

## *Lexical constraints on constructional flexibility: English ‘Middable’ Verbs*

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This article is the full text of a paper that I presented at the 5<sup>th</sup> ICLC in Amsterdam (1997). The paper has never been published in this form, but the analysis of the English middle construction presented here has been incorporated as a separate section in my more elaborate analysis of English lexical causatives *Lexical Perspectives on Transitivity and Ergativity. Causative Constructions in English*. Amsterdam & Philadelphia: John Benjamins (1998), Ch. 4, 4.2, pp. 71-85. [ISBN: 90 272 3671 2; 268p.].

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### **Abstract**

Fusing insights from predominantly Cognitive Grammar and Functional-Systemic Grammar, the present lexical-paradigmatic account offers an innovative description of the middle construction in English. It characterizes more accurately the semantics of this construction, it explains under what conditions verbs can occur in the middle construction and it draws semantic parallels to morphological constructions following the same pattern. The analysis leads to a definition of ‘middable’ verbs whose semantic structure is compatible with that of middle or middle-based constructions. It is argued that it is this semantic compatibility rather than the commonly used ‘change-of-state’ criterion which determines the acceptability of the middle construction for a given verb. However, it is also shown that well-motivated contextual specifications can overrule these lexically determined constraints.

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### 0. Introduction

This article focuses on the *middle construction* or the *medio-passive construction* in English. Typical examples of what are commonly regarded as middle constructions are (1) and (2).<sup>1</sup>

- (1) Sheila seduces easily and willingly. (Lakoff 1977: 250)
- (2) Crystal vases shatter easily. (Levin 1993: 5)

This construction has been dealt with in quite a number of studies, but often in conflicting terms.<sup>2</sup> The various studies of the middle construction make relevant observations, yet they lack some systematicity. The present article tries to present a more unified account by reconciling Langacker’s cognitive model with Davidse’s (1991) paradigmatic approach to the grammar of causative constructions in which the middle construction should be situated. However, Davidse’s account of the middle construction has a slight transitive bias and does not consider the lexically determined constraints on the middle alternation. The present article tries to remedy both shortcomings and opens up the description to morphological correlates of the middle construction.

The article is organized as follows. It opens with a brief summary (section 1) of some relevant observations that have been made by researchers from various theoretical backgrounds (see footnote 2). The discussion is somewhat selective, as different researchers have made similar comments. Also, some issues are discussed at more appropriate places later in the paper. In section 2, we consider Langacker’s insightful cognitive analysis of the middle construction which, however, needs some further refinement. This we find in the paradigmatic view on causative constructions as described in Davidse (1991), summarized in section 3. Our lexically inspired modification of Davidse’s grammatical model, leading to what could be called a *cognitive lexical-paradigmatic* account, is explained in section 4. Within this unique synthesis of insights from predominantly cognitive and functional grammar, a more accurate account can be offered of the middle construction as well as semantically related constructions, viz. the agentive nominals in *-er* and the *-able* derivation. The latter two will be dealt with in section 5. The last section summarizes the findings in the delineation of ‘middable’ verbs.

The analysis reported on in this article largely extends from my corpus-based research of verbs of killing, described more elaborately in Lemmens (in press). The contemporary text corpora vary in register (journalism, drama and short stories) and region (chiefly American versus British); collectively, they come close to 8,2 million words. In total, for the set of verbs of killing some 4,000 attestations have been excerpted from these text corpora. The OED citations (drawn from the OED on CD-ROM) for these verbs amount to almost 12,000. Ironically perhaps, the insights reported on in this paper have been arrived at by the need to explain the unmistakable *absence* in the corpora of middle constructions with verbs of killing (except for a handful of OED attestations).

### 1. Received views on the middle construction

Keyser & Roeper (1984) present an insightful discussion of the middle construction and correctly argue that it differs from one-participant constructions with ergative verbs, such as *The ball bounces* or *The boat sinks*. They observe that middle constructions “state propositions that are held to be generally true [...] they do not describe particular events in time” (1984: 384). Similarly, Fagan notes that “middles [...] are not used to report events, but to attribute a specific property to some object” (1988: 200).

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See also: M. Lemmens, *Lexical Perspectives on Transitivity and Ergativity. Causative Constructions in English*. J. Benjamins. 1998:71-85.

Consequently, Keyser & Roeper say, middle constructions, e.g. *Bureaucrats bribe easily* or *Greek translates easily*, do not allow the imperative (*\*Translate, Greek!*), whereas ‘true’ ergative verbs do, e.g. *Sink, boat!* or *Bounce, ball!* Further, the middle construction necessarily implies an agent: they “state the doability of an action as it can be, or is, performed by a non-specific agent, i.e., anybody” (Fellbaum 1985: 29). The notion of feasibility and that of the implied agent have been observed in the literature, e.g. Fiengo (1980) notes that middles retain an implicit agent whereas ergatives do not, Levin (1993: 5) talks about “an understood but unexpressed agent”. It is a point also made by Langacker who says about the following sentences

- (3) The window opened only with great difficulty. (Langacker 1991)  
 (4) The dried mud scraped off effortlessly. (ibid.)

that “while the ease or difficulty of carrying out the action is attributed to inherent properties of the subject, it can only be assessed as easy or hard in relation to the capacity of an actual or potential agent” (1991: 334). Langacker’s cognitive analysis of these constructions is discussed in more detail in the next section.

## 2. A cognitive view on the middle construction

Within the framework of Cognitive Grammar, Langacker (1991) explains the middle construction against the background of the action chain, as represented as in Figure 1.

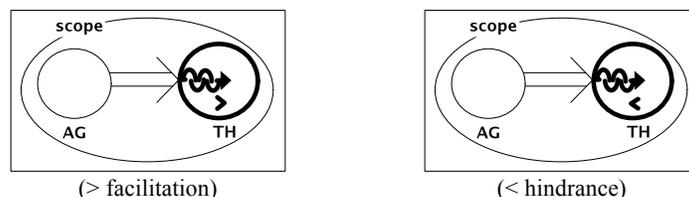


Figure 1: A ‘middle profile’ on the action chain

The profile is on the thematic participant (TH) in the process, which is the participant that is evoked as part of the conceptually autonomous core of a processual predication. The squiggly line represents the change of state and the right and left arrow heads indicate facilitation and hindrance, respectively. The agent (AG) is non-salient and left unspecified, but incorporated as an unprofiled participant in the base.

Langacker’s account goes a long way towards capturing the semantics of the middle construction, yet should be refined in a number of ways. First, although Langacker acknowledges that the middle construction implies an agent, he nevertheless subscribes to Van Oosten’s (1977) view that the subject is portrayed “as being in some sense *responsible* for the profiled action” (Langacker 1991: 334, my emph.). This view is shared by a number of people: Ryder talks about (1991b: 309) an “agentive patient”; Kemmer (1993: 147) talks about “the *Initiator* status of the Patient” which “derives from the fact that the event is conceived of as *proceeding* from the Patient”. Although it is true that the middle construction shifts the focus to the Affected participant, I adopt the functional-systemic view (see e.g. Fawcett 1980, Halliday 1985, or Davidse 1991) that it does not change the ‘inherent voice’ of the construal which remains passive (hence Fawcett’s term *facility-oriented passive*). The *do*-test (Smith 1978), illustrated in example (5), confirms this view:

- (5) a. The story reads quickly. (Smith 1978)  
 b. \*Did the story read?

The ungrammaticality of (5b) signals that the subject of the construction does *not* become an agentive participant: it does not *do* anything, but something is done *to* it, and it is said that this ‘doing to’ is easy.

See also: M. Lemmens, *Lexical Perspectives on Transitivity and Ergativity. Causative Constructions in English*. J. Benjamins. 1998:71-85.

Secondly, while Langacker's notion of *thematic participant* is useful on a schematic level, further refinements can be made on the level of the instantiations. A thematic relationship is defined as a "conceptually autonomous relationship involving just a single participant" (Langacker 1991: 286). In Langacker's analysis the subjects in examples (6) to (8) all express the thematic participant:

- (6) The tree is falling.
- (7) The window opened.
- (8) The tomato peels easily.

However, for sentence (8), the tomato is not conceptually autonomous, as it cannot occur in a non-causative construction as witnessed by the ungrammaticality of example (9)

- (9) \*the tomato peeled.

For the verb *open* in contrast, such a non-causative construction is possible. Further, while a sentence like *the window opened only with great difficulty* may strongly evoke an agent, this need not always be the case with a verb like *open*, even when a "facility adverb" (Vendler 1984) is added to it (cf. below). Langacker's notion of *absolute construal*, i.e. when "the autonomous event component is evoked or profiled independently" (1991: 389) is too schematic in its alignment of (6) and (7), since for (7) the cause can be incorporated into the clause, e.g. *John opened the window*, whereas this is not possible for (6), e.g. \**John is falling the tree*.

Finally, from Langacker's account it follows logically that something that is conceptually *dependent* cannot be isolated in an absolute construal, as witnessed by his examples.

- (10) a. The wind caused the tree to fall over.
- b. The tree fell over.
- c. \*The wind caused.

The acceptability of the absolute construal in (10b) is explained by the fact that "we can [...] readily conceptualize this change as occurring autonomously, i.e. in the absence of any external force" (idem: 287). The infelicity of (10c) is due to the fact that "causation is conceptually dependent—the very notion makes inherent (albeit schematic) reference to the change induced" (ibid.). We will not deny that in many cases an inherent reference to the caused process is present, yet this does not prevent well-formed one-participant structures similar to (10c) to occur. Consider some examples of objectless transitives:

- (11) These are soldiers trained to kill.
- (12) Bill always interrupts. (Rice 1988)

The (unfortunate) logical conclusion of Langacker's analysis is that the soldiers and Bill are not in a thematic relationship with the process, as he says this relation to be restricted to the subjects of (1) 'true' intransitives (*the tree fell*), (2) non-causatives (*the window opened*), and (in my view incorrectly so) (3) middle constructions (*the tomato peeled easily*). Yet intuitively (and we like to believe that Langacker himself would subscribe to this intuition), the one-participant constructions with *kill* and *interrupt* are felt to profile what is conceptually basic, focusing on the agent's action. Non-causatives, in contrast, focus on the patient (cf. below).

In sum, Langacker's account offers most pertinent insights concerning the conceptual differences at issue in the assembly of processes, yet his views should be taken to a higher degree of systematicity which would allow some of the unexplained phenomena to be accounted for. We find such systematicity in Davidsen's (1991, 1992) paradigmatic analysis of causative constructions, into which Langacker's views can be perfectly incorporated.

### 3. A paradigmatic view on the middle construction

Before turning to the middle construction itself, some preliminary clarifications of Davidsen's

See also: M. Lemmens, *Lexical Perspectives on Transitivity and Ergativity. Causative Constructions in English*. J. Benjamins. 1998:71-85.

paradigmatic views should be offered. The following description hardly does justice to her innovative work and merely mentions the most basic distinctions relevant to our present purpose; the reader is referred to Davidse (1991, 1992) for more elaborate descriptions.<sup>3</sup>

Davidse posits that the English grammar of actions and events is governed by two distinct causative models, viz. the transitive and ergative paradigms. These two models represent different ways of conceptualizing causative processes, implying different conceptual centres and different participant relations (in Hallidayan terms, different ‘inherent voice’ relations). The transitive paradigm, as realized for example by *John killed Mary*, centres around the Agent, who directs his prototypically volitional action onto an inert Affected. Davidse diagrams the transitive paradigm as follows:

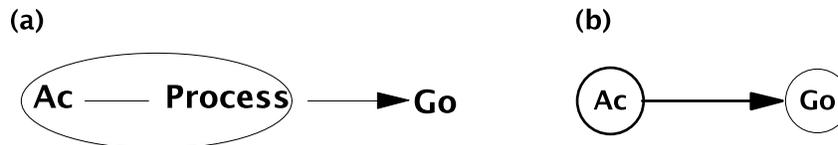


Figure 2: The transitive paradigm

As indicated by the Venn diagrams in 2(a), the ACTOR-PROCESS combination is the nuclear building block in the transitive system, with the *Actor* being the transitive instantiation of the more schematic Agent. As shown by 2(b), the system is a linear one that prototypically extends to the right to incorporate a fully passive Affected, called the *Goal*.

The ergative paradigm, in contrast, gravitates towards the Affected which in addition to being affected is also active. Its conceptual independence is reflected in the fact that this participant can be isolated in a one-participant construction with an ‘agentive’ participant, e.g. *Mary suffocated*. Figure 3 is how Davidse diagrams the ergative model.

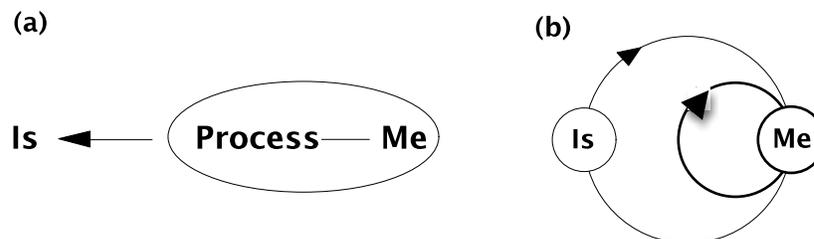


Figure 3: The ergative paradigm

In an ergative construal, the process is conceptually dependent on the *Medium*, the entity that is affected yet also co-participates in the event (much like a medium in the ESP sense). The PROCESS-MEDIUM cluster is semi-autonomous vis-à-vis the ergative Agent, called the *Instigator*. Figure 3(b) visualizes the ergative system as a nuclear one with two processual layers, the instigated process and the instigation of the process, which need not be co-extensive in time or space (Davidse 1991: 67ff). The arrow on the inner circle indicates that the process can be self-instigated.

Unlike in many Asian, Australian or Amerindian languages, transitivity and ergativity are in English not indicated by overt case marking but manifest themselves in more covert ways as reflected, among other things, in different alternation patterns. In his cognitive reinterpretation of nominative/accusative and ergative/absolutive case marking, Langacker also observes that the transitive and ergative patterns are not only coded by morphological markings, but find “numerous other linguistic manifestations” (1991: 381). Denny (1983) uses alternation patterns to support his distinction between *agent-descriptive* and *patient-descriptive* verbs: “transitive *hit* is agent-descriptive and therefore only the agent may be subject of intransitive *hit*: related to *he hit it* there is *he hit* but not *\*it hit* where ‘it’ is the patient of the hitting. On the other hand, the patient-descriptive transitive *break* only allows the patient to be subject of

See also: M. Lemmens, *Lexical Perspectives on Transitivity and Ergativity. Causative Constructions in English*. J. Benjamins. 1998:71-85.

the related intransitive: related to *he breaks it* we can have *it breaks* but not *\*he breaks* with the agent as subject of *break*" (1983: 145). Denny's views basically corroborate Davidse's paradigmatic distinctions, although his comments remain quite general. Also I do not agree with his characterization of the middle construction (e.g. *How well does it pull?*) as an example of the ambivalent character of verbs.

On the basis of the most essential alternation patterns, the transitive and ergative paradigms can be distinguished as follows.

CONSTRUCTION	TRANSITIVE	ERGATIVE
EFFECTIVE	<i>John killed Mary</i> [AC-PROCESS-GO]	<i>John suffocated Mary</i> [IS-PROCESS-ME]
OBJECTLESS	<i>John killed</i> [AC-PROCESS-(GO)]	
NON-EFFECTIVE	<i>Mary died</i> [AC-PROCESS]	<i>Mary suffocated</i> [ME-PROCESS]
PSEUDO-EFFECTIVE	<i>Mary died a gruesome death</i> [AC-PROCESS-RANGE]	<i>The house blew a fuse</i> [SETTING-PROCESS-ME]

The effective constructions are more specific instantiations of the AGENT-PROCESS-AFFECTED schema. While formally identical, the underlying semantics is different for the transitive and the ergative instantiations: for the latter the Affected still co-participates, as reflected in the possibility of forming an ergative non-effective. The objectless transitive maximizes the transitive focus on the ACTOR-PROCESS unit. However, it is still to be regarded as an effective construction, since despite being omitted, the Goal is still very much implied (cf. Rice 1988, see also Lemmens (in press) for a more elaborate description). Such an objectless construction is not possible with ergative verbs as they centre on the Affected: *John suffocated* cannot be interpreted as John being the agent causing someone else's suffocation but as the entity that is affected by it. The semantic value of the ergative non-effective construction is that it neutralizes whether the process was self-instigated or instigated by an external Instigator. As Smith (1978) puts it, the construction is positively marked for the features of external control *as well as independent activity* (cf. also Haspelmath 1993: 90). The ergative effective resolves the voice vagueness. The traditional *intransitive*, here called *transitive non-effective* (e.g. *Mary died*, *John stumbled*), is regarded as a subtype of the transitive paradigm, as it, too, centres around a volitional or non-volitional Agent. The pseudo-effectives, not really relevant to the present purpose, are so-called because one participant is not a true participant: for the transitives, it is a pseudo-Goal (called a Range), for the ergatives, a setting functions as a pseudo-Instigator (see Davidse 1991: 115-140).

As regards the middle construction, Davidse follows the Hallidayan view that middle clauses are GOAL-PROCESS constellations in which "[the Goals] do not actively co-participate in the process as Mediums do [...], they are affected as inert participants only by the Actor's action" (1991: 42). As already said, the middle construction shifts the focus to the Goal but does not change the 'inherent voice', which remains passive (Davidse continues Fawcett's term *facility-oriented passive*).

In her description of the middle construction, Davidse is primarily concerned with the paradigmatic opposition between transitive middles and ergative non-effectives, a position similar to that taken by Keyser & Roeper (1984), although they do not describe the difference in paradigmatic terms. Davidse notes an interesting ambiguity in Lakoff's example already mentioned above, *Sheila seduces easily and willingly*. Either this sentence is interpreted as a middle construction saying that Sheila is the *target* of someone else's act of seducing, and it is said that it is easy for this implied agent to be successful, or it is interpreted as an objectless transitive meaning that she is the *agent* of the seducing, and that she does this easily and willingly. Note that when the order of adverbs is reversed, *Sheila seduces willingly and easily*,

only the latter reading with Sheila as volitional agent is possible. Fellbaum (1985: 26, fn. 1), arguing against van Oosten (1977), makes exactly the same point.

While I believe Davidse's views to be essentially correct, I have some reservations concerning her commitment to "narrow it down to a strictly transitive phenomenon" (1991: 42), since I see an ergative side to the story as well. Secondly, her description remains pitched at the grammatical level and overlooks the importance of the specific lexical structure of the instantiating verbs. In the next part, I will first (section 4.1) present a more careful statement on the transitive/ergative interplay regarding the middle construction. In a second move (section 4.2), I will illustrate how the semantics of the verb should be considered as well, since it determines whether or not a verb can occur in a middle construction.

#### 4. A cognitive lexical-paradigmatic view on the middle construction

##### 4.1 Transitive versus ergative middle constructions

Ergative middle constructions show an ambiguity that complements the one Davidse has observed for transitive constructions (middle vs. objectless). More specifically, the adverbial modification in a sentence like *the door opens easily* may comment upon the facility of either someone opening the door or the door opening itself. In other words, the voice vagueness that typifies the ergative non-effective is retained here. However, some verbs that display the ergative patterning tend to foreground the MEDIUM-PROCESS unit even when a facility adverb is added. Consider

- (13) Frogs drown easily in improperly oxygenated water.  
 (14) Asthmatic patients choke easily.

In these sentences, the modification of the instigation, while not fully excluded, is secondary as the non-effective reading is more prominent. The paradigmatically determined ambiguities can be represented as follows (E stands for *entity* and FC, for *feasibility comment*):

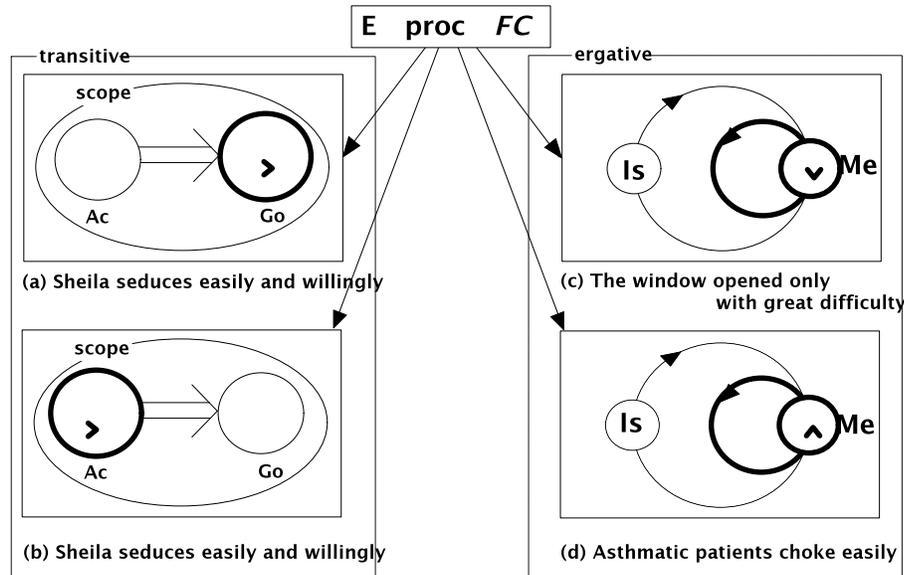


Figure 4: A paradigmatic view on the middle construction

Following Langacker (1991: 334), the feasibility is represented by the symbol  $>$ . In the presentation of the ergative constructions, the representation of the feasibility has been turned  $90^\circ$  ( $\wedge$ ), iconic with the nuclear orientation of the ergative paradigm. While facilitation is most common, hindrance ( $<$  or  $\vee$ ) may also be at issue in the middle construction, as in (c), which may culminate in the negation of the doability of the process as in *This dress won't fasten* (Fagan 1988: 201). Note that in Figure 4 only (a) and (c)



In English and in French, this constraint distinguishes middle constructions from ergatives]. The necessity of a modifier is, once more, illustrated by the following examples:

- (18) a. This ice cream scoops out easily. (Langacker 1991b)  
 b. \*This ice cream scoops out.  
 (19) a. Bureaucrats bribe easily. (Keyser & Roeper 1984)  
 b. \*Bureaucrats bribe.

However, while adverbial modifiers are typical, they are only one way of expressing the ‘feasibility properties’ of the Affected. The limiting case of feasibility is negated doability, as illustrated in:

- (20) This dress won’t fasten (Fagan 1988)  
 (21) These won’t tie. Yes, they tie! (Davidse 1991)

Example (21) shows that the middle construction is also possible in contrastive contexts, reaffirming the properties of the Affected which enhance the doability of the process. In these contexts, contrastive intonation patterns are also functional (cf. also Keyser & Roeper 1984: 385, fn. 4). Another way of expressing feasibility is indicated in the following examples:

- (22) Stows on floor or shelf. (Fagan 1988)  
 (23) This umbrella folds up in the pocket. (Fellbaum 1985)

The first example describes the way in which a shoe chest is stored, and the information presented in the middle construction is relevant in any discussion of storage. Similarly, the second example states that the umbrella in question can be folded up, which is viable information “since not all umbrellas are folding umbrellas, folding not being the primary function or purpose of an umbrella and hence not an inherent and understood property” (Fellbaum 1985: 24). Fellbaum notes that middle constructions occur frequently in advertisements, since the desired effect in this kind of language use is precisely that of “attributing to the product certain properties that can be beneficially exploited by any potential agent” (1985: 29).

These more subtle forms of feasibility comments may have paved the way for what Davidse has characterized as the ergativization of certain transitive verbs, such as *wash*, *sell* or *drive*. These (originally) transitive verbs can occur in constructions similar to the ergative non-effective, i.e. without any overt feasibility comment, e.g. sentence (24c), and in reflexive constructions focusing on the self-instigatability of the process, as in example (24d):

- |         |                                       |                |
|---------|---------------------------------------|----------------|
| (24) a. | He drove the car fast. (Davidse 1991) | [AC-PROC-GO]   |
| b.      | This car drives easily.               | [GO-PROC-(AC)] |
| c.      | This car drove too fast.              | [ME-PROC]      |
| d.      | That car practically drives itself.   | [IS-PROC-ME]   |

Davidse characterizes these verbs as ‘blends’, combining characteristics of both the transitive and ergative paradigms. They are, in fact, “transitive constellations on their way to becoming ergative ones, but with the transitive principle arguably still dominating” (Davidse 1991: 45).

I agree with Davidse that the transitive middle may be the inroad of the transitive into the ergative, yet I want to add that even the ergative (or ergative-like) constructions in which these verbs occur *retain* a feasibility comment. For instance, when one says *this magazine sells*, the clause implies that the magazine is of the type that possesses properties that enhance the sales, given that saleability does not constitute, in Fellbaum’s terms, an “inherent and understood property” of a product, but is a specific property which sets it apart from other objects. Verbs like *drive* or *sell* straddle the border between transitives and ergatives, yet the special properties of the ‘Affected’ are still relevant to the process. Consequently, the ergative-like uses of these ambivalent verbs will, as a rule, still evoke the notion of contrast, which is reflected in a wide variety of contrastive mechanisms used in these construals. A clear example of this is

the use of deictic noun phrases like *that car* or *this magazine*, which imply a contrast with other cars and magazines that do not drive or sell as well. Or consider the context of advertisements which, via linguistic as well as non-linguistic means, ‘zoom in’ on the qualities of the advertised product that differentiate it from product X or Y.

The focus on the process-enhancing properties of the Affected is generally absent in ‘regular’ ergative non-effective constructions (e.g. *Mary choked*) as these properties of the Medium are in fact self-evident, given the inherent co-participation in the process, even in the passive. This is why ergative middle constructions (cf. Figure 4(c)) do not stand out as much as the transitive middle constructions for which the process-facilitating properties strongly depart from the default reading. So, while I see Davidse’s restriction of the middle construction to a “strictly transitive phenomenon” as too absolute (ergative middles with a passive interpretation not being excluded), it is true that, given its special focus, a transitive middle construction is more noticeable and perhaps even prototypical. Yet, as the following section shows, also for transitive middle constructions, a more careful analysis is needed.

#### 4.2 Lexical constraints on the middle alternation

A serious problem, not noted by Davidse (1991), is that a middle construction is not possible with just any transitive verb. Keyser & Roeper (1984: 383) observe that “not all transitive verbs are equally grammatical in the middle mode”:

- (25) \*French acquires easily. (Keyser & Roeper 1984)  
 (26) \*The answer knows/learns easily. (ibid.)

but they have to admit that they have no idea why these sentences are excluded. What, then, motivates the grammaticality of some, but not all, transitive middles?

The notion of ‘change of state’ is a possible explanation, as offered by Smith (1978), who on this basis draws a distinction between acceptable middles, borderline cases, and ungrammatical ones, illustrated respectively by:

- (27) The metal anneals easily. (Smith 1978)  
 (28) ?The jewels steal easily. (ibid.)  
 (29) \*The game watches easily. (ibid.)

She suggests that “one determining factor is whether the activity referred to by a verb brings about a *definite* change of state in the object” (1978: 104, my emph.). If the ‘object’ is not clearly affected or not affected at all, the middle is questionable or ungrammatical. The problem with Smith’s criterion is how to determine whether the change of state is sufficiently definite, i.e. whether the ‘object’ is sufficiently affected by the process.

Rapoport (1993) also forwards the criterion of change of state as an explanation for the selective occurrence of the middle construction. The inaccuracy of her criterion is indicated by her own need to distinguish between “linguistic” and “real world knowledge” to explain why *kick* does not tolerate the middle construction, e.g. \**Large bears do not kick easily*. In the framework of Cognitive Grammar, this distinction is untenable. Linguistic structures are characterized against the background of conceptual domain matrices in which no hard-and-fast distinction can be drawn between semantic and encyclopedic knowledge: “there is no essential difference between (linguistic) semantic representation and (general) knowledge representation” (Croft 1993: 337). Horn, taking issue with the view proposed by some linguists that *re-* prefixation always involves a change of state, formulates a criticism parallel to ours: “a judge can *reopen* a case, but not (felicitously) *reclose* it, and that while a door can be *reopened* or *relocked*, we don’t speak of it being *reclosed* or *reshut*, despite the fact that closing something affects its state just as much as does opening (or locking) it” (1980: 138).

I want to argue that the notion of ‘change of state’ on which both Smith and Rapoport rely is inaccurate. Firstly, if, as they claim, the degree of affectedness were indeed a determining factor (if not

criteria then at least influential), one would expect that kill-expressions, which saliently encode a ‘definite change of state’, readily occur in a middle construction, which, however, they do not. Except for a handful of middle-based OED-attestations for *kill*, *butcher* and *slaughter* (see below), there are no middle constructions with verbs of killing in any of my corpora (on a total of over 15,000 attestations, the few OED-attestations represent a negligible 0.03%).

Secondly, and more importantly, the notion of ‘change of state’ totally ignores the semantics of the middle construction. As emphasized, essential to this construction are the properties of the Affected that influence the doability of the process coded by the verb. What has not been observed in other studies is that very often there is also an implication of ‘predestination’. That is, the properties emphasized in the middle construction are often also those for which the entity has been designed in the first place. Fellbaum was quoted earlier as saying that middles focus on properties that can be beneficially exploited by any potential agent and thus often occur in the language of advertisements (examples (15), (16) and (23), reporting on the ‘foldability’ of bed, chairs and umbrella, are drawn from this type of language use). My notion of ‘deliberately designed properties’ takes it one step further. Although there is a certain relationship between the two types of properties, the focus is still different, as will be shown shortly when discussing middle-based constructions with verbs of killing.

Instead of resorting to a general notion like ‘change of state’, I argue that in order for a verb to occur in a middle construction, the semantics of the PROCESS-AFFECTED pairing must be compatible with the notion of process enhancement and/or that of predestination. For some verbs, this condition is not met, and the middle construction is not possible, as for examples (28) and (29). However, with the proper contextual support, creative middle constructions do become possible. For instance, against Rapoport (1993), I claim that it *is* possible for *kick* (or almost any other transitive verb) to occur in a middle construction. Suppose that a professional football player comments on a new type of football and utters the following sentence.

(30) Well, I don’t know, this new ball doesn’t kick very well.

In such a context, the properties of the ball relative to the kicking process become relevant and therefore, the middle construction becomes a valid coding option.<sup>5</sup>

The semantic incompatibility between verb and construction explains why verbs of killing do not readily occur in a middle (or middle-based) construction. The reason for this is that it is unusual to think of living beings as possessing properties which facilitate killing them. Interestingly, it is precisely when the notion of predestination (rather than process-enhancement) comes in that middle constructions may emerge:

(31) As killing cattle [...] they are inferior to corn-fed stock. (OED on CD-ROM)

(32) The very idea of switching our entire herds to milking instead of slaughtering is just crazy. (OED on CD-ROM)

(33) His slaughtering stock before the knife would pine. (OED on CD-ROM)

(34) Fat butchering cows. (OED on CD-ROM)

These examples nearly exhaustively represent the middle-based constructions attested.<sup>6</sup> They correct Keyser & Roeper’s view that “middle verbs are not able to prepose” (1984: 387). Noteworthy, all refer to cattle *predestined* to be slaughtered. Example (32) is especially revealing in this respect, in that it contrasts the predestination of being slaughtered to that of being milked. Notwithstanding these examples, it cannot be denied that it is much harder to devise a context which supports a middle construction for verbs of killing. In addition to the difficulty of conceptualizing the Affected of a kill-event as possessing properties that enhance (or hinder) the killing, the resistance to middle formations is augmented by the strong Agent-centredness of the prototypical verbs of killing. Consider the following usages:

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See also: M. Lemmens, *Lexical Perspectives on Transitivity and Ergativity. Causative Constructions in English*. J. Benjamins. 1998:71-85.

(35) Some people {*murder/lynch/assassinate/massacre/execute*} easily.

A middle interpretation for (35) is not entirely excluded, but the most prominent reading will be the objectless transitive construction, with the people as Actors, because of their salience in these processes. The focus on the Actor with these outspokenly transitive verbs in fact illustrates the strong Agent-centredness of the transitive paradigm (see Lemmens (in press) on the Agent-centredness of these verbs).

In short, my claim is that in order to explain why verbs can or cannot occur in the middle construction (or any other construction for that matter) its semantics must be compatible with that of the construction. For some verbs, such as verbs of killing, it is difficult to reconcile the two. However, as has been shown, this is not an absolute issue, since in certain contexts, middle or middle-based constructions become possible. However, given the prototypical incompatibility, such uses can safely be regarded as context-bound extensions and it is highly unlikely that the constructional ambiguities will lead to ‘blends’ such as shown for *sell*, *wash* or *drive* (see section 5.1 for some more comments on these blends).

In a more general perspective, the unusual middle construction implies that one must refrain from formulating the constructional possibilities of verbs in absolute terms, as has been common practice (e.g. Levin 1993). Instead, a verb’s constructional possibilities depend strongly on the verb’s usage. Differently put, there is a strong interaction between lexical and constructional meaning. Such interaction is confirmed by some morphological correlates of the middle construction, viz. the derivation of agentive nominals via the *-er* suffix and adjectives in *-able*, which are described in the next section. After these descriptions, I will be in a position to come to a more general assessment of how a verb’s lexical structure determines the acceptability of a middle or middle-based construction.

## 5. Morphological correlates of the middle construction

### 5.1 Middle-based agentive nominals

Before turning to the actual middle-based agentive nominals in *-er*, a brief description of the semantics of this suffix is called for. Ryder’s (1991a,b) insightful studies of this suffix reveal the prototype structure of the semantic category denoted by the suffix. She posits that the prototype of the *-er* suffix, both diachronically and synchronically, is its reference to human agents, as in Old English *writere* (“writer”). From this prototype, *-er* extended to coding the *instrument* (e.g. *clipper*, *cleaver*, *screwdriver*, *computer*, etc.). Ryder shows that for the *-er* suffix, the extension to instruments appears to have been motivated originally in the period from the 1500’s through the 1800’s, a period of great proliferation in implements and machines whose operation became increasingly independent of human operators. While initially the use of instrument *-er*’s may have been motivated by the increase of ‘self-operating’ devices, the *-er* formation was reanalyzed to include any type of instrument. As Levin & Rappaport (1988) correctly observe, in present-day English, the largest class of *-er* nominals refers to instruments.

From the instrumental *-er* another extension, somewhat unusual and apparently not very productive, has developed via a second restructuring, viz. a shift from the instrument used in the event to the *clothing* designed to be worn while performing the action. The restructuring has resulted in *-er* formations like *loafers*, *sneakers*, *loungers*, *romper*, etc. The *-er* forms have also extended to refer to *events* that bring about a certain result. Consider for instance, *thriller* (a film or book that thrills the viewer/reader), *bummer* (“event that bums a person out”). Ryder points out that in present-day English, this extension goes as far as designating events which are not causative at all, as in *all-nighter* (“an event lasting all night”) or *no-brainer* (“a move or decision that requires no brain to perform”). Ryder has attested numerous coinages of this type in sports commentaries. More recently, Ryder (1997) has made the claim that the increasing productivity of these formations suggests a process of on-going grammaticalization in which the semantics of *-er* is bleached, i.e. it is gradually losing its agentive (causative) meaning.

In sum, the semantic network of *-er* displays a prototype structure that in fact finds a rough equivalent on clausal level. In codings with *kill*, for example, a (volitional) human Actor is typical (e.g. *The sniper killed the body-guard*), but the Agent-role can also be instantiated by instruments (e.g. *the gas kills instantaneously*) or events (e.g. *the explosion killed one worker*). A parallel that interests us most in the present context is the middle-based derivation. Typical cases are the following examples cited both by

Ryder (1991b) and Levin & Rappaport (1988):

- (36) **dipper**: something that is dipped before being eaten  
**sipper**: a drink that is sipped  
**scratcher**: a lottery ticket to be scratched to reveal the potentially winning pattern (UK: a scratchcard)

I believe that Ryder (1991b: 309) overextends the agentivity implied by the *-er* suffix in her characterization of these formations as profiling an “agentive patient”, since they are the nominal equivalent of a middle construction, which we argued to profile an inert Goal and not an agentive participant. Middle-based *-er* formations like those in (36) retain the passive voice constellation: the essence of the entities referred to is to be dipped, sipped or scratched by some implied agent. So, as with the middle construction the focus is on the properties of the Affected. Consequently, and in line with what we argued above, such a middle-based derivation will generally not occur with verbs whose semantic structure is incompatible with this focus on the properties of the Affected. Agentive derivations of verbs of killing, which were shown to resist the middle alternation, such as *killer* or *murderer* indeed saliently refer to the Agent. Nevertheless, like the middle alternation, a middle-based *-er* derivation can occur in the proper context. Consider two examples with *killer* occurring in the same context as the earlier mentioned middle constructions, viz. in reference to cattle ready or predestined for slaughter:

- (37) ...the bullock among the herd of killers ... (OED on CD-ROM)  
(38) As killing cattle or killers (cattle ready for killing) they are inferior to corn-fed stock. (OED on CD-ROM)

Although unprototypical, these middle-based uses of *killer* signal, once more, that the type of construction a verb can engage in is determined by specific usages and cannot be stated in absolute terms. Note that here, too, the focus is not so much on process-facilitating (or process-hindering) properties but on properties that precondition the entity to be subjected to the process. The shift to the entity’s essential destination is not restricted to verbs of killing but seems to be common with middle-based *-er* nominals. A *dipper* is not a snack that has properties that facilitate dipping it (which would distinguish it from other snacks), but one that is *meant* to be dipped. Similarly, a scratcher is a ticket meant and designed to be scratched. The cattle referred to as *killers* are fattened for slaughter and thus predestined for it; the formation is not to be interpreted as indicating that these animals possess qualities that facilitate the actual killing.

In the earlier discussion of the middle construction, it was observed that middle constructions can give rise to blends, i.e. verbs (e.g. *sell*) that show both transitive and ergative characteristics. Most interestingly, these blends find their counterpart in the *-er* formations as well, as indicated by the following contrastive pair:

- (39) a. **bookseller**: person or store that sells books  
b. **bestseller**: book (or possibly another product) that sells well (not: book that is sold well)

A best-seller’s properties are such that selling it is no problem; in fact, it sells itself. The latter construction clearly entails an ergative reinterpretation of an originally transitive process. One of the corpora consulted, a computerized version of some three months of the *Wall Street Journal*, often reports on buying and selling and is thus well-suited to do a pilot study probing into the distribution of the two types of *-er*’s for *seller*. On a total of 351 attestations of *seller*, the vast majority (86%) profile the Agent. Of the Affected-profiling formations (14%), the majority (73%) concern attestations of *bestseller*. Strikingly, *all* the nominals profiling the Affected retain a strong facility-oriented perspective that typifies the middle construction: they all contain a modal comment on the selling process. In addition to *bestseller*, we find *big(gest) seller*, *hot seller*, *top seller*, *slow seller*, *third-largest seller*, and *huge seller*. This reveals the item’s transitive homeground and confirms the prominent feature of modal comment on

the feasibility of the selling. This lines up with our earlier characterization of the middle construction above: in spite of an adverbless middle construction that is possible with *sell* (e.g. *this magazine sells*), the clause retains its focus on the feasibility-enhancing properties of the object sold. In other words, even adverbless constructions with *sell* still very often imply a comment on the product's properties. This reveals that while blends like *sell* or *wash* or *drive* are both transitive and ergative, the transitive paradigm still predominates. The predominance of the transitive paradigm is also reflected in the fact that *-er* derivations do not always inherit the mixed pattern: with considerable certainty, one may say that *washer* and *driver* will be used unambiguously in reference to the Agent of the washing and driving processes. This is also the case for agentive nominals derived from transitive verbs of killing. Despite the two OED examples, formations like *killer* or *murderer* saliently refer to the Actor of the base process.

### 5.2 The *-able* derivation

Another morphological derivation process revealing remarkable parallels with the middle construction, at least for *transitive* verbs, is the derivation of adjectives in *-able*. The suffix also emphasizes the properties of the Affected in its passive reading, i.e. "having the property to be V-ed". For prototypically ergative verbs, this derivation is unproblematic, given that they by default incorporate the notion that the Affected has the capacities of self-instigating and sustaining the process. Horn (1980: 139) correctly observes that ergative-based derivations are ambiguous between an active and a passive reading (in other words, they preserve the voice syncretism): *changeable* can mean 'that which can change' or 'that which can be changed' (cf. also Keyser & Roeper 1984 and Davidse 1991: 106-7). As a rule, the derivation is also possible with transitive verbs, e.g. *drinkable*, *solvable* or *readable*. However, inquiry into the acceptability of the *-able* derivations for the latter group has revealed a striking correlation with the acceptability of the middle construction. For instance, in the prototypical case the verb *kick* does not allow a middle construction, and, as a rule, it does not allow the *-able* derivation either. However, as already pointed out, with the proper contextual support the middle construction is possible and in that context also the *-able* derivation gains in acceptability. As a counterpart to example (30) with *kick* in a 'creative' middle construction consider (40):

- (40) Well, I don't know, this new ball is not very kickable.

In British English, *a kickable penalty* is a common expression in football or rugby to refer to penalties that should not present difficulties for the kicker and lead to a score.

As with the middle construction, the semantics of verbs of killing is also incompatible with the *-able* derivation and formations like *murderable*, *lynchable* or *assassinatable* are awkward. Nevertheless, they do appear, as witnessed by the following examples:

- (41) ... to kill any man *killable* by disappointment and sorrow. (OED on CD-ROM)  
 (42) A murderee is a man who is *murderable*. And a man who is *murderable* ... desires to be murdered. (OED on CD-ROM)  
 (43) ... the least *murderable* people in the world, if they could be murdered, then anyone could be murdered. (OED on CD-ROM)  
 (44) Even the angriest demon drivers are reduced to the status of *slaughterable* black sheep. (OED on CD-ROM)  
 (45) Alexander was a tyrant and therefore in all justice *slayable*. (OED on CD-ROM)  
 (46) Air-breathing or *drownable* animal species. (OED on CD-ROM)

In these examples, the *-able* derivation is fully acceptable because the context focuses on the properties which augment (or justify) the 'killability' of the Affected. While these are relatively unconventional usages, they once more indicate that one must refrain from formulating absolute rules on the acceptability of either the middle construction or the *-able* derivation. Note that the latter may be more common in co-occurrence with the prefix *un-* which negates the feasibility. Recently, I came across the following example:

(47) She comes in, green-eye fire hair, sweet stamp of the freshest thing, *unkillable* lilt ...<sup>7</sup>

That verbal meaning influences the acceptability of both is nicely illustrated by *execute*: when used in reference to capital punishment, the verb behaves like the other verbs of killing in its strong tendency to resist the middle interpretation (cf. example (35)) as well as the *-able* derivation (e.g. *?an executable murderer*). However, when used in its more general meaning, “to carry out or perform an action, to carry out an order”, the formation *executable* is quite conventional, e.g. *a (non-)executable contract*. In this context, it is worth noting that from this general meaning of *execute* another usage has evolved, viz. the execution of computer commands. Significantly, a file containing one or more such computer commands is called an *executable file*, its executability being a property which sets it apart from other files.

## 6. Middable verbs

With an eye to transitive verbs, of which verbs of killing can be taken as a representative subset, the above analysis has offered an account of the middle construction which does justice to the conditions under which a verb may occur in such a construction as well as semantically related ‘morphological’ constructions, such as the middle-based agentive nominal and the adjectival derivation with *-able*. In each case, the compatibility of lexical and constructional meaning (rather than a general criterion like ‘change of state’) is essential in explaining when a verb may occur in these constructions. It was further shown that these conditions are not fixed but may be relaxed in the proper context.

Given the correlation between the semantically related constructions, I have coined the term *middable verbs*, as a cover term for the subset of transitive verbs whose semantic structure is compatible with the middle construction and the *-able* derivation or other middle-based constructions. Thus, verbs of killing could thus be said to be prototypically *non-middable*, as their semantic structure is as a rule incompatible with the focus on the process enhancement properties of the Affected. As shown, specific contextual features may overrule the prototypical *non-middable* nature of these verbs.

While I believe that the general lines of this analysis are correct, it is obvious that a more careful and extensive investigation is required. It is only after a more detailed analysis of the middle construction, the *-able* derivation, and other middle-based constructions has been carried out that the correlation between these (or the absence of it) can be accounted for.

In the realm of the middle construction, further research is required for the ergative middle construction and its relation to the non-effective. While realizing a passive constellation with the Medium as Affected, a construction like *The window opened only with great difficulty*, still evokes the notion of co-participation. However, I suspect that the ergative middle will typically be used when the potential of co-participation is no longer taken for granted, primarily in contexts with negative polarity. Also the ‘middable’ character of prototypically ergative verbs is to be examined more closely. In the lexical field of killing, the ergative verbs (e.g. *choke*, *drown*, or *starve*) align with the transitives and have not been attested in ‘genuine’ ergative middle constructions as depicted in Figure 4(c). Similarly, formations like *suffocatable* or *drownable*, while possible (cf. example (46) for the latter) appear marked as do the transitive verbs of killing (see Lemmens (in press) for a more elaborate description of the field of killing). The reason is, once again, the semantic incompatibility of verb and construction. Expanding the research to other lexical fields can surely be insightful on all these issues.

## 7. Conclusion

The above description has substantiated a number of important views on linguistic structure, some of which align with the basic assumptions in Cognitive Grammar. First, the characterization of the middle construction has evidenced that constructions are meaningful in and by themselves. The meaning of the middle construction was characterized as implying a profile on the properties of the Affected that facilitate the process or predestine it to be submitted to the process. An Agent is implied, yet remains quite schematic as the properties are such that any Agent could partake successfully in the process.

Secondly, Langacker’s Cognitive Grammar analysis of verbal alternations has been extended to incorporate the paradigmatic opposition between the transitive and ergative models of causation. By

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See also: M. Lemmens, *Lexical Perspectives on Transitivity and Ergativity. Causative Constructions in English*. J. Benjamins. 1998:71-85.

doing so, some issues, only latently present his account, have been taken into a more systematic explanatory framework which on the whole remains compatible with the basic assumptions of Cognitive Grammar. On the other hand, Davidse's mainly grammatically oriented description has been augmented with a cognitively inspired lexical perspective leading to a more accurate characterization of the middle construction and the conditions for its acceptability.

Essential to my cognitive lexical-paradigmatic account is that no rigid criteria can be assumed which predict with absolute certainty whether or not a verb can occur in a middle constructions. Instead, one of its basic assumptions is that the semantics of verbs and constructions interact dynamically when fusing into specific usage events. It is in these construals that creative extensions may occur which may or may not lead to a more global process of linguistic change.

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**Notes**

- <sup>1</sup> A summary of my analysis of English ‘middable’ verbs was presented at the Fifth ICLA conference in Amsterdam. I am grateful for the audience’s constructive criticism; in particular, I want to thank Eugene Casad, Theo Janssen, Karl-Erik Paasonen, Robert Kirsner, and David Tuggy.
- <sup>2</sup> See e.g. Fagan 1988; Fellbaum 1985, 1989; Fellbaum & Zribi-Hertz 1989; Fiengo 1980; Hoekstra & Roberts 1993; Jespersen 1927 (calling it the “activo-passive”); Kemmer 1993; Keyser & Roeper 1984; Lakoff 1977; Van Oosten 1977 (introducing the term “Patient-Subject construction”) and Williams 1981.
- <sup>3</sup> My terminology does not always follow Davidse’s; see Lemmens (in press) for a justification of the terminology used.
- <sup>4</sup> The only study that goes in the direction of observing the ambiguity is Smith (1978).
- <sup>5</sup> At the 5th ICLA conference in Amsterdam, someone jokingly commented after my presentation: *Your talk listened very well*, which nicely illustrates my point.
- <sup>6</sup> Strikingly, none of these uses is listed under their respective entries in the book edition.
- <sup>7</sup> Butler, J. (1994), *Living in Little Rock with Miss Little Rock*, London: Abacus, p. 3.

## References

- Croft, W. A. (1993), "The role of domains in the interpretation of metaphors and metonymies", *Cognitive Linguistics* 4, 335-370.
- Davidse, K. (1991), *Categories of Experiential Grammar*, Doctoral dissertation, Dept. of Linguistics, K.U. Leuven.
- Davidse, K. (1992), "Transitivity/Ergativity: The Janus-Headed Grammar of Actions and Events", in: M. Davies & L. Ravelli, eds., *Advances in Systemic Linguistics*, London: Pinter, 105-135.
- Denny, J.P. (1983), "Semantics of abstract finals in Algonquian transitive inanimate verbs", *Canadian Journal of Linguistics* 28, 133-148.
- Fagan, S.M.B. (1988), "The English Middle", *Linguistic Inquiry*, 19, 181-203.
- Fawcett, R.P. (1980), *Cognitive Linguistics and Social Interaction. Towards an Integrated Model of a Systemic Functional Grammar and the Other Components of a Communicating Mind*, Exeter & Heidelberg: Exeter University Press & Groos Verlag.
- Fellbaum, C. (1985), "Adverbs in agentless actives and passives", *CLS* 21, Part 2, *Papers from the Parasession on Causatives and Agentivity*, 21-31.
- Fellbaum, C. & A. Zribi-Hertz (1989), "La Construction Moyenne en Français et en Anglais: Etude de Syntaxe et de Sémantique Comparées", *Recherches Linguistiques de Vincennes* 18, 19-57.
- Fiengo, R. (1980), *Surface Structure and The Interface of Autonomous Components*, Cambridge, Mass.: Harvard University Press.
- Halliday, M.A.K. (1985), *An Introduction to Functional Grammar*, London: Arnold.
- Haspelmath, M. (1993), "More on the typology of inchoative/causative verb alternations", in: B. Comrie & M. Polinsky, eds., *Causatives and Transitivity*, Amsterdam/Philadelphia: Benjamins, 87-120.
- Hoekstra, T. & I. Roberts (1993), "Middle Constructions in Dutch and English", in: E. Reuland & W. Abraham, eds., *Knowledge and Language. Vol. II: Lexical and Conceptual Structure*, Dordrecht: Kluwer, 183-220.
- Horn, L. R. (1980), "Affixation and the unaccusative hypothesis", *CLS* 17, 134-146.
- Jespersen, Otto (1927), *A Modern English Grammar on Historical Principles*. Heidelberg: Carl Winter.
- Kemmer, S. (1993), *The Middle Voice [Typological Studies in Language 23]*, Amsterdam & Philadelphia: Benjamins.
- Keyser, S. J., and T. Roeper (1984), "On the middle and ergative constructions in English", *Linguistic Inquiry* 15, 381-416.
- Lakoff, G. (1977), "Linguistic Gestalts", *CLS* 13: 236-287.
- Langacker, R. W. (1991), *Foundations of Cognitive Grammar, Vol. II: Descriptive Application*, Stanford: Stanford University Press.
- Lemmens, M. (in press), *Lexical Perspectives on Transitivity and Ergativity. Causative Constructions in English*, Amsterdam & Philadelphia: Benjamins.
- Levin, Beth (1993), *English Verb Classes and Alternations. A Preliminary Investigation*, Chicago: Chicago University Press.
- Levin, B. and M. Rappaport Hovav (1988), "Nonevent *-er* Nominals", *Linguistics* 26, 1067-1083.
- Rapoport, T.R. (1993), "Verbs in depictives and resultatives", in: J. Pustejovsky, ed., *Semantics and the Lexicon*, Dordrecht: Kluwer, 163-184.
- Rice, S. (1988), "Unlikely Lexical Entries", *BLS* 14, 202-212.
- Ryder, M.E. (1991a), "From *writere* to *in-the-parker*: an analysis of *-er* nominals in English", Lecture presented at the *Second International Cognitive Linguistics Conference*, Santa Cruz, California, July 29 - August 2.
- Ryder, M.E. (1991b), "Mixers, Mufflers and Mousers: The Extending of the *-Er* Suffix as a case of Prototype Reanalysis", *BLS* 17, 299-311.
- Ryder, M.E. (1997), "Development of the English *-er* suffix: a corpus study", Lecture presented at the *Fifth International Cognitive Linguistics Conference*, Amsterdam, July 14 - 19.
- Smith, C.S. (1978), "Jespersen's 'Move and Change' Class and Causative Verbs in English", in: M.A. Jazayery et al., eds., *Linguistic and Literary Studies in Honor of Archibald A. Hill. Vol. II*:  

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See also: M. Lemmens, *Lexical Perspectives on Transitivity and Ergativity. Causative Constructions in English*. J. Benjamins. 1998:71-85.

*Descriptive Studies*, The Hague: Mouton, 101-109.

Van Oosten, J. (1977), "Subjects and Agenthood in English", *CLS* 13, 459-71.

Vendler, Z. (1984), "Adverbs of Action", *CLS* 20, Part 2, *Papers from the Parasession on Lexical Semantics*, 297-307.

Williams, E. (1981), "On the Notions 'Lexically Related' and 'Head of a Word' ", *Linguistic Inquiry* 12, 245-74.

### **Dictionaires consulted**

*Collins Cobuild English Language Dictionary* (1987), London: HarperCollins.

*The Oxford English Dictionary* (1973), Oxford: Clarendon Press.

*The Oxford English Dictionary* on CD-ROM (1993), Oxford: Clarendon Press.

*A Supplement to the Oxford English Dictionary* (1972), Oxford: Clarendon Press.