

Categorization of Causation: Directness or Animacy?

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Abstract

The categorization of English causative constructions turns commonly around the notion of directness, with little consensus among linguists on the exact definition of this concept. The use of directness as a clustering parameter results in a twofold categorization of English periphrastic causative constructions, namely direct and indirect causatives. This paper reveals the inaccuracy of this distinction and advocates the relevance of frequency and correlational information in the categorizing process. The clustering of English periphrastic causative constructions with regard to the animacy feature offers a better understanding of causal relations and results in a fourfold categorization of causative constructions into physical, volitional, affective and inductive causatives.

Keywords: Causation, Categorization, Directness, Animacy, Iconicity

1. Introduction

Knowledge representation and categorization strategies are recurrent themes in experimental psychology and cognitive linguistics. Category membership critically involves family resemblance and the occurrence of featural similarity. Frequencies of instances of categories and of properties can have a powerful influence on later judgments of category membership, both in terms of the speed of such judgments and in terms of one's confidence about category membership (Hampton, 2000; Smith & Medin, 1981).

The understanding and representation of causative relations involve noticing how the different causative entities interact and how often various properties occur and co-occur. Rather than focusing on directness, or the distinction between direct and indirect causatives, the use of animacy is central to the understanding and clustering of causative constructions.

2. Categorization of causative constructions

Causation involves a rather complex process in which the occurrence of one event results in the occurrence of a subsequent one. The representation of this causative relation requires the distinction between two basic entities: the causative action and its resulting effect. Two conditions, stated in Shibatani (1976), govern the causative situation: the first is temporal, whilst the second is counterfactual:

- The caused event occurs after the causing event.
- The occurrence of the caused event is wholly dependent on the occurrence of the causing event.

This definition is broad in use, covering a wide scope of causative constructions, even though not all linguists agree as to what exactly should be labeled as 'causative'. More interestingly, it implies a pragmatic inference between the causing event and the caused event, which opens the way to establish a direct dependency between the causing action and its resulting effect. Not surprisingly then, most linguists sketch the meaning differences between the various causative constructions with reference to the nature of the action carried out by the causer, that is "*whether the causer acts directly or indirectly to bring about the caused event*", which Dixon (2000, p. 67) considers as the main parameter in causative categorization. To put it differently, direct causation implies that the causer is the first to act (intentionally or not) on the causee before it undergoes a change of condition or state. Indirect causation, on the other hand, involves a situation in which the causee's change of state does not necessarily ensue from the causer's action.

2.1 Directness as a Semantic Parameter

The conception of the causative relation as a change of state interaction between the causer and the causee implies the existence of two types of action which guide the occurrence of the resulting effect:

- The causer's own action brings about the effect;
- The causer gets the effect through a third person or entity.

Sentences (1) and (2) below are causatives because they both imply the idea of ‘someone bringing about something’. The two sentences differ, however, with regard to the complexity of the causal process: sentence (1) sketches a direct physical contact between the causer and the causee, whereas the occurrence of the caused event in sentence (2) requires the presence of a third entity to carry out the resulting effect. The sentence implies, therefore, a complex causal chain which confines the causer in the mere role of simple instigator of the causal process.

- 1) John grows corns in his farm
- 2) The Queen of England grows potatoes in Argentina

Most linguists oppose these two causative constructions with regard to the notion of directness that is the presence or absence of physical contact between the causer and the causee (Comrie, 1985; Cruse, 1972; Nedjalkov & Silnickij, 1973; Rice, 2000; Shibatani, 1976; 2002; Verhagen & Kemmer, 1997; Wolff 2008, among many others). Basically, the principle of physical contact involves the existence of a spatiotemporal contiguity between the causative events. Hence the proposition of Ingarden (1948) to consider as indirect causes the cases in which there is a time interval between the occurrence of a certain effect ‘e’ and the realization of a certain cause ‘c’. While direct causes would refer to the cases in which the time laps which separates the effect ‘e’ from the cause ‘c’ does not exist.

Shibatani (1976) models this temporal condition in terms of spatiotemporal configurations, and founds his distinction between direct and indirect causatives on the following criteria:

- (i) Presence or absence of a third entity to carry about the causing event;
- (ii) Co-temporality or time-laps between the occurrence of the causing event and the occurrence of the caused event;
- (iii) Unity of space or spatial distance between the causing event and the caused event.

Prototypically, causative constructions require the unity of time and space between the causing and caused event, as well as the absence of intermediate entities. Non-prototypical causative constructions involve a spatiotemporal distance between the two events, and the existence of a complex action chain composed of several intermediate entities.

2.2 Causal Chain and Event Conception

The notion of causal chain plays an important role in the analysis and portrayal of causative events. Consider the causal event “*the 9/11 attacks paralyzed the world economy*”. The understanding of this event takes the form of a series of causally-linked and temporally-ordered actions. Our cognitive faculties and encyclopedic knowledge of the world allow us to elaborate the following causal chain:

3. The 9/11 attacks paralyzed the world economy
 - a. Terrorists took control of some planes
 - b. They hit the World Trade Center with the planes

- c. The force of the explosion blew up the World Trade Center
- d. Economic transactions were disrupted
- e. The world economy was paralyzed

Given the complexity of this causal chain, lexical causatives reveal to be as multi-event and complex forms as periphrastic causatives. In addition, people vary considerably in the depth of their understandings of causal relations, and therefore, in their clustering of causative constructions. This variation in the decomposition and conceptualization of causative events brings us to consider causative categorization as a specific type of the cognitive perspective, in which the notion of directness has no role to play. Pinker (1989) defends this same hypothesis, when he claims that: “*there is no such thing as direct causation: when I cut an apple, I first decided to do it, then send neural impulses to my arm and hand, which cause the muscles to contract, causing the hand to move, causing the surface to rupture and so on*” (p. 86).

Every (human) action is therefore intrinsically complex, varying only with regard to its linguistic encoding, which depends solely on the way the speaker conceptualizes the world. Due to this subjectivist dimension of language, the only difference between causative structures is related to the encoding type of the causal chain. This means that the causal link does not depend on the presence or absence of contact per se, but on the way we conceptualize the situation and the aspects that we perceive as more salient and that we treat as such.

2.3 The Directness Parameter and the Iconicity Principle

It has been demonstrated in literature that periphrastic causative constructions, which require a two-verbs structure, indicate two separate events, whereas lexical causative constructions, introduced by a single verb, point out a single event. A number of linguists encode this structural difference in the linguistic expression of causation. Thus, lexical causatives depict a direct causative situation, while periphrastic causatives entail an indirect causative relation (Dixon 1991; 2005; Fodor 1970; Mel'cuk 1994; Ruwet 1972; Shibatani 1976; 2002; Wierzbicka 1975; 1980, among others).

Linguistic distance and conceptual distance continually overlap, such that:

- (i) The linguistic distance between expressions corresponds to the conceptual distance between them;
- (ii) The linguistic separateness of an expression corresponds to the conceptual independence of the object or event which it represents (Haiman, 1983: 782-3).

Applied to causative constructions, this iconic principle indicates that direct causation sketches a conceptual adjacency between the causative action and the resulting effect, which corresponds to a maximal linguistic integration between the cause predicate and the effect predicate. In contrast, indirect causation, in which the cause is conceptually distant from the effect, is introduced by two predicates which are linguistically distant from each other. As a

result, lexical causatives are commonly considered to be more direct than periphrastic causative constructions.

Similarly, Duffley (1992) hinges on this analysis and logically concludes that the bare infinitive pattern is synonymous of temporal adjacency between the action denoted by the matrix and the event or state indicated by the complement, while the full infinitive corresponds to a temporal distance between the action of the matrix and the occurrence of the complement. When applied to periphrastic causative verbs, this analysis implies that “[the verb] *make can be characterized as denoting causation as direct or ‘concurrent’ with the production of the effect (...). [The verb] cause, in contrast, denotes causation as indirect or ‘antecedent’*” (Duffley, 1992: 60-1).

Consequently, this extension of the iconicity principle would oppose periphrastic causative constructions among themselves. This fact emerges clearly in the causal mapping defended by Khalifa (2006). Based on the assumption that “*direct causation is expressed without TO while indirect causation is expressed with TO*” (ibid, p. 149, my translation), the author claims that the verbs HAVE and MAKE convey a direct causative relation, while the verbs CAUSE and GET portray an indirect causative situation.

2.4 Critique of the Iconicity Principle

Most descriptions of the semantics of causation focus on some iconic motivations, which reveal though to be far from being universal. The analysis of French causative constructions, with reference to iconicity, predicts, against the facts, that the French verb FAIRE displays a stronger causal link than its English counterpart MAKE, since the predicates of cause and result are less remote with FAIRE than with MAKE¹. Even more surprisingly, the verb FAIRE, which can be either adjacent to the infinitive verb - “il a fait douter Marie” (‘he made Mary doubt’) - or remote - “il a fait en douter Marie” (‘he made Mary doubt it’) - should, therefore, evoke both direct and indirect causation. Similarly, a number of diachronic studies show the double complementation of the verb MAKE, which used to occur with either a bare or full infinitive, suggesting, thus, an equal use of MAKE to denote both direct and indirect causation. The following example, cited in Fisher (1995, p. 23), illustrates this double complementation of MAKE:

4. And slepyng in hir barn upon a day / She made to clippe or shere his heres away / Andmade his foomen al his craft espyen. (Chaucer, Canterbury Tales, Monk 2064-2067)

Verhagen & Kemmer (1997) advocate the existence of an overlap between the categorization of causation and the lexical properties of the participants in the causal process. Since the general belief requires that an animate can act on another animate only through the physical world, that is indirectly, the authors claim that indirect causation requires – prototypically – an animate context (ibid, p. 71). Consequently, the verb CAUSE, which denotes indirect causation, should prototypically occur in animate contexts. Our corpus data challenges, however, this assumption, and shows a scarce use of CAUSE with animate participants (see

¹ Compare: *Il leur fait tourner la tête*
He them made turn the head
Versus. He made their head turn.

table 1, below). And even the analysis of a larger corpus confirms this tendency of CAUSE to occur in inanimate contexts. In fact, Gilquin's study of the occurrences of CAUSE in the BNC reaches similar results (see table 2, below).

Table 1. Distribution of animacy in the ICE-GB with the verb CAUSE

<i>Lexical Configuration</i>	<i>Frequency</i>
Causer [+ animate]; Causee [+ animate]	5 (13.51%)
Causer [+ animate]; Causee [– animate]	0 (0%)
Causer [– animate]; Causee [+ animate]	8 (21.62%)
Causer [– animate]; Causee [– animate]	24 (64.86%)
<i>Total</i>	37 (100%)

Table 2. Distribution of animacy in the BNC with CAUSE (Gilquin, 2004: 198)

<i>Lexical properties</i>	<i>Frequency</i>
Causer [+ animate]	18 (8.69%)
Causer [– animate]	189 (91.30%)
Causee [+ animate]	71 (34.29%)
Causee [– animate]	136 (65.70%)
<i>Total</i>	207 (100%)

Moreover, how do we reconcile the widely-accepted proposal according to which lexical causatives denote a direct causation, while periphrastic causatives express an indirect causation, with the often proven fact that some periphrastic causative constructions can express indirect causation? In other words, how can we claim that MAKE expresses an indirect causation type in the sentence “*John Makes the chair move*”, when compared to the lexical causative “*John moved the chair*”, and argue, at the same time, that this same verb expresses a direct causation, if compared to CAUSE, in the construction “*John caused the chair to move*”?

This ambiguity is mostly due to the vagueness in the definition of directness. Little consensus exists, in fact, among linguists on the exact definition of what can be labeled a ‘direct’ or ‘indirect’ causation. Throughout literature, direct causation has been defined in terms of contiguity (Fodor 1970; Goldberg 1995), intentionality (De Lancey, 1985; Talmy, 1976, 1988), mediation (Comrie, 1985; Cruse, 1972; Kemmer & Verhagen, 1994; Rice, 2000;

Verhagen & Kemmer, 1997; Wolff, 2008), physical contact (Ammon, 1980; Dixon, 2000; Nedyalkov & Silnistky, 1973; Shibatani, 1976, 2002; Wierzbicka, 1975), conventionality (Shibatani, 1975), or prototypicality (Lakoff & Johnson, 1980).

This definitional confusion undermines the pertinence of directness as a categorizing parameter. Consequently, the labels of direct and indirect causation have been applied conversely, depending on languages. This inaccuracy upholds Wierzbicka's criticism of this parameter, since "what is called 'direct causation' or 'strongly coercive causation' in one language is usually different from what is called 'direct causation' or 'strongly coercive causation' in another » (1988: 240). These disparities seem to persist even within the same language. Indeed, linguists often disagree on what constitutes a case of direct causation and what can be labeled as indirect causation. Sign of this ambiguity is the characterization of HAVE as an indirect causative verb by Dixon (1991/2005), while Khalifa (2006) considers it as a direct causative verb.

Rather than holding to one of these definitions of directness than the other, I claim that animacy constitutes a far more pertinent categorizing parameter. Indeed, the analysis of the distribution of animacy throughout the ICE-GB corpus offers an insightful characterization of the categorization of English periphrastic causative verbs.

3. Animacy as a New Categorizing Parameter

Animacy, or the distinction between animate and inanimate entities, constitutes a powerful parameter scarcely used in linguistic analysis. The analysis of the lexical properties of English periphrastic causatives in the British Component of the International Corpus of English (henceforth ICE-GB) challenges Duffley's drawing on iconicity to categorize English periphrastic causative constructions into direct and indirect causatives, and offers a finer representation of the semantics of causation.

3.1 The Causal Scenario

Causation is a complex phenomenon which is part of the language universals. Typically, a causative situation includes a minimum of two participants, carrying about two distinct-yet-related actions (Charaudeau, 1992:390). The relation between these two participants takes the form of an interactional scenario, whereby an energetic flux emanates from the causer (energy source) and heads to the causee (energy sink), bringing therefore about the causal effect (Langacker 1987; 2002; Croft 1991). The nature of these participants, regarding animacy, plays an essential role in the elaboration of the different types of interactions which govern the various causative constructions. Following Talmy (1976), I suggest a causative typology which focuses on the animate or inanimate nature of the two participants in the causative relation. Hence, the distinction between these four basic causative categories:

- A. Physical: Causer [– animate]; Causee [– animate]
- B. Affective: Causer [– animate]; Causee [+ animate]
- C. Volitional: Causer [+ animate]; Causee [– animate]

D. Inductive: Causer [+ animate]; Causee [+ animate]

The modeling of typical causative situations to mirror the actions of natural forces on the objects of the world results in the portrayal of physical causatives as more prototypical than inductive causatives. Given the correlation between animacy and volition, inductive causatives would imply a higher degree of resistance from the causee to the action of the causer. This kind of mental interactions is less prototypical of the causal phenomenon than the physical type of action. Affective causatives as well as volitional causatives are situated within these two poles of the causal continuum.

3.2 Lexico-semantic Properties of Causative Verbs and Types of Causation

The analysis of the occurrences of the verbs CAUSE, MAKE, HAVE and GET throughout the ICE-GB reveals a disparity regarding the type of contexts in which each of these verbs occurs. Based upon the data collected from our corpus study, the verb CAUSE, which occurs mostly in inanimate contexts, seems to be prototypical of physical causatives². Opposite to CAUSE are the verbs HAVE and GET, which prototypically express an inductive causative type. The verb MAKE portrays an eclectic use, as it shows a balanced frequency between these four causative categories, though with a little tendency towards affective causatives (see table 3, below).

Table 3. Types of causation in the ICE-GB corpus

Verb	CAUSE	MAKE	HAVE	GET	Total
<i>Inductive causation</i>	5 (13.51)	37 (31.62)	59 (88.05)	69 (80.23)	170 (55.37)
<i>Volitional causation</i>	0 (–)	12 (10.25)	7 (10.44)	15 (17.44)	34 (11.07)
<i>Affective causation</i>	8 (21.62)	46 (39.31)	0 (–)	1 (1.16)	55 (17.91)
<i>Physical causation</i>	24 (64.86)	22 (18.80)	1 (1.49)	1 (1.16)	48 (15.63)
Total	37 (100)	117 (100)	67 (100)	86 (100)	307 (100)

(NOTE: Percentages are between brackets).

Based on this analysis, animacy proves to be an effective clustering parameter, as it offers a more complete causative typology than the mere use of directness. The data shows, in fact, that no single verb is limited to a specific causative type, but covers – though in different proportions – several categories. Also, it reveals a more frequent use of inductive causatives, which account for more than half of the total occurrences of periphrastic causative constructions in the ICE-GB (over 55 percent). Volitional causation is, on the other hand, the least frequent type of causation throughout this corpus.

² This explains the high frequency of CAUSE in the scientific discourse, which favors the identification of causes rather than the formulation of judgments.

Rather than describing English periphrastic causative verbs in light of whether or not they denote a direct or an indirect causative action, I advocate the use of animacy as a newly clustering parameter, which offers a larger causative typology. Not only does this typology take full account of the conceptual dimension of causative situations, but also it clearly reflects the polysemy of English periphrastic causative verbs and reveals their lexico-semantic properties, regarding animacy.

4. Conclusion

The complexity of the causal phenomenon and the diversity of relations which could receive a causative interpretation reveal the failure of the notion of directness to fully capture the essence of the causative categorization. Language does not mirror the world as much as it reflects a certain vision of it. The clustering of causative constructions is in line with the prototype theory's credentials and cognitive linguistics' modeling. Rather than focusing on the ill-defined notion of directness, the use of animacy is revealed to be central to the understanding and clustering of causative constructions.

The fourfold categorization of English periphrastic causative constructions into physical, affective, volitional and inductive causative types stresses our naïve conception of causative relations, which distinguishes intuitively between mental interactions, that take place between animate (human) entities, and physical interactions, which occur between the objects of the physical world. This distinction underscores the importance of animacy as a powerful categorizing tool whose use in linguistic analysis offers a new finely-tuned causative typology.

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