Steffen Heidinger

FRENCH ANTICAUSATIVES

A DIACHRONIC PERSPECTIVE

Linguistische Arbeiten   537

Steffen Heidinger

French anticausatives

A diachronic perspective

De Gruyter

Contents

VI

Acknowledgements

List of Abbreviations

SMALL CAPS = abbreviations for interlinear glosses

ABL	ablative	OBL	oblique
AC	anticausative	PL	plural
AG	agent (semantic role)	POSS	possessive
APP	appearance	PP	prepositional phrase
APPL	applicative	PQC	PP quantizing a change
ART	article	PRS	present
ASP	aspectual	PSC	PP specifying a change
COP	change of position	PST	past
COS	change of state	QDA	quantized degree adverb
DAT	dative	R	Latin suffix -r (with allomorphs)
DegP	degree phrase		
DEM	demonstrative	RAC	reflexive anticausative
DEOBJ	deobjective	REFL	reflexive
dO	direct object	RF	relative frequency
DP	determiner phrase	RLD	relative lexical diffusion
ED	eventuality description	RS	resultant state
ERS	expression of resultant state	RPSY	reflexive psych verb
		S	subject
EXP	experiencer (semantic role)	SC	small clause
		SG	singular
FUT	future	t	(point in) time
GEN	genitive	TH	theme (semantic role)
IMP	imperative	TR	true reflexive
INTR	intransitive	TR	transitive
IRR	irrealis	UAC	unmarked anticausative
LSR	lexical semantic representation	V	verb
		v	little v
NEG	negation	VP	verb phrase
NP	noun phrase	V_{PP}	past participle
NOM	nominative		
O	object		

1 Introduction

How do new ways of encoding valence alternations emerge, how do they spread and why do they spread, and what are the consequences of their emergence and spread for already existing patterns? These are the questions that will be addressed in this book and that will be discussed on the basis of a concrete example of valence alternation. The valence alternation that shall be analyzed is the French causative-anticausative alternation. The new type or way of encoding is the reflexive anticausative (RAC), as illustrated in (1a.), and the old type is the unmarked anticausative (UAC) in (1b.).[1]

(1)   a.   La branche s'est cassée.   reflexive anticausative (RAC)
          'The branch broke.'
       b.   La jupe a séché dehors.   unmarked anticausative (UAC)
          'The skirt dried outside.'

This book is thus concerned with the following three topics:
1. the emergence of the French RAC,
2. the spread of the French RAC, and
3. the consequences that these processes have had for the UAC which existed already prior to the emergence of the RAC.

In chapter 2, I will provide a general background for the analysis of the development of French anticausatives. I will introduce the relevant concepts and notions, such as *anticausative*, *valence*, *valence alternation* and *valence change*. Furthermore, I will discuss the syntax and semantics of anticausatives, two issues which have been at the heart of the recent literature on anticausatives. Of course, many specifications and completions on the issues discussed in chapter 2 will be addressed again throughout the book, when the developments of French anticausatives will be considered in detail.

---

[1]   Note that in my use the terms *marked anticausative* and *unmarked anticausative* only refer to differences on the level of form. No statements are made as far as the semantic or functional level is concerned. That is, the fact that French reflexive anticausatives are labeled *marked* does not imply that they are semantically or conceptually more complex. (The question of whether the asymmetry between types of anticausatives as far as formal complexity is concerned also reflects differences in conceptual complexity will be discussed in detail in chapter 5.)

The emergence of the French RAC will be described in chapter 3. This process is closely linked to the question of how reflexive morphology is able to acquire the function of marking anticausatives. In this book I would like to contribute to a better understanding of this question, which I will approach from (at least) three different perspectives. These, and the resulting claims I will make, are outlined in what follows.

Firstly, I will describe the situation in 12th century Old French and show that already before the emergence of the RAC, the reflexive construction was underspecified with respect to (i) the semantic role of the subject and (ii) the referentiality of the reflexive. Crucially, there is an intermediate reflexive construction between true reflexives (*se laver* 'wash oneself') and reflexive anticausatives (cf. (1a.), namely, reflexive psych verbs (*se fâcher* 'become angry'). I will argue that this intermediate reflexive construction was a necessary condition for the emergence of the French reflexive anticausative.

Secondly, as far as the mechanism of language change whereby the French RAC emerged is concerned, I will argue that the mechanism cannot be determined, neither on empirical nor on theoretical grounds. The two mechanisms of language change that are candidates for the emergence are (i) reanalysis and (ii) analogical extension. I will show that among the first French reflexive anticausatives there are cases which can be accounted for with analogical extension as the relevant mechanism as well as cases which can be accounted for with reanalysis.

Thirdly, I will relate the above-mentioned conclusions and show that the emergence of RAC can be modeled with both analogical extension and reanalysis, based on the assumption that the existence of an intermediate reflexive construction is a necessary condition for the emergence of the RAC. As far as the relation between reanalysis and analogical extension is concerned, I will argue that the difference is much smaller than commonly assumed. In fact, in the case of the emergence of the French RAC reanalysis could be considered a subtype of extension.

The spread of the RAC will be described in chapters 4 and 6, and the consequences of the emergence of the RAC for the UAC will be discussed in chapters 4 and 5.

In chapter 4 I will look at both the quantitative and the qualitative aspect of the spread of the French reflexive anticausative. The two parameters by means of which I analyse the quantitative side of this process are (i) the relative frequency of RAC and (ii) its relative lexical diffusion. The first parameter is simply the frequency of occurrence of RAC relative to the size of the respective corpus; the latter parameter is the number of verbs (as types, not tokens) forming anticausatives, which are, again, correlated to the size of the respective corpus. I will describe the results of my investigation of the diachronic development of these two parameters from Old to Modern French in a corpus study, and I will show that both the relative frequency of RAC and the relative

lexical diffusion of RAC strongly increased from Old to Modern French. Crucially, the increase of the relative frequency begins very slowly and accelerates dramatically after Middle French. As far as the qualitative aspect of the spread is concerned I will analyse whether the quantitative increase of the RAC correlates with a spread of the RAC to new types of anticausatives. To this end, I will consider semantic verb classes, animacy of the subject and the possibility to use the respective verb as an UAC. The strong increase of the RAC leads to the question of the consequences of the emergence and the spread for the older pattern (the unmarked anticausative), which will also be addressed at the end of chapter 4.

In chapter 5, the discussion of the consequences of the spread of the RAC will be approached primarily from the angle of the semantic relation between RAC and UAC. If a language possesses two ways of formally encoding one function, the question immediately arises whether there exist semantic differences between the two strategies, despite the obvious shared property of marking the same function. With respect to this question I will investigate the aspectual and causal structure of the two types of French anticausatives. The choice of these two semantic parameters will be motivated in sections 5.2 (aspectual structure) and 5.3 (causal structure), and, of course, the parameters will be described in detail in these sections. The method I chose to detect a possible semantic difference between French RAC and UAC with respect to these two parameters is a corpus study of the distribution of certain aspectual and causal indicators in the context of RAC and UAC. I conducted case studies for six French anticausative verbs (*augmenter* 'increase', *durcir* 'harden', *empirer* 'worsen', *enfler* 'swell', *gonfler* 'swell', *grossir* 'grow, gain weight'). In these case studies a difference between RAC and UAC emerged with respect to the distribution of these aspectual and causal indicators.

In chapter 6, I try to reconcile two findings from chapter 4 that may seem contradictive at first sight, namely, the strong increase of the RAC on the one hand and the lack of a change in the semantic properties of the RAC during this change on the other hand. The account for the increase of the RAC with a change in its semantic properties relies on an observation concerning the semantic difference between RAC and UAC, which becomes obvious in the case studies (chapter 5): the RAC focuses more than the UAC on the resultant state of the event. Given this semantic difference between the RAC and the UAC, I will argue that the decrease and loss of the use of *être* 'be' as a perfect auxiliary with unmarked anticausative verbs (which also creates a construction that focuses on the resultant state of the event), should be interpreted as a factor favouring the use of the RAC.

2 Anticausatives

2.1 Preliminary remarks

2.1.1 Valence

The term *valence* has been introduced into linguistic theory by Tesnière (1965). In his book *Éléments de syntaxe structurale* he lays out the first description of a dependency grammar. The basic assumption of this syntactic model is that sentences are hierarchically structured entities with dependency relations between the constitutive elements (cf. Tesnière 1965: 11). Tesnière abandons the subject-predicate asymmetry of traditional grammars and the special status of the subject as opposed to the object that these grammars assume. He rejects asymmetrical structures as an unjustified adoption from formal logic that cannot be motivated by the linguistic facts of any given language (cf. Tesnière 1965: 104). The crucial role that the verb plays as the highest head in the structure of a sentence is linked to the notion of valence, which he illustrates in the now famous comparison that a verb is like an atom attracting a certain number of arguments (cf. Tesnière 1965: 238). He also puts forward a description of a sentence such as *The women danced on the table* in terms of a play consisting of some event, some actors and, possibly, circumstances of the event. The actors (or arguments) are the entities that are involved in the event (cf. Tesnière 1965: 102). Additionally, so-called *circonstants* (or adjuncts) may describe the circumstances in which the event takes place (time, place, manner, etc.). In the above sentence, the verb *dance* describes the event, *the women* would be the actors (or the argument), and *on the table* would specify the circumstances of the event by specifying where the event takes place.

To determine the valence of a given verb two points need to be considered: Firstly, arguments have to be distinguished from adjuncts. According to Tesnière, only arguments are governed by a verb. Thus only arguments such as *the women*, but not adjuncts such as *on the table* are relevant for the valence of the verb. This distinction, however, is not trivial, and was subject to a long debate in the literature following the publication of Tesnière's (1965) book (see Jacobs 1994 and 2003). Besides the identification of the arguments of a given verb, one has to consider that a verb can have more than one valence, in the sense that a verb does not always appear with the same number of arguments. For example, the verb *eat* has only one argument in (2a.), but two arguments in (2b.).

(2) a. John ate.
     b. John ate the soup.

We thus need to distinguish between the valence that a verb has in a given sentence (e.g. *eat* as a one-argument verb in (2a.)) and the valence potential of a verb, i.e. the sum of valences a verb can have (e.g. *eat* as a one-argument verb and a two-argument verb). A more detailed description of verbal valence which goes beyond the mere enumeration of the number of arguments can be given if the grammatical and semantic roles of the arguments are taken into account. Haspelmath & Müller-Bardey (2004: 1130) use the term *valency pattern* for this more detailed description of verbal valence. For example, the valence pattern of the sentence (2b.) is as illustrated in (3):

(3) John   ate   the soup.
     subject V   direct object   grammatical roles
     agent   V   theme   semantic roles

Even more fundamental than the question of the valence of a given verb is the question at which level of representation this valence-related information is stored. The projectionist, the constructionist and the neo-constructionist approach that constitute three current theories on verbal semantics and syntax, provide different answers to this question. Generally speaking, their answers differ as to how they divide the labour between different levels of representation.

   The projectionist approach attributes the information that is relevant for valence to the lexical entry of the verb. Although there is a variety of different projectionist approaches, Levin & Rappaport Hovav (2005: 186) note that

   [...] all [projectionist approaches] share the fundamental assumption that a verb's lexical entry registers some kind of semantically anchored argument structure, which in turn determines the morphosyntactic expression – or projection – of its arguments.

An example for such a lexical entry of a verb is given below for the verb *break*.

(4) *break*: [[*x* do-something] cause [*y* become *BROKEN*]]

                              (Levin & Rappaport Hovav 1995: 94)

The lexical semantic representation (LSR) for the verb *break*, as given above, contains information on both the number of arguments of the verb and their role in the event: the first argument *x* does something, while the second argument *y* undergoes a change. Note that such LSRs only explicitly spell out information that is relevant for argument realization. Consequently, verb-specific

information such as the difference in acoustic volume that distinguishes the speech act verbs *say* and *scream* would not be represented explicitly.

As opposed to the projectionist approach, constructionists assume a less structured lexical entry for verbs, which thus contains only a *core meaning*. This core meaning nevertheless includes valence-related information. For example, the verb *sneeze* has a single "profiled participant role" (i.e. the "sneezer") (Goldberg 1995: 54), which suggests that the verb is a one-argument verb. However, under the constructionist view the valence of a given verb is not determined before the verb enters a given argument structure construction (the pairing of a meaning with a given syntactic frame). Crucially, this argument structure construction can offer further participant roles besides the profiled participant roles of the verb. Consider the following example:

(5)   He sneezed the napkin off the table.   (Goldberg 1995: 55)

In the above example, the verb *sneeze* integrates itself in the "caused-motion construction" (Goldberg 1995: 54). The way in which the verb and the argument structure construction integrate is represented in figure 1.

Sem   CAUSE-MOVE   < **cause**   goal   **theme** >

                SNEEZE   < **sneezer**   >

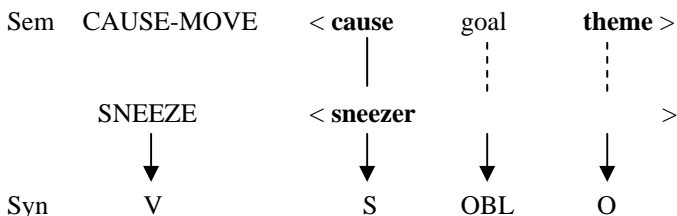Syn   V   S   OBL   O

Figure 1:   *Sneeze* in Caused-motion construction (Goldberg 1995: 54)

The sentence in (5) contains two arguments, the subject *he* and the direct object *the napkin*. However, only the argument in subject position (*he*) corresponds to an argument that is incorporated in the core meaning of the verb *sneeze*. The second argument (*the napkin*) is contributed by the argument structure construction. Thus, the actual valence that a verb has in a given sentence does not necessarily correspond to the number of participants in the lexical entry of the verb. Instead, both the verb itself and the argument structure construction contribute to the valence of the verb.

The constructionist approach on valence is embedded in the framework of construction grammar. One of the basic tenets of this model is the negation of an autonomous syntax. As a consequence, constructions are considered to be pairings of form and meaning that are stored in the lexicon regardless of their "size". Argument structure constructions such as the caused-motion construction and verbs themselves have the same status; they are both linguistic units

with a form and a meaning and are stored in the lexicon. In that sense, the constructionist approach assumes all valence-related information to be stored in the lexicon, although this information is not necessarily stored together with the verb.

The third and last approach presented here is the neo-constructionist approach (cf. e.g. Borer 1994, 2003). With the traditional constructionist approach the neo-constructionist approach shares the assumption that not all valence-related information is stored together with the verb (or, to be more precise, with the category-neutral root). Unlike traditional constructionists, neo-constructionists assume that a root enters a compositionally derived syntactic structure, where it is semantically specified by the semantics of the syntactic structure. The distribution of roots in syntactic constructions (be it words or phrases or sentences) and thus also the valence of the root depends on the semantic compatibility of the root and the respective syntactic structure. In section 2.4 I will present Alexiadou et al.'s (2006) and Schäfer's (2008) neo-constructionist treatment of anticausatives.

2.1.2 Valence change

The notion *valence change* refers to at least the following two phenomena. In its first use it refers to the diachronic change of the valence potential of a verb. For example, the French verb *basculer* 'tip (over)' started out as a strictly intransitive verb, but from the middle of the 19th century on it could also be used transitively (cf. *Robert Historique* s.v. *basculer*). The verb has thus changed or, more precisely, enhanced its valence potential. In its second use, the term *valence change* refers to a synchronic alternation between two valence patterns. Since the present book deals with both phenomena, I will reserve the term *valence change* for the diachronic change of the valence potential of the verb and the term *valence alternation* for synchronic alternations between valence patterns (cf. section 2.1.3 for a discussion of the latter). Different descriptions of valence change (as a diachronic phenomenon) are provided in Goyens (2001), Korhonen (2006) or Koch (1991, 2004). While the first two authors focus more on the syntactic aspect of valence change, Koch (1991, 2004) pays more attention to the relation between the valence change and the change of the semantics of the affected verb.

2.1.3 Valence alternations

Valence alternations are a verb's synchronic alternations between valence patterns. On a purely descriptive level, they can be classified according to several parameters, for example, (i) according to the argument affected by the alterna-

tion, (ii) according to whether arguments are added, removed or simply reorganized, and (iii) according to whether the alternation is formally marked on the verb. Typological overviews on valence alternations and the devices that languages use to formally mark these alternations are given in Haspelmath & Müller-Bardey (2004) and Dixon & Aikhenvald (2000).

In (6), for example, an object-removing valence alternation is shown. The basic valence pattern is a transitive structure (cf. (6a.)) and the derived pattern is an intransitive structure (cf. (6b.)).

(6)   Deobjective in Ainu (Japan)
       a.   Sake a-ku.
             sake 1SG.TR-drink
             'I drink sake.'
       b.   I-ku-an.
             DEOBJ-drink-1SG.INTR
             'I drink.'   (Haspelmath & Müller-Bardey 2004: 1131f.)

In (7), an example for an alternation where the number of arguments increases is given. A further object is added to a basic transitive valence pattern. The added argument bears the semantic role of *benefactive*, thus, the derived valence pattern is called *benefactive applicative*.

(7)   Benefactive applicative in Indonesian
       a.   Orang   itu   me-masak   ikan.
             man   ART   TR-cook   fish
             'The man cooked fish.'
       b.   Orang itu   me-masak-kan   perempuanitu   itu   ikan.
             man   ART   TR-cook-APPL   woman   ART   fish
             'The man cooked fish for the woman.'
                                          (Haspelmath & Müller-Bardey 2004: 1134)

In the above cases the valence alternations are formally marked on the verb, i. e. on the object-removing affix *i* in (6) and the object-adding affix *kan* in (7). The formal change on the verb allows us to determine the basic and the derived valence pattern within the alternation. If there is no formal marking on the verb, there is *a priori* no reason to assume any direction of derivation. To illustrate this point let us consider the English equivalents of the above examples. The following examples show the same alternation between the two valence patterns illustrated in (6) and (7), but with the important difference that only in (6) and (7) the alternation is formally marked on the verb.

(8)   a.   I drink sake.
       b.   I drink.

(9)   a.   The man cooked fish.
      b.   The man cooked fish for the woman.

As mentionned above, these are purely descriptive and pretheoretical observations. Naturally, assumptions about what "really happens" when a verb alternates (formally marked or not) heavily depend on one's view on valence itself. For example, in the neo-constructionist approach valence alternations cannot involve modifications of the number of arguments represented in a lexical entry. Recall that in this approach no lexical entries for verbs, but only for category-neutral roots exist. The lexical entries of these roots, however, do not include information on the number of arguments either.

    In section 2.2 anticausatives will be defined as one part of the causative-anticausative alternation. As a consequence, the question of whether anticausatives are a derived valence pattern arises, and if so, the question of how they are derived arises. The various answers that have been proposed in the literature will be reviewed in section 2.4, and the position taken in this book will be introduced on the basis of this overview. Upon the presentation of these views on anticausatives, I will constantly refer back to the concepts of valence that these proposals endorse.

2.2   Definition(s) of the notion *anticausative*

Utterances such as the one in (10) have been given many different names in the literature, with *anticausative* being only one of them (Nedyalkov & Silnitsky 1973, Siewierska 1984, Haspelmath 1987, 1990, 1993, Cennamo 1993, 1998, Michaelis 1998, Alexiadou et al. 2006, Schäfer 2008, Koontz-Garboden 2007, 2009). Other terms for the same construction are *inchoative* (Levin 1993, Folli 2002), *decausative* (Geniušienė 1987, Mel'čuk 1993), *spontaneous* (Shibatani 1985, Kemmer 1993), or *ergative* (Zribi-Hertz 1987).

(10)   La branche s'est cassée.
      'The branch broke.'

Despite its frequent use in the literature and the consensus that the notion *anticausative* applies to cases such as the one given in (10), there is no general consensus on its delimitation. The original definition of *anticausative* was "[...] the non-causative member of an opposition which is formally marked by means of an *anticausative* affix [...]" (Nedyalkov & Silnitsky 1973: 7), which is illustrated in the following example:

(11)   Russian
       lomat'-sja 'become broken' (derived from *lomat'* 'make broken')

                                             (cf. Nedyalkov & Silnitsky 1973: 2)

Anticausatives would thus be the result of a morphological operation (*anticausativization*) whereby the external argument of a transitive-causative verb is deleted from the argument structure. A similar use of the term *anticausative* has also been adopted by Haspelmath (1987, 1993), among others. But unlike Nedyalkov & Silnitsky (1973), Haspelmath (1993) does not only include morphologically derived anticausatives, but uses the term for all cases with a formal derivation between the causative and the non-causative member of the alternation (e.g. when the non-causative member is formed with an auxiliary). Conversely, Alexiadou et al. (2006) and Schäfer (2008) consider anticausatives simply as the non-causative part of the causative alternation without imposing constraints on the direction of derivation or the formal marking of the verb. For both views it is necessary to further specify the non-causative part of the causative alternation in order to delimit the scope of the term *anticausative*. Nedyalkov & Silnitsky (1973: 1) define the term *anticausative* as a verb designating "some state". Their examples, which include verbs like *break* and *boil,* but also *return* and *leave*, show that non-causative verbs are very heterogeneous with respect to their semantics.

   In their definition of the causative alternation, Alexiadou et al. (2006) refer to Levin (1993: 26-32), who distinguishes between different types of causative alternations: (i) causative-inchoative, (ii) induced action alternation, and (iii) other instances of the causative alternation. Levin's use of the notion *inchoative* for the non-causative part of the first type of alternation is of limited value, since the term as such has no consistent definition in the literature. Levin (1993: 30) notes that her use of *inchoative* corresponds to what others have called *anticausative*, but Haspelmath (1993: 91), for example, uses the term *anticausative* only for a subset of inchoative verbs, namely for those that can be formally derived from a transitive-causative verb. Haspelmath (1993: 90) defines the semantics of inchoative verbs as describing a change of state or a going-on (i.e., a non-agentive activity) where "[...] the verb meaning excludes a causing agent and presents the situation as occurring spontaneously." This quote, which suggests that no cause is present in anticausatives, needs to be further specified: First, no cause is expressed in subject position, i.e. the position that it is normally attributed by the linking hierarchy. Second, no cause is semantically present unless it is overtly expressed. These specifications include cases where a cause is expressed in a PP (12a.), and predicts the semantic absence of a cause for cases such as (12b.) where no cause is overtly expressed. In chapter 5, however, I will take a closer look at the causal structure of anticausatives. Although the above insights remain valid, more fine-grained distinctions will be drawn.

(12) a. The window broke through the storm.
     b. The window broke.

With respect to the type of event described by the anticausative verb, some authors, in accordance with Haspelmath's (1993) description of inchoatives, note that anticausatives are "mainly denoting a change of state" (cf. Cennamo 1998: 80), while others, like Nedyalkov & Silnitsky (1973), do not provide any further specifications.

Compared to the original definition by Nedyalkov & Silnitsky (1973), the definition of *anticausative* applied in this book is less rigid on the formal side, but more rigid on the semantic/functional side. I will adopt the view expressed by Alexiadou et al. (2006) and Schäfer (2008) that anticausative verbs must participate in the causative alternation, but that the anticausative use of the verb does not have to be overtly marked. I take anticausatives to be sentences with only one argument that bears the grammatical role *subject* and the semantic role *theme*. Furthermore, they are formed with aspectually dynamic verbs (*break* as opposed to, for example, *know*), and the relevant event is described as coming about without the implication of a cause triggering the respective event. Finally, Nedyalkov & Silnitsky's (1973) criterion of the presence of an anticausative-affix does not figure in my definition.

2.3   Restrictions on anticausative formation

The size of the set of verbs that can form anticausatives in a given language naturally depends on the respective definition of *anticausative*. For example, the set of verbs would be larger if a purely semantic definition were applied than with a definition imposing further constraints, such as, for example, that the verb in question has to be formally derived from a transitive-causative verb.

In the preceding section it was shown that despite the considerable variety among the characterizations of anticausatives (and their quasi-equivalent categories) most authors agree on the absence of a cause that brings about the event as a defining property of anticausatives. In the literature, restrictions on anticausative formation have mainly been discussed in the context of the causative-anticausative alternation and have been considered equivalent to the question which transitive verbs can form anticausatives and which verbs cannot (cf. Smith 1970, Fillmore 1970, Levin & Rappaport Hovav 1995). The most basic assertion one can make in this respect is that anticausative formation presupposes the anticausative conceptualization of the event described by the verb. A natural implication of this assertion is that transitive verbs de-

scribing an event that cannot be conceptualized without an external cause cannot form anticausatives. Thus, *causation* must play a crucial role in accounts which address the question of which verbs can form anticausatives. I will now present three analyses that have been put forward to determine the semantic features which allow or block anticausative conceptualization. The first analysis is proposed in Smith (1970).

In her article, Smith (1970: 101) refers to alternating verbs as "verbs of the 'change' class" (exemplified with the verb *break* below).

(13) a. The window broke.
      b. John broke the window.

Smith (1970: 101f.) assumes that two binary semantic features are decisive for the participation of the verb in the alternation. The first one is the relative independence of the activity (from outside control), and the second one is the possibility of an external agent controlling the activity.

(14) semantic features
      a. [+/- independent activity]
      b. [+/- external control]

In the case of alternating verbs such as *break* in (13) both features are marked as positive. The events denoted by such verbs may thus be described as *independent activities* which can be *externally controlled*. To prove the relevance of these features, Smith (1970) compares alternating verbs to verbs that do not alternate.

Non-alternating verbs fall into two groups: verbs that can only be used transitively and verbs that can only be used intransitively (cf. (15)).

(15) 2 types of non-alternating verbs
      a. strictly transitive: destroy, build, cut, slice, draw, etc.
      b. strictly intransitive: shudder, laugh, tremble, hesitate, etc.

I will first take a look at the verbs that can only be used transitively, as illustrated in (16).

(16) a. The storm destroyed half of the city.
      b. *Half of the city destroyed.

Smith argues that verbs like *destroy* are similar to alternating verbs like *break* in that the activity can be externally controlled, but they differ from them in that the activity is not independent. These strictly transitive verbs thus bear the features [+ external control] and [- independent activity]. In the case of verbs

that can only be used intransitively as *shudder* in (17) the feature settings are different.

(17) a. John shuddered.
     b. *The green monster shuddered John.

Verbs like *shudder* are similar to alternating verbs like *break* in that they describe an independent activity, but differ from them in that the activity cannot be externally controlled. Strictly intransitive verbs like *shudder* thus bear the features [- external control] and [+ independent activity]. Smith's (1970) answer to the initial question of this section, namely the question of which transitive verbs can form anticausatives, is that anticausative formation is restricted to those transitive verbs that bear the semantic feature [+ independent activity].

To sum up, Smith (1970) tries to account for the different valences of verbs by means of the binary features [+/- external control] and [+/- independent activity]. The relation between the manifestations of these features and verbal valence is represented in table 1.

Table 1:   Valence and verb semantics (Smith 1970)

valence	verb semantics	
	external control	independent activity
transitive	+	-
transitive, intransitive	+	+
intransitive	-	+

The next proposal that I will discuss, Levin & Rappaport Hovav's (1995) analysis, builds on and modifies Smith's (1970) account. Levin & Rappaport Hovav (1995) first introduce a distinction between internally and externally caused verbs. Crucially, only the latter – which are semantically characterized as described in the following quote – can be used transitively.

> [E]xternally caused verbs by their very nature imply the existence of an "external cause" with immediate control over bringing about the eventuality described by the verb: an agent, an instrument, a natural force, or a circumstance.
>
> (Levin & Rappaport Hovav 1995: 92)

An example for an externally caused verb is, again, *break*. The lexical semantic representation Levin & Rappaport Hovav (1995: 83) propose for this verb is given in (18).

(18) *break*: [[*x* do-something] cause [*y* become *BROKEN*]]