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## THE DISTRIBUTION AND FUNCTION OF VIRTUAL REFLEXIVE CONSTRUCTIONS IN ENGLISH

This paper sheds new light on the distributional and functional properties of virtual reflexive constructions (VRCs) in English (e.g., *This problem solves ITSELF*). VRCs describe the level of ease involved in performing the action denoted by the verb. They typically involve metaphorical interpretations, are compatible with adverbs such as *virtually*, and obtain a primary stress on the reflexive pronoun object. Two claims are presented in this paper: first, the subject of VRCs can be regarded as a crucial contributing factor (i.e., an essential factor in a causal relation). This analysis explains the metaphorical interpretations of VRCs, their compatibility with adverbs such as *virtually*, and the primary emphasis placed on the reflexive pronoun object. Second, VRCs typically act as anticausativizing causative verbs with no anticausative alternants via metaphor. Namely, VRCs express metaphorical anticausative situations. Causative verbs that can alternate with intransitive anticausative verbs (e.g., *break, open, melt*) tend to prefer the intransitive anticausative usage when describing anticausative situations (e.g., *the vase broke*) because intransitive anticausatives are simpler in form and less marked than VRCs. On the other hand, causative verbs with no anticausative alternant (e.g., *write, sell*) are more likely to occur in VRCs when describing anticausative situations. In other words, VRCs enable these causative verbs to express metaphorical anticausative situations. This analysis is supported by a corpus-based investigation.

## 1. Introduction

The alternation between (1a) and (1b) is called causative alternation (Levin 1993; Alexiadou et al. 2015).<sup>1</sup>

- (1) a. John broke the window.  
b. The window broke.

In causative alternation, the object of a transitive verb in one sentence, i.e., *the window* in (1a), corresponds to the subject of an intransitive verb in the other sentence, i.e., *the window* in (1b).<sup>2</sup> The intransitive alternant is called an anticausative (Haspelmath 1993; Levin and Rappaport Hovav 1995; Alexiadou et al. 2015). In general, anticausative verbs denote a change of state or location, and the subject refers to an inanimate entity.

Anticausatives take the form of intransitive verbs in many languages. For instance, observe the English sentence in (2), wherein the intransitive verbs *break*, *shatter*, and *crack* denote anticausative events.

- (2) The glass {broke/shattered/cracked}.

However, in some languages, an anticausative can take the form of a reflexive construction comprising a subject, verb, and reflexive pronoun object, as shown in (3) to (5) (Geniušienė 1987; Kemmer 1993; Cornips and Hulk 1996; Schäfer 2008; Koontz-Garboden 2009; Heidinger 2010; Alexiadou et al. 2015).<sup>3</sup>

- (3) Das Wasser kühlt (sich) ab. *German*  
the water cools REFL down  
'The water cools down.'
- (4) Il cioccolato (si) è fuso. *Italian*  
the chocolate REFL is melted  
'The chocolate melted.'

<sup>1</sup> Haspelmath (1993) distinguishes between causative and anticausative alternations depending on which verb form is considered basic and which one derived. Following Alexiadou et al. (2015), this paper uses the term *causative alternation* to refer to the opposition between causative and anticausative alternations and does not offer any theoretical assumptions about the derivational relations between the two.

<sup>2</sup> The presence of an external agent is semantically suppressed in the anticausative alternant as confirmed by the inability of anticausatives to license a *by* phrase or control a purpose clause, as in (i) (Levin and Rappaport Hovav 1995: 109).

(i) a.\* The window broke by Pat.  
b.\* The window broke to rescue the child.

<sup>3</sup> *REFL*: reflexive element.

- (5) Le vase (se) casse. *French*  
 the vase REFL breaks  
 ‘The vase breaks.’

(Schäfer 2008)

In German, for example, the reflexive sentence *Das Wasser kühlt sich ab*, as mentioned in (3), can denote an anticausative event that corresponds to the intransitive anticausative sentence *The water cools down* in English. Similarly, clitics denoting reflexivity can occur in Italian and French anticausatives. Hereafter, we shall refer to anticausatives involving reflexive elements as *reflexive anticausatives*.

Reflexive anticausatives are not productive in English. For example, sentences such as (6) are usually unacceptable.

- (6)?? The glass {broke/shattered/cracked} itself.

Instead, the intransitive sentence *The glass broke/shattered/cracked* is preferred to describe anticausative situations. However, English has a few reflexive anticausatives, some of which are presented in (7).

- (7) a. Hana’s hair has slightly curled itself because of humidity.  
 b. I was walking Maro (a pet dog) in the neighborhood. The leash wrapped itself around my legs because of his sudden dash.

In (7a), humidity caused Hana’s hair to curl. In (7b), Maro suddenly ran, and the leash wrapped around my legs. Each situation is described by the reflexive anticausative indicated in underlines.

To date, few studies have investigated reflexive expressions of this type, and these constructions have rarely been discussed in researches centered on causative alternation. However, some researchers suggest that these reflexive expressions can be regarded as reflexive anticausatives in English; this paper follows this line of analysis (Geniušienė 1987; Stephens 2006; Siemund 2014).

(8) exemplifies another type of reflexive expression prevalent in English and similar to reflexive anticausatives.

- (8) a. This problem solves ITSELF.
- b. These jokes write THEMSELVES.
- c. ...and then the screenplay practically wrote ITSELF.

(Stephens 2006)

This type of reflexive expression is called the *reflexive-patient-subject construction* (Lakoff 1977), the *reflexive middle construction* or *middle reflexive* (Fiengo 1980; Hale and Keyser 1987; Fellbaum 1989), or the *virtual reflexive construction* (Levin 1993; Stephens 2006). Following Levin (1993) and Stephens (2006), this paper will adopt the term *virtual reflexive construction* (VRC) hereafter. VRCs look similar to reflexive anticausatives because they have inanimate subjects and reflexive pronoun objects. However, they are differentiated from each other in previous studies on the basis of two major characteristics. First, VRCs are compatible with adverbs such as *practically*, *almost*, and *virtually* and imply that the situation occurs or has occurred as if without external intervention. For example, the sentence in (8a) means “This problem is so minor that you can solve it easily, as if the problem solves itself.” Similar interpretations apply to the sentences in (8b) and (8c). Another characteristic of VRCs is that they possess a primary stress on the reflexive pronoun object, as represented by the capital letters in (8).

The aim of this paper is to account for the distributional and functional properties of VRCs in English. I make the following two claims: first, the subject of VRCs is a crucial contributing factor (CCF) argument [as introduced by Neeleman and van de Koot (2012)]. This analysis explains the phonological and semantic characteristics of VRCs. Second, VRCs act as anticausativizing causative verbs via metaphor (an anticausativizer analysis of VRCs). This implies that VRCs express metaphorical anticausative situations. Since intransitive anticausatives are simpler in form and less marked than VRCs, causative verbs that can alternate with intransitive anticausative alternants (e.g., *break*, *open*, *melt*) typically prefer intransitive anticausative structures when describing anticausative situations (e.g., *The vase broke*). On the other hand, causative verbs that do not have an anticausative usage are more likely to occur in VRCs when describing

anticausative situations. This tendency is observed through a corpus-based investigation. Most causative verbs without an anticausative usage cannot occur in reflexive anticausatives. The reasons for this lie in semantics (namely, agent-oriented properties). VRCs enable those causative verbs to express metaphorical anticausative situations. The tendency for VRCs to be based on causative verbs with no anticausative usage, however, is an epiphenomenon, which does not occur if the CCF property of the subject referent of VRCs is emphasized. Thus, such a property underlies the distributional and functional properties of VRCs.

The remainder of this paper is organized as follows. Section 2 argues that the subject of VRCs can be regarded as a CCF argument and explains the phonological and semantic characteristics of VRCs. Section 3 investigates the distribution of verbs of VRCs based on previous studies and proposes that VRCs have the function of anticausativizing causative verbs with no anticausative usage via metaphor. Section 4 presents a corpus-based analysis of the distribution and frequency of verbs of VRCs and provides additional evidence for the anticausativizer analysis. Further, this study demonstrates that the tendency for VRCs to prefer causative verbs with no anticausative alternant is an epiphenomenon, which does not occur if the CCF property of the VRCs' subject referent is highlighted. Section 5 gives the concluding remarks.

## 2. The CCF Property of the Subject of VRCs

Causative verbs have been widely assumed to involve a causing event in their lexical semantic representation or syntax. Levin and Rappaport Hovav (1995) posit the lexical semantic representations of causative verbs composed of a causing subevent and a result subevent. Likewise, Hale and Keyser (1993), Ramchand (2008), and Pylkkänen (2008) assume a functional head in syntax that introduces a causing event. Meanwhile, Neeleman and van de Koot (2012), arguing against the view that causative verbs involve a causing event, propose that causative verbs encode (i) a CCF and (ii) an event's culmination in an end state or a resultant activity. A CCF is defined as an essential factor in a causal relation, and a CCF argument can be realized only as an external argument. For example, consider (9).

(9) The hammer broke the window.

[Neeleman and van de Koot (2012: 23), the underlining is mine]

Imagine a situation in which John tried to break the window by using a brick, followed by a piece of timber, and finally a hammer, succeeding only in the last attempt. In this situation, one could say *The hammer broke the window*. This is because in this context, since the instrument *the hammer* is crucially responsible for the culmination of the event *the window being broken*, it works as a CCF argument.

One of the motivations for positing that causative verbs encode a CCF but not a causing event emerges from the argument that simple causative verbs do not necessarily express direct causation, as opposed to a widely accepted view to the contrary (e.g., Fodor 1970). A CCF role can be assigned to a subject that refers to an indirect cause of a causative event if it is regarded as crucially responsible for the occurrence of the causative event. For example, look at (10).

(10) A slip of the lip can sink a ship.

loose talk → information obtained by spy → spy informs foreign navy  
→ submarine torpedoes ship

[Neeleman and van de Koot (2012: 28), the underlining is mine]

This sentence involves an indirect causal relation. Loose talk about a ship can cause information to be obtained by a spy, who may inform a foreign navy. Finally, a submarine of the foreign navy may torpedo the ship. This complex indirect causal relation can be described by the simple sentence *A slip of the lip can sink a ship*, wherein although the subject referent *a slip of the lip* does not directly cause a ship to sink, it can be thought of as a CCF in the causative event. In other words, *a slip of the lip* can be regarded as crucially responsible for causing a ship to sink. Importantly, the sentence is unacceptable if it is interpreted literally but makes sense metaphorically; that is, causative sentences with a subject that does not qualify as a CCF argument when interpreted literally can be rescued if such a subject is metaphorically interpreted as fundamentally responsible for the event.

One of the important characteristics of VRCs is that they are compatible with adverbs such as *virtually*. Transitive sentences describing indirect causations also go along with such adverbs, as shown in (11).

- (11) I think when he was taken away it *virtually* killed his father—he died some years later, but I think he died of a broken heart.

[Armstrong (2010), the underlining and the italics are mine]

This sentence involves a complex indirect causal relation. He was taken away and, as a result, his father suffered from a broken heart for some years, eventually culminating in his death. The event “he was taken away” did not directly cause his father to die, but it is (metaphorically) perceived as to have killed him. This metaphorical interpretation is reinforced by the adverb *virtually*. Although the event “he was taken away” is not the direct cause of his father’s death, it can act as the subject of the transitive sentence because it is regarded as crucially responsible for his father’s death; hence, the subject *it* acts as a CCF.

Because VRCs show a transitive structure with an external argument, I propose that the subject of a VRC can also be regarded as a CCF argument. The examples in (8) are repeated here as (12) for convenience.

- (12) a. This problem solves ITSELF.  
 b. These jokes write THEMSELVES.  
 c. ...and then the screenplay practically wrote ITSELF.

[= (8), the underlining is added]

VRCs make no sense in their literal forms; they require metaphorical interpretations. For instance, the abstract thing *this problem* cannot literally solve itself in (12a). Therefore, an appropriate interpretation of VRCs requires metaphorical interpretations. The metaphorical interpretations are triggered by a primary emphasis on the reflexive pronoun object and adverbs such as *practically*.<sup>4</sup> For example, sentence (12a) means “*This problem* is so easy that you can solve it easily, and this situation is perceived as if the problem solves itself.” Likewise, sentence (12b) means “*These jokes* are so easy to write that it is as if they write

<sup>4</sup> Stephens (2006) notes that the amount of stress on the reflexive pronoun object may be reduced when such adverbs are employed. She explains that the primary stress on the reflexive pronoun object and the occurrence of adverbs such as *virtually* both have the function of signifying that a literal reflexive reading does not apply to VRCs.

themselves.” I argue that the metaphorical interpretation requirement for VRCs can be attributed to the CCF property of their external argument. Since the subject argument of a VRC has a CCF role, it is understood as being critically responsible for producing the causative event; however, it need not necessarily be interpreted as a direct causer. No literal interpretations in which the subject referent directly generates the event are possible for VRCs; therefore, VRCs’ subject referents must be metaphorically interpreted as essentially responsible for the event’s occurrence in parallel with the indirect causative situation in (10).

### 3. An Investigation of the Verb Distribution of VRCs Based on Previous Studies

Among the previous studies on VRCs, the most detailed are Fellbaum (1989) and Stephens (2006). Stephens provided lists of acceptable and unacceptable verbs of VRCs and scrutinized their characteristics and distribution. In this section, we consider the distribution of verbs of VRCs based on her lists. The verb types described in (13) are entirely or marginally acceptable in VRCs.

(13) Acceptable (or marginally acceptable) verbs in VRCs:

- Type (a) Verbs that select an agent and allow for patient contribution  
(e.g., *sell*, *solve*, and *read*)
- Type (b) Verbs that select an agent but allow only marginal patient contribution (e.g., *build*, *prepare*, and *create*)
- Type (c) Verbs that select an agent or an instrument (e.g., *saw*, *cut*, *slice*, *fly*, *drive*, and *row*)

(Stephens 2006: 295)

The verbs in (14) are unacceptable in VRCs.

(14) Unacceptable verbs in VRCs:

- Type (a) Verbs that select an agent but allow no patient contribution  
(e.g., *touch*, *nudge*, and *stroke*)
- Type (b) Verbs that do not select an agent (e.g., *mold*, *rot*, and *corrode*)

Type (c) Verbs that leave the cause argument unspecified (e.g., *break*, *crack*, *shatter*, *bounce*, *float*, and *roll*)

(Stephens 2006: 295)

Based on Stephens's description and the analysis in Section 2, this section explains why some verbs are acceptable in VRCs whereas others are not. I start with the verbs that cannot occur in VRCs, namely, the types listed in (14). Sentence (15) is an example of Type (a) unacceptable verbs, which select an agent but do not allow patient contribution.

(15)\* That cashmere sweater practically touches ITSELF.

(Stephens 2006: 292)

Sentence (16) is an example of Type (b) unacceptable verbs, which do not select an agent.

(16)\* Johnnie's teeth rotted THEMSELVES.

(Fellbaum 1989: 127)

Sentence (17) is an example of Type (c) unacceptable verbs, which leave the cause argument unspecified.

(17)\* This toy boat practically floats ITSELF.

(Stephens 2006: 291)

Manner-of-contact or hitting verbs such as *touch*, *nudge*, and *stroke* tend to be incompatible with VRCs. Stephens explains that the Patient argument of these verbs makes no contribution to the realization of the events of the verbs. In sentence (15), for example, it is difficult to imagine that the property of the Patient argument *that cashmere sweater* contributes to the realization of the touching event. So, the Patient argument in (15) cannot be regarded as a CCF argument.

However, if the Patient argument is perceived as a CCF argument in some ways, manner-of-contact or hitting verbs can occur in VRCs. For example, observe sentence (18).

(18) You set it up so good, the ball was practically *hitting* itself.

(COCA, the underlining and the italics are mine)

In the situation described in this sentence, the ball was set up appropriately, and the position of the ball made it easy for anyone to hit it. Thus, because of a series

of actions involved in this event, anyone would find it easy to hit the ball, and *the ball* metonymically refers to the chain of actions. Further, the clause *You set it up so good* indicates that the ball was in a good position to be hit, emphasizing the CCF property of the subject *the ball*. Therefore, because *the ball* receives a CCF role, the verb *hit* can occur in a VRC. The sentence metaphorically means “You hit the ball well as if it hit itself.”

Next, we consider Types (b) and (c) of the unacceptable verbs, which include *mold*, *rot*, and *corrode*; and *break*, *crack*, *shatter*, *bounce*, *float*, and *roll*, respectively. The most important characteristic of these two classes of verbs is that they can form intransitive anticausatives. The intended meanings of the unacceptable VRCs in (16) and (17) can be expressed by intransitive anticausative sentences rather than VRCs, as shown in (16') and (17').

(16') Johnnie's teeth rotted (by themselves).

(17') This toy boat floats (by itself).

VRCs describe situations as if the situations unfold without a human agent. Such situations can be best expressed by intransitive anticausative sentences, which imply no human agent involvement, as in (16') and (17'). Intransitive anticausative sentences are preferred to VRCs to express anticausative situations when the former are available because intransitive anticausatives are simpler in form and less marked than VRCs. Since the intransitive anticausative structure is available for the Type (b) and (c) unacceptable verbs and is less marked and simpler than VRCs, the intransitive anticausative option is preferred. Therefore, we can say that the unacceptability of VRCs with Type (b) and (c) verbs can be attributed to the availability of the intransitive anticausative usage of these verbs. When an unmarked and simpler option is available, the unmarked and simpler option is selected.

If this explanation is on the right track, we can predict that VRCs tend to be more compatible with verbs that have no intransitive anticausative usage. This prediction is borne out by the acceptable verbs of VRCs listed in (13). Sentence (19) shows an example of a Type (a) acceptable verb that selects an agent and allows for patient contribution.

(19) This problem solves ITSELF. (= (8a))

Sentence (20) contains a Type (b) acceptable verb that selects an agent but allows only marginal patient contribution.

(20) These jokes write THEMSELVES. (= (8b))

Then, sentence (21) has a Type (c) acceptable verb that selects an agent or instrument.

(21) The toughest carrots virtually slice THEMSELVES with this handy tool.

(Stephens 2006: 291)

The Type (a), (b), and (c) acceptable verbs describe events that require the intervention of a human agent. Such verbs tend to disallow the intransitive anticausative alternant (Hale and Keyser 1993; Levin and Rappaport Hovav 1995; Koontz-Garboden 2009; Alexiadou et al. 2015). In fact, *solve*, *write*, and *slice* do not have an intransitive anticausative usage; consequently, the examples demonstrated in (19') to (21') are unacceptable.

(19')\* This problem solved.

(20')\* These jokes wrote.

(21')\* The toughest carrots sliced.

Since the intransitive anticausative option is unavailable, VRCs are necessary for these verbs to express (metaphorical) anticausative situations. Therefore, it is reasonable to assume that the unavailability of the intransitive anticausative option makes it possible for the Type (a), (b), and (c) acceptable verbs to appear in VRCs.

This section has described the distribution of verbs of VRCs based on Stephens's (2006) lists of verbs of VRCs. I argued that VRCs tend to be restricted to verbs that have no intransitive anticausative usage because VRCs have the function of anticausativizing causative verbs via metaphor. However, since Stephens's verb lists are preliminary, further investigation is needed to reveal the distribution and frequency of the verbs of VRCs. In Section 4, I present a corpus-based analysis using the Corpus of Contemporary American English (COCA) and provide additional evidence for the anticausativizer analysis of VRCs.

#### 4. A Corpus-Based Analysis of the Distribution and Frequency of Verbs of VRCs

The distribution and frequency of VRCs with each verb were investigated using the COCA. Since the co-occurrence of adverbs such as *virtually* is an important diagnostic for identifying VRCs, a search was conducted for sentences containing VRCs with the word sequences *{virtually/practically/almost} Verb {itself/ themselves}*. This diagnostic technique was adopted by Stephens (2006). VRCs do not necessarily co-occur with such adverbs [e.g., *This problem solves ITSELF* (Stephens 2006: 275)]; however, examples in which these adverbs do not occur are excluded from the data to facilitate ease of research. The results of the distribution and frequency of verbs of VRCs are presented in Table 1.

Table 1: The distribution and frequency of verbs of VRCs in the COCA (1990–2019)

verbs that occur in VRCs	frequency
write	31
drive	9
run	8
sell	7
cook, fly	4
pay for, take care of	3
answer, destroy, explain, paint, play, raise, tell, turn	2
brew, build, buy, care for, clean, contradict, correct, defeat, educate, feed, film, fix, hate, hit, install, invent, land, make, operate, prepare, print, pull open, read, recreate, recycle, refuel, rent, satirize, shoot (films), speak for, spin (into existence), steer, swing, take (photos), tell, trigger, wash out	1

The “frequency” column indicates the number of occurrences of each verb in a VRC within the corpus. For example, the verbs *write*, *cook*, and *fly* occur 31, 9, and 4 times, respectively, as the main verbs, and so on. The table comprises 122 verb occurrences in total.

In Section 3, I argued that VRCs have the function of anticausativizing causative verbs that have no anticausative usage via metaphor. The current corpus-based research provides strong evidence for this analysis. Observe Table 2.

Table 2: The frequency of verbs of VRCs that have no intransitive anticausative counterpart in the COCA (1990–2019)

verbs that occur in VRCs	frequency
<u>write</u>	31
drive	9
run	8
<u>sell</u>	7
cook, fly	4
<u>pay for</u> , <u>take care of</u>	3
<u>answer</u> , <u>destroy</u> , <u>explain</u> , <u>paint</u> , play, <u>raise</u> , <u>tell</u> , turn	2
<u>brew</u> , <u>build</u> , <u>buy</u> , care for, clean, <u>contradict</u> , <u>correct</u> , <u>defeat</u> , <u>educate</u> , <u>feed</u> , <u>film</u> , <u>fix</u> , <u>hate</u> , <u>hit</u> , <u>install</u> , <u>invent</u> , <u>land</u> , <u>make</u> , operate, <u>prepare</u> , <u>print</u> , <u>pull open</u> , <u>read</u> , <u>recreate</u> , <u>recycle</u> , <u>refuel</u> , <u>rent</u> , <u>satirize</u> , <u>shoot (films)</u> , <u>speak for</u> , spin (into existence), steer, swing, <u>take</u> <u>(photos)</u> , tell, trigger, wash out	1

Verbs that have no intransitive anticausative counterpart are underlined. As can be seen in the table, a large proportion of the (phrasal) verbs that VRCs are based on have no intransitive anticausative counterpart. Specifically, verbs with no intransitive anticausative usage occur in 87 of the 122 cases (about 71%). The most frequent (phrasal) verbs are *write*, *sell*, *pay for*, and *take care of*, shown in (22).

- (22) a. Once he knew what he was doing, the article practically wrote itself.  
 b. The movie is practically selling itself.  
 c. My new air conditioner comes with a 10-year warranty and will almost pay for itself with the energy I am saving.  
 d. Chomsky and people like him seem to think that if we just got the facts out there, things would almost take care of themselves.

(COCA, the underlining is mine)

As can be seen in Table 2, most of the verbs of VRCs are exclusively used as causative or transitive phrasal verbs. This observation provides additional empirical evidence for the claim that VRCs serve the function of anticausativizing causative verbs that have no intransitive anticausative usage via metaphor.<sup>5</sup>

It is not always the case, however, that causative verbs with intransitive anticausative counterparts cannot occur in VRCs. Consider the pairs of VRCs in (23) and (24).

(23) a.\* My favorite glass ornaments practically break THEMSELVES.

b. My favorite ornaments break easily. They are so incredibly fragile that they practically break THEMSELVES.

(Stephens 2006: 290)

(24) a.\* This ball practically bounces ITSELF.

b. This ball has been especially engineered to be super rubbery and bouncy. Heck, it is so well-engineered that it practically bounces ITSELF.

(Stephens 2006: 291)

Verbs that have an intransitive anticausative usage, such as *break* and *bounce*, tend to resist VRCs, as shown in (23a) and (24a), but Stephens (2006) suggests that VRCs based on those verbs are acceptable if additional context is provided,

<sup>5</sup> In Table 2, verbs of motion using a vehicle (e.g., *drive*, *fly*) are regarded as having an intransitive anticausative counterpart since the anticausative usage is mentioned in LDCE.

(i) a. After the accident, the other car just drove off.

b. The plane was attacked as it flew over restricted airspace.

(LDCE, the underlining is mine)

The treatment of verbs of motion using a vehicle, however, is controversial. Stephens (2006) argues that verbs of motion using a vehicle typically resist causative alternation. The grammaticality judgments are from Stephens (2006).

(ii) a. Lynn flew the paraglider.

b.?? The paraglider flew. (where *paraglider* = vehicle)

(iii) a. Kaley pedaled the bike.

b.?? The bike pedaled.

(iv) a. Lauren drove the car.

b.?? The car drove.

(Stephens 2006: 292)

If Stephens's (2006) observation is on the right track, verbs related to motion using a vehicle (e.g., *drive*, *run*, *fly*) can be reclassified, and the total number of verbs with no anticausative usage in Table 2 will then be larger than 87 cases; therefore, the anticausativizer analysis of VRCs will be more tenable.

as shown in (23b) and (24b), though she does not disclose the context in which these verbs can participate in VRCs. Considering examples (23b) and (24b), we see that acceptable VRCs occur in “so ... that” clauses; this emphasizes a high degree of some quality. Example (23b), for instance, emphasizes the fragility of the ornaments, so the external argument *they* (= *my favorite ornaments*) can be construed as crucially responsible for the ornaments’ breakage and can play a CCF role, hence the grammaticality. The same is true of (24b), which highlights the quality of the ball being well-engineered, and the subject referent *it* (= *this ball*) is interpreted as crucially responsible for the bouncing event and appropriately receives a CCF role. These data indicate that the absence of the intransitive anticausative usage of causative verbs in VRCs is an epiphenomenon; causative verbs with an intransitive anticausative counterpart are generally prohibited from occurring in VRCs but can do so when the CCF property of the external argument is accentuated. In example (18), we saw that the verb *hit*, which is usually unacceptable in VRCs, can occur in a VRC because of the emphasis on the CCF property of the subject referent. This also supports our claim that the CCF property of the subject of VRCs is key to understanding VRC distribution.

VRCs describe the level of ease of performing an action denoted by the verb as if the event unfolds autonomously. Such a description most appropriately fits intransitive anticausative sentences, which describe events as spontaneous (Levin and Rappaport Hovav 1995), as in example (25).

- (25) a. The vase broke by itself.  
 b. The glass broke easily.

Causative alternation verbs such as *break* have an intransitive anticausative usage, so they tend not to occur in VRCs, which are more marked than intransitive anticausative sentences. Intransitive anticausatives do not specify the cause that produces the events described by the verbs. In the sentences in example (25), the vase might have been broken because of a strong wind or its internal property, and so on. VRCs assume a transitive structure and can therefore express causative situations as if the subject referent autonomously acts upon itself. Such autonomous interpretation is not present in intransitive anticausatives. Therefore, causative alternation verbs may be used in VRCs if the subject referent’s autonomy is emphasized, which is typically accomplished through the use of “so ... that” clauses, as in examples (23b) and (24b). The tendency for VRCs

to prefer causative verbs with no intransitive anticausative alternant is an epiphenomenon that takes place because VRCs are a more marked option than an intransitive anticausative structure to describe causative situations as occurring semi-autonomously. VRCs can be based on causative verbs with an intransitive anticausative alternant if the property of the subject referent that contributes to the ease of performing an action denoted by the verb is emphasized, as VRCs describe situations as if the subject referent acts upon itself autonomously.

In this section, I have conducted a corpus-based investigation of the distribution and frequency of verbs of VRCs and provided empirical evidence for the anticausativizer analysis of VRCs. VRCs have high affinity with verbs that have no intransitive anticausative usage, but this affinity is an epiphenomenon and verbs that have an intransitive anticausative counterpart can also occur in VRCs when the subject's CCF property is highlighted.

## 5. Conclusion

This paper investigated the distributional and functional properties of VRCs in English and presented the following two arguments. First, the subject of VRCs can be regarded as a CCF argument. Although subjects of VRCs cannot be direct causers for events denoted by verbs, the property of the subject referents is construed as crucially responsible for the occurrences of such events. Since the subject referents do not qualify as direct causes, metaphorical interpretations are required. These metaphorical interpretations are guaranteed by adverbs such as *virtually*, coupled with a primary emphasis on the reflexive pronoun object. Thus, the obligatory metaphorical interpretation of VRCs can be attributed to the requirement that the subject be understood as responsible, to some extent, for the occurrence of the event denoted by the verb. This requirement is based on the subject's CCF property.

Second, VRCs serve the function of anticausativizing causative verbs that have no anticausative usage via metaphor. In other words, they denote metaphorical anticausative situations. Since intransitive anticausatives are less complex than VRCs, causative verbs that can alternate with the anticausative usage tend to prefer the intransitive anticausative structure to VRCs. On the other hand, since

causative verbs with no anticausative alternant must occur in VRCs to describe anticausative situations, they have high affinity with VRCs. The corpus-based research conducted in this research revealed that a large proportion of verbs of VRCs have no intransitive anticausative usage. The tendency for VRCs to be based on causative verbs without an intransitive anticausative alternant, however, is an epiphenomenon. Causative verbs with intransitive anticausative counterparts may also be used in VRCs if the subject's CCF property is emphasized. Thus, the CCF property of the VRCs' subject referent underlies VRC distribution and function.

## Acknowledgment

I would like to thank the members of the conference *Expressing Causality in L1 and L2* and the anonymous reviewers for their invaluable comments on an earlier version of this paper. This work was supported by JSPS KAKENHI (Grant Number 20K13061).

## Sources

ARMSTRONG, SUE. 2010. *A Matter of Life and Death: Inside the Hidden World of the Pathologist*. Canongate. Edinburgh.

LDCE = Longman Dictionary of Contemporary English (4th edition). 2005. Longman. Harlow.

*The Corpus of Contemporary American English – COCA*. <https://www.english-corpora.org/coca/>

## References

ALEXIADOU, ARTEMIS; ANAGNOSTOPOULOU, ELENA; SCHÄFER, FLORIAN. 2015. *External Arguments in Transitivity Alternations: A Layering Approach*. Oxford University Press, Oxford. doi.org/10.1093/acprof:oso/9780199571949.001.0001.

CORNIPS, LEONIE; HULK, AAFKE. 1996. Ergative Reflexives in Heerlen Dutch and French. *Studia Linguistica* 50. 1–21.

- FELLBAUM, CHRISTIANE. 1989. On the ‘Reflexive Middle’ in English. *Papers from the Annual Regional Meeting of the Chicago Linguistic Society* 25/1. 123–132.
- FIENGO, ROBERT. 1980. *Surface Structure: The Interface of Autonomous Components*. Harvard University Press. Cambridge, MA. doi.org/10.4159/harvard.9780674333765.
- FODOR, JERRY. 1970. Three Reasons for Not Deriving “Kill” from “Cause to Die.” *Linguistic Inquiry* 1/4. 429–438.
- GENIUŠIENĖ, EMMA. 1987. *The Typology of Reflexives*. Mouton de Gruyter. Berlin.
- HALE, KEN; KEYSER, SAMUEL JAY. 1987. A View from the Middle. *Lexicon Project Working Papers* 10. Center for Cognitive Science, MIT. Cambridge, MA.
- HALE, KEN; KEYSER, SAMUEL JAY. 1993. On Argument Structure and the Lexical Expression of Syntactic Relations. *The View from Building 20: Essays in Linguistics in Honor of Sylvain Bromberger*. Eds. Hale, Ken; Keyser, Samuel Jay. MIT Press. Cambridge, MA. 53–110.
- HASPELMATH, MARTIN. 1993. More on the Typology of Inchoative/Causative Verb Alternations. *Causatives and Transitivity*. Eds. Comrie, Bernard; Polinsky, Maria. John Benjamins. Amsterdam – Philadelphia. 87–120. doi.org/10.1075/slcs.23.05has.
- HEIDINGER, STEFFEN. 2010. *French Anticausatives: A Diachronic Perspective*. De Gruyter, Berlin – New York. doi.org/10.1075/dia.30.2.07lav.
- LAKOFF, GEORGE. 1977. Linguistic Gestalt. *Papers from the Annual Regional Meeting of the Chicago Linguistic Society* 13. 225–235.
- LEVIN, BETH. 1993. *English Verb Classes and Alternations: A Preliminary Investigation*. University of Chicago Press. Chicago. doi.org/10.2307/415968.
- LEVIN, BETH; RAPPAPORT HOVAV, MALKA. 1995. *Unaccusativity: At the Syntax-Lexical Semantics Interface*. MIT Press. Cambridge, MA. doi.org/10.1075/sl.21.2.11lin.
- KEMMER, SUZANNE. 1993. *The Middle Voice*. John Benjamins. Amsterdam – Philadelphia. doi.org/10.1075/tsl.23.
- KOONTZ-GARBODEN, ANDREW. 2009. Anticausativization. *Natural Language and Linguistic Theory* 27. 77–138. doi.org/10.1007/s11049-008-9058-9.
- NEELEMAN, AD; VAN DE KOOT, HANS. 2012. The Linguistic Expression of Causation. *The Theta System: Argument Structure at the Interface*. Eds. Everaert, Martin; Marelj, Marijana; Siloni, Tal. Oxford University Press. Oxford. 20–51. doi.org/10.1093/acprof:oso/9780199602513.003.0002.
- PYLKKÄNEN, LIINA. 2008. *Introducing Arguments*. MIT Press. Cambridge, MA.
- RAMCHAND, GILLIAN. 2008. *Verb Meaning and the Lexicon: A First Phase Syntax*. Cambridge University Press. Cambridge. doi.org/10.1017/CBO9780511486319.
- SCHÄFER, FLORIAN. 2008. *The Syntax of (Anti-)Causatives: External Arguments in Change-of-State Contexts*. John Benjamins. Amsterdam. doi.org/10.1075/la.126.

SIEMUND, PETER. 2014. The Emergence of English Reflexive Verbs: An Analysis Based on the Oxford English Dictionary. *English Language and Linguistics* 18. 49–73. doi.org/10.1017/S1360674313000270.

STEPHENS, NOLA. 2006. Agentivity and the Virtual Reflexive Construction. *Demoting the Agent: Passive, Middle and Other Voice Phenomena*. Eds. Lyngfelt, Benjamin; Solstad, Torgrim. John Benjamins. Amsterdam. 275–300. doi.org/10.1075/la.96.13ste.

## Podjela i funkcija virtualnih povratnih konstrukcija na engleskom jeziku

### Sažetak

Ovaj rad baca novo svjetlo na distribucijske i funkcionalne vlastitosti virtualnih povratnih konstrukcija (VRC-ovi) u engleskom jeziku (npr. *This problem solves ITSELF*). VRC-ovi opisuju razinu lakoće uključene u izvođenje nekoga činjenja denotirana glagolom. Oni obično uključuju metaforička tumačenja, kompatibilni su s priložima kao *virtually* i primarni naglasak stavljaju na objekt povratne zamjenice. U ovom radu iznose se dvije tvrdnje: prva je da se predmet VRC-ova može smatrati ključnim doprinosnim čimbenikom (tj. bitnim čimbenikom u uzročnom odnosu). Ova analiza razbistruje metaforička tumačenja VRC-ova, njihovu kompatibilnost s priložima poput *virtually* i postavljanje primarnoga naglaska na povratnozamjenični objekt. Drugo, VRC-ovi obično djeluju kao antikauzativizirajući uzročni ili prijelazni glagoli koji nemaju antikauzativne alternante. Naime, VRC-ovi izražavaju metaforičke antikauzativne situacije. Uzročni ili prijelazni glagoli, koji se mogu izmjenjivati s neprijelaznim antikauzativnim glagolima (npr. *break, open, melt*), obično se koriste kao antikauzativni glagoli u opisu antikauzativnih situacija (npr. *the vase broke*) jer su neprijelazni antikauzativi češće jednostavnijega oblika i manje obilježeni od VRC-ova. S druge strane, uzročni ili prijelazni glagoli bez antikauzativne alternante (npr. *write, sell*) češće će se ukazivati u VRC-ovima kada se opisuju antikauzativne situacije. Drugim riječima, VRC-ovi ovim uzročnim ili prijelaznim glagolima omogućuju izražavanje metaforičkih antikauzativnih situacija. Analiza je potkrijepljena istraživanjem koje se temelji na korpusu.

**Keywords:** virtual reflexive construction, causative alternation, reflexive anticausative, crucial contributing factor, anticausativization

**Cljučne riječi:** virtualna povratna konstrukcija, uzročna izmjena, povratna antikauzativna, ključni čimbenik, antikauzativizacija

