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Causation in Dutch and French: Interpersonal aspects

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1. Introduction

Causation is probably one of the most extensively investigated topics in any discipline whatsoever, and in linguistics in particular. From Ancient Greek times up to the present, philosophers have tried to circumscribe the concept, concluding sometimes that it is not definable. In Foulquié and Saint-Jean (1978: 572), for instance, causality is considered as a primary principle, that is "evident, not provable, and presupposed in any rational activity of the mind". Mackie (1980) calls causation "the cement of the Universe" — an idea which is reflected in the scientific notion of causality in the physical world in which "the totality of phenomena constitutes a causal continuum of which any conceptually delimited portion, an 'event', is understood as relating causally outside itself and containing causal relations within" (Talmy 1976: 47). It should not surprise us then that causation is such a pervasive phenomenon in natural language which can be expressed by numerous linguistic alternatives. Altenberg (1984) has in fact identified nearly one hundred possible explicit links for encoding a causal relation between two propositions. Any language user is thus

confronted with the problem of choosing one alternative among this huge number of causal expressions. But, how is this choice constrained? Why does a language user choose one link over another? This same question arises in natural language generation, where it is crucial that the rules to select one linguistic structure over another be made explicit. Text generation is indeed a process in which meaning — represented as non-linguistic knowledge at a higher level of abstraction than wordings — is organised and re-expressed over a number of steps so that it can be presented as worded units. So, in order to use and generate the different possible causative constructions appropriately, we have to know what their underlying meaning is.

In accordance with the 'one meaning, one form' principle advocated by linguists working in a semiotic approach (e.g. Bolinger 1968; Halliday 1978; Wierzbicka 1988), I assume that all these different causative constructions have their specific meanings and functions — different semantics being encoded in different lexicogrammatical structures. This view on language pervades the systemic functional approach where it is posited that the relation between semantics and lexicogrammar is a 'natural', non-arbitrary one (cf Halliday 1985: xiii-xxxv), in other words, semantics and lexicogrammar are dependent on one another. Language is interpreted as a resource for making meanings, which is organised functionally, textually, and communicatively. This makes it also suitable as a theoretical foundation for (monolingual and multilingual) text generation (see also, Matthiessen and Bateman 1991; Bateman, Matthiessen and Zeng *in prep.*).

In this paper, I will discuss some aspects of the theoretical basis for generating causative constructions in Dutch and French in a systemic multilingual grammar for generation¹. The grammar follows the

¹ The multilingual grammar is currently under development at Sydney University and in the KOMET project at IPSI, Darmstadt. It is based on Nigel (Mann, 1985), a computational grammar for generation of English developed in the Penman Project at ISI/USC. Other languages being worked on include German (Teich 1991, 1992), Dutch (Degand 1993),

assumption in systemic functional linguistics (SFL) that commonality across languages is functional in the first instance, not structural or realizational: functionality has to be preserved across languages, but structural realisations may very well differ (Bateman, Matthiessen, Nanri and Zeng 1991). This means that within a functional framework different languages can be treated in a similar way. The common functionality is realised stratum by stratum in the linguistic system (composed of the three strata: semantics, lexicogrammar, and phonology). Within a particular stratum, it is expressed by the paradigmatic, systemic organization of that stratum in the first instance, and only secondarily by the syntagmatic organization (structural realisation). With this kind of organization of (multilingual) linguistic resources, it is ensured that the multilingual system is more than a loosely coordinated set of separate generation systems. While my ultimate interest in causation derives from my interest in multilingual grammar for text generation, the focus of this paper will be mainly on the organisation of the lexicogrammatical stratum in the area of causation.

After a brief sketch of the lexicogrammatical potential for expressing causation in natural language, more specifically in Dutch and French, I will try to give a semantic description of these causative constructions focusing both on the common and diverging underlying meanings of the different realisational alternatives. Attention will be paid to the specificities of working in a multilingual environment. I will then concentrate on the so-called *analytic* (or periphrastic) causative construction and show how this particular type of causal realisation can be accounted for in a systemic framework, arguing that it is in fact realised interpersonally by grammatical metaphor. The emphasis in this paper will be on the descriptive account underlying the generation process; no effort will be made to develop details of the generation process itself.

2. Causative constructions in Dutch and French

The grammar of any natural language provides us with a multitude of different types of causal expressions, some of which are displayed for Dutch and French in the examples given below. Note that this list is far from exhaustive. Moreover, the Dutch and French examples have been grouped according to their structural realisation for ease of illustration, since my aim is to demonstrate the wide variety of possible grammatical constructions. But these constructions are not offered as real translations of each other, in the sense that they might put different constraints on the context of situation in which they may appear; the same is true of course for the English translations (in sections 3 and 4, I will consider this question in more detail).²

- (1) i *Hij blijft thuis, want hij is ziek.*
 hestays home for heis ill
 Il reste à la maison, car il est malade.
 hestays at the house **for** heis ill
 He stays at home, **for** he is ill.
- ii *Ik ben te laat, omdat ik mijn treingemist heb.*
 I am too late because I my train missed have
 Jesuis en retard, parce que j' ai raté mon train.
 I am late because I havemissed my train
 I am too late, **because** I missed my train.
- (2) i *Ze heeft een ongeluk veroorzaakt.*
 she has anaccident provoked
 Elle a causé/provoqué un accident.
 she has caused/provoked anaccident
 She **has caused** an accident.
- ii *Hij bewoog zijn hand op en neer.*
 hemoved his hand up and down
 Il bougeait sa main de bas en haut.
 hemoved his hand from down to up

² Wherever relevant examples will present parallel texts in Dutch and in French, both italicised. Each of these is followed by a line of literal translation. The final line of each example provides one idiomatic English translation equivalent adequate for both languages. The item specifically under focus is highlighted in bold.

He **moved** his hand up and down.

- iii *Piet liet Marie een auto kopen.*
 Pete let Mary a car buy
Pierre fit acheter une voiture à Marie.
 Pete made buy a car to Mary
 Pete **had** Mary buy a car.

- (3) *Jij bent de oorzaak van al onze problemen.*
 you are the cause of all our problems
Tu es la cause de tous nos problèmes.
 you are the cause of all our problems
 You are **the cause** of all our problems.

- (4) i *Door de gladde wegen is bijna niemand op tijd kunnen zijn.*
 due to the slippery roads is nearly nobody on time can be
A cause des routes glissantes, pratiquement personne n'a
 because of the roads slippery practically nobody not has
pu arriver à temps.
 could arrive on time
Because of the slippery roads hardly anybody could make it on time.

- ii *Ten gevolge van het ongeluk ontstond een lange file.*
 As a result of the accident occurred a long line
Suite à l'accident, il y eut une longue file.
 As a result of the accident it there had a long line
As a result of the accident there was a traffic jam.

In traditional descriptive grammars, these different constructions are classified according to the grammatical category of the causal element, i.e. the linguistic element which endows the clause with a causal meaning. Thus in (1) the causal element is realised by a coordinating or subordinating conjunction; (2) displays different types of verbs with a causal meaning: inherently causative verbs, intransitive verbs that are used transitively, causal auxiliaries. In (3), the causal element is expressed in a nominal phrase, and in (4), in a prepositional phrase. All of these structures have a common underlying meaning (at least partially) which needs to be captured, namely causation, but which is not accounted for in these types of grammars, since semantics is described independently of the grammar. In meaning-based grammars such as systemic functional grammar (SFG), grammar and semantics are described as dependent on each other. Thus, before we go on with the description of the semantics of causation, let us consider briefly how these different realisations could be accounted for on the lexicogrammatical stratum in a systemic framework and how this common underlying meaning can be captured.

In systemic terms, the causal element realised by different lexicogrammatical means in the examples given above can be described either as an enhancing relation between two processes in a paratactic or hypotactic complex clause as in (1). In simplex clauses involving only one process, causation can be (partially) encoded in the process as in (2), or as a participant as illustrated by (3), or as a circumstance as shown by (4). All these different syntagmatic realisations are linked paratactically to their common underlying meaning (see also Halliday 1985: 378-384). But as mentioned before, the lexicogrammatical realisations cannot be considered independently from their semantics, to a consideration of which we turn now.

3. The semantics of causation

3.1 One form, one meaning

In order to distinguish the different alternative constructions for expressing causation, whether in one language or cross-linguistically, the semantics of causative expressions is usually described in terms such as direct vs. indirect causation, strong coercion vs. weak coercion, factitive vs. permissive causation, manipulative vs. directive causation etc. (see e.g. Comrie 1974, 1985; Givón 1975; Talmy 1976; Shibatani 1976). In a cross-linguistic study on the semantics of causative constructions, Wierzbicka (1988) points out that these different "ready-made" labels are in fact not applicable cross-linguistically to individual languages. What is called direct causation or strongly coercive in one language is very often different from what is called direct causation or strongly coercive in another. This does not mean that there are no similarities across languages in the area of causation. Wierzbicka shows that causative constructions can be described as unique combinations of semantic components:

The individual components — such as, for example, 'Y wanted it' or 'Y didn't want it' — frequently recur in the world's languages. But the configurations of such components tend to be unique, and cannot be adequately captured in global labels such as 'indirect', 'manipulative', 'distant', and the like (Wierzbicka 1988: 240).

It seems necessary then to decompose the meaning of causative constructions into their semantic components. Not only is this necessary in order to distinguish the meaning of different causative constructions within one language, such as for example the following pair of English examples (Wierzbicka 1988: 240):

- (5) i Hilary made Robin type the letter.
 ii Hilary had Robin type the letter.

but it is also necessary in order to predict, for example, the difference in use of the English indirect *make* causative and the French *faire* one, as shown by (6) (Wierzbicka 1988: 244):

- (6) i *Le colonel a fait fondre (*a fondu) trois sucres dans*

The colonel has made dissolve (* has dissolved) three sugar in
son café.
 his coffee.
 The colonel dissolved three lumps of sugar in his coffee.

- ii *Le métallurgiste a fait fondre / a fondu le métal.*
 The metallurgist has made dissolve / has melted the metal.
 The metallurgist melted the metal.

Example (6) illustrates that the analytic causative construction, which is productive in both languages, and which looks very similar from a structural point of view, does in fact not apply in the same context. Both in (6i) and (6ii), English calls for a simple lexical causative and the analytic *make* construction is inappropriate; in French, however, either the simple lexical causative or the analytic construction is an equally possible alternative in clauses of the type illustrated by (6ii), whereas in an environment of the type represented by (6i), the *faire* causative must be used (I will come back to this example in Section 5.2, my interpretation of this phenomenon being different from Wierzbicka's). Thus in order to use and generate these constructions correctly, i.e. to select the correct construction for a given context, "we have to identify the unique meaning of each construction, rather than try to rely on language-independent global labels such as 'direct' and 'indirect'." (Wierzbicka 1988: 244-245). In section 4, I will try to provide such a fine description for the analytic causative constructions both in Dutch and in French. This detailed description should enable us to represent these constructions with enough delicacy on the lexicogrammatical level accounting for the convergences and divergences in use between both languages. This account would then build the theoretical linguistic basis for the generation process. But before elaborating on that point, we first have to determine to what extent all these constructions have a common underlying meaning.

3.2 A common ground: the causative situation

In the previous sections we have seen that the phenomenon of causation can be expressed in natural language by a wide variety of linguistic constructions. Following the non-arbitrary relation between semantics and lexicogrammar, I assume that each of these constructions has its own specific linguistic meaning, and that their use in language is determined by this meaning. But this does not mean that all these expressions are totally unrelated — on the contrary, they all express different aspects of the same (extra-linguistic) situation: the causative situation. Talmy (1976: 52) defines a "basic causative situation" which

.. consists of a simple event (that is, one that would otherwise be considered autonomous), that which immediately causes the event, and the causal relation between the two.

Shibatani (1976) also considers the causative situation to be a relation between two events: the causing event and the caused event. In addition, he characterizes this relation in terms of the speaker's belief that the caused event would not have taken place (at that particular time) if the causing event had not taken place. This reference to the speaker's belief is, I think, very important, since it emphasizes that in talking about causation we are not referring to some notion of causality in the physical world, but rather to the human conceptualization of causation as it is, for instance, expressed in natural language (see also, Talmy 1976; Kemmer and Verhagen, forthcoming). Or as Wierzbicka states it: ".. the difference between 'external' and 'internal' causation is often a matter not of objective differences in observable reality, but of the speaker's point of view." (Wierzbicka 1980: 171). Building on these descriptions, I can now characterize a causative situation as a relation between two events that are viewed by the speaker as causally dependent on each other. This basic causative situation underlies all linguistic expressions of the phenomenon.

In systemic terms, this basic causative situation is part of the (non-linguistic) context of situation, i.e. the general background composed of those features which are relevant to the speech that is taking place. Traditionally, SFL identifies three different aspects of context: field, tenor, and mode. Together they build "a conceptual framework for representing the social context as the semiotic environment in which people exchange meanings" (Halliday 1978: 110). These three different aspects of context are interpreted linguistically on the semantic level and realised in a non-arbitrary way by the three metafunctions of the lexicogrammar (for more details on the metafunctional diversification, see e.g. Halliday 1978; Matthiessen and Bateman 1991: 68-76). Halliday sets the following correspondences between context and language: field tends to determine ideational meanings, tenor interpersonal ones, and mode textual ones. There is thus functional differentiation both in context and in the linguistic system. This is depicted in Figure 1 (based on one given in Matthiessen and Bateman 1991: 73).

[FIGURE 1 HERE]

Figure 1: functional differentiation in context and linguistic system

Given our characterization of a causative situation as a causal relation (established by the speaker) between two (otherwise autonomous) events, it can be considered as belonging to the field component of the context. According to Halliday's proportionalities set out above, the most congruent (Halliday 1985: xix) or solidary (Martin 1991: 116) linguistic encoding of this situation would thus lie in the ideational metafunction for the realisation of both events with the resources of transitivity (process + participant + circumstance), and in the textual metafunction for the realisation of the causal relation as a conjunction. These resources are for instance at play in: *She didn't come because she was too tired*. As already discussed above, this is not the only way to encode the causative situation. In the following section, we will concentrate on other possible realisations, more specifically on the *analytic* causative constructions.

4. Realizing the causative situation

If we consider the clause complex to be the most congruent realisation of the causative situation, how should we interpret the many other realisation alternatives? This question entails that we examine all these different constructions in detail so as to determine the semantic elements that constrain the lexicogrammatical encoding. Thus, we have to establish what it **means** for a speaker to use one alternative over another. Altenberg (1984) and Schiffrin (1985), for instance, have investigated the communicative constraints on the selection of the causal links *because* and *so*. Both studies indicate that it is topicality that governs the selection of these conjunctions, an area belonging to the textual metafunction according to SFG. Another empirical study on the selection constraints of causal links is that of Abraham (1991) who analyses the use of *because* and *because of*. Her conclusion is that the selection of these causal alternatives is constrained by the management of Given/New³ information, again a topic in the area of the textual metafunction. In the following, I will propose an analysis of the analytic causative constructions, trying, on the one hand, to determine how the choice of such a construction is constrained with regard to the other causative alternatives in Dutch and French, and, on the other hand, to analyze the constraints on the use of the Dutch causative auxiliaries *doen* 'to do' and *laten* 'to let' in such constructions.

4.1 Analytic causatives: general remarks

An analytic causative can be described as a "two-verb structure that expresses a predicate of causation and a predicate of effect" (Kemmer and Verhagen, forthcoming), the causal predicate being termed in many languages 'auxiliary' or 'particle', indicating that it has no full verbal status, as for example in the English expressions such as *I made him leave*; *She had him type the letter*; *She let him eat some brownies*; *Seeing him again caused her to lose her composure*.

³ For some discussion of the role of Given/New interacting with transitivity, see Davidse, this volume.

Analytic causatives have been studied extensively in the linguistic literature in terms of their relation to lexical causatives. In generative semantics the analytic causative *John caused Harry to die*⁴ and the lexical causative *John killed Harry* were originally considered synonymous, because they share a number of semantic properties (same entailment, same truth conditions). This is then accounted for by positing a common CAUSE predicate for both forms at an abstract level. Thus, *kill* and *cause to die* are both derived from the same remote structure (CAUSE(BE(NOT(ALIVE)))), the surface forms being obtained by application of predicate raising and lexical insertion rules. This position has been falsified by many linguists since (Fodor 1970; Wierzbicka 1980; Kimenyi 1980; see also the different contributions in Shibatani 1976a; and for a very clear overview of the arguments on both sides of this debate, see Shibatani 1976b). Not only is there no semantic synonymy between both types of constructions, but also syntactically too they behave differently (the same transformations cannot apply on both constructions).

Another common approach to these causative constructions is to consider them to be derived by reduction either of clauses or predicates. In these syntactic derivational accounts (e.g. Comrie 1976; Herschensohn 1981; Davies and Rosen 1989) an underlying biclausal structure is posited and by means of some syntactic manipulations, such as raising rules, clause union, etc., a single clause is arrived at. The same idea of reduction is shared by some lexical approaches to the phenomenon in which two (semantic) predicates (not clauses) form the starting point. These predicates are then merged or fused to create a single predicate-argument structure (see e.g. Alsina and Joshi 1991; Ritter and Rosen 1993).

⁴ Note that in these studies only analytic causative constructions of the type "cause to + infinitive" are taken into account in the generative semantics treatment; constructions with *make*, *have*, *let* are left unconsidered.

In the proposal presented here, the picture is somewhat different. I do not consider analytic causatives to be derived from an underlying linguistic structure, but as generated in the base (see also Morin 1978; Kimenyi 1980 who defend a similar idea although their arguments are different from mine). It should thus be clear that the basic causative situation underlying the semantics of all causative expressions is **not** a kind of deep structure from which all the surface structures would be derived. The common underlying causative situation builds the semantic link between the different expression alternatives, which are all generated "from scratch" according to the constraints at play. This partially common semantics is, for instance, reflected in the common truth conditions and entailment relations, but causation involves more than that, and this is expressed by the different alternatives which account for different aspects of the phenomenon.

In the following, I will elaborate on Halliday's analysis of analytic causatives (Halliday 1985: 263-266) putting it in a different perspective. Starting from the observation that any English clause possesses a causative element which is accounted for in the ergative pattern ('an Agent causes a Medium to do something'), Halliday notices that this can always be expressed analytically. Thus, *John rolled the ball* becomes *John made the ball roll*. The ergative analysis of both these clauses looks the same, but the transitive one is different. In the transitive analysis, the function Initiator has been introduced, that is "a participant who brings about the action performed by the Actor." (Halliday 1985: 263); Figure 2 below reproduces his analysis of these clauses from the dual perspective of transitivity and ergativity (Halliday 1985: 263, as Figure 7-26):

[FIGURE 2 HERE]

Figure 2: Systemic interpretation of causative form

Halliday comments that this difference in the experiential grammar of the clauses

enables us to interpret the difference between them: in *John rolled the ball*, he acted directly on it, whereas in *John made the ball roll* he may have done so by leverage, psychokinesis or some other indirect force (Halliday 1985: 263).

He then further observes that in the explicit causative structure, the agency can be further extended, as for instance in *Mary made John roll the ball* (cf Figure 3 reproduces Halliday's analysis of the clause as in Halliday 1985: 264, Figure 7-27).

[FIGURE 3 HERE]

Figure 3: A three-participant causative

Note that the function Agent recurs in the ergative analysis in Figure 3. According to Halliday, this allows for indefinite expansion of the type *Fred made Mary make John ...* while still keeping one process, in this case, *rolling*, that is represented as two discontinuous verbal groups in hypotactic relationship. Figure 4, derived again from Halliday (1985: 264, Figure 7-28) presents the favoured analysis of the clause displaying hypotaxis of verbal groups:

[FIGURE 4 HERE]

Figure 4: Hypotactic group complex: causative

I believe this analysis needs to be elaborated along several lines. First, Halliday indicates that there is a difference in meaning between the explicit causative structure with the verb *make* and the lexical causative structure, and that this is accounted for in the different transitivity structure. But this difference in meaning is expressed in a very vague manner. If "indirectness" seems to be involved, what about the difference between 7(i) and 7(ii), and how can we account for the incorrectness of 7(iii)?

- | | | |
|-----|----|-------------------------------|
| (7) | i | Mary made John roll the ball. |
| | ii | Mary had John roll the ball. |

iii *John had the ball roll.

And how could these structures be related to the basic causative situation, as most congruently expressed in e.g. *John rolled the ball, because Mary asked him to?* Another point is the recurring function Agent in the ergative analysis. How should it be determined with which Agent the function Subject should be conflated? This is especially problematic in text generation where this has to be performed automatically. A last point concerns the status of the verb *to make* (*to have, to cause, ...*) in such constructions. Should it be represented as being part of a hypotactic verbal group complex or as an auxiliary? In the following sections, I will present a proposal that hopefully answers these and the questions raised above in a more satisfying way.

4.2 A case of grammatical metaphor

The basic causative situation was characterized in section 3.2 as a relation established by the speaker between two events in which one event, called the *caused event*, is causally dependent on the other event, called the *causing event*. If not all of these aspects need to be expressed, the most congruent lexicogrammatical realisation, i.e. a clause complex in which causing event and caused event are both realised by a simplex clause and linked paratactically or hypotactically by a causal conjunction⁵, does not make sense. The lexicogrammar offers then other possibilities to express this underlying situation. In SFG, this expansion of the "meaning making potential of content form" (Martin 1991: 116) is accounted for in the theory of *grammatical metaphor*, which in the words of Halliday (1985: 321) may be expressed as follows:

.. for any given semantic configuration there is (at least) one congruent realisation in the lexicogrammar. There may then be others that are in some respect transferred, or METAPHORICAL.

⁵ Note that paradigmatic variation in the choice of the conjunction is still possible here in these cases.

On the use of these metaphorical constructions, Halliday (ibid.) adds:

This is not to say that the congruent realisation is better, or that it is more frequent, or even that it functions as a norm; there are many instances where a metaphorical representation has become the norm .. Nor is it to suggest that a set of variants of this kind will be totally synonymous; the selection of metaphor is itself a meaningful choice, and the particular metaphor selected adds further semantic features. But they will be systematically related in meaning, and therefore synonymous in certain respects.

In my view, one of these metaphorical expressions of causation is the analytic causative construction in which the two underlying events are condensed into one simplex clause. This construction is used when a speaker views the underlying causing event as causally dependent on some action of the agent of the causing event, no matter what this action is. The causing event itself is thus not overtly specified, all that remains is the pure notion of cause expressed by a causal predicate (realised in most languages by a causal auxiliary or a causal morpheme). In the following, I will claim that the analytic causative construction is in fact an *interpersonal* interpretation of the causative situation, and that it should thus be accounted for in the interpersonal metafunction of the lexicogrammar. Two main reasons support this claim: (a) the status of the agent of the underlying causing event with respect to the other participants in the situation, and (b) the lack of a transitivity pattern for the causal predicate.

5. Analytic causatives: an interpersonal interpretation

In his article on analytic causatives with the telling title *Cause and Control: On the Semantics of Interpersonal Manipulation*, Givón (1975: 66) states that "what sets periphrastic causatives apart is the fact that they most often involve the manipulation of one human agent by another." About the difference in use between the English *make* and *have* causatives, Wierzbicka states (Wierzbicka 1988: 241)

.. both the *make* causative and the *have* causative imply some sort of 'power' relation between the causer and the causee. But clearly, the nature of this relation is in each case perceived differently."

Shibatani (1976b: 32) notes that there is a "mode of causation" which

involves the causee as a volitional (agentive) entity and the causer as an agent giving directions to the causee" .. [And the] productive causative forms generally express this DIRECTIVE CAUSATIVE situation..

Evidence from English, Japanese, and Korean are provided by Shibatani to support this observation. The same type of "interactional constraints" have been given for analytic causatives in many other languages, for instance Hungarian (Hetzron 1976), Bantu (Givón 1976), Telugu (Rao and Bashir 1985)⁶. It thus appears that the Agent of the underlying causing event, which we will label *Causer* (see below), is given a special status in the overall causative situation: that of (a certain degree of) *control* of the situation, and especially over the agent of the underlying caused event, labelled the *Causee* (see below). In other words, a speaker will use this type of construction only if he/she believes that the Causee is under control of the Causer. If he/she does not believe this is so, a construction that is neutral in this respect (in the given language) will be selected. In SFG, the (social) status of the participants involved in a situation is traditionally accounted for in the interpersonal metafunction. This status seems to play a role in the selection of the analytic causative. This constitutes a first reason why I have chosen to represent this type of construction as an interpersonal metaphorical expression of the causative situation.

A second reason concerns the conceptually dependent status of the causal predicate which accounts for the fact that it is conceptually empty, i.e. it is not (ideationally) classifiable as expressing one of the process types, and it has thus no proper participants. Or as Kemmer and Verhagen (forthcoming) state:

⁶ This is not to say that in all languages the semantics of analytic causatives are the same, but in many different languages this interpersonal aspect seems to play a role.

In *They made me leave*, MAKE does not have any highly specific semantic content that could determine semantic roles .. in relation to itself. In contrast, in the causing event in two-clause structures like *They insulted me, so I left*, the verb has its usual constellation of specific semantic roles .., which occur independently of its use in an expression of cause-and-effect.

However, this does not mean that there are no participants involved in the *causative event* itself, i.e. the expression of the causative situation. In accordance with the terms used in the linguistic literature, I will label these core participants: *Causer*, *Causee*, and (if present) *Affectee*. The Causer is the participant viewed as bringing about the entire event (cf Halliday's Initiator); the Causee is the participant carrying out the activity designated by the effected predicate; and the Affectee, when expressed, is the participant "that is the endpoint of the energy (literal or metaphorical) expended in the entire causative event" (Kemmer and Verhagen, forthcoming).

The causal predicate has thus no full Process status and, significantly, it is not realised as that either. In Dutch, French, and English it is realised as an auxiliary that expands the meaning of the Process it occurs with, just as the modal auxiliary expands the process it occurs with too. Since the type of auxiliary selected is again highly dependent on interpersonal matters (see below), I believe this choice belongs to the interpersonal metafunction too. In other languages, e.g. Japanese, Hindi, Turkish, the causal predicate in these types of constructions is realised by a morpheme and not by an auxiliary. If the selection is in those cases also interpersonally relevant, the interpersonal metafunction would again be most appropriate to account for this realisation. Diverging syntagmatic structures are then treated similarly from a functional point of view.

But let us now look at the Dutch and French analytic causative constructions and see whether their meaning can be characterized along the same lines and try to establish the extent to which this meaning is convergent in Dutch and in French: up to what degree of delicacy they can be treated similarly lexicogrammatically?

5.1 Analytic causatives in Dutch

In Dutch the analytic causative construction can occur with two possible causal auxiliaries *doen* (cognate with 'to do') and *laten* (cognate with 'to let'), both taking an infinitival complement. According to the definition of analytic causatives (see section 4.1) the causal auxiliary corresponds to the causal predicate and the infinitival complement to the effected predicate. This is illustrated in (8)-(11) below, where (8)-(9) are examples with *doen*, the rest with *laten*:

(8) *De wind doet de was drogen.*
 The wind does the laundry dry.
 The wind dries the laundry.

(9) *Dit deedde VPRO leden verliezen.*
 This did the VPRO members lose
 This made the VPRO lose members.⁷

(10) *Marie laat de was drogen.*
 Mary lets the laundry dry.
 Mary lets the laundry dry.

(11) *Piet liet Marie een auto kopen.*
 Pete let Mary a car buy
 Pete had Mary buy a car.

⁷ Examples 8 and 10 are borrowed from Kemmer and Verhagen, forthcoming, and Dik (1980: 20) respectively.

In these clauses the notion of causation lies exclusively in the causal predicate expressed by the causal auxiliaries *doen* and *laten*. The caused event is each time entirely expressed by the effected predicate (process + participants), while the causing event has been reduced to its sole Agent, realised as the Subject of the overall clause. The basic structure of the clause is that of simple clauses, and not of reduced (or derived) complex clauses (for cognitive evidence see Kemmer and Verhagen, forthcoming, and for grammatical evidence, Dik 1980). From a semantic point of view, the caused event is seen as (causally) dependent on some action of the Subject of the clause (which always represents the Agent of the underlying causing event).

Since two causal auxiliaries appear to be possible in this type of construction, the question to ask is why a speaker would use one construction rather than the other, i.e. what is the difference in meaning? The semantic distinction between both causal auxiliaries has been investigated from a cognitive point of view by Verhagen and Kemmer (1992). In the following, I will draw heavily on their analysis. The core of their proposal is that

doen categorizes an event as involving direct causation, while *laten* categorizes the causal relation as indirect, i.e. as complex in the sense that some other force than the agent's is more immediately involved in bringing the effect about. (Verhagen and Kemmer 1992: 1).

There is thus a systematic difference between both causal auxiliaries and they are not interchangeable as is sometimes suggested in Dutch grammars. This distinction also accounts for the difference in case marking of the participants as was revealed by the corpus used by the authors. Let us first consider the cases with *laten*.

It is a well-known fact regarding Dutch that *laten* can be used in constructions which at first glance seem to represent rather different situations. This is illustrated in (12)-(14), all borrowed from Verhagen and Kemmer 1992:

(12) *De agent liet ons passeren.*

The policeman let us pass.

The policeman let us pass.

(13) *Zij liet de agent haar rijbewijs zien.*

She let the policeman her driver's licence see.

She showed her driver's licence to the policeman.

(14) *De sergeant liet ons door de modder kruipen.*

The sergeant let us through the mud creep.

The sergeant made us creep in the mud.

Example (12) could generally be paraphrased by 'to permit', which corresponds to the so-called 'permissive' interpretation of *laten*, (cf Dik 1980), while (14) would rather suggest something like 'to command' or 'to force', (13) being dependent on the context in this respect. Verhagen and Kemmer show that the notion of "indirect causation", in the sense of Talmy's (1988) force dynamics, covers in fact all of these situations. In other words, the action of the agent of the causing event is indeed viewed as the cause of the effect, but nevertheless, the causal relation is complex, i.e. indirect in that another force is viewed as being more directly involved in the production of the effect than the action of the agent himself. It is this indirect character of the causation that motivates the use of *laten*. The precise nature of this other force need not be specified. If this force is, for instance, the will of the causee as in (12), the permissive reading is most appropriate. In (14), the use of *laten* is motivated because there is still a (small) degree of autonomy on the side of the causee (it is the causee who has to move arms and legs, the sergeant can 'only' give commands). In (10) Mary relies on some other force, the wind or the heat of a laundry drier, to have the laundry dried. All cases of (verbal) interaction between people are for the same reasons typically realised with *laten*, as in (15) (from Kemmer and Verhagen, forthcoming).

(15) *De psychiater liet mij aan mijn moeder denken.*

The psychiatrist let me at my mother think

The psychiatrist made/had me think of/about my mother.

This characterization in terms of indirect causation also explains why *laten* shows a strong preference for animate causers (for more details, see Verhagen and Kemmer 1992: 12), since typically only animate causers can act indirectly.

With *doen* the situation is different. Here, the agent is viewed as the immediate cause of the described effect. In other words, there is no intermediary force of which the presence or absence could prevent the occurring of the effect. "Given the action of the agent, the result is inevitable, necessary. The causal relation is simple and *direct*." (Verhagen and Kemmer 1992: 6). This direct causation is in the first place motivated in pure physical causal relations (as we perceive them), as in example (16).

(16) *De stralende zon doet de temperatuur oplopen.*

The shining sun does the temperature rise.

The shining sun causes the temperature to rise/raises the temperature.

The same is true for pure facts of perception which in our conception of the world are viewed as being directly caused by the outside world; there is no control on the part of the perceiver, (see Verhagen and Kemmer 1992: 7-8). Compare for instance (17) with (15):

(17) *De psychiater deed mij aan mijn moeder denken.*

The psychiatrist did me at my mother think

The psychiatrist made me think (reminded me) of my mother.

As mentioned above, the example with *laten* is a case of human interaction: 'the psychiatrist asked me or told me to think of my mother and I did so'. But in (17) there is no interaction at all: something in the aspect or in the behavior of the psychiatrist made me think of my mother, i.e. something observable (by perception) in the outside world, over which I have no control. In constructions with *doen* causers will very often be inanimate (although the preference is not so strong as with *laten*), but more significantly causees will mostly be inanimate and if they are not, they are presented as non-interacting, as non-autonomous. The occurrence of the caused event is not dependent on any action (or absence of action) from the causee but depends entirely on the agent of the causing event. It is also interesting to note that this degree of autonomy left to the Causee is in Dutch also formally expressed in the lexicogrammar by case marking of the nominal phrase that represents the Causee in causative constructions with two explicit participants in the causal predicate, i.e. with an effective process (in systemic terms) or transitive verb (in traditional terms). Consider (18)-(20).

(18) *Hij liet debriefaan iedereen lezen.*
 He let the letter to everybody read
 He let/had everybody read the letter.

(19) *Hij liet debriefdoor iemand lezen.*
 He let the letter by somebody read
 He had the letter read by somebody.

(20) *Hij liet haar debrieflezen.*
 He let her the letter read
 He let/had/made her read the letter.

With *aan* (cf 18)) the Causee is categorized as a Recipient who is fairly autonomous and is involved in the causative event because he wants to be. The reading is rather permissive: 'He allowed everybody (who wanted it) to read the letter (for its content)'. With *door* as in (19) the Causee is viewed as a sort of instrument; the reading is more causative: 'He asked

somebody to read the letter not for its content (the Causee is not the recipient of the message) but to check the spelling, or to read it loud for an audience, ..' In (20) the Causee appears as a bare nominal phrase without any case marking. Here the Causee is viewed as an object of the action of the Causer with little autonomy: (20) could for instance mean: 'The reader was not inclined to read the letter (for its content) and the Causer had to insist or even had to force her a little bit'. In causative constructions with *doen* the Causee is never marked with a prepositional case. This can be explained straightforwardly in the sense that direct causation does not leave any autonomous role on behalf of the Causee in realizing the causative event.

The semantic difference expressed by *doen* and *laten* can thus be exploited by the speaker in the sense that it is **his/her** choice to present a causal relation as direct or indirect. Using *laten* the speaker implies that the role of the Causee is in some way important, that he/she could have acted differently. With *doen* this implication does not exist: there is a lack of autonomy on the part of the Causee and the caused event is presented as inevitable, occurring automatically. Further, the choice to express the Causee either prepositionally or with a bare nominal phrase in *laten* constructions also accounts for the autonomy allowed the Causee in a given situation.

Summarizing we can thus state that the following elements play a role in the selection of (one of the possible) analytic causative constructions to express the causative situation:

- a: the agent of the underlying causing event must be seen as controlling the causative event;
- b: the caused event is presented as direct (*doen*), or as indirect (*laten*);
- c: the Causee is presented as fulfilling a specific role in accomplishing the caused event (case marking, either as Recipient or as Instrument); or s/he is seen as passive (no case marking).

These semantic features should be thought of as choices in the interpersonal system network of the lexicogrammar where they would

function as grammatical output features of semantic selection systems — a development which calls for a separate paper.

5.2 French analytic causatives in contrast to Dutch

In French analytic causatives are built with the auxiliary *faire* 'to make, to do' plus an infinitive; the Causee being marked with the preposition *à* or *par* when the verb is transitive⁸ as illustrated below in (21)-(23):

(21) *Jean fait partir Marie.*
 John makes leave Mary
 John makes Mary leave

(22) *Jean fera boire un peu de vin à son enfant.*
 John make drink a little of wine to his child
 John will make his child drink a little wine.

(23) *Jean fera traduire ce poème par Eugénie.*
 John will make translate this poem by Eugénie
 John will have this poem translated by Eugénie.

As for many other languages, the analytic causative construction in French represents one linguistic possibility to express causation besides many others (cf (1)-(4) in section 2). The syntax of the *faire* causative has been extensively studied in the literature, the most exhaustive analysis being probably that of Kayne (1975) in a transformational framework. Reactions to this analysis have been provided by many linguists, be it as

⁸ Some authors (e.g. Ruwet 1972; Danell 1979) contrast the causative use of the *faire* plus infinitive construction with the *laisser* 'to let' plus infinitive one showing that the two are related in that the negation of the *faire* causative corresponds to the *laisser* construction; e.g. *Jean ne laisse pas sortir Marie* 'John doesn't let Mary leave' corresponds (more or less!) to *Jean fait que Marie ne sort pas* 'John makes that Mary doesn't leave' (Danell 1979:97). But this does not mean that the *laisser* construction is an alternative for expressing causation, or as Danell (1979:98) states "... in the semantics of French there are two types of events ('with cause' and 'without cause') that correspond respectively to 'faire' and 'laisser' ". There is of course a relation between these constructions which could be captured in terms of Talmy's (1988) force dynamics, but this point will not be developed here any further, my main concern being the analytic causative with *faire*.

updates (e.g. Quicoli 1980; Rouveret and Vergnaud 1980, Herschensohn 1981) or as reactions against his analysis (e.g. Cannings and Moody 1978; Morin 1978). This strong emphasis on the syntactic aspects of the *faire* construction has neglected its semantic value, which is however of primary concern to our approach.

In Dutch (as in many other languages) the effected predicate in the *faire* construction is viewed by the speaker as resulting from some (unmentioned) action of the Causer on the Causee. There is thus also some degree of control, manipulation, directiveness on behalf of the Causer which justifies an interpersonal treatment of the French analytic causative. In addition, *faire* is conceptually empty and behaves like a "special type of auxiliary" (Morin 1978: 364) that bares the causal meaning, but has not itself its own transitivity pattern (cf section 5). Thus, so far the lexicogrammatical treatment of Dutch and French analytic causatives seems to run parallel in both languages from a functional, paradigmatic point of view, though syntagmatic differences occur already at this level, e.g. the specific clitic placement and the ordering of the Causee in French⁹. But at this point of delicacy, Dutch has the choice between two causal auxiliaries — *doen* and *laten*, while French has only one possibility — *faire*. It would seem that all the examples with *doen* and *laten* presented in section 5.1 can be adequately translated by the *faire* causative in French, with the exception of those with a strongly preferred permissive reading, where *laisser* would be more appropriate. Does this mean that French draws no distinction between direct and indirect causation? Not at all! However, the distinction is drawn differently from Dutch.

In a comparison between lexical and analytic causatives in French, Ruwet (1972) arrives at the conclusion that the *faire* construction is more indirect than the lexical causative, i.e. that the latter implies a "more direct connection" between the agent and the object than in the *faire* construction.

⁹ I will not develop these structural matters here, as they have been abundantly studied in the literature, see e.g. Kayne 1975; Morin 1978; Quicoli 1980; Herschensohn 1981; Bailard 1982.

This is illustrated with the examples given in (6) above, repeated here as (24).

- (24) i *Le colonel a fait fondre (*a fondu) trois sucres dans son café.*
 The colonel has made dissolve (*has dissolved) three sugar in his coffee.
 The colonel dissolved three lumps of sugar in his coffee.
- ii *Le métallurgiste a fait fondre /a fondu le métal.*
 The metallurgist has made dissolve /has melted the metal.
 The metallurgist melted the metal.

In (ii) the metallurgist is seen as doing something (directly) to the metal, while in (i) the lexical causative cannot be used because the melting of the sugar in the coffee cannot be considered as resulting from a direct action of the colonel on the sugar. This notion of directness vs. indirectness is reformulated by Wierzbicka (1988: 245):

.. in French the lexical causative attributes the cause exclusively to the causer, whereas the *faire* construction attributes the cause partly to the causer and partly to the causee. More precisely, the *faire* construction implies that the causer has activated some process within the (inanimate) causee which triggers the ultimate result. .. in French, the so-called indirect causation means that before the desired effect occurs something else has to happen in the causee — a process distinct from what the agent is doing to the causee and from the final effect on the causee.

At first glance, this formulation appears to be correct for the use of the lexical causative. I agree that in (24i) the melting of the sugar cannot be considered as resulting from a direct action of the colonel on the sugar; not, however, because an internal process is seen as occurring in the sugar, but because another 'more direct force', namely the coffee, is mentioned (this would thus be a *laten* case in Dutch). There is thus an indirect relation between the causing event (the action of the colonel) and the caused event (the melting of the sugar) which leads to the incorrectness of the use of a lexical causative. This other "more direct force" is absent from example

(24ii) and this explains why the lexical causative is possible in this case. But as this latter example shows, the indirect relation is not a necessary condition to use the analytic causative, as Wierzbicka seems to suggest, since both the lexical and the analytic forms are possible. Moreover, all the *doen* examples from section 5.1, that is to say, cases of direct causation as defined above, can be adequately translated by a *faire* causative in French. This seems to suggest that the analytic causative in French is more general than the analytic causative in Dutch. In other words, the distinction between direct and indirect causation is not relevant for French within the interpersonal metafunction, but it seems to play a constraining role in the choice between lexical and analytic causatives. Further research is needed to determine these selectional constraints, especially when direct causation has to be expressed, since both constructions seem possible in that case.

Finally, some words need to be said about the Causee marking with *par* and *à* (cf (22)-(23)). We have seen in section 5.1 that case marking of the Causee is constrained in Dutch by the degree of autonomy left to the Causee. Is this constraint relevant for French too? The clearest (corpus based) investigation of the difference in meaning between *par* and *à* is probably the (theory neutral) descriptive account of Danell (1979). His observations seem also to be in accord with the conclusions drawn by other (theory bound) authors (Cannings and Moody 1978; Morin 1978; Vet 1985) who have explored the issue. Danell, who elaborates on Spang-Hanssen's (1963) observations, characterizes the difference in use between both case marking alternatives in the following way: *par* is used in a situation where *the Causer wants a certain task (or service) to be achieved* and he/she asks the Causee to do it. With *à* the scope does not lie on the caused event as a whole, but on the Causee. In other words, *à* is used when the Causer "affects" the Causee in some way or another. Compare for instance (25) and (26), borrowed respectively from (Cannings and Moody 1978: 343) and (Morin 1978: 395):

(25) i *Nous ferons résoudre ce problème à nos étudiants.*

we will make solve this problem to our students
We'll have our students solve this problem.

- ii *Nous ferons résoudre ce problème par nos collègues.*
we will make solve this problem by our colleagues
We'll get our colleagues to solve this problem.

Cannings and Moody (1978: 343-344) describe the distinction between these sentences as follows:

The first of these would be appropriate when uttered by someone who already knows the answer: solving the problem is construed as a stage in the acquisition of certain skills on the part of the students, and so they will benefit from it. ... [In the second example LD] the speaker does not know the answer; it is assumed that our colleagues have the ability to solve the problem and that we stand to benefit from knowing the solution.

A similar situation exists in the following pair (contextualizations are given in parentheses):

- (26) i *L' entraîneur fait courir le 100 mètres à son fils (pour lui fortifier les jambes).*
The coach makes run the 100 metres to his son (for him to strengthen the legs)
The coach has his son run the 100 yard dash (to strengthen his legs).
- ii *L' entraîneur fait courir le 100 mètres par son fils (parce que son meilleur coureur est blessé).*
The coach makes run the 100 metres by his son
because his best runner is injured
The coach is having his son run the 100 yard dash (because his best runner is hurt).

According to Morin (1978: 395) in (26i) the coach does something to his son, whereas in (26ii) something has happened.

In French, the autonomy of the Causee in the selection of the preposition *à* or *par* seems thus not to be of primary importance but rather a consequence of another distinction, namely that of the scope of interest of the Causer. If the Causer is primarily interested in the achievement of the caused event, the Causee will have a mere instrumental role in the process.

There is a fairly indirect link between the Causer and the Causee, since the Causee could virtually be replaced by any other person. In terms of autonomy, the Causee is thus rather free to participate or not, and if s/he does so, s/he has an active role. This explains why the Causee is mostly a person or an institution (sometimes a machine or vehicle) capable of autonomous activity. In these situations the preposition *par* is used. If the scope of interest of the Causer is the Causee in the first place, the preposition *à* will be preferred. In those situations, the Causee can be considered as the object, recipient, or beneficiary of the causation; and there is a more direct relation between Causer and Causee. The Causer might or might not have to force the Causee: this is not important. What matters is that it is this specific Causee, and not another, that is involved in the caused event. We see thus here that the notions of directness and indirectness play a role for French too in the interpersonal realization of the causative situation, not however for the selection of the causal auxiliary, but for the choice of prepositional case marking of the Causee.

To summarise, for French the following elements seem to play a role in the selection of the analytic causative:

- a: the agent of the underlying causing event must be seen as controlling the causative event;
- b: the relation between Causer and Causee is presented as more direct, i.e. the Causee is in the scope of interest of the Causer (case marking with *à*); the relation is viewed as more indirect, i.e. the caused event as a whole is what matters to the Causer (case marking with *par*).

6. Conclusion

The starting point of my investigation was the observation that all natural languages offer a multitude of alternatives to express causation. Any language user or natural language generation system is thus confronted with a crucial problem of choice. In this paper I have adopted a semiotic approach to causation assuming that all the possible causative constructions have their specific meaning and that the selection of one alternative over

another is thus not arbitrary. More specifically, I have concentrated on the semantics and the functional (paradigmatic) treatment of analytic causatives in Dutch and French. It was suggested that in both Dutch and French — and probably in many other languages — a specific semantic feature of analytic causatives seems to be the notion of interaction (manipulation, control) between the Causer and the Causee. This aspect can be accounted for in systemic functional grammar in the interpersonal metafunction where these constructions are then handled as metaphoric realisations of the basic causative situation. Within the interpersonal metafunction syntagmatic and paradigmatic convergences and divergences appear between Dutch and French; it has been shown along what lines these differences and similarities could be characterized. These features could then be implemented in a grammar for generation, where they should play a constraining role on the selection of one structure over another. In addition, the specific meanings of all other linguistic expressions of causation have to be investigated in order to establish explicitly in how far the different linguistic realisations of a common causative situation differ semantically from each other, and how these semantic features can constrain the selection of the "most appropriate expression in the given context". This orients us towards a more situation-based approach to generation, a topic for work in the future.

References

- Abraham, Elyse. 1991. Why 'because'? The management of given/new information as a constraint on the selection of causal alternatives. *Text*, 11.3: 323-339.
- Alsina, A. and Joshi Smita. 1991. Parameters in causative constructions. *Papers from the 27th Regional Meeting of the Chicago Linguistic Circle*.
- Altenberg, B. 1984. Causal linking in spoken and written English. *Studia Linguistica*, 38.1: 20-69.
- Bailard, Joëlle. 1982. The interaction of semantic and syntactic functions and French clitic case marking in causative sentences. *Syntax and Semantics 15. Studies in Transitivity*

- edited by Paul J. Hopper and Sandra A. Thompson. 49-69. New York: Academic Press.
- Bateman, John A., Christian Matthiessen and Licheng Zeng. **In prep.** A general architecture for multilinguality in natural language processing. Technical report, GMD/IPSI, Darmstadt and University of Sydney.
- Bateman, John A., Christian Matthiessen, Keizo Nanri and Licheng Zeng. 1991. The re-use of linguistic resources across languages in multilingual generation components. *Proceedings of the 1991 International Joint Conference on Artificial Intelligence*, Sydney, Australia: Morgan Kaufmann Publishers.
- Bolinger, D. 1968. *Aspects of Language*. New York: Harcourt Brace & World.
- Cannings, P. and M. Moody. (1978) A semantic approach to causation in French. *Linguisticae Investigationes* 2.2: 339-362
- Comrie, Bernard. 1974. Causatives in universal grammar. *Transactions of the Philological Society*, 1-32.
- Comrie, Bernard. 1985. Causative verb formation and other verb-deriving morphology. *Language Typology and Syntactic Description* edited by Timothy Shopen. 3: 309-348. Cambridge: Cambridge University Press.
- Danell, Karl Johan. 1979. Remarques sur la construction dite causative. Faire (laisser, voir, entendre, sentir) + Infinitif. Stockholm: Almqvist & Wiksell International. [*Acta Universitatis Stockholmiensis, Romanica Stockholmiensia* 9].
- Davies, W. and Rosen, C. 1989. Union as multi-predicate clauses. *Language*, 64: 52-88.
- Dik, Simon C. 1980. *Studies in Functional Grammar*. New York: Academic Press.
- Fodor, Jerry. A. 1970. Three reasons for not deriving 'kill' from 'cause to die'. *Linguistic Inquiry*, 1: 429-438.
- Foulquié, P. and R. Saint-Jean. 1978. *Dictionnaire de la langue philosophique*. Paris: Presses Universitaires de France.
- Givón, Talmy. 1975. Cause and Control: on the semantics of interpersonal manipulation. *Syntax and Semantics* 4 edited by John P. Kimball. 59-89. New York: Academic Press.
- Givón, Talmy. 1976. Some constraints on Bantu causativization. *Syntax and Semantics: The grammar of causative constructions* edited by Masayoshi Shibatani, 325-351. New York: Academic Press.
- Halliday, M.A.K. 1978. *Language as Social Semiotic*. London: Arnold.
- Halliday, M.A.K. 1985. *An Introduction to Functional Grammar*. London: Arnold.
- Herschensohn, Julia. 1981. French causatives: restructuring, opacity, filters and construal. *Linguistic Analysis* 8.3: 217-280.
- Hetzron, Robert. 1976. On the Hungarian causative verb and its syntax. *Syntax and Semantics: The grammar of causative constructions* edited by Masayoshi Shibatani, 371-

398. New York: Academic Press.
- Kayne, Richard, S., 1975, *French Syntax*. MIT Press.
- Kemmer, Suzanne and Arie Verhagen. Forthcoming. The grammar of causatives and the conceptual structure of events. To appear in *Cognitive Linguistics*, 5.2: 115-156.
- Kimenyi, Alexandre. 1980. A semiotic analysis of causative constructions. *Linguistics*, 18: 223-244.
- Mackie, J.L. 1980. *The Cement of the Universe*. Oxford: Clarendon.
- Matthiessen, Christian and John A. Bateman. 1991. *Text Generation and Systemic Functional Linguistics: Experiences from English and Japanese*. London: Pinter.
- Martin, J.R. 1991. Intrinsic functionality: implications for contextual theory. *Social Semiotics* 1.1: 99-162.
- Morin, Jean-Yves. 1978. Une théorie interprétative des causatives en français. *Linguisticae Investigationes* 2.2: 363-417.
- Quicoli, A.C. 1980. Clitic movement in French causatives. *Linguistic Analysis* 6: 131-186.
- Rao, Malathi and Elena Bashir. 1985. On the semantics and pragmatics of Telugu causatives. *Papers from the parasession on Causatives and Agentivity*. Chicago Linguistic Society 21, Chicago. 228-240.
- Ritter, Elizabeth and Sara Thomas Rosen. 1993. Deriving causation. *Natural Language and Linguistic Theory* 11: 519-555.
- Rouveret, A. and J.-R. Vergnaud. 1980. Specifying reference to the subject: French causatives and conditions on representations. *Linguistic Inquiry* 11: 97-202.
- Ruwet, Nicolas. 1972. *Théorie syntaxique et syntaxe du français*. Paris: Editions du Seuil.
- Schiffrin, D. 1985. Multiple constraints on discourse options: A quantitative analysis of causal sequences. *Discourse Processes* 8: 281-303.
- Shibatani, Masayoshi. 1976a. Syntax and Semantics 6: The grammar of causative constructions. New York: Academic Press.
- Shibatani, Masayoshi. 1976b. The grammar of causative constructions: a conspectus. *Syntax and Semantics: The grammar of causative constructions* edited by Masayoshi Shibatani, 1-39. New York: Academic Press.
- Spang-Hanssen, E. 1963. *Les prépositions incolores du français moderne*. Copenhagen: Gad.
- Talmy, Leonard. 1976. Semantic causative types. *Syntax and Semantics: The grammar of causative constructions* edited by Masayoshi Shibatani, 43-116. New York: Academic Press.

- Talmy, Leonard. 1988. Force dynamics in language and cognition. *Cognitive Science* 12: 49-100.
- Vet, Co. 1985. Passive, reflexive, and causative predicate formation in French. *Predicates and Terms in Functional Grammar* edited by Alide Machtelt Bolkestein and Casper de Groot, 49-69. Dordrecht: Foris.
- Verhagen, Arie and Suzanne Kemmer. 1992. Interactie en Oorzakelijkheid. *Gramma/TTT, tijdschrift voor taalkunde*, 1.1: 1-20.
- Wierzbicka, Anna. 1980. *Lingua Mentalis: The semantics of natural language*. New York: Academic Press.
- Wierzbicka, Anna. 1988. *The Semantics of Grammar*. Amsterdam: Benjamins.