp	*have* + prp	*make* + inf	*make* + *to*	*make* + pp	ΣAbsDev	LargDev
do	-12.83	-1.04	40.17	-5.29	-2.72	13.04	-0.29	-42.63	-2.10	-2.13	122.24	*make* + inf
go	-3.38	0.59	-18.19	62.55	-0.26	-14.75	7.39	-0.71	-0.80	-0.60	109.23	*get* + prp
feel	-3.14	-7.76	-17.09	-1.66	-1.42	-13.86	-1.35	54.71	0.84	1.98	103.81	*make* + inf
laugh	-2.95	-5.47	-12.05	-1.05	-1.00	-9.77	-0.95	53.36	-1.34	-0.40	88.34	*make* + inf
sort out	-2.03	-2.77	44.99	-1.21	-0.69	-6.75	-0.66	-10.76	-0.93	-0.28	71.08	*get* + pp
look	-2.57	-1.35	-10.52	-0.87	-0.87	-8.53	-0.36	32.13	0.30	-0.35	57.85	*make* + inf

Table 6. Distinctiveness values of the verbs with SumAbsDev > 50

In what follows, we will consider the most distinctive collexemes of each construction. By examining how they fall into specific semantic fields, it will be possible to provide a description of the typical meanings of the different causative constructions.[23]

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[23] Note that the classification of the collexemes will be based on intuitive assessment of which verbs form coherent semantic classes. For a more objective procedure, one could cluster the verbs on the basis of their collocates or collexemes (see Gries & Stefanowitsch, to appear). Alternatively, as suggested by a reviewer, one could use a well-established classification scheme such as Levin's (1993) verb classes. Thus, Levin's class of "Verbs Involving the Body", and more precisely "Verbs of Bodily Processes" (Levin 1993: 217ff.), includes most of the verbs which I describe as expressing physiological processes and which are associated with [X *MAKE* Y V$_{inf}$] (see section 6.3). Certain classes of verbs which I introduce, however, do not have equivalents in Levin's classification. This is the case of the class of verbs referring to the frame of service, found to be associated with [X *HAVE* Y V$_{pp}$] (see section 6.4), whose members belong to different classes in Levin's classification scheme (e.g. *perm* is a *Braid* Verb, whereas *build* belongs to the *Build* Verbs). Note, moreover, that phrasal verbs are largely absent from Levin's classification and would therefore have to be disregarded in the analysis.

6.2. [X MAKE *Y V$_{pp}$]*

Let us start with the construction whose V slot receives the most attention in the literature, viz. [X *MAKE* Y V$_{pp}$]. Table 7 shows the distinctive collexemes for this construction, arranged in descending order according to their distinctiveness values. *Know*, illustrated in (11), is the most distinctive collexeme and the only collexeme with a highly significant value (p < 0.001).

(11) TDs who opposed the amendment, such as Oliver J. Flanagan on 13 May and Dr Michael Woods on 14 May, began to call on the silent majority, to **make** their opposition to divorce *known*.

Collexeme (n)	Distinctiveness	Collexeme (n)	Distinctiveness
1 **know** (19)	32.22	5 light (1)	1.78
2 **understand** (2)	2.99	6 **recognize** (1)	1.48
3 swallow (1)	2.08	7 **hear** (1)	1.31
4 **feel** (5)	1.98	(8 pay (1)	0.69)

Table 7. Distinctive collexemes for [X *MAKE* Y V$_{pp}$]

Among the seven significantly distinctive collexemes (*pay* does not reach the threshold level of significance and is only mentioned in table 7 for the sake of completeness), five involve some sort of influence (in bold in the table), as suggested by Van Ek and Robat (1984: 327). Four of them, in fact, are explicitly mentioned in the literature, namely *known*, *felt* (Van Roey 1982: 84), *understood* and *heard* (Berland-Delépine 1990: 173). Contrary to what Van Ek and Robat (1984) claim, however, the verbs do not denote the exercise, but only the recognition of influence on the part of the CAUSEE. While exercise of influence is expressed, it is not by the verb itself, but by the construction as a whole: if the CAUSER makes his or her influence felt, s/he exercises some influence.

Table 7 reveals that 90% of the verbs occurring in [X *MAKE* Y V$_{pp}$] belong to the same semantic class. This might explain why several linguists have commented on the V slot of [X *MAKE* Y V$_{pp}$], although the construction itself is relatively infrequent. As will become clear in what follows, however, the other causative constructions deserve attention, too, for, although their collexemes do not display as high a degree of cohesion as [X *MAKE* Y V$_{pp}$], their distinctiveness values are often higher and therefore point to interesting tendencies.

6.3. [X MAKE Y V$_{inf}$] and [X BE made V$_{to-inf}$]

The [X *BE made* V$_{to-inf}$] construction results from the passivisation of the main clause of [X *MAKE* Y V$_{inf}$]. This process of passivisation may be thought to have no effect on the V slot itself. Yet, table 8 shows that, despite some similarities, the two constructions have quite different collostructional profiles. The most obvious difference lies in the degree of distinctiveness of the collexemes. While with [X *MAKE* Y V$_{inf}$] the top collexemes have a distinctiveness value of over 50, with [X *BE made* V$_{to-inf}$] it never reaches 5 (of all the causative constructions under investigation, [X *BE made* V$_{to-inf}$] actually presents the lowest distinctiveness values for its verbs). In other words, the bare infinitive construction with *make* displays very strong preferences for a number of verbs, especially *feel* and *laugh*, cf. (12) and (13), whereas the *to*-infinitive construction displays a much lower degree of association with its V slot.

(12)   Not those kind of relaxants but something just to relieve the tension and **make** her
        feel calmer.
        (KBK 469)

(13)   I must just tell you this, Laura did **make** me *laugh*, cos she said <pause> she stood
        up and she said, I'm gonna give my talk about cats <pause> so I said, fine.

[X $MAKE$ Y V$_{inf}$]		[X $be\ made$ V$_{to\text{-}inf}$]	
Collexeme (n)	Distinctiveness	Collexeme (n)	Distinctiveness
1 **feel** (142)	54.71	1 mean (3)	4.67
2 **laugh** (109)	53.36	2 perform (3)	3.69
3 **look** (86)	32.13	3 pay (5)	3.10
4 **think** (66)	24.54	4 work (6)	2.73
5 **wonder** (31)	15.71	5 **depend** (2)	2.64
6 **appear** (29)	10.71	6 **suffer** (2)	1.97
7 **seem** (28)	10.25	7 **seem** (4)	1.94
8 **want** (15)	7.60	8 **believe** (2)	1.83
9 **sound** (12)	6.08	9 account (1)	1.56
10 **jump** (13)	4.86	10 adhere (1)	1.56
11 **realis|ze** (8)	4.05	11 allow (1)	1.56
12 **happen** (12)	3.86	12 apply (1)	1.56
13 work (26)	3.30	13 argue (1)	1.56
14 meet (8)	3.24	14 ascend (1)	1.56
15 **ache** (6)	3.04	15 begin (1)	1.56
16 ask (6)	3.04	16 bring down (1)	1.56
17 **cringe** (6)	3.04	17 contribute (1)	1.56
18 **cough** (5)	2.53	18 **correspond** (1)	1.56
19 last (5)	2.53	19 disassemble (1)	1.56
20 **smile** (5)	2.53	20 **enable** (1)	1.56
21 **sneeze** (5)	2.53	21 encapsulate (1)	1.56
22 **worry** (4)	2.03	22 **fail** (1)	1.56
23 refer (5)	1.89	23 grasp (1)	1.56
24 **cry** (7)	1.88	24 intensify (1)	1.56
25 wait (7)	1.88	25 oscillate (1)	1.56

Table 8. Most distinctive collexemes for [X $MAKE$ Y V$_{inf}$] and [X $BE\ made$ V$_{to\text{-}inf}$]

The two constructions also differ in the way the collexemes fall into semantic classes. With [X $MAKE$ Y V$_{inf}$] many of the collexemes share one characteristic, namely they refer to processes

where no volition is involved, even in cases where the CAUSEE is animate.[24] These collexemes are in bold in table 8. Different subclasses can be distinguished among these non-volitional verbs, the most prominent ones being descriptive verbs (*look*, *appear*, *seem* or *sound*) and verbs describing mental processes (*think*, *wonder*, *realise* or *worry*) and physiological processes (*ache, cough, sneeze* or *cry*), as illustrated by (14), (15) and (16) respectively.[25]

(14)   This **made** the accident *appear* reasonable, something which even they could have done.
       (A5Y 1310)

(15)   It **makes** you *think* of summer dunnit?
       (KBG 3234)

(16)   Oh poetry <pause> <sigh> some of those poems that Bon had in her Touchstones book, especially the ones, the war, about the war, I read some of those and it **made** me *cry*, it was so sad.
       (KDM 6595)

By contrast, the collexemes of [X *BE made* V$_{to\text{-}inf}$] cannot be said to belong together semantically in a very obvious way (cf. top collexemes: *mean*, *perform*, *pay*, *work*). As is the case for the active construction, the list includes a number of non-volitional verbs (in bold), some of which are common to [X *MAKE* Y V$_{inf}$] (compare (17) and (18)), but there are fewer of them and their distinctiveness value is lower (for *seem* it equals 1.94, as opposed to 10.25 with the active construction).

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[24] It is interesting to note that, even verbs like *look* or *jump*, which can theoretically be used both volitionally and non-volitionally (compare *He looked through the window* and *You look tired*), turn out to take on a non-volitional meaning in almost all their occurrences in the construction (see section 7).

[25] Of these three subclasses, only the first one, the subclass of descriptive verbs, can also be used with inanimate CAUSEES, cf. (14).

(17)   The effect of the device is to remove or reduce human agency, **making** events *seem*
       the consequence of impersonal forces such as ideology, the unconscious, history, or
       language itself.
       (A1A 116)

(18)   One law for the rich and another for the poor, as the two systems can be **made** *to*
       seem, are laid down together in a book which commemorates a desertion, on the
       author's part, of the rich for the poor.
       (A05 265)

If we compare these results with what the literature says about the V slot of causative

constructions with *make*, we notice that in the case of [X *MAKE* Y V$_{inf}$], Van Ek's (1966)

description (see section 2) is quite accurate, since the verbs he mentions (*feel, look, seem, think,*

laugh and *smile*) all belong to the top twenty collexemes. It should be emphasised, however, that

Van Ek's study, like this one, is corpus-based and hence represents an exception in the literature

on causative constructions rather than the rule. As for the passive construction, its absence from

the literature may be due to the lower distinctiveness values of its collexemes and the lack of clear

semantic classes among them or, more simply, to the assumption that the passive construction has

the same lexical preferences as its active counterpart. More generally, it appears that the common

description of *make* as a causative expressing coercion (see e.g. Werner et al. 1990: 392) is

inaccurate. Even if we restrict ourselves to constructions with animate CAUSEES, the presence of a

non-volitional verb rules out a coercive interpretation, for one cannot possibly force a person to do

something which is not dependent on their will. Instead, *make* seems to primarily express the

causation of a process that is not directly dependent on the CAUSEE, a meaning which one would

certainly not expect from a verb which is often regarded as the most general and prototypical

causative (cf. Dixon 2000; Altenberg 2002).

Get and *have*, too, appear to be misrepresented in the literature, as we will see presently.

While they are often described as (near) synonyms, it will be demonstrated that the *get* and *have*

constructions have essentially different collostructional profiles.

6.4. [X GET Y V_{pp}] and [X HAVE Y V_{pp}]

A comparison between the first and second half of table 9 reveals that the collexemes of [X GET Y V_{pp}] and [X $HAVE$ Y V_{pp}] are quite different. Not only do the latter exhibit weaker distinctiveness, but the verbs themselves are different. Apart from the verb *do*, which is distinctive for both constructions (compare (19) and (20)) – although more so for the *get* construction – there is no overlap between the most distinctive collexemes of the two constructions, which is a clear indication that the constructions are not interchangeable.

(19)   They [= the solicitors]'re trying their best to **get** it [= the contract] *done* before
         Christmas.
         (KB7 14832)

(20)   Tomorrow would be quite nice because I'm **having** my hair *done* tomorrow.
         (KBK 2321)

[X *GET* Y V$_{pp}$]		[X *HAVE* Y V$_{pp}$]	
Collexeme (n)	Distinctiveness	Collexeme (n)	Distinctiveness
1 **sort out** (74)	44.99	1 **cut** (53)	24.95
2 do (278)	40.17	2 **perm** (22)	16.12
3 **sort** (16)	10.43	3 do (183)	13.04
4 **finish** (17)	8.33	4 **build** (16)	8.99
5 **organis|ze** (15)	7.85	5 **cut off** (10)	7.33
6 *dress* (9)	5.87	6 **put down** (10)	7.33
7 *wash* (13)	5.50	7 put (17)	7.09
8 **fix** (14)	5.14	8 **service** (8)	4.99
9 book (7)	4.56	9 **clean** (11)	4.45
10 start (11)	3.08	10 remove (7)	3.73
11 dry (4)	2.61	11 **put up** (6)	3.63
12 write down (5)	2.57	12 **shave** (6)	3.63
13 deliver (7)	2.42	13 test (8)	3.48
14 do up (4)	1.99	14 **put in** (9)	3.37
15 insure (4)	1.99	15 put on (8)	3.14
16 **set up** (4)	1.99	16 replace (5)	2.96
17 *cook* (3)	1.96	17 **trim** (5)	2.96
18 line up (3)	1.96	18 **repair** (7)	2.92
19 send off (3)	1.96	19 take out (5)	2.49
20 warm up (3)	1.96	20 make (14)	2.22
21 **work out** (3)	1.96	21 check out (3)	2.20
22 kill (4)	1.60	22 **highlight** (3)	2.20
23 *make up* (3)	1.43	23 **knock down** (3)	2.20
24 backdate (2)	1.30	24 put across (3)	2.20
25 blow (2)	1.30	25 **shape** (3)	2.20

Table 9. Most distinctive collexemes for [X *GET* Y V$_{pp}$] and [X *HAVE* Y V$_{pp}$]

Let us now try to determine the semantic values of the constructions on the basis of their collexemes, starting with the *have* construction. Most of the collexemes listed for [X *HAVE* Y

V_{pp}] share one important feature, namely they are related to the frame of service: a hairdresser cutting, perming, trimming, highlighting or shaping a customer's hair, a builder building a house or knocking down a wall for someone, a vet putting down an animal, a mechanic servicing somebody's car, etc. Note that the verb *do* is very often used in [X *HAVE* Y V_{pp}] with reference to hairdressing, as in (20) above. The typical meaning of [X *HAVE* Y V_{pp}], illustrated in (21) and (22), can therefore be described as 'to commission someone to do something'.

(21)   Well she's growing the back of it <pause> and **having** it *permed* and *highlighted*.
       (KCE 4006)

(22)   I mean if if if you've **had** your vehicle *serviced* and the sump plug hasn't been put
       back in, then obviously you've got a perfectly legitimate claim against the person
       that's done the work.
       (KRL 773)

The list of distinctive collexemes for [X *GET* Y V_{pp}] is more difficult to classify semantically. Two semantic fields seem to emerge from table 9, viz. one having to do with organisation (e.g. *sort (out)*, *finish*, *organis/ze*) and the other describing daily actions (e.g. *dress*, *wash*, *cook*). Compare:

(23)   And did you **get** everything sort of *organized*?
       (KBC 5132)

(24)   I thought right get up and **get** them bloody curtains *washed*.
       (KCG 2648)

In order to understand how these collexemes relate to the general meaning of [X *GET* Y V_{pp}], it may be useful to examine other features of the construction, more particularly its semantic prosody[26] and the nature of its CAUSEE (see Gilquin 2004). An investigation of the words occurring in the immediate environment of causative *get* reveals that many of them imply some

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[26] Semantic prosody refers to the tendency for words to collocate with other words from a definable semantic set (see e.g. Stubbs 1995a, b).

sort of effort or difficulty, cf. *difficult* and *deserves credit* in (25).[27] Besides, it is not uncommon to find a reference to a deadline, as in (26), emphasising some urgency.

(25) It is easy to criticise the government's decisions: after a century of inertia, making changes in London was always going to be **difficult**, and Mrs Bottomley **deserves credit** for **getting** the process *started*.
(FT1 159)

(26) He told me it was still there and that he'd been told he's got to write to them today <pause> and they've got to **get** it [= the caravan] *taken off* **within twenty_eight days**.
(KCN 4680)

This explains the presence of verbs such as *sort out* (which has a distinctiveness value as high as 44.99) or *finish*. *Sort out* implies the existence of a problem and *finish*, by referring to the final stage of an action, is compatible with an urgent deadline. Compare (27) and (28).

(27) We'll **try** and **get** something *sorted out* before you babysit on the <pause> nineteenth.
(KC8 81)

(28) I bet I'm not gonna **get** this *finished in time* now.
(KDB 224)

As for the presence of verbs describing daily actions, they can be explained by the frequent identity between the CAUSER and the (mostly implied) CAUSEE of [X *GET* Y V_{pp}], a phenomenon which represents 63% of all the occurrences of the construction,[28] e.g.

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[27] This, incidentally, is true of all three causative constructions with *get*.

[28] This phenomenon, by contrast, is rare with the other causative constructions (11.70% with [X *HAVE* Y V_{pp}], 3.03% with [X *MAKE* Y V_{pp}], 2.91% with [X *MAKE* Y V_{inf}] and 0.76% with [X *GET* Y V_{prp}]). An example with [X *MAKE* Y V_{inf}] would be:

(i) I didn't really want to spare the time because you could imagine that I wanted to get ready to come away <pause> but I **made** myself *sit* and really *give* him time.
(KBF 952)

(29)   I'm gonna get, get in touch with her on Saturday < pause > then I'll **get** my
        geography project *done*, I can't do anything until I've got this bloody project out the
        way, can I?
        (KCE 6364)

In other words, *getting something done* often implies that one does it oneself. It is
therefore only natural that verbs describing daily actions should be distinctive for [X *GET* Y V_{pp}]
since such actions are typically carried out by the CAUSER him- or herself, e.g.

(30)   He won't eat dumplings, if he sees dumplings in a stew he'll puke. (…) So I've gotta
        get them *cooked* before Terry comes home.
        (KCX 4535, 4538)

Putting all these elements together, we can summarise the main meaning of the
construction as 'to carry out an action in difficult circumstances or under a tight schedule'.

It will be reminded that Francis et al. (1996: 306) provide a list of typical examples of the
two constructions just reviewed. It now turns out, however, that these examples mainly describe
services and are therefore more typical of *have* than of *get*. This does not mean, of course, that
such verbs are not possible with *get*. In fact, the collexeme analysis shows that they are possible
but not probable (they do not belong to the top collexemes), hence not distinctive for the *get*
construction. They may be found in cases where the presence of *get* is required for other reasons,
especially reasons of semantic prosody. Compare (31) and (32). Although both of them contain
the same verb (*cut*) and refer to the frame of service, (32) suggests difficulty in carrying out the
action, as shown by the elements in bold italics, and therefore the *get* construction is preferred.

(31)   I just told them you'd **had** your hair *cut* really short.
        (KC2 3072)

(32)   - Would you mind **having the boys** for about half an hour because I would like to **get**
Bryony's hair *cut*. I want about three or four inches off the bottom (…) and I think
she's gonna have **an absolute screaming fit**.
- <laugh> Where're you taking her?
- Probably to the one at Staffhill if I could have an, **if I can get an appointment
booked**.
(KB8 8170 ff.)

In summary, the examination of the collexemes of [X *GET* Y V$_{pp}$] and [X *HAVE* Y V$_{pp}$] has brought to light a sharp contrast between the two constructions. While the construction with *get* involves some sort of difficulty, the construction with *have* refers to a service, that is an action which tends to be taken for granted (cf. Duffley 1992: 72) and is normally unproblematic. This contrast can also be expressed in terms of Hollmann's (2003: 78ff.) "sphere of control", which he presents as characteristic of *have*. With *have*, the CAUSER has the CAUSEE in his/her sphere of control and can therefore apply his/her authority in order to bring about the caused event. With *get*, on the other hand, no such sphere of control exists and, with no authority to appeal to, bringing about the caused event may prove more difficult. This characterisation actually applies to all the constructions with *get* and *have*, but with the other patterns (present participle and infinitive constructions), the difference is not immediately obvious from the list of collexemes and therefore little will be said about it in the next two sections.

6.5. [X GET *Y V$_{prp}$] and [X* HAVE *Y V$_{prp}$]*
In terms of collexemes, the present participle construction is certainly the construction that is the most alike between *get* and *have*. Table 10 shows that the top collexeme in both [X *GET* Y V$_{prp}$] and [X *HAVE* Y V$_{prp}$] is *go*, as in (33) and (34). The distinctiveness value of this verb, however, is considerably higher with *get* than with *have* (62.55 vs. 7.39), which can probably be related to the special status of the *get* construction with *going*, which is often regarded as an idiom (see e.g. Kirchner 1952: 225).

(33)   Yeah, probably if you want me to **get** that old mower *going* I ought to go up to
        Woods and <pause> see if I can get a new drive belt.
        (KCH 523)

(34)   Yes because y– if you've used all your hot water <pause> you can't **have** that
        boiler *going* <pause> for an hour or two can you?
        (KBF 3246)

More importantly, the verb *go* points to a class of verbs distinctive for both constructions,

namely verbs of motion (in bold in table 10), which confirms the claim made by Van Ek (1966:

78) about [X *GET* Y V$_{prp}$] (see section 2). Although this finding gives some insight into the use of

the present participle construction, it can only be fully understood if combined with a piece of

information drawn from an investigation of the nature of the CAUSEE in such constructions, which

reveals that the CAUSEE is often inanimate.[29] In other words, the most distinctive collexemes of the

construction refer to the motion of objects – either literal motion (cf. a mower, a ball or a car) or

metaphorical motion (ACTION IS MOTION) with e.g. boilers, dishwashers or televisions.

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[29] Inanimate CAUSEES represent a proportion of 63% in [X *GET* Y V$_{prp}$] and 44% in [X *HAVE* Y V$_{prp}$]. They are, on
the other hand, less frequent in (*to-*) infinitive constructions, with a percentage of 8% with *get* and 22% with *have*
(see Gilquin 2004).

[X *GET* Y V$_{prp}$]		[X *HAVE* Y V$_{prp}$]	
Collexeme (n)	Distinctiveness	Collexeme (n)	Distinctiveness
1 **go** (76)	62.55	1 **go** (17)	7.39
2 **run** (5)	4.03	2 **go on** (3)	4.52
3 talk (5)	3.33	3 work (7)	4.45
4 **move** (4)	2.90	4 *hang* (2)	3.41
5 vote (2)	2.89	5 *stick out* (2)	3.41
6 *stand* (3)	2.83	6 play (2)	2.12
7 **come in** (3)	2.21	7 cry (2)	1.81
8 call (2)	1.75	8 admire (1)	1.71
9 **come** (4)	1.56	9 dig out (1)	1.71
10 ring in (1)	1.44	10 drill (1)	1.71
11 **walk out** (1)	1.44	11 **go across** (1)	1.71
(12 face (1)	1.15)	12 guard (1)	1.71
(13 work (4)	1.05)	13 iron (1)	1.71
(14 *lie* (1)	0.98)	14 panic (1)	1.71
(15 sing (1)	0.98)	15 **roll around** (1)	1.71

Table 10. Most distinctive collexemes for [X *GET* Y V$_{prp}$] and [X *HAVE* Y V$_{prp}$]

Despite this common meaning of 'setting an object in motion', [X *GET* Y V$_{prp}$] and [X *HAVE* Y V$_{prp}$] display two major differences. First they differ quantitatively, with the *get* construction exhibiting higher distinctiveness values (cf. *go*) and more collexemes belonging to the semantic class of motion. Second they differ in their semantic prosody, as already shown for the past participle construction. This appears from a comparison of (33) and (34) above, where the *get* construction has an undertone of difficulty (cf. *old mower, see if I can*) which the *have* construction does not have.

It should be added, finally, that the two constructions share another semantic class of collexemes, viz. verbs of position (in italics in table 10), e.g.

(35)   I **got** the tiles <pause> *lying* by the side of the hob, but they haven't yet been cut to
       fit <pause> erm <pause> and glued down.
       (KBF 1306)

(36)   Well you'd have to **have** it [= the fridge] *sticking out*.
       (KB7 1660)

These verbs, however, are less numerous and their distinctiveness is weaker than that of verbs of motion (the maximum distinctiveness value, that of [X *HAVE* Y *hanging/sticking out*], is equal to 3.41). In addition, such collostructions tend to belong to the periphery of the category of causative constructions and actually come close to so-called "existential constructions" (see Quirk et al. 1985: 1411). Compare (36) with the following, existential sentence taken from Quirk et al. (ibid.):

(37)   I **have** two buttons *missing* on my jacket.

6.6. *[X* GET *Y* $V_{to\text{-}inf}$*] and [X* HAVE *Y* V_{inf}*]*

Generally speaking, the infinitive constructions with *get* and *have* exhibit less clear associations with the V slot than the past participle and present participle constructions. The collexemes have lower distinctiveness values and cannot be said to cluster around one or two main semantic classes, as appears from table 11. However, what is striking in the list of collexemes is that it includes a number of non-action verbs (in bold in the table). For [X *GET* Y $V_{to\text{-}inf}$] we notice two verbs of communication (*talk* and *say*) and two verbs of agreement (*agree* and *comply*), cf.

(38)   But if you can **get** him *to say* you know, Sting's deserted me <pause> you know
       he, he lets me live on a, you know, my twenty three quid a week pension.
       (KC6 1189)

(39)   Even so, the difficulty for the individual creating a root definition is less than the
       difficulty in **getting** all the individuals involved *to agree* on the definition to be used.
       (HRK 428)

These collexemes are not the most distinctive ones,[30] but because they somehow belong together, we can tentatively say that the construction is associated with the 'elicitation of words or agreement'.

[X *GET* Y V$_{to\text{-inf}}$]		[X *HAVE* Y V$_{inf}$]	
Collexeme (n)	Distinctiveness	Collexeme (n)	Distinctiveness
1 get (14)	10.82	1 **know** (7)	5.76
2 help (10)	9.65	2 come (6)	4.34
3 **talk** (10)	5.09	3 **believe** (3)	3.53
4 come (12)	4.14	4 go out (2)	1.85
5 sign (5)	4.09	5 accompany (1)	1.68
6 **say** (11)	3.89	6 challenge (1)	1.68
7 **agree** (3)	2.90	7 convert (1)	1.68
8 pick up (4)	2.76	8 **disbelieve** (1)	1.68
9 give (6)	2.47	9 follow (1)	1.68
10 come in (5)	2.41	10 **imagine** (1)	1.68
11 provide (3)	2.33	11 insert (1)	1.68
12 stay (4)	2.17	12 inspect (1)	1.68
13 carry (3)	1.97	13 interview (1)	1.68
14 come along (2)	1.93	14 practice (1)	1.68
15 **comply** (2)	1.93	15 put through (1)	1.68

Table 11. Most distinctive collexemes for [X *GET* Y V$_{to\text{-inf}}$] and [X *HAVE* Y V$_{inf}$]

Likewise, [X *HAVE* Y V$_{inf}$] has the following non-action collexemes: *know*, *believe*, *disbelieve* and *imagine*, e.g.

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[30] The most distinctive collostruction combines the causative and lexical uses of *get*, cf.

(i)   She said I'll **get** Sally *to get* me something before Christmas.
        (KBE 7832)

(40)   The bulletin is not a wide ranging, objective, scientific review as De Melker would
       have us *believe*.
       (FSY 1369)

(41)   I'm nine two this morning on the scales, I'll **have** you *know*.
       (KD0 408)

In fact, these verbs belong to the same class of non-volitional verbs that were shown to be typical of [X *MAKE* Y V$_{inf}$] and [X *BE made* V$_{to-inf}$]. The difference lies in the fact that the constructions with *have* are limited to mental verbs and tend to be more idiomatic. The three instances of *believe* are used with the auxiliary *would* (as is the verb *imagine*) and the pronoun *us*, as in (40). As for *know*, it always occurs in the fixed expression *I'll have you know*, cf. (41). *Make*, on the other hand, allows a much wider variety of expressions (including CAUSEE-less constructions with *believe*). Compare (40) with the following sentences:

(42)   It had been such a good idea and all that had resulted from it was a double
       punishment for her and a complete failure to **make** anyone *believe* Alicia or Daryl
       had played the trick.
       (KCD 2647)

(43)   This "inverted causation" as it has been called, which is a major element of Marxist
       theory, is to be found in the theory of Asiatic production, in that the subjects of the
       Asiatic despot are **made** *to believe* that they can live because of the blessing of the
       god-king, the true guardian and shepherd of the community, while really it is he who
       is living off them.
       (A6S 535)

(44)   This is direct experience, but it is not drama – not until there is some pretence
       involved, some symbolic representation, some intention to **make** *believe*.
       (AM6 126)

[X *HAVE* Y V$_{inf}$], therefore, seems to be associated with the 'elicitation of a mental response', but mainly in idiomatic uses.

6.7. [X CAUSE *Y V*$_{to\text{-}inf}$*]*

Let us end our review of the V slot of causative constructions with a construction whose non-finite complement is never described in the literature in terms of lexical preferences, namely [X *CAUSE* Y V$_{to\text{-}inf}$]. Table 12 shows that the collexemes of this construction exhibit relatively low distinctiveness values. Yet, they display some semantic cohesion in that two of its most distinctive collexemes are copular verbs, viz. *be* (distinctiveness value = 5.61) and *become* (distinctiveness value = 4.84), both of which evoke a transformation of the CAUSEE, cf.

(45)　The M sixty two in west Yorkshire near junction twenty nine, the loft house interchange, there are various roadworks and lane restrictions on the slip roads there, and that's **causing** traffic *to be* slow moving around that junction at the moment. (HUV 407)

(46)　This effectively reduces the file packing, and may also **cause** fixed lengths *to become* variable in length. (FPG 515)

Collexeme (n)	Distinctiveness	Collexeme (n)	Distinctiveness
1 **be** (8)	5.61	11 deposit (2)	2.45
2 *rise* (4)	4.89	12 differ (2)	2.45
3 **become** (5)	4.84	13 evolve (2)	2.45
4 *collapse* (3)	3.67	14 overestimate (2)	2.45
5 reach (3)	3.67	15 slow down (2)	2.45
6 *fall* (4)	2.90	16 suffer (3)	2.43
7 see (5)	2.72	17 describe (2)	1.99
8 apprehend (2)	2.45	18 generate (2)	1.99
9 *approach* (2)	2.45	19 separate (2)	1.99
10 break up (2)	2.45	20 increase (2)	1.99

Table 12. Most distinctive collexemes for [X *CAUSE* Y V$_{to\text{-}inf}$]

These two verbs, in fact, belong to a small group of non-volitional verbs, together with *see* and *suffer*, e.g. (47), which suggests that the classic example *cause to die* may not be such an improbable combination after all.[31]

(47)   Not long afterwards, his attention fixed on the sufferings of those Poles who had
       caused their Jews *to suffer*, Mendel falls silent, thinking: "Not only us."
       (A05 1531)

Examining the complete list of collexemes of [X *CAUSE* Y $V_{to\text{-}inf}$] (i.e. beyond the twenty collexemes shown in table 12) also reveals the presence of a number of verbs of motion, as was shown to be the case for the present participle construction with *get* and *have*. With *cause*, however, the verbs are more specific (e.g. *rise, collapse, fall, gyrate, swing round, collide* or *flow*, to be compared with *going* or *coming* for [X *GET* Y V_{prp}] and [X *HAVE* Y V_{prp}]) and they often refer to a scientific context, which confirms the stylistic preference of this verb for scientific genres (cf. Gilquin 2004; see also Chuquet & Paillard 1987: 170). A typical example of the construction would be:

(48)   This cam is in turn pinned to the upper arm of the bell crank C. The resulting
       rotation of the crank about its fixed pivot **causes** the horizontal portion *to rise* and
       fall, lifting link member D and with it the vertically constrained rod member E. The
       needle carried in a collet at the lower end is thus made to oscillate vertically.
       (FE6 1625)

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[31] The collexeme *die* has a (non-significant) distinctiveness value of 1.21 in [X *CAUSE* Y $V_{to\text{-}inf}$]. It occurs twice in the data, once with animate participants and once with inanimate participants:

(i)   Using unsafe desensitisation, conventional allergists and general practitioners have **caused** 26
       patients *to die* since 1957.
       (EC7 1596)
(ii)   For example, the neocortex is connected to the thalamus in such a way that destruction of part
       of the cortex **causes** cells in a corresponding part of the thalamus *to die*, a process known as
       "Retrograde degeneration".
       (CMH 797)

Grouping together the copular verbs *be* and *become* and the verbs of motion, we can conclude that [X *CAUSE* Y V$_{to\text{-}inf}$] is most distinctively used to express the process through which a transformation or a specific movement is caused.[32]

7. Additional parameters

It was demonstrated in section 5.2 that the form of the V slot is crucial in determining the collexemes of causative constructions, and hence their meanings. The whole analysis was therefore carried out on the basis of the more specific schemas, one for each type of non-finite complement occurring with the different causatives. Other factors, however, appear to influence the collostructional profile of a construction, too. In the case of causative constructions, these factors include (but may not be limited to) medium and/or text type, inflection of the causative and sense of the non-finite complement. For lack of space, these factors will only be briefly discussed, but each of them would be worth exploring in more depth.

As a rule, the association strength between verbs and constructions seems to be stronger in speech than in writing. Thus, the collexeme most strongly attracted to [X *HAVE* Y V$_{pp}$] in speech has a value almost three times higher than its equivalent in writing.[33] The difference between the two media is not only quantitative, but also qualitative, with the spoken and the written [X *HAVE* Y V$_{pp}$] construction presenting different collexemes. While the top two collexemes in speech are *do* and *cut*, in writing they are *baptis/ze* and *recognis/ze*.[34] None of these collexemes ever occur in

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[32] This description may remind one of Langacker's (1991: 13) "billiard-ball model", which views the world as "populated by discrete physical objects (…) capable of *moving* about through space and making contact with one another" (emphasis added). It should be noted, however, that this type of causation is hardly ever expressed in English by means of a periphrastic causative construction, neither with *cause* nor with any other of the causatives investigated here (see Gilquin 2006).

[33] These results have been obtained by means of a "simple" distinctive collexeme analysis comparing [X *HAVE* Y V$_{pp}$] in speech and writing. For more details about the computation of this analysis, see Gries & Stefanowitsch (2004a).

[34] Note that a verb like *baptis/ze* can still be regarded as belonging to the frame of service, which was shown to be typical of the construction.

the other medium. In fact, only 13 out of the 201 collexemes of the construction are shared by both media (i.e. 6.5%).

In addition, it turns out that the different inflected forms of the causative may have distinctive collexemes in the V slot. Table 13 illustrates this phenomenon for [X *MAKE* Y V$_{inf}$]. The results are particularly striking for the verb *wonder*, which is highly significantly preceded by the form *makes*, rather than *made*, *make* or *making* (distinctiveness value of *makes* = 14.29, $p < 0.001$; SumAbsDev = 24.02). In other words, a sentence such as (49) is far more probable than one such as (50).

(49)   You know it makes you < pause > well it **makes** you *wonder* whether < pause > something could be done without placing him, for his sake!
       (KBG 40)

(50)   The new titles limit the poems to the field of moral tracts, and **make** one *wonder* exactly what Wordsworth thought his poems were about.
       (CAW 1079)

In the same way, we can see from table 13 that *work* and *do* are significantly preceded by *make*, *laugh* and *think* by *makes*, *cry*, *have* and *jump* by *made*, and *pay* by *making*. All these differences seem to confirm the idea that "each distinct form is potentially a unique lexical unit" (Sinclair 1991: 8).[35] They also bring to light what could be prefabricated chunks, cf. (*it*) *makes you wonder* above.

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[35] See Newman & Rice (2006) for an application of this idea to the collocations of *eat* and *drink*.

Collexeme	made	make	makes	making	SumAbsDev	LargestDev
1 wonder	-2.87	-5.65	14.29	-1.22	24.02	makes
2 work	-1.55	4.32	-1.76	-0.48	8.12	make
3 do	-0.95	2.45	-3.12	1.04	7.56	makes
4 laugh	0.27	-1.42	3.22	-1.90	6.82	makes
5 think	0.29	-2.76	3.13	-0.31	6.50	makes
6 seem	0.81	-3.31	1.01	1.05	6.18	make
7 cry	3.53	-1.01	-0.94	-0.28	5.76	made
8 have	3.01	-1.23	-1.07	0.29	5.60	made
9 pay	-1.11	0.31	-0.88	2.64	4.94	making
10 jump	2.26	-0.39	-0.99	-0.51	4.14	made

Table 13. Multiple distinctive collexeme analysis for [X *MAKE* Y V_{inf}] according to the form of *MAKE*

Finally, there is a good case for arguing that verb sense should ideally be taken into account in a collostructional analysis (see also Gries & Stefanowitsch 2004a: 125). One example should suffice to illustrate this. The verb *look* occurs both in [X *GET* Y $V_{to\text{-}inf}$] and [X *MAKE* Y V_{inf}], but tends to be used differently. With *make* it is normally used non-volitionally as a descriptive verb, cf.

(51)   Your hair's different and it **makes** you *look* completely different.
       (KC7 25)

With *get*, by contrast, this sense never occurs in the data. Instead, *look* is used as a volitional and abstract process, synonymous with *consider*, e.g.

(52)   The therapist tried to **get** her *to look* at such situations from her parents' viewpoint.
       (B30 749)

These two senses, it will be noticed, confirm the tendencies outlined above (non-volitional causation with *make* and potentially difficult process with *get*, cf. *tried to* in (52)), which suggests that taking verb sense into account will not invalidate the results of the analysis, but on the contrary, will make it possible to improve them, as confirmed by Gilquin (forthcoming). More generally, it appears that parameters such as those introduced in this section help refine the description of constructions and should therefore be considered when carrying out a collostructional analysis.

8. Conclusion

The multiple distinctive collexeme analysis carried out on English periphrastic causative constructions has demonstrated that, far from being "always safe", these constructions actually show very strong preferences for particular (groups of) verbs in the non-finite V slot. In addition, these collexemes tend to be different for the ten constructions investigated, which argues for treating each causative construction as a construction in its own right, rather than describing them as (near) synonyms, as is often the case in the literature.

By examining how the main collexemes fall into semantic classes, it has also been possible to establish, with various degrees of confidence, a meaning distinctively associated with each construction, as summarized in table 14. It goes without saying that a closer examination of **all** the collexemes (including collexemes with a lower distinctiveness value,[36] collexemes not belonging to a particular semantic class of verbs, as well as collexemes repelled by the construction) would reveal other, less typical meanings, and would therefore help provide a better description of all the uses of causative constructions.

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[36] This was done for the *cause* construction. The issue has already been raised with respect to collocations. Stubbs (1995a: 249) notes that "[w]hat is significant is the summed frequency of semantically related items", and to this, even less frequently occurring words can contribute.

Construction	Distinctive Meaning
[X *CAUSE* Y V$_{to\text{-}inf}$]	'To cause a transformation or specific movement'
[X *GET* Y V$_{to\text{-}inf}$]	'To elicit words or agreement'
[X *GET* Y V$_{pp}$]	'To carry out an action in difficult circumstances or under a tight schedule'
[X *GET* Y V$_{prp}$]	'To set an object in motion, usually with difficulty' [also metaphorical]
[X *HAVE* Y V$_{inf}$]	'To elicit a mental response' [mainly idiomatic]
[X *HAVE* Y V$_{pp}$]	'To commission someone to do something'
[X *HAVE* Y V$_{prp}$]	'To set an object in motion' [also metaphorical]
[X *MAKE* Y V$_{inf}$]	'To cause a process that is not directly dependent on the CAUSEE' (especially impressions, mental and physiological processes)
[X *be made* V$_{to\text{-}inf}$]	'To cause a process that is not directly dependent on the CAUSEE' [less marked]
[X *MAKE* Y V$_{pp}$]	'To exercise some sort of influence'

Table 14. Meanings distinctively associated with periphrastic causative constructions

Moreover, it has been claimed that multiple distinctive collexeme analysis can be refined by taking other factors into account such as text type, inflection or verb sense. All these parameters have been shown (if only briefly) to have some quantitative and qualitative influence on the results and would therefore deserve more attention than they have been given so far in collostructional analysis.

Finally, this study is an illustration of how multiple distinctive collexeme analysis can be complemented by other methods, be it from the family of collostructional analysis (cf. "simple" distinctive collexeme analysis comparing [X *HAVE* Y V$_{pp}$] in speech and writing) or from other types of analyses (e.g. semantic prosody of the construction or nature of its participants). Such additional methods, by examining the data from a different (but complementary) angle, help interpret the results of the multiple distinctive collexeme analysis, thus making the technique even more powerful.

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