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# Valency changes in the history of English\*

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This article examines changes in the valency marking in the history of English. I start with a discussion of the typological literature on measuring basic valency and point out the problems with such an approach. A sample of 18 Old English verbs provides no basic valency pattern for Old English; this makes Old English different from the other Germanic languages. I then review the evidence, presented in, for instance, Visser (1963), that there is an increase in transitivity in the history of English and argue that this increase is partly due to verbs ceasing to mark Theme-preserving alternations, between anticausative and causative. I also examine Theme-changing alternations, between intransitive and transitive, and argue that, due to the changes in aspect marking, objects become licensed by a light verb, *v*. I conclude by suggesting a syntactic structure that accounts for the various stages of English and argue that the main changes are due to an increase in morphological intransparency.

**Keywords:** Anticausative, causative, Germanic, intransitive, Old English, transitive, valency

## 1. Introduction

In the typological literature, there has long been an interest in valency and in particular cross-linguistic differences in expressions of valency. It has been claimed that languages differ in basic valency orientation. Thus, Haspelmath (1993), Abraham (1997a), Nichols et al. (2004), Comrie (2006), and Plank & Lahiri (2009) show that languages have a basic valency orientation that shows itself in being morphologically less complex than the non-basic one. Many of these authors (e.g., Nichols et al. and Comrie) note a diachronic stability. However, Modern English differs markedly from its Germanic neighbors in having more labile verbs.

If languages differ in valency patterns, a historical linguist should be interested in which changes are possible. In the 19th and early 20th century handbooks (e.g., Skeat 1892, van Hamel 1931, and Prokosch 1939), there is indeed a discussion of

valency. Later work is done by Hermodsson (1952), Visser (1963), Bammesberger (1965) and Suzuki (1989), and, most recently, by Kulikov (2001, 2009), Narogg (2009), Ottosson (2009), and Cennamo et al. (2010). Within generative syntax, not much is written on changes in valency and this article is an attempt to improve on that.

Visser (1963:97–135) offers a detailed argument that there is a decrease in the list of verbs that are exclusively intransitive towards Modern English. In Modern English, there is a reduction in purely intransitive verbs and an increase in labile verbs, e.g. *boil*, *dry*, and *burn*. Using a relatively standard representation of the Verb Phrase, I will argue that Old English has a causativizing affix in its little *v(erb)* as well as a transitivizing affix in *ASP(ect)*, expressing lexical aspect. Due to the loss of these affixes, unaccusatives and causatives have the same form and unergative verbs end up doing double duty as transitives and unergatives.<sup>1</sup> This means that there is an increase in labile verbs and a loss of unergatives. I also claim that the licensing of the Theme changes but that, contrary to, for instance, Mustanoja's (1960) views, reflexive verbs remain in use.

Since verbs can have three arguments, all three can in principle be affected by valency changes. In addition, the arguments can be Themes, Agents, Causers, Experiencers and Goals, or even more fine-grained as in, e.g., Pesetsky (1995), Rosen (1984), and Reinhart (2002). In this article, I will only consider valency changes affecting Themes, Agents, and Causers. I discuss valency in general in Section 2 and provide a basic Verb Phrase representing argument and event structure. Section 3 is an overview of some of the typological literature on valency and some criticism of that approach. Section 4 goes into language change with an emphasis on Old English and Section 5 provides a theoretical account using the VP-layer.

The article thus has three goals: (a) to explore the basic valency of Old English, (b) to describe changes in the argument structure in the history of English, and (c) to investigate how these observations inform the current generative representation of argument structure.

## 2. Argument structure and valency alternations

Cross-linguistically, verbs can have up to three arguments which can be marked on the verb through agreement or via dependent marking on the arguments. These arguments play semantic roles, labeled as Causer, Agent, Theme, Experiencer, and Goal. Arguments are used to express grammatical relations as well, i.e. subjects (S and A) and objects (O). This dual role of arguments makes describing valency tricky, as is well known. Should valency be calculated on the basis of the semantic or the grammatical roles? Even if one focuses on one role, that in itself turns out

not to be so simple. Passives involve the demotion of one argument; the argument position that disappears is the grammatical object that, thematically, could be an Agent or Experiencer.

I will employ the usual distinction of unergative, unaccusative, transitive, and causative. Typical unergatives involve willed, volitional, controlled acts, i.e. with an Agent central; typical unaccusatives involve change of location or state, i.e. with the Theme central. However, many approaches combine a semantic and syntactic distinction. Sorace (2000:879), for instance, puts it this way: “[t]he single argument of an unaccusative verb is syntactically equivalent to the direct object of a transitive verb, whereas the single argument of an unergative verb is syntactically equivalent to the subject of a transitive verb”.

Many verbs alternate in valency without any change in form and are then called labile. Thus, an anticausative construction with just a Theme, as in (1a), is related to the causative in (1b), with a Theme and Causer. English labile verbs, such as *roll* and *burn*, can be accompanied by a Theme, as in (1a), or by a Theme and a Causer, as in (1b).

- |     |    |   |               |
|-----|----|---|---------------|
| (1) | a. | <b>The ball</b> rolled down the hill.<br>Theme          | Anticausative |
|     | b. | I rolled <b>the ball</b> down the hill.<br>Causer Theme | Causative     |

In the literature, (1a) is referred to as anticausative or inchoative (change of state) and (1b) as a causative. Ottosson (2009: 14) suggests the use of anticausative when speaking about valency, rather than of inchoative, which to him is aspectual. I will likewise use anticausative; see also Suzuki (1989). A verb with just a Theme, as in (1a), is also referred to as unaccusative; many of these have the possibility to be labile, as shown by the alternation between (1a) and (1b). However, there are unaccusative verbs that do not have that possibility, such as Modern English *arrive* and *appear*.

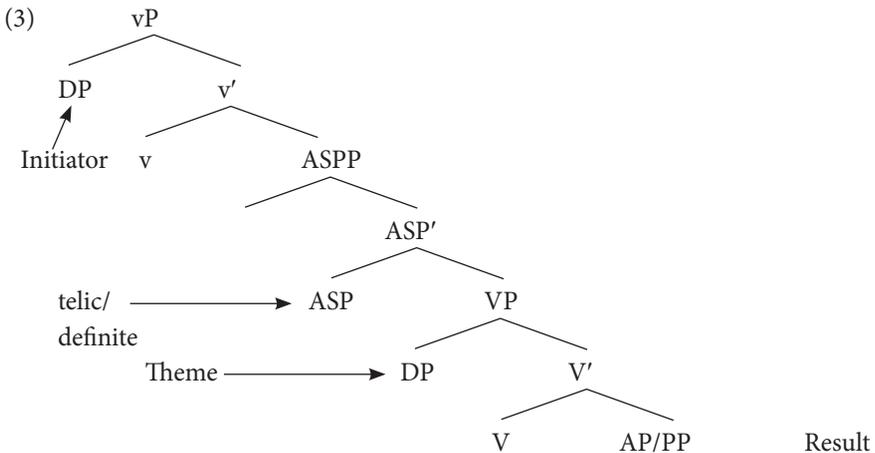
Unergative verbs, such as *laugh*, appear with just an Agent and cannot be causativized in English. The reason is that the light verb (v) only licenses one argument. A special *make* has to be used instead, as shown in (2a–b). Note that unergative verbs appear in English with cognate objects, as in (2c). Hale & Keyser (2002: 70–71) argue that these are not referential and replacements of the copy of the noun *laugh*.

- |     |    |   |
|-----|----|---|
| (2) | a. | *I <b>laughed</b> my neighbor.  |
|     | b. | I <b>made</b> my neighbor laugh.  |
|     | c. | he laughed <b>the light laugh</b> that's not about something funny. (COCA-2002) |

As Hale & Keyser (2002) show, many other languages have an anticausative–causative alternation, as in (1a–b), and similar restrictions. Although English uses labile verbs regularly, not all languages are that way, as will be shown see in Section 3.

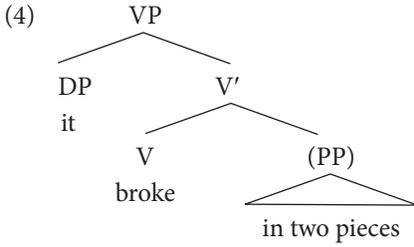
Well known since, for instance, Hopper & Thompson (1980), transitive verbs have a certain aspect and information structure as well: perfective aspect and definiteness of the Themes are not unexpected with transitives and imperfective aspect and indefinite objects are not unexpected with intransitives. Since definiteness is not something one associates with argument structure but rather with a certain position, it is hard to speak of definite Themes, and it is perhaps preferable to speak about grammatical objects. This again shows the difficulty in keeping the semantic and grammatical roles separate.

To represent both aspect and semantic roles in a syntactic tree, I will use the structure in (3). It is based on ideas by Tenny (1994), Levin & Rappaport Hovav (1995), Hale & Keyser (2002), Ramchand (2008), Pylkkänen (2008), Travis (2010), and others. The little *v* in (3) represents a light verb, e.g. with the features of [cause], the ASP represents the lexical aspect associated with the Aktionsart of the verb, e.g. telicity and measure, and the *V* stands for the lexical verb. I assume the representation is built from the bottom up with the root (here *V*) determining which combinations occur with, e.g., *v*.

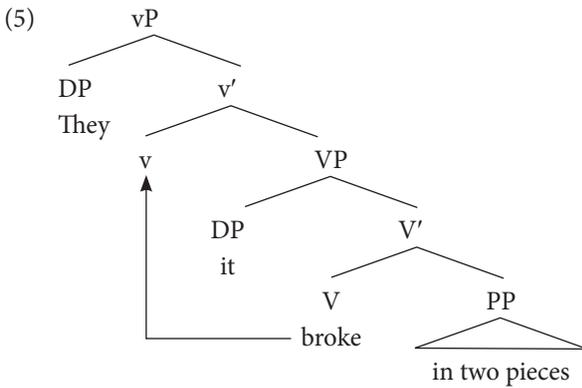


A *vP* may have three domains, as in (3), representing an event: a causer or initiator of the action or result, i.e. the *vP* layer, a process of the action or towards the result, i.e. the *ASPP* layer, and the state or result, i.e. the *VP* layer.

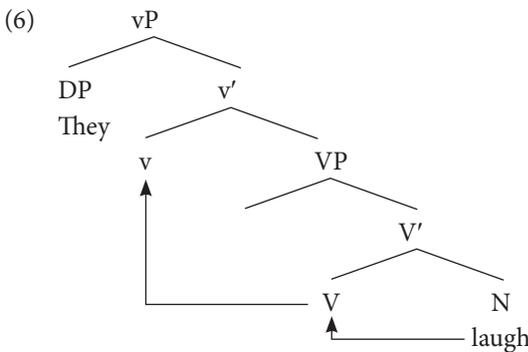
In the case of a change of state, unaccusative verb, the *VP* is the crucial layer containing the Theme and optionally the Result. For instance, the verb *break* in (4) has a Theme and Result in *it broke into two pieces*.



To the VP layer of (4), a *v* can be added, which in this case has a Causer (see, e.g., Folli & Harley 2005 for other kinds of *v*); the *v*P in (5) is the result, with a Causer, Theme, and Result.



In English, unergatives such as *laugh*, *sleep*, and *walk* are frequently denominal. Therefore, we could argue, with Hale & Keyser (2002), that there is a VP with the N incorporating into the V and moving to *v* to merge with an Agent DP, as in (6).



Using (3) for sentences with transitive verbs, the Theme (externally) merges with the V and, if the action is telic and the object definite, the Theme will (internally) merge with the V that has internally merged with ASP. After a merge with *v* and

the Agent DP, the vP is complete, as in *They ate the apples*. Further syntactic trees will be provided in Section 3.3.

After this short introduction into argument structure, I will now turn to typological classifications.

### 3. Is there a basic valency?

In this section, I discuss certain proposals for describing basic valency and differences that have been observed among languages. Nichols et al. (Section 3.1) use both the grammatical relations of the dependents, i.e. A, S, and O, as well as labels for the verbs, i.e. (in)transitive etc., whereas Haspelmath and Comrie emphasize the verbs (Section 3.2). Abraham (1997a) compares several Germanic languages in how they express causativization and decausativization (Section 3.3). These works all argue that (Modern) German is detransitivizing, a conclusion that Plank & Lahiri (2009) do not share. I discuss the latter briefly and provide my own list of Old English alternating verbs, concluding that one cannot provide a basic valency for Old English because there are so many labile verbs.

#### 3.1 Nichols et al. (2004): Basic valency

Nichols et al. (2004) recognize several ways to change valency, among which are listed augmentation, reduction, suppletion, and ablaut. They select 18 verbs that vary between a 'plain' use with one argument, e.g. *laugh* and *sit*, and an 'induced' one with more than one, e.g. *make laugh*, and *seat*. Nichols et al. (2004: 150) note that there are in principle two types of transitivity and detransitivization, namely (a) the addition or loss of the grammatical A relation, as in *to seat* versus *to sit*, and (b) the addition or loss of the O relation, as in *to laugh over* versus *to laugh*. They mainly limit their article to changes in the A relation.<sup>2</sup> I believe transitivity alternations are better described using semantic roles (Theme, Agent, Causer, etc.) and will use these in Section 4 rather than the grammatical S, A, and O roles.

The 18 verbs Nichols et al. select are listed in Table 1, where the first nine have an animate as single argument, i.e. an animate S or O with some kind of agency, and the second nine an inanimate S or O argument. In the first column, the argument bears an S relationship to the verb, whereas the verb has an A and O relationship with its arguments in the second column.

Note that the grammatical A relations that are added in the second column are semantically quite different, and so are the verbs. For instance, *laugh* is an unergative verb with an Agent as S, and a Causer is added to render *make laugh*, whereas *die* is an unaccusative verb with a Theme as S and the addition of a Causer results

**Table 1.** Alternating verbs in Nichols et al. (2004: 156) (slightly adapted)

1 laugh	make laugh	10 boil	boil
2 die	kill	11 burn	burn
3 sit	seat	12 break	break
4 eat	feed	13 open	open
5 learn	teach	14 dry	(make) dry
6 see	show	15 be(come) straight	straighten
7 be(come) angry	anger	16 hang	hang (up)
8 fear	frighten	17 turn over	turn over
9 hide	hide	18 fall	drop

in *kill*; adding a Causer to the transitives *eat* and *learn* makes *feed* and *teach*. The verbs *see*, *be(come) angry*, and *fear* have Experiencers as S relations in the first column that turn into grammatical O relations with *show*, *anger*, and *frighten*. This variety of verbs in the table provides a good sample of labile verbs.

The 80 languages in the sample are then classified as to what kind of valency changes they undergo, transitivity, detransitivizing, neutral, and indeterminate. Of the nine animate verbs, i.e. numbers 1–9 in Table 1, Russian relates six sets through a marker indicating A-reduction, e.g. a reflexive *-sja* in (7) and a passive.

- (7) a. učit' 'teach'                      učit'-sja 'learn'                      Russian  
 b. razbit' 'break'                      razbit'-sja 'break'

Russian is classified as a detransitivizing language, i.e. its basic valency is transitive, because with six of the 18 verbs in Table 1 the intransitive is derived and four and a half are suppletive.<sup>3</sup> Suppletive verbs say nothing, of course, about the basic valency. German is also classified as a slightly detransitivizing language with three out of the nine (animate) intransitives derived, five suppletive pairs, and one not clear. However, based on the inanimate sets, German can be labeled as indeterminate and Russian still as being of a basic transitive type.

### 3.2 Haspelmath (1993) and Comrie (2006): A cross-linguistic perspective

Haspelmath (1993) distinguishes causatives (C), anticausatives (A), and three non-directives, labile (L), equipollent (E), and suppletive (S). As in the case of the analysis suggested in Nichols et al., there are many verb types represented in each language. Haspelmath looks at 31 sets in 21 languages, which Comrie (2006) expands to 24 languages. Their findings for six languages are given in Table 2.

**Table 2.** Russian, German, English, and Indonesian (from Haspelmath 1993: 101, adapted by Comrie 2006: 306)

	A	C	E	L	S
Russian	23	0	5	0	3
German	15.5	1	4	9.5	1
French	20.5	2	0	7.5	1
English	2	0	1	25	3
Mongolian	6	22	2	0	1
Indonesian	0	14	17	0	0

On the basis of the areal and genetic relationships of the 21 languages, Haspelmath concludes that the patterns show more of an areal than genetic relationship. For instance, Uralic and Altaic languages in Europe prefer anticausatives, a European areal feature, according to Haspelmath (1993: 103).

A list of the 31 verbs is given in Table 3, which I have divided into those that are labile in Modern English and those that are not.

**Table 3.** Alternating verbs in Haspelmath and Comrie

Labile	Non-labile
boil, freeze, dry, wake up, sink, melt, stop, turn, dissolve, burn, gather, open, break, close, split, fill, finish, begin, spread, roll, develop, improve, rock, connect, change	die/kill, learn/teach, rise/raise (S) get lost/lose, be destroyed/destroy (A) go out/put out (E)

Of the 31 verbs in Haspelmath's and Comrie's studies, English (not a language discussed in Nichols et al.) has two anticausative, i.e. detransitivizing, verbs, one equipollent, 25 labile, and three suppletive verbs, making it clearly a labile-type language. German, in contrast, has 15.5 anticausatives, one causative, four equipollent, 9.5 labile verbs, and one suppletive verb. Russian has 23 anticausatives, five equipollent verbs, and three suppletive ones. So, Nichols et al. and Comrie would agree on Russian as being clearly detransitivizing and German less detransitivizing than Russian but still quite clearly detransitivizing. French is closer to Russian in being detransitivizing. Mongolian is very transitivizing and Indonesian is so to a lesser extent.

In the classifications of Nichols et al., Haspelmath, and Comrie, English is thus very different in basic orientation from the closely related German and includes many labile verbs (also evident from Table 3).

### 3.3 Abraham (1997a): A Germanic perspective

Abraham (1997a) compares English with eight other Germanic languages, and concludes that English verbs are typically mono-syllabic and that causatives are not distinguishable from non-causatives, unlike in the other Germanic languages. I have reproduced two of Abraham's comparisons as Table 4, where the first verb is the anticausative and the second one the causative. The verb 'crack' is similar in all the Germanic languages, but 'grow' shows substantial suppletion.

**Table 4.** Two verbs in nine languages (from Abraham 1997a: 14–15)

English	crack	grow
German	(zer)springen/(zer)sprengen	wachsen/anbauen
Dutch	stukspringen/laten springen	groeien/telen, kweken
Danish	springe/sprænge	vokse/avle, dyrke
Icelandic	springa/sprengja	vaxa/rækta
Norwegian	springe/sprengje	vokse/dyrke
Swedish	springa/spränga	växa/odla
Frisian	springe/springe, barste lite	waakse, groeie/(fer)bouwe
Faroese	springa/spreingja	vaksa/vaksa um, fáa at vaksa

The Germanic root *springen* can mean 'crack, break, shatter, burst'. In (8), an anticausative and in (9) a causative of this verb appears from German.

- (8) Ich wollte mal fragen, ab welchem Gefrierpunkt Glas platzt  
 I wanted once ask from which freezing-point glass pops  
 bzw. **zerspringt?**  
 or bursts  
 'I wanted to ask at what temperature glass pops or breaks?'  
 (<http://de.answers.yahoo.com>, March 2010)

- (9) Obama will ... El Kaida in Rückzugsgebieten in Afghanistan und Pakistan  
 Obama wants Al Qaeda in retreat-areas in Afghanistan and Pakistan  
**zersprengen.**  
 blow-up.INF  
 'Obama wants to ... blow up Al Qaeda in areas of retreat in Afghanistan and Pakistan.' ([www.newsider.de](http://www.newsider.de), March 2010)

Many of the 31 verbs that Abraham lists are like *springen* and not like *grow*, i.e. they show a morphological difference between anticausatives and causatives in the Germanic languages except English.

If computing valency makes sense and if the patterns are indeed relatively stable, as Comrie, Nichols et al., and Plank & Lahiri also suggest (though not Haspelmath), we need to investigate what happened in the history of English. English presumably started out with valency alternations similar to the ones in present-day German and changed drastically towards lability; see Table 2. I will first discuss an alternative point of view and then try to construct a table for Old English similar to Table 1 in order to come up with the basic valency. Then, in the next section, I consider larger groups of verbs and how the development may have taken place.

### 3.4 Alternative views and an Old English list

Plank & Lahiri (2009) criticize Nichols et al.'s view that German and Russian are detransitivizing. Their main argument is that many strong verbs in German(ic) are associated with intransitivity and weak ones with transitivity, and that the latter are derived from the former. In present-day English, this difference can still be seen in the intransitive verb *lie*, which is strong with *lay* as past and *lain* as participle, and the related transitive *lay*, which is weak with *laid* as past and participle forms. The pairs *fall* and *fell* and *rise* and *raise* show the same contrast: the intransitive verbs are morphologically strong and the transitive verbs are weak, although *fell* and *felled* are slightly archaic.

The reason behind these anticausative ~ causative alternations, as Plank & Lahiri explain and as will be discussed in more detail in Section 4.2, is that Germanic transitive verbs are often derived from intransitive verbs by means of a *-j* suffix. This suffix surfaces as *-i* in Old English and has, among other things, a fronting and raising effect on the vowel, hence *fall* > *fell*. Because the vowel is fronted, the past tenses of these verbs no longer participate in the ablaut alternation of the strong verbs and end up using the light verb 'do'. The past endings of weak verbs are therefore *-ed*, the cliticized form of the light verb. The origin of the Germanic dental preterit is tricky since no actual light verb surfaces in any of the languages (see Tops 1974; Lahiri 2000; Hill 2010, to name but a few).

If we take the *-j/-i* affix into consideration, the direction of Germanic verb alternations is transitivity, as opposed to the conclusions drawn in Nichols et al.<sup>4</sup> In Section 4.2, I will examine the role of the *-j/-i* suffix further and use it in a structural representation. First, I will construct a table in the spirit of Nichols et al. The reason I select their list is that it is less uniform in that, e.g., inherently reflexive intransitives are also included.

Because there are no native speakers of Old English, it is hard to construct a table with the least-marked set of verbs alternating in valency. Thus Table 5 has to be interpreted carefully. For instance, the intransitive verb 'boil' has three main

representations in Germanic, according to Buck (1949), of which some cognates are the following: (a) *wulan* in Gothic, *wiellan/weallan* in Old English, and *wellen* in Dutch; (b) *kochen* in German and *koken* in Dutch; and (c) *sieden* in German and *zieden* in Dutch. The current English *boil* is a loan from French. To decide which verbs to list is sometimes hard and subjective. Old English transitive verbs involving ‘cooking’ and ‘boiling’ are (*a*)*brædan*, *gegearwian*, *seoþan*, *wiellan*, *hyrstan*, and *bacan*. To construct a table such as the ones that Nichols et al. (2004) construct, one has to decide which verb of the variants of ‘cook, boil’ just mentioned is the most basic and that is hard to do, e.g. there are two transitives to choose from, namely (*a*)*wiellan* (also *awyllan* and *awillan*) and (*a*)*brædan*. I have decided on (*a*)*brædan* as more basic in Table 5, since *awillan* is only used in its past participle form in Bosworth & Toller (1898), i.e. as *awylled hunig* ‘boiled honey’.

Table 5. Verb pairs in Old English

Intransitive	Transitive	Causative <sup>a</sup>
<i>hlihhan</i> ‘laugh’	<i>behliehhan</i> ‘laugh over’	<i>gesettan to hlæhtre</i> ‘make laugh’
<i>steorfan/sweltan</i> ‘die’	<i>acwellan</i> ‘kill’	
<i>sittan</i> ‘sit’	<i>settan</i> ‘place’	
<i>etan</i> ‘eat’	<i>etan</i> ‘eat’	( <i>a</i> ) <i>fedan</i> ‘feed’
—	<i>gefrignan/(ge)learnian</i> ‘learn’ <i>(ge)læran/(ge)tæcan</i> ‘teach’	
—	<i>seon</i> ‘see’/ <i>locian</i> ‘look’	<i>sceawian</i> ‘show’
<i>abelgan</i> ‘be angry’	<i>abelgan</i> ‘anger’	
<i>(ge)aforhtian</i> ‘be afraid’ <i>forhtian</i> ‘fear’	<i>afyrhtan</i> ‘frighten’	
<i>hydan</i> (refl) ‘hide’	<i>hydan</i> ‘hide’	
<i>weallan</i> ‘boil’	( <i>a</i> ) <i>brædan</i> ‘boil’	
<i>brinnan</i> ‘burn’	<i>bærnan</i> ‘burn’	
<i>brecan</i> ‘break’	<i>brecan</i> ‘break’	
<i>openian</i> ‘open’	<i>openian</i> ‘open’	
<i>adruwian</i> ‘dry up’	<i>dryg(e)an</i> ‘dry’	
—	<i>(ge)rihtan</i> ‘restore, make straight’	
<i>hangian</i> ‘hang’	<i>hon</i> ‘hang’	
<i>tyrnan/turnian</i> ‘turn’	<i>tyrnan</i> ‘turn’	
<i>feallan</i> ‘fall’	<i>fellan</i> ‘fell’	

<sup>a</sup> I have compiled this table using Bosworth & Toller (1898), the *OED*, Buck (1949), the *Historical Thesaurus of the OED* (Kay et al. 2009), and the *Dictionary of Old English (DOE)* electronic texts.

Nichols et al.'s table, as we saw, includes many different types of verbs, with arguments bearing varying semantic roles. I have therefore added a column in Table 5. The left-hand column lists verbs with one argument, which may be Agent, Experiencer, or Theme, the middle column has two arguments, one of which is a Theme and the other is an Agent or Experiencer, and the right-most column has two or three argument, two of which are a Causer and a Theme.

To come back to the main question of this section, what can we conclude from the verb pairs presented in Table 5? Of the 18 Old English verb pairs, which I list here in Modern English for convenience, four are suppletive pairs, namely *kill/die*, *eat/feed*, *see/show*, and *boil*, five pairs show lability, namely *be angry/anger*, *hide*, *break*, *open*, and *turn*, and four are transitivity, i.e. *laugh/make laugh*, *sit/set*, *burn* and *fall/fell*. The two detransitivizing pairs are *be afraid/frighten* and *dry up/dry* and the three undetermined pairs are *learn/teach*, *restore* and *hang*. This table thus suggests that there is no basic valency in Old English.<sup>5</sup> Not many of these verbs are exclusively intransitive either. A preliminary conclusion might be that, if this list is representative, Old English was already different from its Germanic neighbors and not as intransitive-oriented, as sometimes argued, e.g. by Visser as will become evident in the next section. I come back to the verb pairs as well.

#### 4. Old and Modern English valency

This section examines Old English valency and reviews evidence from, e.g., Visser (1963) that this stage of the language is transitivity. I show that there are indeed a number of transitivity but that labile verbs are already quite frequent.

In Section 4.1, Visser's views are discussed with an emphasis on the intransitive and labile nature of Old English verbs. In Section 4.2, the alternation between anticausatives and causatives is explored. In Old English, the function of the affix *-i* is relatively transparent; after its loss, many verbs end up labile, with a Theme-preserving lability. In Section 4.3, I examine the intransitive and transitive alternation indicated by an affix that is gradually lost with a resulting increase in Theme-affecting lability.

##### 4.1 Old English intransitives

Visser (1963:97–188) divides intransitive verbs, his 'verbs without complement', into four categories, of which the first two groups are the most relevant for our purposes. The first category is always intransitive and the second is labile. The third group of intransitives that Visser mentions can have dative indirect or causative genitive objects and the fourth group is what we might call object drop.

The first group never has an O, according to Visser. However, as I will show below, that is too strong a claim. The intransitives are of various kinds, unergative in (10–11) and unaccusative in (12–13). Visser, of course, does not make that distinction.<sup>6</sup>

- (10) Ac ðonne we **slapað** fæste ðonne we ...  
 but then we sleep fast then we  
 ‘But then we are fast asleep ...’ (*Pastoral Care*, Hatton 195.5; Visser 1963:97)
- (11) ðæt hi mægen **iernan** & fleon to ðæs lareowes mode  
 that they may run and flee to that teacher’s heart  
 ‘that they may run and flee to the teacher’s heart’ (*Pastoral Care*, Hatton 103.22)
- (12) ða unrotnesse ðe ðæræfter **cumað**  
 the sadness which thereafter comes  
 ‘the sadness which comes thereafter’ (*Pastoral Care*, Hatton 187.15)
- (13) Donne **feallað** ða truman ceastra,  
 then fall the strong castles,  
 ðonne ða mod ðe Dryhtne ungeferu sint weorðað gesciende  
 then the minds that God impenetrable are be shamed  
 ‘When the strong castles fall, the minds that are impenetrable to God are brought to shame’ (*Pastoral Care*, Hatton 245.22–24)

The number of verbs belonging to this type was “considerable”, according to Visser (1963:98). He lists 223 Old English examples of exclusively intransitive verbs. The first 33 of these 223 examples, i.e. all the verbs starting with the letters *a*, *b*, and *c*, are given in (14), with glosses from Clark Hall (1916) and Bosworth & Toller (1898).

- (14) *aberstan* ‘burst out, escape’, *ablican* ‘shine’, *ablinan* ‘cease, desist’, *æfnian* ‘become evening’, *æmtian* ‘be empty’, *ærnan* ‘run’, *ætfellan* ‘fall away’, *ætglidan* ‘disappear’, *ætslidan* ‘slip, glide’, *ætspringan* ‘rush forth’, *aferscan* ‘become fresh’, *afulian* ‘to rot’, *alatian* ‘to grow sluggish’, *aleoran* ‘to depart/flee’, *ascortian* ‘become short/pass away’, *aslapan* ‘slumber’, *berstan* ‘break’, *bifian* ‘tremble/shake’, *blinnan* ‘cease’, *brogdian*, *brogdettan* ‘tremble’, *bugan* ‘bow down/bend’, *cidan* ‘quarrel, chide’, *cirman* ‘cry (out)’, *climban* ‘climb’, *cloccian* ‘cluck/make noise’, *clum(m)ian* ‘mumble/mutter’, *clymmian* ‘climb’, *cneatian* ‘argue’, *cneowian* ‘kneel, know carnally’, *cnitian* ‘dispute’, *creopan* ‘crawl’, *cuman* ‘come, approach, arrive’.

Not all of the unergatives are always intransitive, and it remains unclear how many unergative verbs in (14) are really intransitive and not labile. For instance,

*ablin(n)an* in (15) is transitive, and *cidan* ‘chide’ typically has an object, as in (16). The presence of the prefix *a-* may be relevant in (15), as I argue in Section 4.3.

- (15) ne **ablin** þu ðæt ðu begunnen hæfst  
 not cease you that you begun have  
 ‘don’t cease what you have begun’ (Aelfric *Homilies* I, 426.9–10)
- (16) Hwilum eac ðonne mon ðæm ricum **cidan** sceal  
 sometimes also then man the rich chide shall  
 ‘Sometimes, one also has to rebuke a rich person’  
 (Alfred, *Pastoral Care*, Hatton, 185.9–10)

Visser (1963: 100) mentions that Modern English only has 58 exclusively intransitive verbs, based on the pre-1933 *OED*. These are listed in (17). Of his 58 verbs, 26 remain exclusively intransitive in non-archaic Modern English. These are indicated in bold.

- (17) **appear, arise**, balbutiate, beetle, **blossom**, booze, **bugle**, caper, caterwaul, cleave (adhere), **coexist**, cohere, coincide, **collapse**, compete, concur, co-operate, **crochet**, depend, **didder, die**, disagree, **disappear**, elope, **exist**, exult, **lie**, gab, gambol, glimpse, **glisten, glitter, grundle, gyrate, halt**, interfere, **last, limp, lurk, lurch**, luxuriate, migrate, prate, pullulate, **recur**, reluct, result, roister, sally, secede, **shimmer**, strive, swoon, **thrive**, ululate, vacillate, **wax, yap**.

Many have disappeared, e.g. *balbutiate, beetle, booze, caper, caterwaul, cohere, gab, gambol, glimpse, last, prate, pullulate, reluct, roister, sally, swoon, and ululate*, and many have developed transitive uses, mainly as prepositional verbs, e.g. *coincide, cleave, compete, concur, co-operate, depend, disagree, elope, exist, luxuriate, migrate, result, secede, strive, and vacillate*. To the 26 bolded intransitives in present-day English in (17), a few exclusively intransitive verbs can be added, e.g. *arrive, escape, remain, seem, and go*. Thus 223 Old English intransitive verbs have dwindled to probably 30 or 40 in Modern English. Many of these are unaccusative, namely *appear, arise, arrive, blossom, collapse, die, and seem*, and many of these have been added as loans, e.g. *appear, arrive, seem, and exist*, replacing the ones that were lost, such as *befian* ‘tremble’ and *ablinan* ‘cease’.

The second group of intransitives that Visser discusses is labile or, as he calls them, amphibious. The verbs that are labile are “considerably less numerous” (Visser 1963: 98) and number 55; see (18) for the full list of labile verbs in Old English.

- (18) *abrecan* ‘break’, *abreoðan* ‘unsettle/ruin’, *acirran* ‘turn’, *acumen* ‘come’,  
*acweccan* ‘shake’, *acwician* ‘quicken/revive’, *ætiewan* ‘show’, *ætstandan* ‘stand/

remain, *aslacian* ‘become/make slack’, *baðian* ‘bathe’, *blawan* ‘blow’, *blissian* ‘be glad/make glad’, *brecan* ‘break’, *bregdan* ‘move quickly/shake’, *buan* ‘live’, *byrnan* ‘burn’, *cierran* ‘turn’, *clipian* ‘speak, cry out’, *cwanian* ‘lament/mourn’, *dragan* ‘drag’, *dwelian* ‘go/lead astray’, *dwellan* ‘wander/lead astray’, *eardian* ‘live/inhabit’, *fleon* ‘fly/flee’, *fon* ‘take’, *geotan* ‘pour’, *gladian* ‘be glad/rejoice’, *healdan* ‘hold/procede’, *hefigan* ‘become/make heavy’, *hildan* ‘lean/hold’, *hlænan* ‘lean/cause to lean’, *hweorfan/hwierfan* ‘turn/change’, *lacan* ‘jump/play’, *læstan* ‘follow/endure’, *langian* ‘long for/lengthen’, *mieran* ‘scatter/disturb’, *miswendan* ‘err/abuse’, *ofergan* ‘traverse’, *oferfaran* ‘traverse’, *openian* ‘open’, *plegan* ‘move’, *sadian* ‘weary’, *sammian* ‘assemble/meet’, *sargian* ‘suffer/cause pain’, *sarian* ‘become painful/feel sorry for’, *scotian* ‘move rapidly’, *spyrian* ‘go/pursue’, *tolicgan* ‘lie/separate’, *tostregdan* ‘scatter’, *tostencan* ‘scatter’, *tydran* ‘produce’, *þeostrian* ‘darken’, *þringan* ‘press (on)’, *wanian* ‘diminish’, *wlitigian* ‘become/make beautiful’

In Hermodsson (1952:196–207), there are further examples of labile verbs, referred to as ‘Verba mit Doppelfunktion’; 27 of these are listed in (19).

- (19) *āðiestrian* ‘darken’, *ahnescian* ‘become soft/make soft’, *brædan* ‘broaden/grow’, *dælan* ‘divide’, *gedieglan* ‘hide’, *drygan* ‘become dry/dry’, *hliëwan* ‘become warm/warm’, *stillan* ‘be still/quiet’, *ābiterian* ‘become bitter/make bitter’, *cwician* ‘come to life/enliven’, *gōdian* ‘be better/make better’, *heardian* ‘harden/make hard’, *hefegan* ‘become heavy/make heavy’, *hlænian* ‘become lean/make lean’, *hluttrian* ‘become clean/clean’, *lytlian* ‘lessen/decrease’, *gemetgian* ‘moderate oneself/moderate’, *micelian* ‘become great/increase’, *minsian* ‘diminish’, *nearwian* ‘become smaller/make smaller’, *openian* ‘open’, *swiðian* ‘become strong/strengthen’, *swutulian/sweotolian* ‘become manifest/make clear’, *ðiccian* ‘thicken’, *ðynnian* ‘become thin/make thin’, *yfelian* ‘become bad/make bad’, *wendan* ‘change’.

An example of the labile verb *baðian* is given in (20): intransitive in (20a) and transitive in (20b).

- (20) a. Ond seldom in hatum baðum heo **baðian** wolde  
and seldom in hot bath she bathe would  
‘and she would seldom bathe in hot water’  
(Bede 4.19; Visser 1963:99, Miller’s edition 1891:318.15–16)
- b. and wolde seld-hwænne hire lice **baðian** butan to heahtidum  
and would seldom her body bathe except at high-holidays  
‘and would seldom bathe her body except at high-holidays’  
(Aelfric, *Lives*; from Visser 1963:99, as in Skeat 1881:434.44–45)

As also mentioned in Section 3.1, these verbs are not uniform in the semantic roles that accompany them: the intransitive ones can be unergative, e.g. *baðian* ‘bathe’, or unaccusative, e.g. *abreccan* ‘break’ and *gladian* ‘be glad’. The transitive counterparts add a Theme in the case of transitive verbs and a Causer in the case of causative verbs. Unergative verbs, such as *baðian* ‘bathe’, that are inherently reflexive are more numerous and would add some additional verbs to (18) and (19). These are *hydan* ‘hide’, *scaman* ‘be ashamed’, and *þwean* ‘wash’. In addition, *tyrnan* ‘turn’ is also labile.

In agreement with Visser’s and Hermodsson’s views, Clark Hall’s dictionary labels many of the verbs in (18) and (19) as transitive and intransitive, i.e. labile. However, according to the *OED*, not all these verbs are labile. For instance, the examples of *gladian* that Visser provides are given in (21). Note the *-i* before the inflection in the transitive use in (21b). This might indicate a different verb, one including the causativizer *-i*, as we will explore more in Section 4.2.

- (21) a. abrahame feder iowrum gifeode ðætte gisege dæg minne & gisæh  
 Abraham father your awaited that see day my and saw  
 & **gladade** vel glæd wæs  
 and rejoiced well glad was  
 ‘Abraham, your father, rejoiced to see my day and saw (it) and was glad’  
 (Rushworth, John 8.56; Visser 1963:99)
- b. Ac utan **gladian** georne God ælmihtigne  
 but go.1PL.SUBJ gladden eagerly God almighty  
 ‘But let us make God the almighty glad eagerly’  
 (*Wulfstan Homilies*; Visser 1963:99, Bethurum edition 229.1)

Visser lists *byrnan* ‘burn’ as labile in (18), as does Bosworth & Toller’s *Dictionary*. In my conclusions regarding Table 5, I follow Bammesberger (1965:38–39), who considers the intransitive strong verb *beornan* and the transitive weak one *bærnan* separate, i.e. not labile. The *OED* expresses the same views, namely:

- (1) the intransitive strong vb., Goth. *brinnan*, (*brann*, *brunnum*; *brunnans*), ON. *brinnan* (later *brennan*), OS., OHG., MHG. *brinnan*, OE. *brinnan*, by metathesis \**birnan*, *bernan*, *beornan*, (*bran*, *barn*, *born*, *bearn*; *burnon*, *bornen*) ...; and (2) the derived factitive weak vb., Goth. *brannjan* (*brannida*, *branniþs*), ON. *brenna*, OS., OHG. *brenn(i)an*, (MHG. and Ger. *brennen*), OE. *bærnan* (by metathesis for *brennan*), *bærnde* ...

The *OED* continues that *beornan* and *bærnan*:

were still distinct in OE., but ran together early in the ME. period. ME. had four types of the present stem, *bern-*, *brin(n-*, *barn-*, *bren(n-*, the two former of which appear to represent the intr., and the third the trans. OE. verb; *bren(n-* appears to be mainly the ON. *brenna*, but may partly have originated by metathesis from

*bern-*. Of the original strong verb, the strong pa. tense does not appear later than Layamon, and the distinction of transitive and intransitive was soon lost, the different types being used indiscriminately as to sense, though with dialectal preferences. *Brenne*, *brent* was the most common type in late ME., and even down to the 16th c., when it was somewhat abruptly dispossessed by *burn*, *burnt*, app. the descendant of the earlier *bern-*, *birn-*, though the continuity is not very clearly made out, as, between the 13th and 16th c., this type is scarcely recorded in Sc. writers. (*OED* s.v. burn)

Thus, in (22a), there is a Theme and in (22b) a Causer and a Theme; it could be that *byrnan* in (22b) shows evidence of an *-i* causativizer through the fronted vowel in the stem.

- (22) a. heofoncandel **barn**  
 heaven-candle burned  
 'the candle burned' (*DOE*, segment 1, 115)
- b. swa ... fyr wudu **byrneð**  
 such fire wood burns  
 'As ... the fire burns the wood' (*DOE*, segment 3, 82.10)

Even though we have to be cautious with all the verbs in (18) and (19), labile verbs already seem common in Old English but not as common as in Modern English. According to McMillion (2006: 223–232), there are over 800 labile verbs in Modern English that alternate between causative and anticausative, although a few inherently reflexive verbs, such as *wash* and *stretch*, are also included in his 800. The list in (23) presents just a minor subset of labile verbs in Modern English.

- (23) accumulate, begin, blow up, boil, break, burn, change, close, continue, crack, crash, develop, dim, dissolve, dry, end, explode, freeze, grow, hang, improve, increase, melt, move, open, pop, roast, roll, shake, sink, split, spread, stabilize, turn.

The 800 Modern English labile verbs contrast sharply with the 80 or so in (18) and (19), so there is a clear increase in lability from Old to Modern English.

Concluding, Visser, in his overview of intransitives finds (a) a loss of purely intransitive verbs and therefore an increase in transitivity towards Modern English, and (b) an increase in labile verbs towards Modern English. In the next two subsections, I explore these issues further. In 4.2, I show that the loss of intransitives and the resulting increase in lability are due to the loss of a productive causative affix. In 4.3, changes in transitive verbs are examined.

#### 4.2 Theme preserving lability: A loss of intransitives

In this section, I examine the causative ~ anticausative alternation in older Germanic and Old English. This alternation results in a preservation of the Theme of the anticausative but an addition of the Causer, that is an Agent or Instrument, in the causative. As mentioned, there is a causativizing affix *-j* in early Germanic that becomes *-i* in Old English. Depending on one's point of view, this affix has either disappeared from Old English or is still somewhat productive. I show how this affix works in Gothic and then what happens in Old, Middle, and Modern English. I also discuss a few other causativizers.

The weak *-jan* verbs in Gothic are derived from strong intransitive verbs, as in (a), nouns, as in (b), or adjectives, as in (c) of Table 6. These alternating verbs are taken from van Hamel (1931: 186–187), Prokosch (1939: 153), and (Ottosson 2009: 35); see also Krahe & Meid (1967) and Suzuki (1989: 178–180).

Although the verbs formed with *-j* generally have a causativizing function, one needs to heed Bammesberger's (1965: 143) cautionary words that "die Bildungswiese von vielen der aufgeführten Verben keineswegs als gelöst zu betrachten ist".<sup>7</sup> From van Hamel (1931: 186–187) and Prokosch (1939: 151–153) to Ottosson (2009), to name but a few, these verbs have generated a large amount of interest.

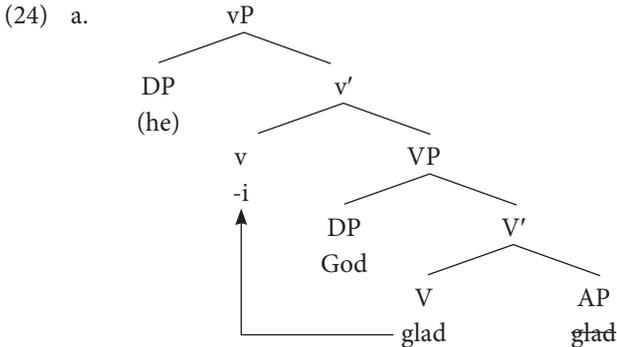
Lass (1994: 166) says that, by Old English, the function of *-i* as causativizer is visible only in a small group of verbs, in line with Visser and Bosworth & Toller (see the discussion above). I believe there is some evidence left, as there is in present-day English between *sit* and *set*, *lie* and *lay*, *fall* and *fell*.<sup>8</sup> Thus, I agree with

**Table 6.** Gothic weak causatives

a.	<i>ur-reisan</i> 'arise'	>	<i>ur-raisjan</i> 'to make arise'
	<i>sliupan</i> 'walk silently'	>	<i>af-slaupjan</i> 'to make slip away'
	<i>brinnan</i> 'burn' intr.	>	<i>ga-brannjan</i> 'to burn something'
	<i>sitan</i> 'sit'	>	<i>satjan</i> 'to put'
	<i>drigkan</i> 'drink'	>	<i>drakjan</i> 'make drink'
	<i>ligan</i> 'lie'	>	<i>lagjan</i> 'lay'
	<i>-redan</i> 'prepare'	>	<i>rodjan</i> 'make think'
b.	<i>stains</i> 'stone'	>	<i>stainjan</i> 'to stone'
	<i>doms</i> 'judgment'	>	<i>domjan</i> 'to judge'
	<i>wens</i> 'hope'	>	<i>wenjan</i> 'to hope'
c.	<i>laus</i> 'loose'	>	<i>lausjan</i> 'to loosen'
	<i>hails</i> 'whole'	>	<i>hailjan</i> 'to heal'
	<i>blinds</i> 'blind'	>	<i>gabljndjan</i> 'to blind'

Ottosson (2009:51), who concludes that even though the *j*-causatives were less transparent in Old English, this formation may still have been somewhat productive.

A syntactic tree for the derivation of a causative by means of the affix *-i* in Old English would look like (24a). The verb *gladian* ‘make glad’ derives from the adjective *glad* and, if this process was still transparent in Old English, the adjective would have moved to V and to *v* to derive the *v*P in (24b).



- b. Ac utan **glad-i-an** georne God ælmihtigne  
 but let-we glad.CAUS.INF eagerly God almighty  
 ‘But let us make God the almighty glad eagerly’ (see 21b)

Thus, the Gothic *-j* affix is found back in the Old English *-i*. Above, we have seen *byrnan* and *gladian* where the anticausative strong verb alternates with the causative weak *i*-verb. Ottosson (2009:50) lists 13 additional verbs like *byrnan* and *gladian*. Ten are listed in (25) and three others in fn. 8.

- (25) *drēopan* ‘drop’ and *driēpan* ‘moisten’,  
*belgan* ‘be/become angry’ and *ābielgan* ‘irritate’,  
*hweorfan* ‘turn/go/die’ and *hwierfan* ‘turn/destroy’,  
*meltan* ‘melt, burn up, be digested’ and *mieltan* ‘melt/purge’,  
*sincan* ‘sink’ and *sencan* ‘sink, submerge/drown’,  
*springan* ‘jump/burst forth/spread’ and *sprengan* ‘scatter/burst’,  
*nesan* ‘escape from/be saved’ and *nerian* ‘save/protect’,  
*sigan* ‘sink/fall/move’ and *sægan* ‘cause to sink/fell/destroy’,  
*scrincan* ‘shrink/wither’ and *screncan* ‘cause to shrink’,  
*feallan* ‘fall/flow/die’ and *fiellan* ‘fell/defeat/destroy’

In the Middle English period, a new causativizer is introduced, namely *-en*. This causative suffix is very productive, as the list of verbs derived with it in (26) shows, and it can be analyzed as a small *v*.

- (26) *awaken, blacken, brighten, broaden, cheapen, coarsen, dampen, darken, deafen, deepen, fasten, fatten, flatten, freshen, frighten, gladden, harden, hasten, hearten, heighten, lengthen, lessen, lighten, loosen, madden, moisten, neaten, quicken, quieten, redden, ripen, roughen, sadden, sharpen, shorten, sicken, slacken, smarten, soften, stiffen, straighten, strengthen, sweeten, tauten, tighten, toughen, waken, weaken, whiten, widen, worsen.*

I have composed the list in (26) using Earle (1880: 291), Skeat (1892: 275–276), and Levin & Rappaport Hovav (1995: 96).

According to Skeat (1892: 275–276), the *-en* suffix reverses its meaning from the Gothic detransitivizing *na*-verbal class (cf. *lear-n*, *ow-n*, *daw-n*, *drow-n*) to English causativizer: the *-n* in *full-n-an* ‘to be filled’ is reanalyzed as *-en* in *blacken* and *darken* ‘to make black/dark.’<sup>9</sup> Skeat has a footnote about this reversal of *-n* from anticausative to causative being controversial. Suzuki (1989: 67–70) shows that in Gothic the anticausative *-n* suffix is very productive and either deverbal, as with *aukan* ‘increase’ to *auknan* ‘become increased’ in (a), or deadjectival, as with *fulls* ‘full’ to *fullnan* ‘become full’ in (b) of Table 7. Some contrast with the causative *-j*, as in (c) of Table 7. The data in this table are from van Hamel (1931: 187); Suzuki (1989: 67–70); and Ottosson (2009: 6–7).

Table 7. The anticausative suffix *-n* in Gothic

a.	<i>bileiban</i> ‘stay’ (bleiben)	>	<i>aflifnan</i> ‘remain’
	<i>giutan</i> ‘pour’	>	<i>usgiutan</i> ‘pour out’
	<i>bindan</i> ‘bind’	>	<i>andbundnan</i> ‘become unbound’
b.	<i>hauhs</i> ‘high’	>	<i>ushauhnan</i> ‘glorify’
	<i>weihs</i> ‘holy’	>	<i>weihnan</i> ‘be hallowed’
	<i>hails</i> ‘whole’	>	<i>gahailnan</i> ‘be healed’
c.	<i>gadauþjan</i> ‘kill’	–	<i>gadauþnan</i> ‘die’
	<i>gablindjan</i> ‘blind’	–	<i>afblindnan</i> ‘become blind’
	<i>gabatjan</i> ‘improve’	–	<i>gabatnan</i> ‘obtain advantage’

Whatever its origin, this *-n* suffix is used in a manner similar to *-i* and introduced at a time when the function of *-i* is opaque.

In Old English, there is another causative suffix *-se* (see Skeat 1892: 279), as in *clean-se*, *rin-se*, *clasp*, *lisp*, and *grasp*, where the last three have undergone metathesis. The *OED* mentions that a verb such as *clean* replaces the earlier *clænsian* ‘cleanse’ (*OED* s.v. *clean*). In (27), some of the verb forms are listed that use zero-derivation; these are mostly taken from Levin & Rappaport Hovav (1995: 95).

- (27) *brown, clean, clear, cool, crisp, dim, dirty, dry, dull, empty, even, firm, level, loose, mellow, muddy, narrow, open, pale, quiet, round, shut, slack, slim, slow, smooth, sober, sour, steady, tame, tan, tense, thin, warm, yellow.*

The syntactic tree for the *-en* and zero affixes would be as in (24a).

There are three other causative suffixes *-ize*, *-(i)fy*, and *-ate*. These came to English mostly through Latin and French loans that were themselves based on Greek and Latin, and are not fully productive. Examples are given in (28) with the earliest occurrence possibly around 1300, as in (29); a few of these are labile. This suffix is not derivationally causative in Modern English, however.

- (28) *advertize, baptize, Christianize, computerize, customize, emphasize, fertilize, generalize, hospitalize, legalize, legitimize, maximize, mesmerize, mobilize, modernize, nasalize, neutralize, optimize, organize, patronize, rationalize, romanticize, stabilize, subsidize, summarize, symbolize, sympathize, systematize, utilize, visualize.*
- (29) a. He was **ybaptized** þere.  
           he was baptized there  
           ‘He was baptized there.’ (1297 *Gloucester* 86, from the *OED*)
- b. to **baptis** þe prist  
           to baptize the priest  
           ‘to baptize the priest’ (*Cursor Mundi* 12897)

The suffixes *-ate* in (30) and *-ify* in (31) are also borrowed. The suffix *-ate* was used to anglicize Latin participles; verbs ending in *-ify* are adoptions of French causative verbs ending in *-fier*.<sup>10</sup> The latter correspond to Latin verbs ending in *facere* ‘make’. It would be hard, however, to argue that these are systematically derived causatives. I am therefore assuming that these are transitive verbs with no alternation between transitive and intransitive verb or adjective or noun.

- (30) *abdicate, accelerate, accumulate, activate, ameliorate, assassinate, captivate, decapitate, decarbonate, decimate, defoliate, dehydrate, desiccate, deteriorate, disintegrate, eradicate, escalate, estimate, evaporate, exculpate, expostulate, fabricate, germinate, indicate, integrate, invalidate, liquidate, marinate, mitigate, nominate, operate, postulate, relocate, separate, venerate.*
- (31) *beatify, beautify, calcify, certify, clarify, codify, deify, dignify, diversify, dulcify, edify, falsify, electrify, gentrify, horrify, humidify, identify, intensify, justify, liquefy, modify, mollify, mortify, mummify, mystify, nullify, ossify, qualify, ratify, satisfy, scarify, simplify, solidify, stultify, transmogrify, unify, vilify.*

Therefore, in Modern English, the *-en* and zero derivations derive a causative out of an unaccusative. These are the successors of the Germanic *-j* pattern, and can

be represented as in (24a). The three borrowed suffixes, *-ize*, *-ate*, and *-ify*, indicate causative verbs but are less productive.

As also shown in Section 3.1, there is a loss of purely unergative verbs. However, it remains unclear how many unergative verbs are really intransitive and not labile (with an optional Theme) or inherently reflexive. For instance, even in Old English, *run* has a transitive sense, as in (32), with a cognate object, namely the relative pronoun. This use remains constant between Old, Middle, and Modern English (33), where it is also a causative in (34).

(32) ac bioð zehwerfde eft to þam ilcan ryne þe hie ær **urnon**  
 but are turned back to the same course which they before ran  
 ‘but are turned again to the same course which they ran before’  
 (Alfred, *Boethius* xxi, from the *OED*)

(33) We ran the extra mile.

(34) researchers at the University of Sheffield have **run** a detached eddy  
 simulation of a circular cylinder at Reynolds number 1.4e+5  
 (COCA, Mechanical Engineering February 2009)

In conclusion so far, Germanic and Old English have verbal *-j/-i* affixes indicating valency that add an Agent or Instrument, i.e. a Causer, to the argument set. These affixes are lost in early Middle English. Though a few new ones are added, unaccusative verbs and adjectives become increasingly labile in English, as summarized in Figure 1. As *springen* in Table 4 shows, this is not true in the other Germanic languages.

Old English	V <sub>anticausative</sub>	+	<i>-i</i>	=	V <sub>causative</sub>
↓					
Middle/Modern English	V		=		V

Figure 1. Increase in anticausative–causative lability

Changes affecting the Theme argument, specifically lability between intransitives and transitives, will be discussed in the next section.

### 4.3 Theme-affecting changes: An increase in transitivity

Visser (1963:99, 127) argues for an increase in transitivity between Old and Modern English on the basis of the verbs in (14) and (17) above. In connection with those lists, I mentioned that not all intransitive verbs listed as intransitive were only intransitive. For instance, *ablinnan* and *cidan* in (15) and (16) and *ærnan* in (32) are not. Visser himself (pp. 100–127) provides examples of 506 verbs that are

usually listed as intransitive but for which he has found transitive uses. A few of these 506 alternating verbs are *arrive*, *babble*, *crawl*, *depart*, *graze*, *groan*, *laugh*, *ooze*, *smile*, and *swim*. Some of the reasons Visser mentions for the increase in transitivity are the loss of *ge-* and changes in reflexives. I examine those in 4.3.2 and 4.3.3 respectively; first, I investigate objects.

#### 4.3.1 *The object*

There are many changes regarding the grammatical Object role between Old and Middle English: accusative Case changes from inherent to structural and new definiteness markers appear in the form of articles, all by late Old English. Abraham (1997b), Philippi (1997), van Gelderen (1997), and Kiparsky (1998), among others, have argued for a connection between Case, definiteness, and aspect. I will argue that perfective aspect, accusative and genitive Case, and definiteness in Old English are marked through an ASP(ect) category, as in (3). I will use a minimalist feature analysis and argue that aspect, Case, and definiteness in Old English are interpretable, but are reanalyzed as uninterpretable.

In Minimalist generative work, interpretable features are those that are relevant at the (interpretative) interface. For instance, person and gender on an English (pro)noun are relevant to the interpretation, but person and gender on the verb is not. The former is therefore interpretable and the latter uninterpretable. Case in Modern English is not interpretable because we understand sentences such as ‘Me saw she’, with the incorrect case markings, as ‘I saw her’. Chomsky (1986: 193) distinguishes between structural Case connected to structural position, e.g. the Modern English objective and nominative cases are connected to certain positions in the syntactic tree, and inherent Case associated with theta-marking. Van Gelderen (2000: ch. 5) argues that all Old English objects are marked by inherent Case, i.e. have interpretable Case. Dative Case marks Goals and accusative and genitive Case mark Themes. The latter two cases are also involved in aspectual and definiteness marking.

In Old and early Middle English, the genitive Case is used when the object is partially affected, i.e. when the measure of the involvement of the object is relevant (cf. Allen 2005: 240), as in (35), with verbs of deprivation, or of mental action, as in (36). Limit of involvement translates into an absence of definiteness.

- (35) Ðar com eft ongean Swegen eorl to Eadwerde cinge and gyrnde to him  
 there came back again Swegen earl to Edward king and craved of him  
**landes** þæt he mihte hine on afedan.  
 land.GEN that he might it on sustain  
 ‘Then Swegen came back again to King Edward and wanted **land** from him  
 so that he would be able to sustain himself.’ (Chronicle D, anno 1049.9)

- (36) þe cyng ... gyrnde **heora fultumes**  
 the king desired their support.GEN  
 ‘The king ... wanted some of their **support**.’

(*Peterborough Chronicle* 1087.37–39)

The accusative is used in signaling affectedness, as in (37).

- (37) se helend þa witende **þohtas heora** cwepþ to heom ...  
 the healer then knowing thoughts their said to them  
 ‘The Savior, knowing their thoughts, said to them ...’

(*Rushworth Glosses, Matthew* 12.25)

The alternation between genitive (or partitive) and accusative is not uncommon across languages, and indicates a connection between measure and affectedness of the object, i.e. definiteness, and aspect, (see also Jamison 1976 and Dahl 2009).

The genitive Case of the object disappears in English in the 12th century. Bungenstab (1933) and Mitchell (1985) list over 200 verbs that have genitive objects in Old English; very few are left in Middle English. Allen (2005:239–240) says that the loss of the genitive object is “difficult to attribute ... to the phonological changes” or to a loss of genitives in general. She partly blames it on the “loss of a coherent and distinctive meaning of the genitive case for objects”.

Special pronominal Case distinguishing dative and accusative is also lost in this period, as (38) shows, another indication that verbs lose their inherent Case assigning abilities.

- (38) a. 7 to Corinee **hine** sende  
 and to Corineus him.ACC sent  
 ‘and sent him to Corineus’  
 b. and to Corineus **him** sende  
 and to Corineus him.DAT sent  
 ‘and sent him to Corineus’

(*Layamon, Caligula* 1209)

(*Layamon, Otho* 1209)

Around the same time as inherent Case on objects is lost, aspectual prefixes on verbs disappear, and specificity/definiteness markings on nouns increase, having grammaticalized from deictic markers. I will first focus on the definiteness markers. Leiss (2000) suggests for Old High German that the explosion of articles first occurs in genitives, as a compensation for the loss of Case. I believe that, in late Old English, the article appears in all positions as a compensation for the loss of inherent Case. The introduction of articles can be seen in the First Continuation of the *Peterborough Chronicle*, as Allen (1995:172) also notes. In this 12th century text, the distal (masculine nominative) demonstrative pronoun *se*, as in Old English (39a), is reanalyzed as the definite article, as in (39b).<sup>11</sup>

- (39) a. Se heora cyning ongan ða singan  
 that their king began then sing  
 ‘That king of theirs began to sing’ (Orosius 35.14–15)
- b. Ic Wulfere gife to dæi Sancte Petre ⁊ þone abbode Saxulf ⁊  
 I Wulfere give today St. Peter and the abbot Saxulf and  
 þa munecas of þe mynstre þas landes ⁊ þas wateres  
 the monks of the abbey these lands and these waters  
 ‘I, Wulfere, am giving today to St. Peter and Abbot Saxulf and the monks of  
 the abbey these lands and waters’ (Peterborough Chronicle anno 656: 40)

The evidence for the reanalysis is first that the earlier demonstrative *se* and its variants now need to be followed by a nominal (Wood 2003: 69); beforehand this form had been optionally followed by a noun. Secondly, most nouns are now preceded by a demonstrative or article, whereas earlier they could appear on their own. In terms of features, this would mean a reanalysis of the interpretable deictic features as uninterpretable Case features. See van Gelderen (forthcoming).

The introduction of articles occurs in all positions, as the distribution given in Table 8 for the entry for the year 1137, from the Final Continuation, shows. Since *all* is a frequent pre-determiner, as in (40) and (41), I list it separately in Table 8.

**Table 8.** The definite article *the* in the *Peterborough Chronicle* for the year 1137 (taken from van Gelderen forthcoming)

	<i>þe</i>	<i>al(le) þe</i>	<i>te</i>	<i>the</i>	<i>al(le) the</i>
Subject	6	1	1	2	–
Object	8	4	2	–	1
PObject	11	2	–	5	–
Total	25	7	3	7	1

The use of *al(le)* is the most frequent in object position (five out of 15). I believe it helps to convey the degree of affectedness that is lost when the inherent case (accusative or genitive) is lost. The first examples of the definite article use come from the *Peterborough Chronicle* and the slightly later *Ormulum*.

- (40) I ne can ne i ne mai tellen alle þe wunder ne alle þe pines ðæt  
 I not can not I not may tell all the wonders not all the suffering that  
 hi diden ...  
 they caused  
 ‘I don’t know nor can I tell all the enormities nor all the suffering that they  
 caused ...’ (Peterborough Chronicle anno 1137)
- (41) & gaddrst swa þe clene corn All fra þe chaff togeddre  
 and gatherst so the clean wheat all from the chaff together  
 ‘and so you gather the clear wheat from the chaff’ (Ormulum 1484–1485)

So far, I have shown that the genitive and accusative alternation is used for partial affectedness and definiteness respectively in Old English. This distinction is lost in early Middle English. In addition, articles are introduced. Since Case, definiteness, and aspect are connected, I turn to aspect next.

#### 4.3.2 Aspect

As has been known since at least Streitberg (1891), Germanic *ge-* is a perfectivizing prefix adding a Theme. This continues into Old English. As early as Lorz (1908), there are detailed analyses of verbs with and without *ge-* and their Aktionsart in *Beowulf*; others have done so for other texts, e.g. Lenz (1886). A few such pairs are shown in Table 9.

**Table 9.** Theme-increasing alternations involving *ge-* in Old English

<i>ærnan</i> 'to run'	>	<i>geærnan</i> 'to reach'
<i>feran</i> 'to go'	>	<i>geferan</i> 'to reach'
<i>gan</i> 'to go'	>	<i>gegan</i> 'to overrun, subdue'
<i>hyran</i> 'to hear'	>	<i>gehyran</i> 'to learn about'
<i>restan</i> 'to rest'	>	<i>gerestan</i> 'to give rest'
<i>winnan</i> 'to labor, toil'	>	<i>gewinnan</i> 'to gain, conquer'
<i>wadan</i> 'to go'	>	<i>gewadan</i> 'to traverse'

Other prefixes transitive likewise to add a Theme. From Streitberg (1891) and others on, this is recognized. A very partial list is given in (42). Many of these prefixes still show their origin as adverbs, i.e. originally with interpretable locational features.

(42) <i>adruwian</i>	'dry up'	<i>aswapan</i>	'sweep off, clean'
<i>bedrincan</i>	'absorb'	<i>belucan</i>	'enclose'
<i>forswelgan</i>	'swallow up'	<i>formeltan</i>	'melt away'
<i>forðbringan</i>	'produce'	<i>forðsīpian</i>	'go forth, die'
<i>fulfremman</i>	'fulfill'	<i>fullbetan</i>	'satisfy'
<i>oflætan</i>	'give up'	<i>oftredan</i>	'tread down'
<i>oferhelian</i>	'conceal'	<i>ofergan</i>	'overrun'
<i>tobeatan</i>	'beat apart'	<i>tosyndrian</i>	'separate'
<i>þurhtrymman</i>	'corroborate'	<i>þurhdreogan</i>	'carry through'
<i>ymbhringan</i>	'surround'	<i>ymbhycgan</i>	'consider'

(from Brinton 1988: 202–203).

Many of these verbs lose the transitive prefix and end up being replaced by French loans, e.g. *bedrincan* and *forðbringan* are now 'absorb' and 'produce' respectively, or by phrasal verbs, e.g. *adruwian*, *þurhdreogan* are now 'dry up' and

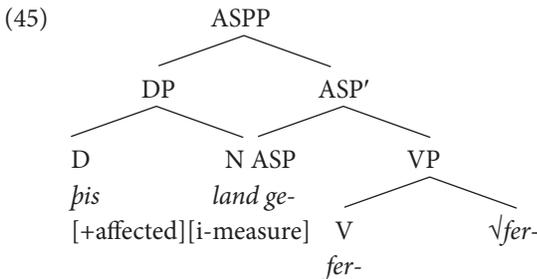
‘carry through’, respectively. This is dealt with in detail in Brinton (1988: 215–231). The function of *ge-* also changes before it disappears. Brinton (1988: 202 ff.) argues that Old English verbal prefixes indicate telicity, but that *ge-* has become “seriously over-extended” (p. 212) by Middle English. It ends up functioning as a perfect marker indicating present relevance, even with intransitives, before it is lost.

Tying together the points made so far in Section 4.3, I have argued that ASP(ect) in Old English is responsible for (a) licensing of a Theme, either with a prefix or without; (b) determining genitive or accusative Case, and hence affectedness and definiteness of the object; and (c) the aspectual properties of the event. Not much is said in Minimalism about how inherent Case is assigned or checked. In addition, there is still a debate as to how much of the argument structure can be attributed to the construction, also known as the ‘flavors’ of little *v*, and how much to the lexical item. I assume that the semantics of a root, e.g. *swelg-an* ‘swallow’ and *fer-an* ‘to go’, combine with an aspectual element, e.g. *for-* in (43) and *ge-* for *gefer-an* ‘to reach’, as in (44). The verb *fer-an* is a durative intransitive whereas *gefer-an* is a perfective and telic transitive.

- (43) *leofes mannes lic eall for-swealg.*  
 dear.GEN man.GEN body all up-swallowed  
 ‘He swallowed up the entire body.’ (Beowulf 2080)

- (44) *ða ferdon þa Pihitas & ge-ferdon þis land norþanweard*  
 then went the Picts and ge-entered this land northward  
 ‘Then went the Picts and conquered the land northward’  
 (Peterborough Chronicle Preface)

The category ASP determines that a Theme is involved in events that it is a part of. There are a number of ways to represent this. I have chosen interpretable measure-features in ASP to be responsible for the affectedness or non-affectedness of the Theme, marked by either accusative or genitive respectively.



The feature [measure] connects the transitivity and perfectivity of the event to the definiteness and affectedness of the noun. Unlike in the case of structural Case,

which involves a probe with uninterpretable features in a light verb, inherent Case involves just one feature that licenses a semantic role.

The changes that occur involve a loss of the specific Case, “assigned” by [i-measure], and a change of the function of the marker *ge-* connect with these. This all occurs in late Old English, e.g. in the last part of the *Peterborough Chronicle*. The grammaticalization of the *have* and *be* auxiliaries, as in (46) and (47), is of course an earlier phenomenon.

- (46) ... **hefde numen** Fulkes eorles gingre dohter  
 had taken Fulk.GEN earl.GEN younger daughter  
 ‘... had taken the younger daughter of count Fulk.’  
 (*Peterborough Chronicle*, anno 1124)

- (47) Headda abbot **heafde** ær **gewriton** hu Wulfhere ...  
 Headda abbot had earlier written how Wulfhere  
 ‘Headda the abbot had before written how Wulfhere ...’  
 (*Peterborough Chronicle*, 963 Interpolation)

Thus, a reanalysis of the features connected with various categories takes place: the demonstratives lose their interpretable deictic features to become articles, the aspectual perfectivizing prefixes are lost, and Case is not longer inherent. Before turning to more on these changes, I will examine another Theme-affecting change.

#### 4.3.3 Reflexive verbs

Mustanoja (1960: 429–430) sees a tendency whereby transitive verbs develop into intransitives and blames that partly on “the inherent aversion of English speakers to the reflexive form”. This aversion would lead to a loss of transitivity. In this section, I review some of the changes that take place and show that it is hard to speak of a loss of transitivity in this case.

Ogura (1989: 5–6, 71ff), Peitsara (1997), and König & Vezzosi (2004), to name but a few, have argued that verbs expressing typically self-directed activities show less marking by objects and those expressing other-directed activities have more. Figure 2 shows what is meant to be a continuum. In Old English, for instance, other-directed verbs are more likely to have optional *self* when the action is not other-directed.

However, this is not absolute. For instance, the self-directed verb (*ge*)*scamian* ‘shame’ occurs without object, with a simple pronominal object, as well as with a pronoun followed by *self*. In Modern English, the same indeterminacy occurs, e.g. *wash* is other-directed (four times more other-directed than self-directed in 100 arbitrary hits from the BNC) but most self-directed verbs, as in (48), are not marked by a pronoun.

typical towards another <i>(help, kill, attack, kiss)</i>	ambiguous <i>(see)</i>	typical towards oneself <i>(wash, shave, shame, defend)</i>
MORE marking	$\longleftrightarrow$	LESS marking
<i>Judas hine sylfne aheng</i> Judas him.ACC self.ACC hanged 'Judas hanged himself.'		<i>þæt we us gehydan mægon</i> that we us hide may 'that we can hide ourselves.'

Figure 2. Types of Reflexive Verb

(48) It is our custom to **bathe** in the streams near my home very often and **wash** always before eating. (BNC-C85 1859)

Even though changes in reflexive marking are relevant to the valency and aspect (see e.g. Cennamo 2010), I believe that these are relatively independent of each other in the history of English.

In conclusion to Section 4, in Germanic, a suffix derives causatives by adding an Agent to the Theme of the anticausative verb and a prefix derives transitives by adding a Theme to the Agent. In typological terms, that makes the basic valency of Germanic intransitive. By late Old English, however, these affixes are no longer transparent to the learner and verbs are reanalyzed as labile, with lability for the anticausative ~ causative alternation as well as lability for the intransitive ~ transitive one. Figure 3 visualizes the reasons behind these increases of lability, building on Figure 1.

In Old English, weak causative verbs derive from strong intransitives by means of the addition of the *-i* affix. When this affix disappears, the verbs become the same on the surface, i.e. labile. A similar increase in labile verbs occurs when the transitivizing and perfectivizing prefixes on intransitives disappear. I will go into some more of the details of this analysis in the next section.

Old English	V intransitive (anticausative)	+ <i>-i</i>	>	V causative
	↓	↓		↓
Middle	V intransitive	=		V causative
Old English	V intransitive	+ <i>ge-</i>	>	V transitive
	↓	↓		↓
Middle	V intransitive	=		V transitive

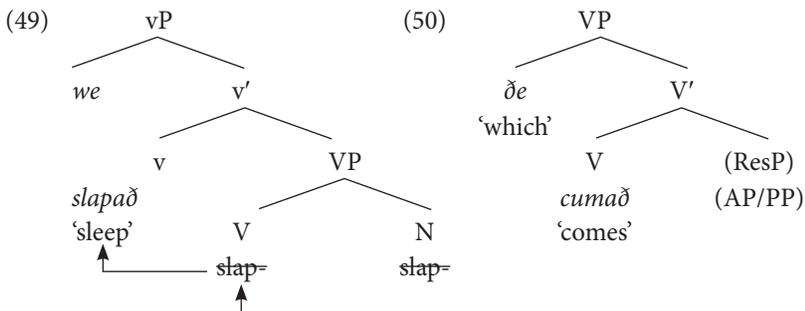
Figure 3. Increases in lability

## 5. Changes in English Argument and Event structure

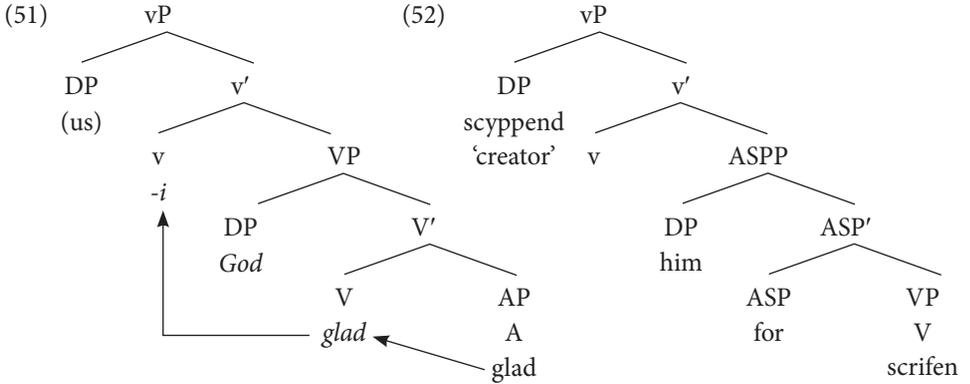
There are many views on how to represent argument and event structure. Based on Gruber (1965) and Jackendoff (1972), Chomsky (1981) introduces theta-roles. Verbs are listed in the lexicon with their theta-roles and there needs to be a matching number of arguments to theta-roles in the syntax. The thematic roles appear in certain specified syntactic positions, determined by a hierarchy where an Agent or Experiencer are more prominent than a Theme and serve as grammatical subjects.

However, verbs cannot be the only determinant of the argument structure because aspect and definiteness, i.e. their event structure, affect it as well. Davidson (1980), Parsons (1990), and others have come up with ways to connect the event and the aspect to the arguments and, especially since Hale & Keyser (2002), many regard theta-structure as derived from the syntactic structure, as in (3) above. The changes between Old and Modern English reinforce that the categories *v* and ASP have a certain content that depends on the root they attach to. Thus, Germanic has a set of valency markers indicating transitives, e.g. through verbal prefixes such as *ge-*, and causatives, e.g. through the suffix *-i*. Some of these markers are still visible in Old English, though Modern English has lost these markers. Diachronically, nothing happens in terms of the structure of the syntactic tree: there continue to be light verbs and unaccusative verbs continue to move to *v*, even after *-i* is lost, to derive causatives. A change is that structural Case is introduced, probably via *v* and not via ASP.

I will now provide structures for Old English and then show in exactly which properties the change resides. Structure (49) represents the unergative verb in (10) and (50) represents the unaccusative verb in (12). If unergatives are denominal, they do not project a specifier to the VP and hence Themes are not present. When a *v* is added, as in (49), an Agent is licensed. Unaccusatives are verbs and license a Theme, as in (50), and optionally a Result. In (49) to (52), I ignore the linear surface order and represent the earlier positions by means of struck-through copies and arrows.<sup>12</sup>



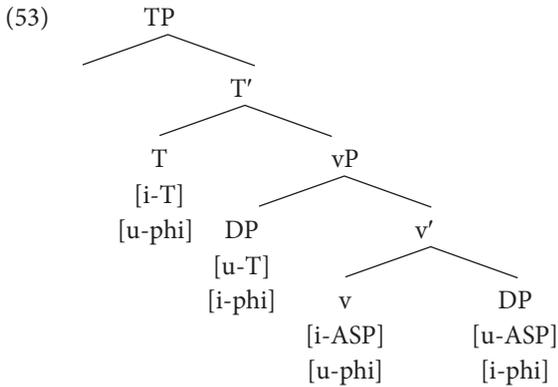
The causative verbs build on unaccusative verbs or adjectives, in the case of deadjectivals. Thus, the causative in (21b) is represented in (51) and a transitive structure (not yet encountered above) is represented in (52).



In (51), the adjective in the (Result) AP moves to the V and a Theme in the specifier is licensed. An additional morpheme is needed to license the Agent or Causer since the V already licenses a Theme (*God*). The *-i* morpheme in *v* has interpretable cause features, responsible for the addition of a Causer theta-role. In (52), a prefix appears that derives from an adverb and which, in the previous section, I have argued has interpretable measure and aspect features. This ASP licenses the additional Theme argument.

If, as in current Minimalism, all variation is caused by different lexical features, how can we account for the changes chronicled in this article? The changes from Old to Early Middle English involve the loss of the transitivizing prefix in ASP and the causativizing suffix in *v*. The inherent Case to the object via ASP, as in (35–37) above, is interpretable but is reanalyzed as uninterpretable in the 13th century. So, let us now look at a syntactic tree for Modern English and see what else has changed.<sup>w</sup>

Structural Case, according to Pesetsky & Torrego (2004), involves an uninterpretable and unvalued T on the nominal DP which is valued by a finite Tense in the case of the subject or transitive *v* in the case of the object, at least in English (although other languages may differ in this respect). Pesetsky & Torrego connect Case, finiteness, and agreement by having an uninterpretable phi-feature (person and number) in T and *v* look down the tree for a feature on the DP. My adaptation of this is as in (53), leaving out a separate V(P) and an ASPP, for convenience.



In (53), the [u-phi] features in *v* act as the probe and value the [u-ASP] of the DP as well as the [u-phi] of its own. The same happens with *T*. In some languages, the [u-T] can be valued +/- definite, e.g. Finnish. When 'assigned' definite values, the subject moves to Spec TP (the EPP). The proposal in (53) thus represents structural Case as valued by tense and aspect or measure.

Comparing (53) to (52), we see that the interpretable aspect features are still present in (53) in *v*, not ASP, and that the nominals have uninterpretable Case features, represented as [u-T] and [u-ASP]. As has been argued above, this change in the nominals comes about in the late Old English period when the demonstrative grammaticalizes to the article by reanalysis of the interpretable deictic features to uninterpretable Case ones. As for the unergative in (49), the unaccusative in (50), and the causative in (51), no change can be detected in the structure except for the affix.

## 6. Summary and conclusion

In this article, I have reviewed the question posed in some of the typological literature whether languages have a basic valency and, if so, how to measure such basic valency. German(ic) is typically seen to have transitive verbs as basic and to be detransitivizing. However, for one of the Germanic languages, Modern English, it is much harder to determine a basic valency because of the extensive numbers of labile verbs. I have therefore explored the valency in Old English. The conclusion, reached in, e.g., Ottoson (2009) as well, is that Old English already has quite a number of labile verbs, while the causative affix remains somewhat productive. The reason for this difference between early Old English and its Germanic sisters is unclear. I also concur with Plank & Lahiri (2009) that, if there is a basic valency in Germanic, it is intransitive; this includes Old English. Many changes take place

in the history of English that are related to a discontinuation of marking causatives and transitives morphologically. As a result of morphological opacity, many verbs become labile and they lose the ‘basic valency’ of intransitive in terms of the framework of Haspelmath (1993), Comrie (2006), and Nichols et al. (2004).

I also set out to account for the Old English situation using a VP, as in (3), built from roots that are verbal, adjectival, or nominal and which combines with heads such as ASP and *v*. This makes the approach compatible with having a strictly bottom-to-top derivation, as in current Minimalism and less like Hale & Keyser’s (2002) approach. The explanatory power of this model for English is that it gives a good account of the anticausative ~ causative alternation: anticausatives are either deadjectival, i.e. derived from the Result, or verbal (unaccusative). If nothing is added, they remain that. If a light *v* is added, a Causer is added, and the verb is causative. Old English structures such as (49–52) are the result. The changes between Old and Modern English are explained through a reanalysis of the features from interpretable to uninterpretable. Although the basic syntactic tree remains the same, there are minor changes in the *v* and ASP and which lexical elements occupy them.

## Abbreviations

A	subject (of a transitive verb); or anticausative (in table)
ASP	aspect
BNC	British National Corpus, see references
C	causative (in table)
CAUS	cause marker (in gloss)
COCA	Corpus of Contemporary American English, see references
DOE	<i>Dictionary of Old English Corpus</i> , see references
DP	determiner phrase
E	equipollent (in table)
i-	interpretable (of a feature)
INF	infinitive marker (in gloss)
L	labile (in table)
O	object
OED	<i>Oxford English Dictionary</i>
phi	phi-features (person, number, and gender)
S	Subject (of an intransitive verb); or suppletive (in table)
T(P)	tense (phrase); T is also the feature responsible for nominative Case
u-	uninterpretable (of a feature)
v	light verb
√	root, not specified for category

## Notes

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1. Unergative and unaccusative are used in the well-known Perlmutter (1978) sense. The classes of unergatives and unaccusatives are relatively uniform across Germanic and I therefore assume that the same basic groups occur in Old English.
2. Although A-affecting processes (–A passive and +A causative) seem to be the focus, Nichols et al. also add O-affecting processes (–O antipassive, +O transitivity, and +O2 addition of an applicative).
3. Based on Haspelmath (1993: 100), Nichols et al. and Comrie use .5 to indicate that with certain verbs there is more than one possible set.
4. I am not taking into account that verbs could have reflexive objects, since these were on a par with regular objects in Germanic, except in Old Norse, where there was a reflexivizing morpheme.
5. Ottosson (2009: 50) lists *steorfan* ‘die’ and *āstierfan* ‘kill, destroy’, *cwelan* ‘die’ and *cwellan* ‘kill’, and *weallan* ‘rage, well, boil, flow’ and *wiellan* ‘boil’ as derived. That would change the numbers as follows: two suppletive, five labile, six transitivity, two detransitivizing, and three are unclear.
6. The examples not marked as taken from the *OED*, Visser, or other secondary sources have been extracted from the DOE corpus by the author. The references to these use the standard editions. Thus, the reference to Alfred’s *Pastoral Care* is Sweet (1871), to *Orosius* is Bately (1980), to *Beowulf* is Klaeber (1922), to the *Anglo-Saxon Chronicle* is Thorpe (1861), to the *Old English Gospel* is Skeat (1881–1887), to the *Homilies* is Thorpe (1844–1846), to *Ormulum* is Holt (1878), and to *Layamon* is Brook & Leslie (1963).
7. “The derivation of many of the verbs presented is in no way to be considered solved.”
8. Mair Parry (p.c) reports on speakers using only one of these though, e.g. ‘when you lay down’, ‘sit yourself’, and ‘that verb raises’. This means the distinction may soon be lost completely. Of 60 native speaker students, in an undergraduate grammar class of mine, only two gave prescriptively correct answers on ten sentences with forms of *lie* and *lay*.
9. Skeat (1892: 276) also mentions *glist-en*, *lik-en*, *list-en*, and *op-en* but these seem not currently productive.
10. According to the *OED*, it became the “recognized method of englishing a Latin verb” to take the Latin participle as the present stem in English. Thus, *fascinate*, *concatenate*, *asseverate*, *venerate*, and hundreds of others were formed without an intermediate adjective.
11. This reanalysis is widely assumed in the literature and a review appears in McColl Millar (2000).
12. There is a debate on how to represent unaccusatives. Chomsky (2008) argues that they are vPs but that this particular vP does not count as a phase. In contrast, I will use a VP.

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