

# ESTABLISHING THE DERIVATION OF THE ENGLISH INCHOATIVE ALTERNANT: THE NULL REFLEXIVE MORPHEME\*

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## 1. INTRODUCTION

Perhaps one of the most unusual characteristics of the English language is its tendency to associate multiple semantic concepts with a common core meaning to a phonologically identical form. This is not unique to English; most, if not all, languages exhibit instances in which the same utterance carries divergent yet related meanings. Nor is it the case that no sets of semantically related words in English exhibit phonological distinction, for many do. What is unusual about English is the relatively high extent of systematic polysemy.

Haspelmath (1993) explains that English has a characteristic aversion to overtly marking differences in word usages in a way that clearly distinguishes the various manifestations of a common semantic core. This is unlike its relatives. Whereas French differentiates the adjective *clair* from a related noun *éclaircie*, and the transitive and intransitive verbs, *éclaircir* and *s'éclaircir*, one phonological form in English, *clear*, expresses all of these classes of words.

When such semantically linked words relate through morphological derivation, it is reasonable to surmise that they do not exist in the lexicon as individual basic units, but rather that they share a common lexical basis. While that lexically basic entry conveys the core meaning of the derived words, morphology differentiates a particular usage and makes it possible for the single entry to produce the numerous forms of various classes of words. While that morphology is overtly detectable in the French words derived from *clair*, it is hidden in those of the English correlate. But it is a mistake to assume that simply because the morphemes are not heard that they are not present.

Unfortunately, researchers studying English have sometimes made such an error. Many have tried to explain this exceptional characteristic of the language from within, failing to look outside for clues as to what might be taking place. Still others have searched for distant unrelated languages, which are themselves exceptions in exhibiting a high degree of polysemy, proposing that similar exceptional behavior must be connected. This has been done at the cost of considering languages like French and German with which English shares not only a common ancestor but also a great deal of semantic and syntactic behavior.

This paper tries to establish just such a link. It addresses a prominent instance of polysemy in English, seeking to account for it in a way which sets it firmly in the framework of related languages rather than treating it as isolated and exceptional. The causative-inchoative alternation of English is an example of productive systematic polysemy which corresponds in most languages to a productive morphological distinction. As an initial example of this phenomenon, consider the causative expression in (1a) to which the inchoative in (1b) corresponds. Not only do the meanings of these sentences differ, but the

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syntax does as well: the first is transitive, and the second, an unaccusative intransitive. Nonetheless, in spite of these differences, the form of the verb *break* exhibits no visible marking in either use. The objective at hand is to demonstrate the morpheme which underlies such English alternations and which allows a phonologically identical form to function in both of these expressions.

- (1) a. Barry broke the glass into a thousand pieces.  
 b. The glass broke into a thousand pieces.

The general consensus among linguists studying this English alternation is that only one of the forms exists in the lexicon as a basic entry and that from it, the other derives. There is no agreement, however, as to which. A number of semantic- and syntax-based arguments have been suggested, each promoting a particular opinion;<sup>1</sup> however, as yet no one has offered a solution sufficiently convincing to put the issue to rest. The current paper will attempt to demonstrate that the causative is lexically basic and that the inchoative alternant is produced by a morphological operation common to other Indo-European languages.

The organization is as follows. Section 2 will look at the nature of the causative-inchoative relationship and precisely demonstrate the types of verbs which participate in the alternation, based on the semantics of the event and the resulting argument structure projected into syntax. It will show that only verbs describing a particular type of event, a subset of the change-of-state class, allow and indeed compel an alternant form.

Section 3 will look at two pertinent unusual characteristics of English and propose that deeming the associated behavior as exceptional is based on a superficial analysis. A proper reanalysis will not only explain the behavior, but also eliminate its peculiarity in the process. The first of these characteristics is the productive operation which yields phonologically indistinguishable causative and inchoative alternants in English which correspond to morphologically marked forms in most other languages. The proposal of this paper is that the identical forms are in fact differentiated by a morpheme which has no phonological realization. As is overwhelmingly the case in Indo-European languages of Europe, the morpheme attaches to the basic causative verb to derive the inchoative.

The second characteristic of English to be considered is the rare lack of a verbal reflexive marker. Whereas most Indo-European languages have both pronominal and verbal reflexive mechanisms, English is believed to have only the former. Because of this gap, the language is deemed to have a greatly underdeveloped system of expressing ‘recessive’ semantic functions via the reflexive, as is prevalent among the other languages of the family. The section will argue that what appears to be missing is in fact present, again in the form of a phonologically empty morpheme. This morpheme, in precisely the manner of the verbal reflexives of related languages, produces a range of recessive semantic functions. Because the verbal reflexive is not heard, linguists typically consider these functions mere instances of polysemy, failing to realize that the system of English in these operations is perfectly in line with those of other languages.

One of the most typical functions of these verbal reflexives is the derivation of the inchoative alternant from the basic causative. It will therefore be deduced that in English, the ‘null’ verbal reflexive morpheme is responsible for this derivation. Because it is unheard, however, we have the impression that the two forms are morphologically rather than merely phonologically identical.

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<sup>1</sup> Among others, inchoative basicity is argued by Lakoff (1970), Hale & Keyser (1986, 2002), and Pesetsky (1995), while Levin & Rappaport Hovav (1994, 1995) take the causative as basic.

To provide evidence of the hypotheses, section 4 will look individually at a number of semantic functions produced by other ‘visible’ verbal reflexives, comparing in turn the similar constructions in English to demonstrate the presence of the ‘invisible’ counterpart. By looking at the *se / si* of Romance languages as well as German *sich* and Dutch *zich*, it will be shown that the English morpheme falls well within the expected range of functional operations.

Finally, the section will look at the limited production of the inchoative alternant via the ‘pronominal’ reflexive, *-self*, to establish that the causative alternant must be lexically basic in order for these inchoatives to produce grammatical sentences with the appropriate meanings.

## 2. DEFINING THE CAUSATIVE-INCHOATIVE ALTERNATION

The term ‘causative alternation’ describes the relationship between two verbs, one which expresses a ‘central event’ and the other its causation. Based on Levin & Rappaport Hovav (1995), a formal definition of such a relationship is: if  $V_2$  means ‘cause to  $V_1$ ’, then  $V_2 - V_1$  constitute a causative alternation. Clearly this description concerns the semantic nature only of  $V_2$ , specifically requiring that it have a causative component, and logically so, for it is this component which gives the phenomenon its name.

There are however a number of distinct types of pairings which fit this description, and it is the semantic nature of  $V_1$ , the verb expressing the central event, that differentiates them. In English, for example, many intransitive verbs expressing a manner of motion have an additional causative use which indicates that an external force compels an entity to move in a particular way. The sentence ‘Ann jumped the pony over the ditch’ indicates that Ann caused the event described by ‘The pony jumped over the ditch’. Hale & Keyser (1987) find that such an alternation is cross-linguistically atypical.

In contrast, according to Levin & Rappaport Hovav (1994), the causative-inchoative is universal. What distinguishes alternations of this category is again the nature of  $V_1$ , here the inchoative alternant, defined as expressing a process of ‘becoming’, that is, of entering a state. The corresponding causative naturally denotes ‘causing to become’, i.e., ‘rendering’ in a state. For this reason, verbs in the causative-inchoative alternation are restricted to expressions of a change of state (Levin & Rappaport Hovav (1995)). With this in mind, an examination of change-of-state verbs is a proper starting point for analyzing the alternation.

### 2.1. Change-of-state expressions

The simplest expression which may convey a change of state relates only the central event, that is, the entity undergoing the change and the change itself. Syntactically such an event has an intransitive construction, decomposed as [BECOME  $S$  ( $y$ )], where  $y$  undergoes the change, and  $S$  is the state entered. Labeled an ‘inchoative’, this type of expression is exemplified by (1b) in which the glass enters the new state, that of being *broken*.

Additionally, a change of state may be communicated by a transitive verb which relates not only the effect of the change, but also the force bringing it about, such as the ‘causative’ (1a). In this example, Barry is assigned responsibility for the event of (1b). This more complex expression has a semantic decomposition [( $x$ ) CAUSE-BECOME  $S$  ( $y$ )] where  $x$  is the causer.

Thematically, the participants of the causative verb are elementary. Whereas the causing force  $x$  is an active agentive entity, sometimes a natural force or instrument but often an agent, because it is passive or affected with no sense of playing an active or volitional role, the changed participant  $y$  is a patient. Less obviously, though  $y$  is the only participant in the inchoative expression, it is still passive and strictly affected and therefore still fills the patient role. Syntactically, in what they label ‘Linking Rules’, Levin & Rappaport Hovav (1995) determine that for change-of-state verbs the immediate cause, here  $x$ , projects as the external

argument of the verb and the entity undergoing the change, *y*, is the internal argument. In the case of the intransitive expression, the patient becomes the grammatical subject via Move- $\alpha$ , occupying the external position in accordance with Burzio's Generalization.

From the decompositions, we see a clear conceptual link between the semantic component CAUSE and the agent *x*, and another between BECOME and the patient *y*. Either element obligatorily implies the presence of the associated thematic participant. Therefore, while the causative is necessarily semantically transitive, the inchoative is always an unaccusative intransitive expression.

In addition to these two verbs, there is yet another type of expression which indicates a change-of-state event. An analytic causative such as (2) embeds the inchoative verb phrase in a higher causative verb phrase. It takes little thought to recognize the semantic similarity that this sentence bears to the causative in (1a). Both relate that the causer Barry brings about the same change to the state of the glass. It is not so easy to explain the intuitive difference between the two.

(2) Barry caused the glass to break into a thousand pieces.

Comrie (1989) finds that among causative expressions, there is a universal correlation between the degree of structural fusion and the immediacy of causation. According to Kac (1976), a causative verb, like *break* in (1a), merges the notion of CAUSE with the notion of the inchoative event, reflected in the decomposition as CAUSE-BECOME. Referred to as a 'lexical' causative, such a verb necessarily implies 'direct causation' in English, meaning that the agent not only brings about the change, but that it does so by manipulation, that is, by taking part in the central event. In contrast, an analytic causative lacks the structural fusion to imply that the causer is immediately responsible. It suggests only that the agent acts in a way that results in the event. For example, (2) might well describe the situation in which Barry ignited a burner, not realizing that the glass was resting on it, and the glass subsequently broke due to the heat - a scenario which the lexical causative in (1a) would not likely describe. For such 'indirect causation', the decomposition [(*x*) CAUSE [BECOME *S* (*y*)]] separates the causative component from the central event and appropriately lacks the implication of immediacy.

Hence, we have recognized three types of expressions which communicate a change of state in English. Whereas the inchoative relates only the central event, the (lexical) causative assigns direct responsibility for the event to an agent. The analytic causative implies only that the causer acts in a way that leads to the occurrence of the event, with no suggestion of immediacy. But recognizing the implication of change-of-state expressions provides only half of what is needed to fully understand the causative-inchoative alternation. To complete the picture, we must now look at the semantic nature of the central event itself and see through which of these means of expression it may be realized.

## 2.2. Change-of-state events

The absence of CAUSE from its decomposition has a significant ramification on the meaning of an inchoative verb and links to one of its defining characteristics, spontaneity. According to Hale & Keyser (1987), the central event is conceptualized as taking place on its own, devoid of

external cause and of the associated agentive participant. This quality marks such an expression [+spontaneous].<sup>2</sup>

Conversely, the presence of the CAUSE component inherently implies that the central event of a causative verb is brought about by an external causing force. (This paper will continue to use ‘causative’ to refer to lexical causatives as opposed to ‘analytic causatives’.) Moreover, the fused form CAUSE-BECOME assigns the force direct responsibility. As such, the expression is marked [+external direct cause].

It is clear that the meaning of a lexical change-of-state verb as reflected by these semantic features is intrinsically associated with its syntactic manifestation. Because an inchoative is marked [+spontaneous], it projects into syntax only one argument position which is filled by the patient, and is therefore necessarily intransitive. The feature [+external direct cause] indicates the existence of a causer, meaning that a causative change-of-state verb will additionally project an agentive argument position, making it obligatorily transitive.

The development and analysis of section 2.1 were by and large illustrated by the causative expression (1a) and the inchoative (1b). Together of course, the two constitute a causative-inchoative alternation for which the verb *break* serves as both the transitive and the intransitive variant. However, not every verb that expresses a change-of-state event has a grammatical alternant, as demonstrated by the pairs of sentences in (3) and (4).

- (3) a. Nancy cut the steak in half.  
 b. \* The steak cut in half.
- (4) a. Daylilies bloomed in the garden last spring.  
 b. \* Mother bloomed daylilies in the garden last spring.

Consider the first pair. In (3a), the steak undergoes a change of state, namely of becoming cut, a central event brought about directly by Nancy. The transitive causative nature of this sentence is reflected in its semantic decomposition [(nancy) CAUSE-BECOME *CUT* (the steak)]. As shown by (3b), the corresponding inchoative alternant relating the central event, [BECOME *CUT* (the steak)], fails to be grammatical.

Why does the causative change-of-state verb *break* have an inchoative alternant while *cut* does not? Hale & Keyser (1987) claim that the answer lies in the conceptual nature of the event described by a verb as evidenced by its lexical-semantic representation (LSR). To *break* is conceptualized as to ‘separate in material integrity’, a description which allows either the participation or the absence of a causing force.<sup>3</sup> In its causative form, it is represented as [x, separate in material integrity, y]; as an inchoative, as [separate in material integrity, y]. On the other hand, to *cut* is to ‘separate in material integrity in a linear fashion by applying a sharp edge’. Within this representation is a component that indicates the manner in which the event is caused, *by applying a sharp edge*, which conceptually links to the agent and therefore precludes its elimination. In other words, there is an inherent sense that the event cannot occur unless some external force directly brings it about. Because an inchoative alternant, associated with the LSR [separate in material integrity in a linear fashion by applying a sharp edge, y] would imply spontaneous occurrence, it is not conceptually possible and consequently not grammatical.

The conceptual distinction made between *break* and *cut* as represented by their respective LSRs relates to the semantic features described above. Recall that the central event

<sup>2</sup> In analyzing verbs of the change-of-state class, Smith (1978) first attributed to them semantic features in order to reflect their differences simply and succinctly. Here, her original features [+independent activity] and [+external control] are respectfully revised as [+spontaneous] and [+external direct cause], respectively.

<sup>3</sup> The LSRs of *break* and *cut* are based on Hale & Keyser (1987:5, 27).

of *break*, [BECOME *BROKEN* (y)], associates with a causative form and an inchoative form, making it compatible with both features, [+external direct cause] and [+spontaneous]. It is ‘optionally externally directly caused’. In contrast, since the central event described by *cut*, [BECOME *CUT* (y)], cannot be conceptualized as happening without the direct participation of an external causing force, it bears the semantic feature [-spontaneous]. As it is compatible with such participation, it is marked [+external direct cause]. It is therefore ‘obligatorily externally directly caused’.

Turning now to the second pair, because the inchoative nature of (4a) is not immediately apparent, the analysis is more complex. To confirm that the sentence does in fact fit our description of an inchoative change of state, consider the semantics that it conveys. First, as Levin & Rappaport Hovav (1995) claim, this type of expression is an unaccusative construction whose internal argument serves as subject. In spite of its grammatical position, the argument is nevertheless the thematic patient, affected by the event. In our example, the daylilies undergo the process of changing from buds into flowers; that is, they become blooms, decomposed as [BECOME *BLOOMS* (daylilies)].

There is an inherent sense, however, that considering the subject as strictly affected does not fully describe the implication of (4a). We perceive that in some way, it is also responsible for the event, but not in a truly agentive capacity as the subject of an unergative intransitive like ‘Brian sang in the garden last spring’, whose argument is external to the verb phrase. As Levin & Rappaport Hovav explain, certain intransitive change-of-state events are conceptualized as being intrinsically controlled by the affected entity. Whether because the event arises from within the entity, such as English *faint* and *blush*, or because the event is part of the natural development of the entity, like *bloom*, it is conceptually impossible for that entity to relinquish control to an outside force.

Intrinsic control of the affected entity is precisely the reason for which the causative alternant in (4b) fails to be acceptable. Recall from 2.1 that the fusion of the causative and inchoative semantic components CAUSE-BECOME which associates with a lexical causative verb implies that the verb’s agentive argument has direct responsibility for the central event. In our example, this would be shown as [(mother) CAUSE-BECOME *BLOOMS* (the daylilies)]. But the implication that an external force is directly responsible contradicts the perception that the affected entity inherently controls the event and cannot relinquish that control. The causative alternant therefore yields an ungrammatical expression.

Of course, it is possible for an external force to bring about the event of an inherently controlled event, as demonstrated by (5). Because the analytic causative, here decomposed as [(mother) CAUSE [BECOME *BLOOMS* (the daylilies)]], consists of separate verbal components to indicate CAUSE and BECOME, it does not fuse their meanings as the lexical causative does. Since this construction lacks the implication of direct causation, it does not conflict with the inherent control of the affected entity, and is therefore acceptable.

(5) By watering them every day, mother made the daylilies bloom throughout May.

In terms of its semantic features, because direct responsibility for the central event of a verb like *bloom* cannot be assigned to an outside force, it is marked [-external direct cause]. On the other hand, compatibility with the conceptualization of occurring independently, i.e., without external cause, characterizes it as [+spontaneous]. Such an event is appropriately described as ‘obligatorily spontaneous’.

We have, then, three types of change-of-state events, each distinguished by its particular semantic nature. If the event associates with some inherent implication of the manner in which a causer brings it about, then it is obligatorily externally directly caused. Henceforth, this paper will refer to such events as being of the ‘*cut*-type’. Conversely, an event the direct

control of which cannot be relinquished by the affected entity is obligatorily spontaneous, and will be labeled a '*bloom-type*' event. The third type is one which is semantically ambiguous in terms of cause. As exemplified by *break* in (1), it allows the assignment of direct responsibility to an outside force but may also conceptually occur without such influence. Such optionally externally directly caused events will be called the '*break-type*'.

Although these descriptions are semantically based, the facts they relate reflect as well in the corresponding syntactic manifestations which in fact can alternately serve to categorize the events. For example, if a change-of-state event relates to exactly two syntactic arguments, the agent and the patient, then an associated verb is necessarily causative, i.e., transitive (excepting of course subsequent transformations such as passivization, etc.). Because it cannot be expressed with an intransitive structure, no inchoative expression is possible. This characterizes *cut-type* central events. Likewise, an event which ties only to an internal argument must have an intransitive manifestation. Since a causative alternation would require as well an external argument, it cannot be produced. Thus are *bloom-type* events.

Lastly, if an event may be expressed either by a verb which projects only an internal argument or by one projecting two argument positions, then the syntactic manifestation of both an intransitive verb, having an inchoative interpretation, and a transitive verb, which is causative, will be possible. This is the nature of *break-type* central events. And it is here that a crucial quality of verbs in the causative-inchoative alternation is discovered.

A verb which enters the causative-inchoative alternation must express a central event of the change-of-state *break-type*; and conversely, a verb expressing a change-of-state *break-type* central event must enter the causative-inchoative alternation.

An important final remark should be made regarding the conceptual nature of central events. Recall that the criterion which classifies a change-of-state event as the *bloom-type*, exemplified by the ungrammaticality of (4b), is that due to some inherent property, the affected entity is intrinsically responsible and cannot relinquish direct control to an external force. It seems a contradiction that there are a number of apparently semantically similar verbs, like *grow* and *heal* in English, which logically arise from inherent properties of the patient and thus cannot be directly caused by an outside force, yet which participate in the causative-inchoative alternation.

Consider the inchoative expression in (6a), which replaces *bloom* of (4a) with the verb *grow* to yield a semantically similar result. Unlike (4b), the causative alternant in (6b) is perfectly acceptable in spite of the fact that relinquishing inherent control over the process of growing is no more logical than it would be for the process of blooming. Both are connected to the natural development of the affected entity. Why is it then that of these two verbs which both meet the same logical criterion of a *bloom-type* event, one participates in the causative-inchoative alternation and therefore expresses a *break-type* event?

- (6) a. Daylilies grew in the garden last spring.  
b. Mother grew daylilies in the garden last spring.

As Haspelmath (1993) explains, meaning is not logical, but rather conceptual. The way a language conceptualizes the world explains the semantics of its words and thus their behavior. The conception does not always coincide with reality in an entirely consistent fashion. This realization allows us to explain an important issue concerning the causative-inchoative alternation.

Though the correlation between verbs which alternate across languages is presumably high, it is not exact. For example, the same inchoative event is expressed in Spanish and in English, in (7a) and (8a), respectively. Because the central event in Spanish is conceptually compatible with being directly caused by an outside force, the verb has a causative alternant,

used in the transitive expression (7b). Clearly, this is a *break*-type event. However, the equivalent transitive construction in (8b) is ungrammatical. English treats the same central event as inherently controlled by the affected entity, meaning that as a *bloom*-type event, no causative alternant is possible. External causation can only be brought about indirectly, expressed in an analytic causative like (8c). Such cross-linguistic variations in the type into which a change-of-state event falls are due to conceptual variations among languages.

- (7) a. Daniel se sonroja.  
daniel SE blushes  
b. La situación sonroja a Daniel.  
the situation blushes A daniel
- (8) a. Daniel is blushing.  
b. \* The situation is blushing Daniel.  
c. The situation is making Daniel blush.

But variations of this sort are not restricted to cross-language comparisons. They also explain the potential fluidity of a central event within a given language. Levin & Rappaport Hovav (1995:87) offer an example in English in which an individual uses the verb *deteriorate* in the causative sentence ‘The pine needles were deteriorating the roof’. To many English speakers for whom the central event of this verb is of the *bloom*-type, restricted to an inchoative use as in ‘Over the years the roof deteriorated’, this expression is marginal at best. Nevertheless some speakers clearly conceptualize the event as belonging to the *break*-type.

Traugott (1972) points out that in Old English, causation of intransitive verbs was generally expressed via analytic constructions; the language had relatively few alternations. Williams (1975) describes a period during which a great many *cut*-type verbs underwent ‘Causative Object Shift’, producing grammatical corresponding inchoative alternants. This equates to a widespread shift to the *break*-type in the conceptualization of these events. Subsequently, through back-formation, many *bloom*-type verbs developed grammatical causative alternants. Plainly then, the category into which a change-of-state central event falls and in turn its ability to produce a grammatical alternation are not solidly linked to the actual event, but rather to the way a particular language (or even a particular speaker) regards it.

We now have a fairly complete understanding of verbs in the causative-inchoative alternation. By definition, the central event of such a verb depicts a change of state in an affected entity. Importantly, what allows and in fact compels such an event to produce an alternation, i.e., a causative and an inchoative variant, is that it is conceptually possible either with or without external direct causation. With this insight, we can now attempt to determine the lexical relationship between identical alternants in English, in pursuit of establishing which is the basic form.

### 3. ESTABLISHING A MECHANISM FOR ENGLISH INCHOATIVE DERIVATION

#### 3.1. A cross-linguistic look at the causative-inchoative alternation

Haspelmath (1993) describes the three logical morphological manners in which causative and inchoative alternants may potentially relate as originally defined by Nedjalkov (1969). Two of these are ‘directed’ alternations involving the application of a morphological marker, be it an affix, an auxiliary, or a stem modifier, to derive one alternant from the basic correlate. When the marker is applied to a basic inchoative verb, the derivation is labeled ‘causative’. Conversely, the morphological marker applied to a basic causative verb to derive the inchoative is defined as an ‘anticausative’ alternation.

The third type of relationship, ‘non-directed’ alternation, is one in which neither form is basic to the derivation of the other. That is, no marker can be extracted from one alternant to yield the other. If a common stem serves as the base and different markers derive the causative and the inchoative, the pair is labeled an ‘equipollent’ alternation. In a ‘suppletive’ alternation, the two forms bear no common root whatsoever. And lastly, when the form of the causative verb is identical to the corresponding inchoative, with no morpheme marking either alternant, the pair is called a ‘labile’ alternation. To this point, the forms of interest in this paper have been referred to simply as having identical alternants. Henceforth, the term ‘labile’ will be used interchangeably to describe the same relationship.

Each of the possibilities is attested among the world’s languages. The causative-inchoative alternation for the verb ‘wake up’ bears a different relationship in each of the languages shown in (9).

(9)			‘wake up <sub>inchoative</sub> ’	‘wake up <sub>causative</sub> ’
a.	Mongolian	(causative)	<i>ser-ex</i>	<i>ser-e-ex</i>
b.	French	(anticausative)	<i>se réveiller</i>	<i>réveiller</i>
c.	Swahili	(equipollent)	<i>am-k-a</i>	<i>am-sh-a</i>
d.	Russian	(suppletive)	<i>prosnut’-sja</i>	<i>budit’</i>
e.	Modern Greek	(labile)	<i>ksipnó</i>	<i>ksipnó</i>

(Haspelmath (1993) appendix)

Clearly, it is possible for either the causative or the inchoative form, or neither, to be morphologically basic in a given alternation; there is no universally basic form.

Using these definitions, Haspelmath conducts a cross-linguistic survey, based on 31 common verb alternations in each of 21 languages. One of the primary goals of the study is to discover the tendencies of different languages to relate causative-inchoative pairs in the various means available. None of the languages relies solely on a single type of alternation. In fact, most are found to have alternations of four or even all five types. However, a language is inclined to rely on one or occasionally two particular types of alternation at the disadvantage of the others. From this information, a pattern can be established for each language.

Moreover, Haspelmath finds that a pattern emerges across languages. Specifically, there is a geographical connection between the causative derivation and non-European languages, and another between the anticausative derivation and languages spoken in Europe. In fact, Nichols (1993) claims that European languages of the Indo-European family overwhelmingly choose an anticausative over a causative derivation.

English is exceptional in this scenario. It relies far more heavily on labile alternations than any other language included in the study. Most European languages show examples of this type, but whereas the anticausative alternation accounts for more than 60 percent of the pairs among Indo-European languages of Europe in the survey (excluding English), labile pairs represent only 20 percent. Quite differently, 80 percent of English pairs are labile alternations, while a mere one in sixteen is anticausative.

In the introduction, the aversion to overt morphological marking as an unusual characteristic of the English language was exemplified by the clearly marked French derivatives of *clair* which correspond to phonologically identical uses of *clear* in English. It was further asserted that it is an error to conclude that an absence of phonological distinction necessarily implies an absence of morphological distinction. Spencer (1991) explains that such a change in category is attributable to a ‘null’ (or ‘zero’ or ‘invisible’) morpheme, one that is phonologically empty but nonetheless serves the function of a fully realized equivalent. He also claims that alternating pairs of identical verbs in English are more accurately viewed as

being distinguished by means of marking by a null morpheme, which in spite of lacking phonological content, does carry meaning.

As a starting point for considering how the null morpheme in the labile alternation of English causative-inchoative pairs might function, it is logical to look in the direction of an anticausative derivation in light of its prevalence among other European languages. This connection alone, of course, is not adequate to form a conclusion without verification. There is as well the possibility that the morpheme modifies the meaning of the basic inchoative variant and produces a causative derivation. For the moment, under the supposition that English would likely behave similarly to its sister languages, the suggested null morpheme is assumed to be anticausative and evidence for this claim is left for later. This is not the first time that an anticausative null morpheme for English has been hypothesized. In a personal communication to Keyser & Roeper (1984), Luigi Rizzi suggests an abstract invisible *si*, comparable to the anticausative Italian morpheme.

Consider an example. Causative (10a) and inchoative (10b) show the familiar pairing of a typical English labile alternation. In the former, the agent brings about the change in the affected entity's state; in the latter, the affected entity changes without allusion to cause. In the final sentence, (10c), the inchoative sentence is revised by inserting the anticausative null morpheme, represented by  $\emptyset$  and shown in the gloss as ANTI, for anticausative. Obviously, but importantly, the two inchoative sentences, though morphologically distinct, are phonologically indistinguishable.

- (10) a. John slowly opens the door.  
 b. The door slowly opens.  
 c. The door slowly opens- $\emptyset$ .  
     the door slowly opens-ANTI

Below are shown the equivalent sentences in the closely related Indo-European languages of Spanish (11), French (12), and German (13). Comparing the gloss of each inchoative (b) sentence to (10c) immediately brings to light the comparable nature of the English null morpheme and the anticausative morphemes of these languages. Consistently, there are two differences between each (a) and (b) sentence. First, an agent of cause is present only in (a), its absence in (b) corresponding to the movement of the affected entity to the subject position. And secondly, only the (b) sentence contains the anticausative morpheme.

- (11) a. Juan abre la puerta despacio.  
       b. La puerta se abre despacio.  
           the door ANTI opens slowly  
 (12) a. Jean ouvre la porte doucement.  
       b. La porte s'ouvre doucement.  
           the door ANTI opens slowly  
 (13) a. Jan öffnet die Tür langsam.  
       b. Die Tür öffnet sich langsam.  
           the door opens ANTI slowly

Additional causative-inchoative pairs from a number of Indo-European languages, seen in (14) - (20), illustrate that the pattern established above serves as a widespread phenomenon among this group. The causative (a) sentence consistently derives the inchoative (b) via an anticausative morpheme.

- (14) Italian  
 a. Giovanni rompe il vetro.  
 giovanni breaks the glass  
 b. Il vetro si rompe.  
 the glass ANTI breaks (Burzio (1986:38))
- (15) Romanian  
 a. El deschide ușa.  
 he opens the.door  
 b. Ușa se deschide.  
 the.door ANTI opens (Geniušienė (1987:260))
- (16) Dutch  
 a. Hij verspreidde het gerucht.  
 he spread the rumor  
 b. Het gerucht verspreidde zich.  
 the rumor spread ANTI (Everaert (1986:52))
- (17) Norwegian  
 a. Jon apnet doren.  
 jon opened the.door  
 b. Doren apnet seg langsomt.  
 the.door opened ANTI slowly (Lidz (1996:135))
- (18) Russian  
 a. Tanja slomala palku.  
 tanja broke stick.ACC  
 ‘Tanja broke the stick.’  
 b. Palka slomala-s’.  
 stick.NOM broke-ANTI  
 ‘The stick broke.’ (Comrie (1989:168))
- (19) Polish  
 a. Marek zbił okn-o.  
 marek broke window-ACC  
 ‘Marek broke the window.’  
 b. Okn-o zbiło się.  
 window- NOM broke ANTI  
 ‘The window broke.’ (Geniušienė (1987:259))
- (20) Lithuanian  
 a. Petr-as atidarė dur-is.  
 peter-NOM opened door-ACC.P  
 ‘Peter opened the doors.’  
 b. Dur-ys at-si-darė.  
 door-NOM.P PREF-ANTI-opened  
 ‘The doors opened.’ (Geniušienė (1987:98))

Grimshaw (1982) defines ‘inchoativization’ via the anticausative morpheme as exemplified by all of these pairs as a process in which a causative verb with a decomposition, [(x) CAUSE-BECOME *S* (y)], is converted to an inchoative verb, [BECOME *S* (y)]. The presence of the marker reduces the structure with two arguments (x and y) to one with a single argument (y) and renders the derived form grammatical. This process is productive, meaning that a new causative change-of-state verb with the appropriate semantic nature (i.e., with a central event which may have a spontaneous interpretation) will automatically produce an inchoative alternant in this manner.

It is generally accepted that an alternation which marks the inchoative variant with an anticausative morpheme corresponds to a basic causative entry in the lexicon. The meaning of the derived inchoative consists of that of the causative base verb modified by that of the anticausative morpheme. Even Hale & Keyser (1997) and Pesetsky (1995), who argue that the inchoative is basic in English, agree that inchoative alternants formed via the anticausative morpheme modifying a causative verb, as above, are the derived member of the pair and that the causative is lexically basic. However, under the developing hypothesis that English does in fact possess an anticausative morpheme which is phonologically null, the same conclusion of causative basicity will be reached.

Clearly, if the presence of the null morpheme in the English inchoative alternation can be established, it will offer the highly desirable benefit of connecting the behavior of its verbs in this relationship with those of numerous closely related languages. This will show universality in an aspect in which English is currently thought to be exceptional.

### 3.2. The Indo-European system of reflexivization

According to Lidz (1996), languages in general express semantic reflexivization via two mechanisms. In pronominal reflexivization, a special anaphoric pronoun occupies a syntactic position that is otherwise held by some other noun phrase. Because it is referential in the same way as is a non-reflexive pronoun, it is considered 'strong'. When such a pronominal reflexive marker (PRM) serves as the internal argument of a verb, the argument structure is not modified, so the verb's transitivity remains intact.

On the other hand, a 'weak' reflexive is a morpheme, in the form of an affix, a clitic, or a free word, which morphologically marks the verb as reflexivized. Since this marker is not referential, it is not an argument filling a syntactic position. Instead it eliminates an argument from the verb's structure, and thus reduces its transitivity. Whereas the strong PRM is 'nominal', representing an argument in syntax, the weak verbal reflexive marker (VRM) is 'verbal', directly affecting the argument structure.

To understand the difference between the two mechanisms, consider (21) and (22) in English and Spanish, respectively. The equivalent (a) expressions, showing a typical transitive construction with a non-reflexive direct object, demonstrate no significant syntactic difference. In contrast, the corresponding (b) sentences, semantic reflexives in which the agent serves as well as the direct object, result from distinct syntactic processes. In pronominally reflexivized (21b), as the PRM *herself* serves as its internal argument, the verb remains syntactically transitive. Conversely, reflexivization in (22b) is indicated verbally by the presence of the VRM *se* marking the verb as detransitivized. In spite of superficial similarity to (22c), in which the transitive verb takes as its direct object the clitic pronoun *lo*, as Grimshaw (1982) demonstrates, *se* is neither a pronoun nor an argument of the verb.

- (21) a. Joan covered her baby with the blanket  
 b. Joan covered herself with the blanket.
- (22) a. Juana cubrió a su bebé con la manta.  
 juana covered A her baby with the blanket  
 b. Juana se cubrió con la manta.  
 juana REFL covered with the blanket  
 c. Juana lo cubrió con la manta.  
 juana him covered with the blanket  
 'Juana covered him with the blanket.'

Semantic reflexivization, in which the agent takes on an additional thematic role, is only one of numerous semantic implications conveyed by reflexive markers. They also regularly indicate non-reflexive functions with a substantially varied semantic range. As Geniušienė (1987) finds, a great majority of these functions share the underlying characteristic of a reduction in diathesis, that is, the loss of a participant in the verb's lexical-semantic or syntactic structure. For this reason, she labels them 'recessive' functions.

In her typological study, Geniušienė looks in detail at the various functions served by reflexive markers throughout the world's languages. She finds that they serve no fewer than 22 semantic purposes, few of which have a 'true' semantic reflexive implication. The non-reflexive uses, which comprise the vast majority, are not intrinsically tied to the use of the reflexive marker; other syntactic means often achieve the same semantic end. Indeed, a given language may express 'recession' via such alternate means and additionally with the reflexive marker. Moreover, no language has a marker that produces all of the possible meanings, and those meanings which do associate with the reflexive marker vary from one language to the next. Some reflexive markers have a wide range of applications while others are quite limited.

It is not uncommon for a language to have both a PRM and a VRM, sometimes more than one of either, and their applications are not necessarily mutually exclusive. The Romance language Spanish, for example, produces both weak and strong reflexives, with the clitic *se* and lexical pronoun formed with *mismo*, respectively. Although their functions overlap, they are not interchangeable. Certain constructions require the pronominal form and others the verbal.

Only the strong reflexive in (23a) is acceptable when semantic reflexivization arises from the agent serving as an object not of the verb but of a preposition. Use of the VRM *se*, glossed as RM for reflexive marker, whether as the prepositional object in (23b) or as a verbal marker in (23c), yields an ungrammatical expression.

- (23) a. Antonio siempre habla de sí mismo.  
antonio always speaks of him -self  
'Antonio always talks about himself.'
- b. \* Antonio siempre habla de se.  
antonio always speaks of RM
- c. \* Antonio siempre se habla. (*intended interpretation*)  
antonio always RM speaks

On the other hand, when semantic reflexivization indicates that the agent is also the verbal object, *se* is selected, as demonstrated by (24a); the PRM in (24b) is ungrammatical. However, use of the two simultaneously in (24c) is acceptable. Here, the PRM does not change the meaning of the sentence but rather carries a sense of emphasis or clarification.

- (24) a. Marco se viste.  
marco RM dresses  
'Marco is dressing.'
- b. \* Marco viste a sí mismo.  
marco dresses A him -self
- c. Marco se viste a sí mismo.  
marco RM dresses A him -self  
'Marco is dressing himself (*emph.*).'

Still, certain applications of the reflexive marker in Spanish require the VRM alone. Non-reflexive functions, such as 'inherently reflexive' verbs, always select *se*. For this reason,

a sentence like (25a) is not grammatical if *se* is replaced with a PRM as in (25b). Additionally as seen in (25c), even in the emphatic or clarifying function that is grammatical in the semantic reflexive (24c), the PRM is not permitted. This is typical of a non-reflexive function of the reflexive marker.

- (25) a. Pedro se desmayó.  
pedro RM fainted  
'Pedro fainted.'
- b. \* Pedro desmayó a sí mismo.  
pedro fainted A him -self
- c. \* Pedro se desmayó a sí mismo.  
pedro RM fainted A him -self  
'Pedro fainted!'

Spanish is not alone among Indo-European languages in possessing both a strong and a weak reflexive form. In fact, each of the languages in (26) has both, as shown.

(26)		VRM	PRM
a.	Spanish	<i>se</i>	<i>mismo</i>
b.	French	<i>se</i>	<i>-même</i>
c.	German	<i>sich</i>	<i>selbst</i>
d.	Italian	<i>si</i>	<i>stesso</i>
e.	Romanian	<i>se / și</i>	<i>însuși</i>
f.	Dutch	<i>zich</i>	<i>zichzelf</i>
g.	Norwegian	<i>seg / -s</i>	<i>selv</i>
h.	Russian	<i>-sja / -s'</i>	<i>sebjā</i>
i.	Polish	<i>się</i>	<i>siebie</i>
j.	Lithuanian	<i>-si- / -s</i>	<i>save</i>

This list of geographically and genealogically diverse Indo-European languages within Europe brings to light the fact that a dual system, i.e., having both verbal and pronominal reflexives, is widespread and prevalent in the family.

According to Geniušienė's findings, all of the 25 living and ancient Indo-European languages considered in the study, including English, make use of a reflexive marker in non-reflexive functions. However the array of recessive functions in which the English form participates is much narrower than those of the reflexive markers of the other languages. In fact, she finds that the English system of using the reflexive to produce a range of semantic applications is probably the most underdeveloped among all Indo-European languages. Certainly this lack of development is at least partly due to the fact that English has only one reflexive, the pronominal *-self* form. Unlike the languages listed in (26) and indeed most Indo-European languages, English lacks a verbal mechanism for reflexivization. Everaert (1986) finds that it is the VRM in these languages which is overwhelmingly responsible for recessive functions.

### 3.3. The English anticausative morpheme as a verbal reflexive marker

Section 3.1 discussed the peculiar tendency of English among related languages for causative-inchoative alternations to have identical forms. Following the logic that this peculiarity might in fact be only superficial, it went on to propose the existence of an English null anticausative morpheme which derives the inchoative variant of a labile alternation from a basic transitive

causative verb. Furthermore, it demonstrated that the morpheme applies in precisely the same way as do the anticausative morphemes of a wide representation of Indo-European languages.

Section 3.2 then revealed other unusual characteristics of the language: the underdeveloped range of recessive functions produced by the reflexive marker and the lack of a VRM. It was also seen that in many other Indo-European languages of Europe, a VRM often indicates a recessive function associated with the loss of a participant, i.e., a reduction in the verb's transitivity.

This section will attempt to unite these apparent anomalies and to show how each can help to explain the other. In the process, the anomalies themselves will be eliminated. That is to say, the behavior of English will be shown to be like that of the languages from which it is believed to differ. This will be offered as evidence of the existence of the proposed null morpheme in English.

If we compare the morphemes glossed 'ANTI' in each of the inchoative sentences (11b)-(20b) to the list in (26a - j), we make the discovery that what is marked as an anticausative morpheme is in each and every language actually a VRM. In fact, these and a great many other Indo-European languages use this marker in a recessive anticausative function to produce the inchoative alternant of a causative verb. There are two possible ways in which this information may be interpreted in determining the nature of the proposed  $\emptyset$ , each of which must be considered in turn.

The first interpretation is that the null morpheme is similar to the other anticausative morphemes only in deriving the inchoative variant. In this scenario, the null morpheme of English is an unrelated form whose function(s) overlaps those of the Indo-European anticausative morphemes only in forming the inchoative. If this is the case, there lies nothing in it to substantiate the existence of  $\emptyset$  and it offers little support to the hypothesis being developed in this paper. That English has instead a causative null morpheme which derives the transitive variant would be just as likely as what is being proposed. Furthermore, it would be at least as feasible that there is no deriving morpheme at all and that some other phenomenon is responsible for English labile alternations.

In considering the suggestion of the marking by a phonologically empty morpheme in the labile causative-inchoative alternation of English, Hale & Keyser (1997:42) refer to their premise of 'Basic Argument Structure' which states, "In the absence of counterevidence, a verb has the simplest possible argument structure." Here, the fact that there is no detectable morpheme would mean that there is no morpheme at all, excepting proof to the contrary. So, unlike the case of the 'visible' anticausative morphemes which clearly mark inchoativization, a labile alternation would be based on the simpler monadic, i.e., intransitive, form.

In light of these facts, the hypothesis that  $\emptyset$  is not a VRM is unpromising. At best, it yields the ambiguous conclusion that if English possesses a null morpheme, it may just as likely be causative as anticausative. At worst, upon accepting Hale & Keyser's assertion, the whole idea of a null morpheme unravels. This first interpretation must therefore be abandoned.

In the second interpretation, just as the anticausative morphemes in other Indo-European languages are actually VRMs, so too is  $\emptyset$ . In this scenario, we have immediate support that the inchoative alternant is derived from the causative. As discussed in section 2, the nature of the causative-inchoative relationship is that the event of the causative form, a transitive verb, is defined as an agent bringing about the event of the inchoative, an intransitive verb. As a VRM,  $\emptyset$  will necessarily be recessive, therefore can only have a detransitivizing effect on the verb, i.e., eliminate a participant. This can only be an anticausative function, for a causative morpheme would require the addition of a participant.

However, although 3.1 demonstrated the straightforward functioning of  $\emptyset$  as an anticausative morpheme in sentence (10c), comparing favorably with the equivalent

morphemes in other Indo-European languages, a couple of potential counterarguments must be addressed from the outset.

First, proposing a null morpheme and showing that it is compatible offers no convincing evidence of its presence. According to Hale & Keyser's premise of 'Basic Argument Structure', the idea of  $\emptyset$  is unacceptable unless supporting evidence is provided. To this end, section 4.1 will attempt to present the additional proof to satisfy their assertion.

Secondly, 3.2 relates that, according to Geniušienė (1987), English has only a PRM, *-self*, and lacks a VRM. This is the commonly accepted view of English and logically so, for it is the only reflexive form that is phonologically evident. In advancing the hypothesis of  $\emptyset$  as a VRM, it is necessary only to answer that because it lacks phonological form, the null morpheme goes unrecognized.

Furthermore, failure to detect the presence of  $\emptyset$  would account for another point raised by Geniušienė, that the range of recessive functions produced by the English reflexive is greatly underdeveloped among Indo-European languages. This assessment, naturally, considers only the pronominal *-self* form. Demonstrating the existence of  $\emptyset$  as a VRM will allow a reanalysis in which the recessive applications in English are seen to be comparable to those of related languages.

#### 4. FINDING EVIDENCE OF ENGLISH INCHOATIVE DERIVATION

##### 4.1. Demonstrating the presence of the English null reflexive morpheme

To recap briefly the general idea of section 3, if the existence of a null VRM in English can be established, it will provide the advantage of connecting English to other Indo-European languages in a number of ways in which it is currently thought to differ. It will indicate a system of both a pronominal and a verbal reflexive marker in line with most members of the family, and it will dispel the claim of underdevelopment of recessive functions produced by the English reflexive marker. Additionally, it will show that labile causative-inchoative alternations are identical only phonologically and in reality entail derivation through an anticausative morpheme. And this will move toward the ultimate goal; it will confirm that the inchoative alternant is derived from the basic causative.

Because the null morpheme is 'invisible', establishing its presence must be done not overtly but rather through circumstantial evidence. It has been hypothesized that  $\emptyset$  is a VRM which produces the anticausative derivation of the inchoative alternant. Since it is a VRM, it is reasonable to expect to find it also serving other functions of similar markers in related languages. To this end, this section will consider the semantic functions of such markers and look for parallel applications of  $\emptyset$ .

The VRMs of Romance languages have proven to be favorites in studies of weak reflexives. Because of a high degree of correlation among the uses of Spanish *se*, Italian *si*, French *se*, etc. and their close phonological representation, these morphemes together will be referred to as Romance 'SE' in the current paper, attributing this clitic with the traits shared in the various languages. It is acknowledged that the correlation is not exact. As will be seen, for example, French lacks the impersonal construction which is produced by the VRMs of Spanish and Italian. Due to their wider range, these latter two languages will be used as the benchmark and as the primary sources of examples. In their investigations, a number of linguists, including Grimshaw (1982), Hyams (1986), Manzini (1986), and Wehrli (1986), have each classified the various recessive semantic functions of Romance SE in his or her particular way, sometimes grouping two of them which another distinguishes, or even eliminating one from consideration. The current work draws from all of these sources and proposes its own list of semantic functions.

As has been mentioned, Geniušienė (1987) finds that the semantic functions of VRMs vary from language to language. With this in mind, we cannot expect that every function produced by Romance SE will necessarily be mirrored by a similar function of the English null morpheme. To account for any gap detected in the range of  $\emptyset$ , it will be useful to establish that other VRMs also lack the function. For this reason, those of German and Dutch will be considered as well when needed. By establishing the range of applications of  $\emptyset$  as compared to that of similar morphemes, it will be possible to conclude whether or not the notion of the English null VRM is convincingly supported. Behavior shared with these morphemes will be taken as evidence that  $\emptyset$  is in fact present.

Each of the most important functions of SE will be addressed individually in detail in the designated sections that follow. The recessive (non-reflexive) functions of the middle, the inherent reflexive, the medio-passive, and the impersonal are analyzed in 4.1.1; and the reflexive functions of the semantic reflexive and the reciprocal, in 4.1.2.

#### 4.1.1. *The recessive functions of the VRM*

##### 4.1.1.1. The middle construction

Consider the preliminary example (27) in Spanish. The causative transitive use of the verb in (27a) corresponds to the inchoative alternation in (27b) and to a distinct alternation in (27c). This third expression bears a striking structural similarity to the inchoative in two important ways. First, both lack an explicit agent, precipitating Move- $\alpha$  of the verb's internal argument to the grammatical subject position, and secondly, the reflexive marker *se* marks the verb in both alternations as detransitivized. But the superficial resemblance conceals a fundamentally divergent derivation and meaning.

- (27) a. Sara abrió la puerta.  
sara opened the door
- b. La puerta se abrió.  
the door RM opened
- c. Esta puerta se abre suavemente.  
this door RM opens smoothly

Fellbaum (1985) defines the semantic function of the 'middle construction', as is called the type of expression in (27c), as characterizing the entity affected by the event described by the verb. Specifically, it indicates the potential for any non-specific agent to bring about the effect on the grammatical subject. Unlike an inchoative alternant which relates an actual temporal occurrence, the middle describes the potential for the event and as such is 'non-eventive' or 'stative'. This potential is attributed to qualities possessed by the affected entity, not by the agent which might bring about the event. Sentence (27c) does not communicate an event, but rather depicts a door which anyone *could* open smoothly.

Recall from section 2 that a causative alternant bears the feature [+external direct cause], indicating that the event decomposed as [(x) CAUSE-BECOME *S* (y)] is brought about directly by the agent x. In the corresponding inchoative, since the same central event conceptually occurs without the involvement of an external causer, its decomposition [BECOME *S* (y)] is devoid of agentive components. It is thus marked [+spontaneous].

In contrast, the middle construction does not carry a spontaneous implication, for there is an inherent sense of the involvement of an external force. This is because the middle retains the agentive role of the transitive verb. However, although semantically present, the agent is not syntactically represented. Assignment of this role to a phonologically unrealized 'generic'

argument is what gives the construction the sense of potentially being performed by anyone. For example, for a causative transitive change-of-state verb like *abrir* in (27c), the derived middle construction is appropriately decomposed as  $[(\emptyset) \text{ CAUSE-BECOME } S(y)]$ , where ‘ $\emptyset$ ’ denotes the unexpressed agent. This decomposition is unlike that of the inchoative.

Since a verb in the middle construction assigns both the agent role and the patient role, to a non-specific agent and the affected entity respectively, it is semantically transitive. However, as the agentive participant is not explicit, the verb is syntactically intransitive. This is reflected in Move- $\alpha$  of the internal argument to the subject position, as well as in the presence of the VRM which marks the detransitivization of a basically transitive verb.

Having established the semantic implication of the middle and the fact that its production is a function of Romance SE, let us turn to the same construction in English. Under the current hypothesis that  $\emptyset$  is a VRM serving in functions parallel to those of markers like Spanish *se*, we expect that it might well be present. If this is the case, then it will be possible to restate in English the sentences in (27), substituting  $\emptyset$  for the VRM, and to find results which correlate with the anticipated structures. This translation is seen in (28).

Since it was established in 3.1 as the proposed anticausative morpheme, the fact that  $\emptyset$  should mark the verb of the causative in (28a) in order to produce the inchoative in (28b) with no obstruction to compatibility is no surprise. But the question is whether it is also compatible with the middle construction. If indeed  $\emptyset$  does produce this function, then the resulting expression, in which the agentive participant is not explicit and the verb is detransitivized, will look like (28c).

- (28) a. Sara opened the door.  
 b. The door opened- $\emptyset$ .  
     ‘The door opened.’  
 c. This door opens- $\emptyset$  smoothly.  
     ‘This door opens smoothly.’

Compare this anticipated sentence to the customary manifestation of the middle construction, shown in the gloss. Not only is there no barrier to structural compatibility, there is also no difference whatsoever in the phonological realization, a result which reflects well on our hypothesis. But there is an additional benefit to the idea that a VRM produces the English middle. It accounts for the construction through a common mechanism, avoiding the need for a theory designed specifically for English to explain the use of a semantically transitive verb in an intransitive structure.

Still, it might be suggested that the strong resemblance between the Spanish middle construction and that of English is trivial and that a transitive verb will regularly offer some comparable alternation regardless of whether or not it is marked by a reflexive morpheme. But this is not the case. Everaert (1986) demonstrates that though the VRM of Dutch, *zich*, derives the inchoative alternant like SE (see (16)), its function does not extend to the formation of the middle construction in any way resembling Spanish or English. For example, (29a), in which the VRM marks the verb as a middle construction, following the pattern of Romance SE, is ungrammatical. Additionally as seen in (29b), a construction in which there is no phonological sign of detransitivization, as in English, is also unacceptable. To produce the comparable semantic function, Dutch instead requires an A.c.I.-construction headed by the verb *laten*, ‘let’, and embedding the transitive verb marked by anticausative *zich*. This is seen in the grammatical expression (29c).

- (29) a. \* Het truitje wast zich gemakkelijk.  
       the sweater washes RM easily

- b. \* Het truitje wast gemakkelijk.  
the sweater washes easily
- c. Het truitje laat zich gemakkelijk wassen.  
the sweater lets RM easily wash  
'The sweater washes easily.'
- (based on Everaert (1986:57))

This establishes then that the English middle bears a strong resemblance to that of Romance in spite of potentially dissimilar manifestations. Having determined as well that the null morpheme is structurally compatible with the middle construction of English and realizing that a common mechanism would logically explain the resemblance, this analysis lends support to the presence of a null English VRM in the middle construction.

#### 4.1.1.2. The order of application

Recall that in producing the inchoative alternant, attachment of the VRM converts a transitive causative change-of-state verb with a semantic decomposition, [(x) CAUSE-BECOME *S* (y)], to an intransitive verb, [BECOME *S* (y)], resulting in a spontaneous implication. On the other hand, 4.1.1.1 showed that in producing the middle construction of the same causative change-of-state verb, the VRM yields an intransitive with the semantic decomposition [( $\emptyset$ ) CAUSE-BECOME *S* (y)]. Although syntactically inexpressible, the semantic agent remains along with the implication of its responsibility for the event. A spontaneous interpretation is not possible. How can the VRM eliminate the agent and its very notion in the first function but only the associated syntactic argument in the other?

Borer (1984) claims that a morphological process in general can take place either in the lexicon or in syntax, each producing a distinct result. When attached in the lexicon, the VRM potentially alters a verb's lexical configuration, specifically, by eliminating a role from its thematic grid. Production of the inchoative alternant is an example. Starting with a basic causative verb, associated with a thematic grid *V*, <AGENT, PATIENT> which projects the argument structure *v* [AGENT, PATIENT] into syntax, the VRM eliminates the semantic agent, producing a new grid, *V'*, <PATIENT>. Upon projection, the argument structure, *v'* [PATIENT], associated with this unaccusative detransitivized verb has no component referring to or implying the existence of an agent, thus furnishing a spontaneous interpretation.

In contrast, syntactic attachment of the VRM occurs after the argument structure of the transitive verb has been projected from the lexicon. According to Reinhart & Siloni (2003), at this point a morpheme is restricted to affecting the argument structure; a thematic role cannot be eliminated. Because the thematic grid retains the agentive participant, its semantic presence remains. The VRM merely blocks its syntactic expression. It is in this way that the middle construction, an example of syntactic application, implies the presence of an unexpressed generic agent. In the case of the same causative verb considered above, the transitive grid *V*, <AGENT, PATIENT> projects into syntax an unaltered argument structure *v* [AGENT, PATIENT]. Subsequently, attachment of the VRM eliminates the agent, rendering a new argument structure, *v'* [PATIENT]. Although the expression retains the thematic agent role, it allows no syntactic position for its expression. The resulting implication is not spontaneous.

Using the Spanish and English equivalents from (27) and (28), (31) and (32) demonstrate the derivation of the inchoative alternant and middle construction, respectively, from the transitive verb in (30). For purposes of illustration, (c), (d), and (e) show the placement of the participants in the semantic decomposition, the thematic grid, and the argument structure, respectively.

- (30) a. Sara abrió la puerta.  
 b. Sara opened the door.  
 c. [(sara) CAUSE-BECOME *OPEN* (the door)]  
 d. *abrir*, <SARA, LA PUERTA> / *open*, <SARA, THE DOOR>  
 e. *abrir* [SARA, LA PUERTA] / *open* [SARA, THE DOOR]
- (31) a. La puerta se abrió.  
 b. The door opened-Ø.  
 c. [BECOME *OPEN* (the door)]  
 d. *abrirse*, <LA PUERTA> / *open-Ø*, <THE DOOR>  
 e. *abrirse* [LA PUERTA] / *open-Ø* [THE DOOR]
- (32) a. Esta puerta se abre suavemente.  
 b. This door opens-Ø smoothly.  
 c. [(Ø) CAUSE-BECOME *OPEN* (this door)]  
 d. *abrir*, <Ø, ESTA PUERTA> / *open*, <Ø, THIS DOOR>  
 e. *abrirse* [ESTA PUERTA] / *open-Ø* [THIS DOOR]

The previously mentioned structural resemblance of the inchoative and middle constructions is clearly reflected by the indistinguishable argument structures, (31e) and (32e), but the respective semantic decompositions (31c) and (32c) and thematic grids (31d) and (32d), reveal the distinct meanings corresponding to lexical versus syntactic attachment of the VRM. This difference is in effect attributable to the order of application.

Establishing that the inchoative alternant is produced lexically helps to explain a fact alluded to in section 3.1. Though Indo-European languages of Europe have a propensity to forming inchoative alternants via the VRM functioning as an anticausative marker, they contain instances of labile and suppletive alternations as well. For example, the Spanish causative verb *matar*, ‘kill’, alternates with a suppletive inchoative *morir*, ‘die’. Though the productive mechanism for inchoativization in these languages is the VRM, an alternate lexical entry may replace the expected form. The central event [BECOME *S* (y)] is assigned to a form which blocks grammaticality of the VRM-marked causative. Importantly, since it arises in the lexicon, this second form is not available to a syntactically produced alternant like the middle construction.

The same is true for suppletive alternants in English. For example, the transitive causative change-of-state verb *kill*, as used in (33a), has a semantic decomposition [(x) CAUSE-BECOME *NOT ALIVE* (y)]. The central event, [BECOME *NOT ALIVE* (y)], allowing a spontaneous interpretation, produces an inchoative alternant; however, the usual labile alternant *kill-Ø* is replaced in the lexicon by a suppletive form *die*. For this reason, only (33c) and not (33b) expresses an inchoative event. On the other hand, because the middle is produced after the transitive verb and its argument structure have been projected into syntax, the suppletive expression is not available to it. For the middle construction, *kill-Ø* is selected as shown in (33d); *die* in (33e), having no associated agent role, is ungrammatical.

- (33) a. Francis killed the cockroach.  
 b. \* The cockroach killed-Ø. (*inchoative interpretation*)  
 c. The cockroach died.  
 d. Cockroaches kill-Ø easily.  
 e. \* Cockroaches die easily. (*middle interpretation*)

In short, in Romance and other languages in which the VRM productively derives functions through both lexical and syntactic attachment, only those produced in syntax will of necessity emerge in the form of the basic transitive verb marked by the VRM. Some non-

productive form such as a suppletive alternant may potentially replace the anticipated VRM-detransitivized verb produced in the lexicon.

#### 4.1.1.3. The inherent reflexive

Romance languages among others have groups of verbs which obligatorily appear with the VRM, called ‘inherently reflexive’ verbs. This title is based on morphology rather than semantics, for as Burzio (1986) states, such a verb does not indicate an event whose agent serves in a second thematic role and is thus not semantically reflexive.

An inherently reflexive verb, intrinsically associated with the VRM, fails to be grammatical without it. Divided into its lexical components, such a verb consists of the VRM and a base verb. As the marker indicates detransitivization, the notional base is itself transitive; however, by definition the verb is ungrammatical in this use. The Spanish inherent reflexive *desmayarse* ‘faint’, for example, produces an acceptable sentence in (34a), but not as an unmarked transitive in (34b).

- (34) a. Pedro se desmayó por el calor.  
pedro RM fainted because.of the heat  
‘Pedro fainted from the heat.’  
b. \* El calor desmayó a Pedro.  
the heat fainted A pedro  
‘The heat caused Pedro to faint.’

The fact that the base verb cannot express a grammatical event is attributable to a concept discussed in 2.2. The intransitive sentence (34a) expresses a ‘spontaneous’ event without the direct involvement of an external causer; the heat here is interpreted as indirect. In (34b), the lexical causative assigns to the agent direct responsibility for bringing about the event. But because the affected entity cannot relinquish control to an outside force in the event of the verb as conceptualized, the implication of the lexical causative is incompatible, and so produces an unacceptable sentence. Otherwise said, the event bears the features [-external direct cause] and [+spontaneous] and is therefore obligatorily spontaneous. Or as related by Burzio (1986), in essence the function of the VRM in the inherent reflexive is the same as in the inchoative; it eliminates the agentive role from the thematic grid and thus its semantic notion. The difference is that the transitive verb to which it attaches in this case is not grammatical. The central event, which takes the form of an inherently reflexive verb, thus belongs to the *bloom*-type.

If other languages have *bloom*-type verbs marked by the VRM, then it is reasonable to anticipate that English might also have such verbs marked by the proposed null morpheme. To test this idea, (34) is repeated in English, shown in (35). Not only does  $\emptyset$  in (35a) present no phonological or configurational discrepancy with the surface form seen in the gloss, but as was the case in Spanish, the transitive use in (35b) is unacceptable. There is then no structural counterevidence to the suggestion that  $\emptyset$  might mark *bloom*-type verbs just as *se* does in forming an inherent reflexive.

- (35) a. Pete fainted- $\emptyset$  from the heat.  
‘Pete fainted from the heat.’  
b. \* The heat fainted Pete.

However, a dilemma arises in this analysis. In Romance and other languages, most *bloom*-type verbs are not inherent reflexives, but are instead unmarked intransitive verbs. The

Spanish verb *floreecer* ‘bloom’ expresses spontaneity without *se*, and does not accept the detransitivizing marker. What characteristic distinguishes a *bloom*-type verb that is inherently reflexive from one which is unmarked, and how might this distinction be realized in English?

Recall first that lexically an inherent reflexive is a base transitive verb (albeit independently ungrammatical) marked by the detransitivizing VRM, and secondly that the resulting verb is semantically spontaneous. It must be true that the marker attaches in the lexicon, not in syntax; otherwise the unacceptable agent role would remain in the thematic grid. Also recall as established in the previous section, that an anticipated lexical form may be replaced by some alternate entry. In the case of the inchoative alternant, for example, a suppletive verb may replace the VRM-marked form. It is for the same reason that a *bloom*-type event may be realized in one of two forms, an inherent reflexive or a base intransitive, determined within the lexicon. There is however a significant difference between the inchoative and inherent reflexive function of the VRM. According to Grimshaw (1982), inchoativization is productive, but signaling an inherent reflexive is not. While of a newly introduced causative *break*-type verb will automatically produce a corresponding VRM-marked inchoative alternant, inherently reflexive *bloom*-type verbs constitute a fixed lexical listing which does not typically admit new forms. Presumably, such verbs evolved from inchoatives whose transitive alternants were previously grammatical, but whose meaning shifted to exclude external direct causation. That inchoativization via the VRM is productive, while the inherently reflexive function is not, can most logically be explained by the fact that an event conceptualized as precluding external direct causation will likely enter the lexicon as a verb with an intransitive argument structure, avoiding the need for a detransitivizing marker. On the other hand, a new causative verb will have a transitive argument structure, and the VRM will allow it to produce the intransitive alternant.

Under the premise that English might similarly have  $\emptyset$ -marked inherent reflexives, it must be determined which *bloom*-type verbs carry the marking and which do not. However, since there is no phonological distinction between say, *faint* and *faint- $\emptyset$* , how can this determination be made? We could attempt to establish which *bloom*-type verbs evolved from alternants of previously grammatical transitives, but the results would be of little value. Presumably since the modern form bears no overt differentiation from a verb which entered the English lexicon as an intransitive verb, its semantic conceptualization and syntactic behavior have merged. A speaker could not distinguish the two.

Thus, although in theory it is structurally compatible, we cannot determine conclusively that  $\emptyset$  shares the function of inherent reflexivization. But this does not pose any significant problem to our hypothesis. The presence of the VRM in an inherently reflexive verb is a language-specific lexical remnant which fulfills no active or productive purpose.

#### 4.1.1.4. The medio-passive

Consider the Spanish intransitive expression (36b), based on the same *cut*-type event that produces the transitive (36a). As in the functions of the VRM discussed thus far, *se* here marks the detransitivization of the verb, preventing the expression of an agent. Because of superficial syntactic resemblance of sentences like (36b) to the middle construction and the inchoative alternant, the three have sometimes been grouped as a single phenomenon, but semantic differences mark them as fundamentally distinct. By looking at these differences, we can ascertain the nature of this type of expression, known as the ‘medio-passive’.

- (36) a. Pablo rebanó el pan ayer.  
pablo sliced the bread yesterday

- b. El pan se rebanó ayer.  
the bread RM sliced yesterday  
'The bread was sliced yesterday.'

The semantic implication of the middle construction was established in 4.1.1.1 as a non-eventive characterization. Specifically, it describes the potential for a generic agent to bring about the event of the verb due to qualities possessed not by the agent but by the affected entity which serves as grammatical subject. For example, the middle in (37) does not relate an actual happening, but rather states a property.

The medio-passive is quite different. As an eventive construction, it is informative not because it characterizes an argument, but because it communicates an incident. There is no sense in (36b) that we learn of any quality of the subject, only the specific temporal change-of-state event that it underwent.

- (37) El pan caliente se rebana bien.  
the bread warm RM slices well  
'Warm bread slices well.'

On the other hand, section 2.2 defined the inchoative, like (38) repeated from (27b), as a change-of-state central event conceptualized as occurring without the direct involvement of an external cause. The section further determined that events compatible with this conceptualization, appropriately marked [+spontaneous], are either of the *break*-type, which produce as well a causative verb, or of the *bloom*-type, which have only an intransitive form.

Because the verb in (36b) relates a *cut*-type event, the change of state that its central event describes is inherently associated with an agentive manner component which conceptually precludes occurrence without external direct causation. That it cannot come about independently of such a force marks it [-spontaneous]. Because of the lexical-semantic conceptualization for a medio-passive like (36b), though not explicit, there must be a notional agentive participant for the event to come about.

- (38) La puerta se abrió.  
the door RM opened

The scenario in which the detransitivized basic verb retains the semantic presence of the agentive role and the VRM is associated with merely blocking its syntactic expression was seen in 4.1.1.1 as a quality of the middle construction. Like the middle, the medio-passive of a causative change-of-state verb has a semantic decomposition [( $\emptyset$ ) CAUSE-BECOME *S* (*y*)] where the unexpressed agent is represented by  $\emptyset$ . This clearly confirms it as distinct from the inchoative [BECOME *S* (*y*)].<sup>4</sup>

As explained in 4.1.1.2, for recessive functions, lexical attachment of the VRM eliminates the notional agent from the thematic grid yielding a semantically intransitive verb like the inchoative alternant. Since this form is produced in the lexicon, an alternate form may potentially replace the anticipated VRM-marked transitive. In a function like the medio-passive, retention of the notional agentive role in spite of its elimination from the argument structure results from attachment of the VRM in syntax. As this takes place after lexical

<sup>4</sup> Neither the middle construction nor the medio-passive is restricted to causative change-of-state verbs; a much wider range of transitives may produce either. For example, the non-causative Spanish verb *leer*, 'read', produces the middle '*Este poema se lee fácilmente*' ('This poem reads easily') and the medio-passive '*Dos poemas se leyeron en clase*' ('Two poems were read in class'). The current paper concentrates on change-of-state verbs, as they are pertinent to the causative-inchoative alternation.

projection, the VRM attaches to the transitive verb and a non-productive alternate cannot take the place of the resulting form. This lexical difference semantically distinguishes the inchoative from the medio-passive.

For example, the central event of the Spanish causative change-of-state verb *matar*, ‘kill’, [BECOME NOT ALIVE (y)], is assigned to the suppletive form *morir*, ‘die’ in the lexicon. Therefore, the central event of the verb in (39a) produces a construction like (39b) in the case of a spontaneous occurrence. In contrast, the productive form *matarse* in (39c) expressly signals syntactic detransitivization via attachment of the VRM, and thus preserves the notion of the agent associated with the transitive verb. Whereas expression (39b) necessarily implies spontaneity and thus can only have an inchoative interpretation, (39c) retains the semantic agentive participant and is therefore unambiguously medio-passive.

- (39) a. El torero mató dos toros.  
the bullfighter killed two bulls  
b. Dos toros murieron.  
two bulls died  
‘Two bulls died.’  
c. Dos toros se mataron.  
two bulls RM killed  
‘Two bulls got killed.’

Although the inchoative and medio-passive have distinct manifestations in (39), for the great majority of Romance causative *break*-type verbs which do not have exceptional lexical forms replacing the productive inchoative alternant, the VRM-marked transitive is semantically ambiguous. Consider (38), used to illustrate the inchoative event, ‘The door opened’. Since attachment of the VRM in syntax will render an identical verb form, this expression may also convey the medio-passive implication, ‘The door was opened.’

It is precisely this potential ambiguity that gives the medio-passive one of its defining characteristics, as described by Babby (1993), which further distinguishes it from the middle construction. Recall that by not expressing an agentive participant in the non-eventive middle, it is implied that any agent could potentially bring about the event, giving the role a generic sense. There is no impression that the role is not filled, i.e., that the event is spontaneous. In contrast, lack of an explicit agent in the eventive medio-passive creates a semantic alignment with the inchoative, suggesting that the event similarly occurs spontaneously. Whereas the event of a detransitivized *break*-type verb may validly occur without an external direct causer, the lexical-semantic representation of a *cut*-type verb precludes this possibility. The function of the medio-passive is thus to de-emphasize the agentive role, giving the impression that the agent is unimportant or irrelevant, and consequently placing full emphasis on the affected entity.

Having established the medio-passive function of SE, we may now return to the proposed English VRM. If  $\emptyset$  also produces this semantic function, then the *cut*-type event of (36) will show a grammatical structurally and semantically similar equivalent in English, an idea tested in (40). From the gloss of (40b), it is clear that the VRM-marked medio-passive does not correspond to the customary expression for the event; and more importantly, the sentence itself fails to be an acceptable utterance. As further confirmation of this apparent disparity, consider the equivalent of the Spanish *break*-type events in (39), which also have a lexically suppletive manifestation in English, *kill-die*. While it is no surprise that the causative (41a) alternates with the grammatical inchoative event with *die* in (41b), it is significant that the VRM-marked form generated via syntactic attachment to indicate the medio-passive in (41c) is not an acceptable sentence.

- (40) a. Paul sliced the bread yesterday.  
 b. \* The bread sliced-Ø yesterday.  
 ‘The bread was sliced yesterday.’
- (41) a. The bullfighter killed two bulls.  
 b. Two bulls died.  
 c. \* Two bulls killed-Ø. (*medio-passive interpretation*)  
 ‘Two bulls got killed.’

In fact, English does not possess a productive medio-passive construction similar to that of Romance languages. Instead, as exemplified by the glosses in this section, to express the same semantic event, it relies on a fully passivized verb in the form of either a canonical passive or a *get*-passive. The question which this realization forces is whether such an inconsistency suggests the need to abandon the hypothesis of the English null VRM or if it simply reflects a difference between the semantic functions produced by SE and Ø.

In German, not only does the VRM *sich* attach in the lexicon to produce the inchoative alternant as demonstrated by the grammaticality of expression (13b), but like SE, it may also attach after projection into syntax. Fagan (1992) finds however, that the resulting implication is restricted to that of the non-eventive middle construction and does not extend to the medio-passive. For example, take the verb *waschen*, ‘wash’, used in the transitive (42a). As it expresses a *cut*-type event, detransitivization via *sich* can only take place in syntax. While the clearly middle connotation of (42b) is acceptable, the eventive construction resembling a medio-passive in (42c) is not. Nevertheless, given its phonological manifestation, there is no question that *sich* is a VRM which produces certain recessive functions in common with SE.

- (42) a. Ich wasche den Stoff.  
 I wash the fabric
- b. Der Stoff wäscht sich gut.  
 the fabric washes RM well  
 ‘The fabric washes well.’
- c. \* Der Stoff wäscht sich.  
 the fabric washes RM  
 ‘The fabric is being washed.’ (Fagan (1992:22, 28))

German *sich* then provides evidence that not every VRM has as a function the production of the medio-passive, even those which derive a grammatical inchoative alternant. The failure of the proposed English Ø to produce this function does not introduce counterevidence to the developing hypothesis, but rather merely aligns it with *sich* of German and other similar markers whose semantic function does not extend to this construction.

#### 4.1.1.5. The impersonal construction

In the final recessive function of SE to be considered, the ‘impersonal construction’, syntactic attachment of the VRM retains the semantic agentive role but renders the agent inexpressible, just as in the medio-passive and middle construction. Quite differently, as Hyams (1986) shows, while the presence of SE associates with the absorption of accusative Case and resulting Move- $\alpha$  of the internal argument to the external argument position in the latter two; in the impersonal, nominative Case is absorbed and the external argument position is filled by PRO representing an arbitrary agentive reference. According to Geniušienė (1987), the absence of an explicit agentive participant gives this type of expression a meaning comparable

to impersonals whose subjects, being indefinite pronouns such as English *one*, German *man*, and French *on*, remove the specificity from the agentive role.

Consider the Italian expression (43a). As noted by Manzini (1986) and others of such constructions, the lack of verbal inflectional agreement reflects that the patient does not serve as the grammatical subject. The verb is thus not unaccusative. Since the structure of the verb phrase is not affected (e.g., no Move- $\alpha$  of the internal argument), it is not obligatory for the base verb to be transitive. For example, the grammatical Spanish impersonal expression in (43b) derives from an intransitive verb.

- (43) a. Si leggerà volentieri alcuni articoli.  
 RM will-read.3S willingly some articles  
 ‘Someone will eagerly read a few articles.’ (Burzio (1986:43))
- b. Se nadará en el lago.  
 RM will-swim in the lake  
 ‘Someone will swim in the lake.’

English does not produce an impersonal construction resembling those above. For example, the ungrammaticality of expressions similar to (43a), shown in (44), reveals a clear gap in the function of  $\emptyset$ . But it is not alone in this deficiency.

- (44) a. \* Will eagerly read- $\emptyset$  a few articles.  
 b. \* There will eagerly read- $\emptyset$  a few articles.  
 ‘Someone will eagerly read a few articles.’

There appears to be a limitation on the type of language which will produce the impersonal expression with a VRM. While pro-drop languages like Spanish and Italian produce the VRM impersonal construction, French and German, both non-pro-drop languages, do not. For instance, the impersonal constructions using French *se* in (45a & b) are unacceptable. The grammatical equivalent in (45c) is produced with an indefinite pronoun serving as the agentive external argument. Dobrovie-Sorin (1998) speculates that non-pro-drop languages are precluded from producing an impersonal construction with the VRM. In line with the reasoning put forth by Hyams, since the VRM absorbs nominative Case and PRO fills the external argument position, neither is available to an explicit argument. Therefore, the subject (even an expletive) required by a non-pro-drop language for grammaticality is blocked. Though not all pro-drop languages have this VRM function, it appears that being pro-drop is a necessary characteristic.

- (45) a. \* Se mange trop ici.  
 RM eats too-much here  
 ‘One eats too much here.’
- b. \* Il se mange trop ici.  
 it RM eats too-much here
- c. On mange trop ici.  
 one eats too-much here (Dobrovie-Sorin (1998:430))

Given that English is not a pro-drop language, it is natural that  $\emptyset$  does not produce the impersonal construction. Its failure to do so is mirrored by French, whose VRM produces all of the applications seen up to this point. Though this finding does not advance the current hypothesis, importantly neither does it contradict the idea of the English null morpheme.

4.1.2. *The reflexive functions of the VRM*

## 4.1.2.1. The semantic reflexive

In each of the recessive functions discussed in 4.1.1, SE is associated with the non-expression of an agent. In the case of lexical attachment like the inchoative alternant, the agentive role is eliminated from the thematic grid rendering a semantically intransitive verb which naturally projects an intransitive argument structure. When attached in syntax as in the medio-passive, the role remains in the thematic grid of the semantically transitive verb and is eliminated from the argument structure after projection, giving a syntactically intransitive result. This means that the revised structure simply blocks the expression of the agent.

In the remaining functions labeled ‘reflexive’, the agentive participant is not merely semantically present, it is also syntactically explicit. The function of the VRM is to indicate that it fills as well a second thematic role. The loss of a syntactic argument does not correspond to blocking the expression of the agent, but to what Reinhart & Siloni (2003) refer to as thematic ‘bundling’, that is, signifying that a single participant serves in two roles.

Consider the Spanish verb *vestir*, ‘dress’, for which the transitive use in (46a) corresponds to the semantic reflexive in (46b). Whereas the recessive functions of the VRM convert a transitive thematic grid of  $V, \langle \text{AGENT}, \text{PATIENT} \rangle$  into a syntactically intransitive verb with the argument structure  $v' [\text{PATIENT}]$  (either eliminating the thematic agent through lexical attachment or only the associated argument through syntactic attachment), a reflexive function results in an argument structure  $v' [\text{AGENT-PATIENT}]$ , preserving both thematic roles which the single argument fills. Though the verb is detransitized, there is no unexpressed participant.

- (46) a. Marco viste a los niños.  
marco dresses A the children  
‘Marco is dressing the children.’  
b. Marco se viste.  
marco RM dresses  
‘Marco is dressing.’

English is generally considered not to exhibit semantic reflexives which resemble those produced by Romance SE since it is not thought to possess a VRM with which to do so; however,  $\emptyset$  can be shown to have semantic reflexivization as a function. English mirrors the above sentences in (47). There is no question that the null morpheme which this paper proposes is expected to be responsible for such a sentence as (47b) in precisely this way.

- (47) a. Mark is dressing the children.  
b. Mark is dressing- $\emptyset$ .

However, a complication arises upon looking at a further pair of semantic reflexives. While the Spanish verb in (48) produces a grammatical expression with *se*, the corresponding use of  $\emptyset$  in English, (49a), fails to render an acceptable semantic reflexive. In fact, this verb requires the PRM in (49b) for grammaticality. Whereas Romance SE functions with any verb describing an event which may be performed reflexively, only a limited number of English verbs, like *dress*, *bathe*, and *hide* described as ‘typically self-directed’ or ‘understood reflexive’, express reflexivization without the presence of the PRM.

- (48) a. Juan se mira en la televisión.  
           juan RM watches in the television
- (49) a. \* John is watching-Ø on television.  
       b. John is watching himself on television.

Typically self-directed verbs in English are often considered simply to be homophonous to the corresponding transitive verbs. But two pieces of evidence challenge this view. First, if this were the case, one would expect to find similar examples in other languages. But Rothemberg (1974) finds that this phenomenon is quite peculiar to English, German and Romance languages like French having no such verbs. In fact, Levin (1993) states that such unmarked reflexives consistently correspond to VRM-marked forms in those languages.

Secondly, English is not unique in possessing a group of typically self-directed verbs. Reinhart & Siloni find that in certain other languages like Dutch and Hebrew, semantic reflexivization requires a PRM except for a specific and limited group of verbs. Significantly, these typically self-directed verbs are not homophones of the transitive form, but are rather produced by a VRM. In Dutch, for example, the typically self-directed verb *wassen* ‘wash’ forms a reflexive with the VRM *zich* to produce the grammatical sentence in (50a). Because *haten* ‘hate’ is not such a verb, (50b) is unacceptable. Instead, (50c) expresses semantic reflexivization with the PRM *zichzelf*.

- (50) a. Jan wast zich.  
           jan washes RM  
           ‘Jan is washing.’
- b. \* Jan haat zich.  
           jan hates RM
- c. Jan haat zichzelf.  
           jan hates himself  
           ‘Jan hates himself.’           (based on Everaert (1986:1), Reinhart & Siloni (2003:23))

The logical conclusion then is that the homophony of the reflexive and transitive forms in English is due not to a cross-linguistically exceptional lack of marking but rather to the marking of a VRM which in English is phonologically null.

Still, there is a clear disparity between the highly productive functioning of SE and the relatively limited functioning of Ø and other similar VRMs like *zich* in producing the semantic reflexive. Reinhart & Siloni find that this is due to the point at which the VRM attaches to the verb. According to what they call the ‘Lex-Syn Parameter’, languages are split into two groups, those in which the VRM applies in the lexicon to produce a semantic reflexive and others in which it does so in syntax.

In languages like English and Dutch, the VRM attaches in the lexicon to produce a bundled thematic grid  $V', <AGENT-PATIENT>$  before projection into syntax as an intransitive verb with a role-bundled argument structure,  $v' [AGENT-PATIENT]$ . Because this application occurs in the lexicon, only certain verbs which are lexically marked produce this type of semantic reflexivization. All others will form a semantically reflexive expression via the PRM.

On the other hand, the VRMs of Romance languages and German, among others, attach in syntax after the projection of the base transitive thematic grid  $V, <AGENT, PATIENT>$ . Role bundling subsequently occurs to render the same final argument structure,  $v' [AGENT-PATIENT]$ . Since application occurs outside of the lexicon, verbs in these languages require no lexical marking for reflexivization, making syntactic attachment productive and allowing participation of a much wider range of verbs.

Hence, the English null morpheme compares well with Romance SE in the semantic reflexive function, exposing no contradictory behavior. The limitation on its range in this application is explained by its alignment with other lexically applied VRMs like Dutch *zich* which exhibit a similarly restricted application.

#### 4.1.2.2. The reciprocal

The reciprocal construction produced by SE differs from the semantic reflexive in only one significant way. Whereas the agent of the reflexive acts upon itself, in the reciprocal, none of the agentive entities which collectively constitute the argument do so, but rather the various entities act upon each other. It is strictly speaking not ‘true’ semantic reflexivization but a variation thereof. Except for this semantic distinction, these two functions are largely alike. For this reason, the information developed in 4.1.2.1 will now be shown to apply as well to this final function of SE.

To begin, Reinhart & Siloni find not only that the ‘Lex-Syn Parameter’ extends to the production of the reciprocal, but that the split between languages does as well. That is to say, if a language produces the semantic reflexive by attachment of the VRM in syntax, then it produces the reciprocal the same way. Likewise, a language whose VRM-marked semantic reflexive derives in the lexicon will have a lexically derived reciprocal.

Given this finding, it is natural that the VRMs of Romance languages and German, which attach in syntax, have an unrestricted range of application in producing reciprocals. Conversely, languages with lexical attachment like English and Dutch instead contain a fixed limited number of ‘typically mutually directed’ or ‘understood reciprocal’ transitive verbs for which the VRM produces a grammatical reciprocal.

The distinction becomes evident in the following comparison of Spanish and English expressions. Because they are produced via the phonologically null  $\emptyset$  like typically self-directed semantic reflexives, typically mutually directed reciprocal verbs in English are homophonous to the transitives from which they derive. Verbs like *fight*, *marry*, *kiss*, and *meet* are lexically marked for this interpretation. The pair of Spanish expressions in (51), with a VRM-marked reciprocal in (51b), corresponds to a structurally and semantically similar pair in English, (52). In contrast, though the Spanish verb *amar*, ‘love’ produces the similar grammatical reciprocal in (53), its English correlate marked by  $\emptyset$  fails to do so in (54b). In fact, the acceptable expression requires the use of the PRM, as in (54c).

- (51) a. Juan y María encuentran a sus amigos los jueves.  
 juan and maría meet A their friends the Thursdays  
 b. Juan y María se encuentran los jueves.  
 juan and maría RM meet the Thursdays
- (52) a. John and Mary meet their friends every Thursday.  
 b. John and Mary meet- $\emptyset$  every Thursday.
- (53) a. Octavio y Maye aman a su madre.  
 octavio and maye love A their mother  
 b. Octavio y Maye se aman.  
 octavio and maye RM love
- (54) a. Octavio and May love their mother.  
 b. \* Octavio and May love- $\emptyset$ .  
 c. Octavio and May love each other.

The same conclusion then is drawn for the reciprocal function of  $\emptyset$  as was made for the semantic reflexive. Although limited in comparison to the functioning of SE, it is clear that the

null morpheme of English produces this construction and furthermore that since the restrictions result from its lexical attachment, they are anticipated and justifiable.

#### 4.1.3. *Comparative analysis of the null English VRM*

Section 4.1 has investigated individually a number of important functions of Romance SE, seeking to draw from each a proper means to compare and evaluate parallel uses of  $\emptyset$  in order to provide evidence of its presence. Spanish and Italian examples were used to characterize the various functions. Importantly, as was explained in section 3.2, the semantic applications of VRMs vary from language to language. With this in mind, Dutch, German, and French were employed when appropriate to demonstrate this variation, particularly whenever a gap in the functioning of  $\emptyset$  was found. In this way, the precise nature of the English  $\emptyset$  can be established in relation to other VRMs. It is now time to analyze the findings.

Beginning with the recessive functions, there are two lexical constructions produced by SE, the inchoative and the inherent reflexive. Here, lexical attachment detransitivizes the base verb before it projects an argument structure, eliminating the agentive role to render a semantically intransitive form. The VRMs of all of the languages under consideration generate both of these constructions. The proposed English  $\emptyset$  was seen to be structurally compatible with both of these functions as well. Although its presence in the inherent reflexive proved to be inconclusive due to a lack of distinction between marked and basic intransitive *bloom*-type verbs, because this function is not productive, it poses no serious barrier to the hypothesis.

The three recessive functions resulting from syntactic attachment of the VRM are the middle construction, the medio-passive, and the impersonal construction. The resulting expressions retain the semantic agentive participant but block its expression. Only *zich* of Dutch does not produce the middle, selecting instead an A.c.I.-construction to express the semantic equivalent. The remaining languages all have this construction. English  $\emptyset$  was likewise seen to be a logical equivalent, serving in a congruent manner.

While Romance SE generates the medio-passive, neither German *sich* nor Dutch *zich* does. English  $\emptyset$  aligns with the latter two, relying on a full passive for the equivalent semantic expression. And finally, like other non-pro-drop languages, e.g., French, German, and Dutch, English does not have an impersonal construction with the VRM.

In contrast to the recessive functions in which no agentive participant is expressed, in the reflexive functions of the semantic reflexive and the reciprocal, the agent is explicit. Detransitivization is linked not to role or argument elimination, but to bundling the roles of a single participant.

According to Reinhart & Siloni's 'Lex-Syn Parameter', a language's VRM generates both the semantic reflexive and the reciprocal consistently either in the lexicon or in syntax. The markers of German and the Romance languages, being of the second type, are unrestricted and therefore highly productive. Dutch, whose VRM *zich* attaches in the lexicon, is found to have only a select group of appropriately lexically marked compatible verbs. Any other verb can be reflexivized or reciprocalized only with the PRM. English  $\emptyset$  was shown also to be a lexical marker in these functions, restricted to the group of 'typically self-directed' and 'typically mutually directed' verbs.

The logically ensuing questions are: how does the extent of functions of each VRM of these closely related languages compare, and does the proposed English null morpheme fall into the array in such a way to offer convincing evidence of its presence?

Spanish *se* and Italian *si* exhibit the widest range of applications, producing all of the recessive constructions and producing reflexive functions in syntax making them compatible with an unlimited number of verbs. At the other extreme is *zich* of Dutch. This VRM marks inchoative and inherently reflexive verbs, but does not produce the middle, medio-passive, or

impersonal construction. Its reflexive application is lexical, limited to a fixed group of verbs. *Zich* has no syntactic functions, only lexical ones.

Between the two extremes are French *se* which lacks the impersonal construction, but has all other functions of the VRMs of Spanish and Italian, and German *sich* which, in addition to the functions of Dutch *zich*, attaches syntactically to produce the middle construction, reflexives, and reciprocals.

English  $\emptyset$  falls comfortably in this continuum, albeit toward the narrower end, between the markers of Dutch and German. In addition to the lexical applications, it produces the middle construction like German *sich*. However, like Dutch *zich*, the null morpheme attaches in the lexicon to produce reflexives and reciprocals.

We thus have support from structural compatibility that English indeed has a VRM which functions in a way similar to those of the closely related languages considered. But perhaps an equally important piece of evidence of its presence comes from a morphological perspective. In every function investigated, each language differentiates the detransitivized verb from its transitive base. If the language chooses the VRM for a particular function, it is morphologically marked as such. If instead it produces a semantic function through an alternate means, such as the A.c.I.-middle construction, the canonical passive rather than a medio-passive, or an impersonal pronoun instead of a VRM-impersonal construction, then the entire structure has a manifestation distinct from the basic transitive form.

The importance of this observation is that English appears to be quite unlike these languages in that it greatly lacks such morphological marking. In each of the applications of the proposed null morpheme, there is no detectable indication of a morphological process which accompanies the change in meaning. This paper attributes this anomaly to a purely superficial analysis of the language. It is more universally consistent to recognize that English has a similar system of morphological and lexical-syntactic operations and to explain the absence of phonological distinction as a result of null morphology.

#### 4.2. Recessive functions produced by *-self* as evidence of causative basicity

Section 4.1 concluded that the idea of a null VRM in English not only fits well with the observed semantics and syntax of its verbs, but that it also logically connects the language to its closest relatives in an aspect in which it is typically considered quite unusual. The benefit of universality associated with this theory compensates for the circumstantial nature of the data. This circumstantiality arises from the fact that it is quite difficult to prove the presence of something that cannot be overtly detected.

Thus far, the argument that the causative variant is the lexically basic form in alternations relies on the premise that the inchoative is produced by  $\emptyset$ . Since evidence of its existence remains circumstantial, finding some concrete evidence of inchoative derivation via a reflexive marker would add substantial weight to the hypothesis. That evidence can be found in the English reflexive, *-self*.

Geniušienė (1987) finds that a language may possess more than one reflexive morpheme which produces recessive applications. Each of these markers may serve separate semantic functions, or they may overlap in certain uses. She further contends that as a 'new' reflexive form, the English *-self* pronoun is expected to be in the process of evolving expanded recessive applications. It is for this reason that we find instances of non-reflexive uses of this PRM.

Consider the unaccusative expression (55a), in which the grammatical subject undergoes the event of the verb. That is, *his income* is not responsible for the action, but rather is affected by it. This sentence can be restated as (55b). Geniušienė finds that the

presence of the pronoun *-self* is strictly stylistic, and that the two expressions are in fact synonymous. *His income* remains in the thematic patient role.

- (55) a. His income doubled in no time.  
 b. His income doubled itself in no time. (Geniušienė (1987:205))

Recall from section 2 that as (55a) relates a spontaneous change of state, there are two semantic possibilities for the central event it describes. Either it is a *bloom*-type event which cannot be directly brought about by an external cause, or it is the inchoative alternant of a *break*-type event which can produce as well a causative form. The fact that the expression in (55c), in which an external force directly causes the event, is grammatical provides evidence that the latter is the proper conclusion. Together (55a) and (55c) constitute a typical ‘labile’ causative-inchoative alternation.

- (55) c. Mr. Price doubled his income in no time.

Because (55b) is synonymous to an inchoative expression, it holds the key to the direction of derivation. Take first the possibility that the inchoative form is lexically basic and that the causative derives thereof. According to Hale & Keyser (1986, 2002), this derivation occurs through embedding the basic inchoative structure in a causative head which provides not only the semantic component CAUSE, but also the syntactic position for the agentive argument. In our example, this would mean that the thematic grid of the intransitive (55a), *double* <PATIENT>, (here, *double* <HIS INCOME>), derives that of the transitive (55c), *double*’ <AGENT, PATIENT> (*double*’ <MR. PRICE, HIS INCOME>), which would project into syntax the argument structure, *double*’, [MR. PRICE, HIS INCOME]. It would similarly mean that the reflexive transitive expression in (55b), with the argument structure *double*’, [HIS INCOME, ITSELF], results from the thematic grid *double*’ <HIS INCOME, HIS INCOME>.

Under the supposition of inchoative basicity, then, an expression like (55b) would represent semantic reflexivization, meaning that use of the *-self* pronoun describes an event in which ‘his income’ acts upon itself. The ultimate implication would be that, since it is agentive, the subject is responsible for the event of the verb. There are two reasons for which this interpretation fails. First, the notion of assigning *his income* the responsibility of performing this reflexive act is conceptually illogical. Secondly, if *his income* served in an agentive role as a causer, then it would not be possible for (55b) to be synonymous to (55a) since as an inchoative, this latter expression is devoid of the notion of agency. The inchoative, therefore, cannot be the lexical base of the causative form.

If, on the other hand, the causative alternant with the associated grid, *double* <AGENT, PATIENT>, is basic, an alternate derivation of (55b) becomes available, one which takes the *-self* form to serve in a recessive function in the same way as a VRM like SE. Since the semantically reflexive sense which takes the grammatical subject as an agent was already rejected, it is reasonable to surmise that the pronoun is serving in such capacity, particularly given that (55b) is semantically inchoative.

The way in which this mechanism works requires an explanation. In precisely the manner as was described for the attachment of a VRM in 4.1.1.2 to detransitivize the verb lexically, the reflexive marker *-self* attaches to the basic transitive causative verb in the lexicon and transforms the thematic grid, *double* <AGENT, PATIENT>, to *double -self* <PATIENT>. In our example, the affected entity fills the grid as *double -self* <HIS INCOME>. Upon projection into syntax, the intransitive argument structure, *double -self*, [HIS INCOME], has no argument associated with the agentive role so the verb has the appropriately spontaneous interpretation. This means that *-self* is present, not as an argument, but as a VRM; and that the

function it serves is not reflexive as that would necessitate an agent, but rather recessive, eliminating the agentive role in order to produce the inchoative.

Importantly, this analysis fully accounts for the synonymy of (55b) to the inchoative alternant in (55a). While it contradicts the traditional opinion that English *-self* is always pronominal, it accurately describes and accounts for the behavior of the inchoative marked by a reflexive morpheme.

Additional examples in which *-self* serves an inchoative function are found in (56) to (58). Clearly, not every English *break*-type event allows the *-self* reflexive to produce an inchoative alternant. In fact, there appear to be severe limitations, either contextual or perhaps even in the particular verbs or verb classes which do so, determined in the lexicon. Given the relative newness of this marker, it quite logically follows that its recessive functions are restricted. Presumably, as its evolution continues, it may find increasing uses in such applications and perhaps eventually gain status as a full VRM.

- (56) a. His eyes focused on the picture.  
 b. His eyes focused themselves on the picture. (= [BECOME *FOCUSED* (his eyes)])  
 c. cf. He focused his eyes on the picture. (Geniušienė (1987:14))
- (57) a. The economy has slowed to a halt.  
 b. The economy has slowed itself to a halt. (= [BECOME *SLOW* (the economy)])  
 c. cf. Oil prices have slowed the economy to a halt.
- (58) a. Wake (up)!  
 b. Wake yourself (up)! (= [BECOME *AWAKE* (you)])  
 c. cf. I wake you (up) every morning.

The implication of this evidence goes beyond the idea that *-self* serves not only as a PRM but also as a VRM, affecting the transitivity of the verb. It also indicates that a transitive causative alternant serves as the base from which derives the inchoative via an anticausative morpheme. And on a broader scale, this tangible evidence of anticausative derivation adds weight to the hypothesis of the presence of  $\emptyset$  in phonologically identical alternations.

## 5. CONCLUSION

Although a number of linguists have analyzed the English causative-inchoative alternation, attempting to determine which variant, the transitive causative or the intransitive inchoative, is lexically basic, none has yet offered conclusive evidence to universal satisfaction. Strong arguments have been presented to support both possibilities. This paper has taken a new approach to the question, arguing for causative basicity, and made some interesting conclusions.

Prevailing theories tend to take at face value the unusual overwhelming reliance on phonologically identical alternations as a unique characteristic of English, seeking answers from within the language. The current paper looks instead for similarities with other languages which might shed light on a more universal behavior. It attempts to explain the apparent difference in a way that eliminates the difference in the process.

Because most of its relatives derive the inchoative alternant via an anticausative morpheme, it is reasonable that English would also. What sets it apart however is that the morpheme is phonologically empty. Nonetheless, its presence allows the derivation in meaning associated with other similar overt markers. This morpheme, called ' $\emptyset$ ', applied in the lexicon, produces results identical to those of Romance and many other Indo-European languages.

In order to provide evidence of its existence, it was demonstrated that  $\emptyset$  serves not only in deriving the inchoative alternant, but also in a number of functions which the parallel morpheme produces in the other languages. These markers are not simply anticausatives, but are verbal reflexive markers (VRM) with numerous applications both non-reflexive and semantically reflexive. The fact that the English VRM has no phonological form explains the traditional view that the language is unusual in lacking such a marker altogether.

It was shown that the English null morpheme shares several of the typical functions of other VRMs. A number of important applications of the VRMs of the Romance languages, Spanish, Italian, and French, and those of Dutch and German were analyzed and used as a basis on which to determine the range and in fact the likelihood of  $\emptyset$ . It was found that the English morpheme falls comfortably within expectations, with more semantic functions than Dutch *zich*, but more restricted than German *sich*.

Additional evidence of anticausative derivation of the English alternation was found in the limited number of events which optionally alternate with an inchoative produced with *-self*. Though traditionally considered exclusively a pronoun, it was shown to serve as a VRM in these constructions, detransitivizing the base verb rather than serving as a reflexive argument. This revelation contributes support to anticausative derivation in general and thus to the presence of  $\emptyset$  in labile alternations.

Perhaps as significant as the conclusion that the causative alternant is basic in English and that the language possesses an overlooked VRM, is that both of these facts unite the language with its relatives in ways in which it is generally considered categorically idiosyncratic. Furthermore, it allows a common account for phenomena for which separate explanations are otherwise pursued. That the current hypothesis offers a means of demonstrating the behavior of English as more universal can only strengthen it.

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