J. Linguistics **33** (1997), 39–66. ©⑨⓪⑨②③①②④ © 1997 Cambridge University Press

Subcategorization inheritance in Old English P-V compounds[1]

HYEREE KIM

The Ohio State University

(Received 23 September 1993; revised 19 February 1996)

This article deals with the relation between subcategorization and the notion head in OE [P-V] compounds. Many morphosyntactic properties such as category and morphological class percolate from the head to the mother. Subcategorization, however, can percolate to the mother from a nonhead as well as from the head. This is evident from the comparison of their case government properties. This paper shows that the process of ARGUMENT ATTRACTION developed within Head-driven Phrase Structure Grammar permits a straightforward account of this phenomenon.

1. INTRODUCTION

This paper will examine the subcategorization (or valence) of P-V compounds (for example, *over-come*) in Old English (OE) and the relationship between the subcategorization of the whole compound and the subcategorizations of its parts, as evidenced by their respective case government. The symbol P represents a preverb (for example, *over*) which is homophonous with a preposition. In Modern English (ME), the meaning of many P-V compounds is not determined compositionally from its parts. Thus, the compound *over-look* does not mean the same as the phrase *look over*. In many cases in OE, however, the relationship in meaning between the whole compound and its parts is more transparent, with the meaning of the compound derived from the meaning of its individual parts.[2] In other cases, the meaning relationship

[1] A preliminary version of part of this paper was presented in LSA annual meeting in 1993. Since then this paper has been much improved thanks to all those who have given me advice. I would like to thank especially Brian Joseph who has given me insightful comments and constant encouragement since the beginning of this paper. I am also grateful to Chan Chung, Robert Kasper, Carl Pollard, Arnold Zwicky, and the anonymous referees for the *Journal of Linguistics* for their comments and criticisms. However, all mistakes in this paper are mine.

[2] De La Cruz (1975: 47) treats the prefixes of *on-* and *to-* as having no etymological prepositional counterpart because OE *on-* is the functional equivalent of Goth. *and-*, Ger. *ent-* and not of Goth. *ana-*, Ger. *an*, and OE *to-* corresponds to Goth. *dis-*, Ger. *zer-* and not to Goth. *du-*, Ger. *zu*. Mitchell (1978: 246) also treats the prefix *to-* as in *tocweðan* 'to forbid' and *tosendan* 'to disperse' as an inseparable prefix – in contrast to separable prefixes – because there is no corresponding phrasal use of the simple verb + preposition and the compound is different in meaning from combinations involving the simple verb and the preposition. In this paper we assume that when a preverb shares the same form

https://doi.org/10.1017/S0022226796006299 Published online by Cambridge University Press

is not that clear but the whole compound and its parts show some relationship in their valences, a situation which is discussed later. In these two types of cases, I assume that the P in the P-V compound is a preposition.

In morphology there have been several attempts to establish the notion HEAD with regard to compounding as well as affixation. In section 2, I study this concept of head proposed in previous studies and examine some features of OE that act according to the patterns proposed. In section 3, studying actual OE examples case by case, I show that the valence properties of OE compounds are not predictable from these notions of head. The head of the compound determines the morphosyntactic features of the whole compound, but the valence of the compound is in general jointly determined by the head and the nonhead. In section 4, I propose an analysis in the HPSG framework that accommodates the distinctive behavior of valence properties. The main thesis is that in P-V compounds the valence of the P can undergo ARGUMENT ATTRACTION. The same proposal, moreover, can be applied to account for the valence of compound verbs in other languages which exhibit similar phenomena.

2. HEADEDNESS IN MORPHOLOGY

In the traditional sense, compounding differs from (derivational or inflectional) affixation in that the former is a combination of two or more independent words (or stems) while the latter is the combination of a single stem and one or more bound morphemes.[3] As far as the notion of head is concerned, however, the distinction between the two is minimal. The theories of Selkirk (1982) and Di Sciullo & Williams (1987) are based on the notion that words have a head, just as phrases in syntax do, and the identifying feature of heads in both syntax and morphology is that their properties are those of the whole as a result of feature percolation.

2.1 *Previous definitions on the notion head*

Williams (1981: 248) proposes, and Di Sciullo & Williams (1987: 24) adopt, the Righthand Head Rule:

(1) *Righthand Head Rule* (*RHR*)
In morphology we define the head of a morphologically complex word to be the righthand member of that word.

The following are relevant examples:

with a preposition, with the same etymologically related meaning, the P-V combination is a compounding and both members of this combination are argument-taking.

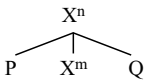
[3] Anderson (1992: 292). He treats affixation as the application of a Word Formation Rule to a single existing word rather than a combination.

https://doi.org/10.1017/S0022226796006299 Published online by Cambridge University Press

(2) Nouns: [apple$_N$ pie$_N$]$_N$, [sweet$_A$ talk$_N$]$_N$, [after$_P$ birth$_N$]$_N$, [pick$_V$ pocket$_N$]$_N$
Adjectives: [icy$_A$ cold$_A$]$_A$, [sky$_N$ blue$_A$]$_A$, [over$_P$ wide$_A$]$_A$[4]
Verbs: [spoon$_N$ feed$_V$]$_V$, [sweet$_A$ talk$_V$]$_V$, [off$_P$ set$_V$]$_V$[5]

They argue that the category of each compound (e.g. *apple-pie*) is determined by the righthand member (e.g. *pie*) above. However, there are numerous counterexamples to Williams' RHR. For verb-particle compounds (e.g. *grow up*, *sit in*), the left member, the verb, is the head; similarly in forms with an inflectional affix (e.g. *sits*), the left member is the head. This rule also cannot account for some prefixes which are category-changing, for example, *a-*: [a-[sleep]$_N$]$_A$, [a- [kin]$_N$]$_A$; *be-*: [be- [guile]$_N$]$_V$, [be- [jewel]$_N$]$_V$; *en-*: [en- [slave]$_N$]$_V$, [en- [throne]$_N$]$_V$, [en- [large]$_A$]$_V$, [en- [able]$_A$]$_V$; *de-*: [de- [bug]$_N$]$_V$, [de-[throne]$_N$]$_V$. Williams (1981: 250) himself recognizes that *en*-X (e.g. *en-able*) words have leftmost heads and are systematic exceptions to his RHR. Selkirk (1982: 87) treats these category-changing prefixes as heads. In order to cover these, she revises the RHR in terms of types and feature complexes rather than the position of a constituent:

(3) *Righthand Head Rule* (*revised*)
In a word-internal configuration,



where X stands for a syntactic feature complex and where Q contains no category with the feature complex X, X^m is the head of X^n.

By this definition, the rightmost category in X^n with the feature complex X will be the head. This definition accounts not only for all of the cases of right-headed compounds but also for the left-headed ones: e.g. [Verb [-ed]$_{Af}$]$_V$. What is important here is that this rule suggests that the head must share all relevant features with the mother.

For compounding too, the rightmost member is a head because it has the same category. For nominals, the head determines the category, number, gender, etc. of the whole word. For verbs, the head determines the category, tense, etc. of the whole word. For the notion head in compounding, Lieber (1983: 253) proposes Convention IV, which says that if two stems are sisters, that is, if they form a compound, features from the righthand stem percolate up to the branching node dominating the stems. Included in the properties

[4] Selkirk (1982) mentions that the type [VA] is missing from English and does not include this in her rewriting rules. Lieber (1983), however, lists the examples such as *die-hard*, *play-dead* as compounds logically predicted to be possible.

[5] Selkirk assumes there is no instance of V-V type, but Lieber provides *fly-drive*, *slip-slide*, *fall-float*.

https://doi.org/10.1017/S0022226796006299 Published online by Cambridge University Press

which the compound as a whole adopts from the righthand stem, she says, is the argument structure (or subcategorization frame) of that stem, if it has one. Lieber claims that in the compounds in which both stems are argument-taking, the righthand stem will supply the compound as a whole not only with its category but also with its argument structure, and this argument structure will be satisfied outside the compound. In contrast, the lefthand argument-taking stem does not pass any of its features on to the compound as a whole and it can only satisfy its argument structure within the compounds.[6]

In the following sections it will be examined whether the aforementioned characterizations of the notion of head in morphology hold for OE compounds. Let us first begin with the behavior of categorial features to see which part of the P-V compound is a head.

2.2 *The head in P-V compounds in OE*

Compatible with the theories mentioned above, the righthand member of the P-V compound determines the lexical category of the whole:

(4) *Category of* [*P-V*] *compounds*

$[[æt]_P$-$[witan]_V]_V$	'to reproach'
$[[æfter]_P$-$[cweðan]_V]_V$	'to speak after, repeat'
$[[be]_P$-$[ascian]_V]_V$	'to ask for advice'
$[[for]_P$-$[bærnan]_V]_V$	'to burn up'
$[[geond]_P$-$[sendan]_V]_V$	'to send abroad, overspread'
$[[of]_P$-$[hreowan]_V]_V$	'to cause grief'
$[[þurh]_P$-$[drifan]_V]_V$	'to drive through'
$[[under]_P$-$[writan]_V]_V$	'to write at the foot of'
$[[ymb]_P$-$[healdan]_V]_V$	'to encompass'

Here we see that categorial features are percolated to the mother from the V. Along with the lexical category, inherent features of the verb such as tense, aspect, person and number will be percolated up to the mother by the verb.

Another feature carried by the verb is the morphological class. Like NE, OE has two types of verbs – weak and strong. The weak verb forms its past and past participle by adding a dental suffix, and the strong verb by changing its stem vowel (Mitchell 1992: 35). Conventionally weak verbs in OE are further classified into three subclasses and strong verbs into seven subclasses according to differences in their morphological patterns.[7] The left-hand

[6] According to Lieber's account, any P which has an internal N argument is predicted to be impossible in P-V compounds: for example, **during-run*, **above-arrive* (P-V). For the example *overshoot* of the same P-V compounding, Lieber assumes that the initial P *over* does not have an internal N argument to be fulfilled, and thus the compound is possible.

[7] I am following a traditional classification as in Moore & Knott (1958) and Mitchell (1992).

https://doi.org/10.1017/S0022226796006299 Published online by Cambridge University Press

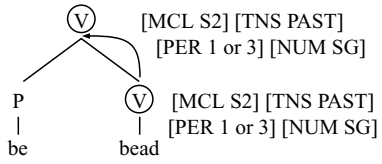
member P does not change the morphological class of the compound determined by the right-hand member V, as the following examples in (5) illustrate:

(5) *Morphological class of* [*P-V*] *compounds*

			Class	1,3 sg. past	Pl. past	Past ptcp.
(a)	(i)	habban 'to have'	W3	hæfde	hæfdon	hæfd
	(ii)	wiþ-habban 'to withstand'	W3	wiþ-hæfde	wiþ-hæfdon	wiþ-hæfd
(b)	(i)	beodan 'to command'	S2	bead	budon	boden
	(ii)	be-beodan 'to offer'	S2	be-bead	be-budon	be-boden
(c)	(i)	hatan 'to call'	S7	het	heton	haten
	(ii)	be-hatan 'to promise'	S7	be-het	be-heton	be-haten

We see in (5b) and (5c) that the compounds belong to different classes although they share the same preverb *be*. These facts show that the righthand member V determines the morphological class of the whole compound. In sum, all the features tense, aspect, morphological class, person, and number that are connected to the category V are shared with the mother by the action of feature percolation as follows.[8]

(6) *Percolation of features in* [*P-V*] *compounds*



Therefore, it seems that the circled V above is the head of the P-V compound. According to Lieber (1983), we may expect that the V composite will also determine the subcategorization outside the compound. In the following section, we consider whether the head V also determines the subcategorization of the whole compound.

[8] The abbreviations used in the tree are as follows: MCL = morphological class; S2 = strong class 2; TNS = tense; PER = person; NUM = number; SG = singular.

https://doi.org/10.1017/S0022226796006299 Published online by Cambridge University Press

3. Subcategorization in OE compounds

3.1 [*P-V*$_i$] *compounds*

In OE we find a number of compounds where the combination of a P and an intransitive verb becomes transitive. Consider the following data:

(7) *gangan* vs. *be-gangan*
  (a) he to healle geong
    he to hall went
    'He went to the hall.' (Beo 925)
  (b) þæt þu þæs cininges bebod georne begange
    that you the king's command-ACC gladly after-go
    'that you should gladly perform the king's command.'
    (El 1170)

(8) *cuman* vs. *be-cuman*[9]
  (a) sceal se gast cuman
    shall the spirit come
    'The spirit shall come.' (Soul i. 9)
  (b) (i) him becomon fela yrmþa
      them-DAT about-came much misery
      'Much misery befell them.' (BT 74: *becuman*)[10]
    (ii) ic eft up becom ece dreamas
      I again on-high about-came eternal joys-ACC
      'I again on high attained eternal joys.' (BT 74: *becuman*)

Here, we can see that the simplexes *gangan* 'to go' (7a) and *cuman* 'to come' (8a) take no nominal objects and thus are strict intransitive verbs.[11] By contrast, the compound *begangan* 'to surround, perform' in (7b) is used transitively with an accusative object and *becuman* 'to happen' in (8b) is used transitively with either a dative, as in (8b.i), or an accusative object, as in (8b.ii). Thus, it is reasonable to ask where this transitivity comes from.

Note below that *be* as a preposition takes either dative (9a) or accusative objects (9b):[12]

---

[9] *Becuman* shows an intransitive use without an object, as follows:
(i) Buton þæm twam ne mæg nan man becuman to þæm ecean life
without those two not can no man came to the eternal life
'Without those two no man can obtain eternal life.' (BlHom 77, 21)
We will discuss optional inheritance later in this paper.

[10] When a citation is from Bosworth–Toller Dictionary, I use an abbreviation BT followed by page number and the entry for the verb under which the cited sentence is listed. For the reference of the cited sentence, see the dictionary.

[11] We exclude prepositional phrases referring to time, place, etc. from arguments of subcategorization frame because even purely intransitive motion verbs can take them. Roeper & Siegel (1978) treat them with lexical redundancy rules.

[12] Mitchell (1985: 500) suggests, on no evident grounds, that the phenomenon that *be* may take the dative and the accusative probably testifies to a weakening of case distinctions

https://doi.org/10.1017/S0022226796006299 Published online by Cambridge University Press

(9) *be*, *bi*

(a) aledon þa leofne þeoden, beaga bryttan on bearm
laid then beloved king rings' giver in middle
scipes, mærne be mæste
of-ship mighty by mast-DAT
'Then (they) laid the beloved king, the ring-giver, the mighty one, by the mast in the middle of the ship.' (Beo 36)

(b) be his gecorenan and ða gelufedan ðenas
by his chosen and the beloved servants-ACC
'by his chosen and the beloved servants.' (ÆCHom i. 486, 17)

This property of *be* shows that the preposition not only changes a verb's valence from intransitive to transitive, but it also determines more specifically the grammatical case (dative and accusative) of the arguments of the whole compound. This situation runs counter to Lieber's (1983) claim that the V determines the argument structure of the whole.

Now compare *gan* 'to go' and *ymbgan* 'to go around' in the following:

(10) *gan* vs. *ymb-gan*

(a) se þe fylgeþ me ne gæþ he on þeostro
he who follows me not goes he into darkness
'He who follows me shall not go into darkness.'
(BlHom 103, 31)

(b) ymbeode þa ides Helminga duguþe ond geogoþe
around-went then lady of-Helmings veterans and youths
dæl æghwylcne
part-ACC each-ACC
'Then the lady of the Helmings went around every group of veterans and youths.' (Beo 620)

While *gan* (10a) does not take any nominal object, *ymbgan* (10b) takes an accusative object. Note below that the preposition *ymb* takes accusative (11a) or dative objects (11b):

(11) *ymb*[13]

(a) aras þa se rica, ymb hine rinc manig
rose then the noble around him-ACC man many
'The noble and many a man around him rose up.' (Beo 399)

---

rather than a genuine usage of *be*+accusative. According to our theory, however, *be*+accusative is validated because the accusative is found with the compound involving *be*.

[13] *Ymbe*, *embe*, *emban*, *umbe* are found as variants of *ymb*. Examples are presented with the spelling of the original.

https://doi.org/10.1017/S0022226796006299 Published online by Cambridge University Press

(b) he ferde eft siðdan embe sumere neode
he went again afterwards about some need-DAT
'Afterwards he went again about some need.'
(ÆCHom ii 508, 15)

Again, we find that the subcategorization of the P is inherited by the compound. In many cases, the preverb has the meaning of the homophonous preposition. This is evinced by some instances in which the meaning of the compound is compositional. For *begangan*, the meaning 'to surround' comes from 'to go around' in a literal sense. For *becuman*, the meaning relationship is not that clear synchronically but it seems that the meaning 'come about' has developed to 'happen, befall → reach → get, attain'. The meaning of *ymbgan* is also compositionally determined by *ymb* and *gan*.

For *begangan* and *ymbgan*, the extant data do not show instances of dative case, although the preposition takes this case. They only show instances of accusative case, another case governed by the preposition. In general, it seems that the accusative case is more favored for the compound and the other possible case sometimes does not appear, although the P can equally take both the accusative case and another case as its object.[14] While there may be a tendency for accusative case to win out, one cannot simply say that case is not determined here by the preposition and that case assignment defaults to accusative. In example (8b) we saw that the compound took the case other than accusative.

Next, compare *lacan* 'to swing' and *geondlacan* 'to swing over' and *scinan* 'to shine' and *geondscinan* 'to shine over' below:

(12) *lacan* vs. *geond-lacan*
(a) Heliseus leolc ofer laguflod
Eleusius tossed over waterflood
'Eleusius tossed over the waterflood.' (Jul 674)
(b) twelf siþum þæt tirfæste lond
twelve times the glorious land-ACC
geondlace lagufloda wynn
over-flows waterfloods' joy
'Twelve times the joy of waterfloods flows over the glorious land.' (Phoen 70)

(13) *scinan* vs. *geond-scinan*
(a) seo hwitnes þære lilian scineþ on þe
the whiteness of-the lily shines in you
'The whiteness of the lily shines in thee.' (BlHom 7, 30)

[14] We do not know whether it is due to a gap in the extant data or whether there are other governing principles responsible. There is a possibility that the compound had taken the dative at one time but had later lost it. Although the extant corpus show only the accusative case being subcategorized for by the compounds *begangan* and *ymbgan*, it would not be surprising if we find a dative case with those compounds.

https://doi.org/10.1017/S0022226796006299 Published online by Cambridge University Press

(b) þonne hio hine ealne geondscinþ
when she him-ACC all over-shines
'when she shines upon him all.' (C: BO 34.86.7)[15]

We see that while *lacan* (12a) and *scinan* (13a) are intransitive motion verbs and thus have a zero valence in their subcategorization frames, *geondlacan* (12b) and *geondscinan* (13b) each take one accusative object. Importantly, the preposition *geond* takes the accusative case, as seen below:[16]

(14) *geond*
ferdon folctogan feorran ond nean geond wid wegas
traveled folk-leaders from-far and near along wide ways-ACC
'Folk leaders traveled from far and near along long ways.'
(Beo 840)

The accusative case subcategorized for by *geond* is inherited into the subcategorization frame of the whole compound *geondlacan* or *geondscinan*. In these examples we can see that the subcategorization inheritance of the preposition is accompanied by the composition of its meaning. The meaning 'through, over' from *geond* and the meaning 'swing' from *lacan* give a compositional meaning 'swing over → flow over' to *geondlacan*.

The preverb *for-* also exhibits a transitivizing function in a number of cases. For example, compare *irnan* 'to run' (15a) and *foryrnan* 'to run before' (15b) below:

(15) *irnan* vs. *for-yrnan*
(a) oþ þa men onwocan and ut urnon
until the men awoke and out ran
'until those men awoke and ran out.' (Ors 86, 27)
(b) se oðer leorningcniht forarn Petrus
the other disciple before-run Peter-ACC
'The other disciple ran before Peter.' (Jn 20, 4)

The compound *foryrnan* in (15b) takes an accusative object while the simplex *irnan* is intransitive. The compound *forfaran* 'to go before, get in front of → block → destroy' with the preverb *for-* takes either an accusative (16b.i) or a dative object (16b.ii). Compare this with the intransitive *faran* 'to go, fare' (16a).

(16) *faran* vs. *for-faran*
(a) hyra gehwylc faran scolde to læranne
their each go should to teach
'Each of them should go to teach.' (BlHom 229, 5)

[15] When the source of the data comes from the OE Concordance, I use an abbreviation C followed by the source as written in that concordance.

[16] Mitchell (1985: 498) notes that *geond* can take the dative in a constrained context (prose only).

https://doi.org/10.1017/S0022226796006299 Published online by Cambridge University Press

(b) (i) wolde hine forfaran georne
would him-ACC destroy eagerly
'(He) wished to destroy him eagerly.' (WHom 222, 48)
(ii) and forforon him þone muðan foran
and in-front-got them-DAT the mouth before
on utermere
in outer-sea
'and (they) blocked them before the mouth in the outer sea'
(Chron 896, 27)

We can also find in (17) that the compound *forcuman* 'to go before, reject' takes an accusative case while the simplex *cuman*, presented in (8a) above, is intransitive.

(17) *for*(*e*)*cuman*
ðæt ðu hæbbe g(um)ena bearn forcumen and forcyðded
that you have men's son-ACC overcome and rejected
'that you have rejected and rebuked the son of human beings'
(MSol 198)

There are several other examples such as *foregan* 'to go before' and *foregangan* 'to go before' which behave in the same way. The preposition *for* 'before'[17] takes a dative (18a) or accusative object (18b), as shown:

(18) *for*, *fore*
(a) nu for feawum dagum me bædon & lærdon Romane
now before few days-DAT me bade & advised Romans
'Now, a few days ago the Romans intreated and advised me.'
(BlHom 191, 13)
(b) ne dear nu forð gan for ðe andweardne
not dare now forth go before you present-ACC
'I dare not come forth now before your presence.' (Gen 871)

Again, we find that as far as the meaning 'before' of *for* is concerned, the compounds presented above exhibit a compositional meaning from the P + V combination.

[17] The preposition *for* exhibits other meanings – 'for', 'because of', 'instead of' as well as 'before'. It is not certain whether or not those meanings are related and thus to be treated as belonging to a single lexical item. *For*, however, subcategorizes for the same cases of objects in both meanings. Along with the dative and the accusative, very rare instances of genitives are found with *for* (see BT Supplement) although Mitchell (1985: 502) suspects that they are not a genuine use of *for* + genitive. According to our theory, if we can find clear examples of compounds [*for* + intransitive verb] taking a genitive object, they will provide some verification for the use of the genitive with the preposition *for*.

https://doi.org/10.1017/S0022226796006299 Published online by Cambridge University Press

A similar phenomenon is found with *þurh* 'through, over'. In (19) below, we see that the preverb *þurh* enables the compound to take the accusative object, while the simplex *creopan* by itself is intransitive:

(19) *creopan* vs. *þurh-creopan*

(a) he næfþ his fota geweald and onginþ creopan
he not-has his feet control and begins to-creep
'He does not have the control of his feet and begins to creep.'
(BT 170: *creopan*)

(b) ðæt melo ðurhcrypþ ælc þyrel
the meal through-creeps each hole-ACC
'The meal passes through each hole.' (BT 1078: *þurh-creopan*)

In the same way, *þurhfaran* 'to go through, penetrate' can take an accusative object in (20) while the simplex *faran* is intransitive, as shown in (16a):

(20) *þurhfaran*
sio stefn ðæs lariowes micle ðe ieðelicor ðurhfærð
the voice of-the teacher much the more-easily through-goes
ða heortan ðæs gehirendes
the heart-ACC of-the hearer
'The voice of the teacher penetrates the heart of the hearer much the more easily.' (CP 81, 9)

Similar examples such as *þurhferan*, *þurhgan* and *þurhgangan* are found, too. We see below that the preposition *þurh* can take either an accusative or a dative object:[18]

(21) *þurh*
hwæðer he ðurh drycræft oððe ðurh runstafum
whether he through witchcraft-ACC or through runes-DAT
his bendas tobræce
his bonds broke
'whether through witchcraft or through runes he broke his bonds'
(ÆCHom ii. 358, 10–11)

Again, we see that the case of the argument of the compound is the case of (one of) the arguments which the preposition takes prior to compounding. All the subcategorizations that we have discussed so far are summarized in terms of grammatical cases in Table 1. In Table 1, a 0 (zero)-subcategorization means that a verb does not take any object and thus is intransitive.

[18] Mitchell (1985: 512) mentions that a clear example of *þurh* + genitive occurs in ÆCHom ii. 266, 23 although there is disagreement about it.

https://doi.org/10.1017/S0022226796006299 Published online by Cambridge University Press

Item	Category	Subcategorization (Case government)	Meaning
be	Prep.	[ACC] or [DAT]	by, near, about, after
ymb	Prep.	[ACC] or [DAT]	about, around, at
geond	Prep.	[ACC]	through, over
for	Prep.	[ACC] or [DAT]	before
þurh	Prep.	[ACC] or [DAT]	through, over
gangan	Verb	o	go, walk
cuman	Verb	o	come, happen
gan	Verb	o	go, move, happen
lacan	Verb	o	swing, play
scinan	Verb	o	shine
irnan	Verb	o	run
faran	Verb	o	go, travel, proceed
creopan	Verb	o	creep, crawl
be-gangan	Verb	[ACC]	surround, perform
be-cuman	Verb	[ACC] or [DAT]	happen, become
ymb-gan	Verb	[ACC]	go around, surround
geond-lacan	Verb	[ACC]	go (flow) over
geond-scinan	Verb	[ACC]	shine on, illuminate
for-yrnan	Verb	[ACC]	run before
for-faran	Verb	[ACC] or [DAT]	perish, go before
for-cuman	Verb	[ACC]	come before, reject
þurh-creopan	Verb	[ACC]	creep through
þurh-faran	Verb	[ACC]	go through, penetrate

Table 1
Subcategorization of P, V_i, and [P-V_i] compounds

3.2 [*P-V*$_i$] *compounds*

Now, let us turn to the examples in which the verb has at least one argument when occurring as an independent word and combines with a member of the category P. Since many prepositions and simple verbs in OE mainly take dative or accusative cases as their objects, it is hard to tell whether these cases, if taken by the compound, come from the verb or the preposition. In contrast, the genitive case is relatively infrequent and there is no preposition which takes solely the genitive. But the preposition *wiþ* 'against, towards' is well attested taking a genitive object as well as a dative and an accusative object. So, if a compound with *wiþ* takes a genitive object while the simple verb does not, it seems reasonable to assume that the subcategorization of the P is inherited.

https://doi.org/10.1017/S0022226796006299 Published online by Cambridge University Press

In the following example, the verb *bregdan* 'to drag' takes usually an accusative object (22a) or occasionally a dative (22b):

(22) *bregdan*

(a) hie ne moste, þa Metod nolde, se scynscaþa
them-ACC not must when God not-wished the sinful-foe
under sceadu bregdan
under shadow to-drag
'The sinful foe must not drag them under the shadow when God did not wish to.' (Beo 707)

(b) hi geherað hleoðrum brægdan oðre fugelas
they hear sounds-DAT vibrate other birds
'They hear other birds vibrate their sounds.' (Met 13, 47)

When *bregdan* is combined with *wiþ*, the resulting compound *wiþ-bregdan* 'to deprive, restrain' can be ditransitive, subcategorizing for two arguments, a dative and a genitive.

(23) *wiþ-bregdan*

he bið hiewcuðlice ðeow ðæm Godes feonde,
he is familiar servant to-the God's enemy
ðe simle wiþðbritt ðæm untruman mode ðære sibbe
who always deprives the infirm mind-DAT the peace-GEN
'He is a familiar servant of God's enemy, who always deprives the infirm mind of the peace.' (CP 361, 2)

Considering the fact that *wiþ-bregdan* takes two arguments including the genitive, a case not used for the simplex *bregdan*, and that other complex verbs such as *a-bregdan* 'to move [ACC or DAT] quickly', *æt-bregdan* 'to take [ACC] from [DAT]' and *on-bregdan* 'to move [ACC or DAT] quickly', *to-bregdan* 'to pull apart [ACC or DAT]' do not take the genitive, we may conclude that the preverb *wiþ* enables the compound verb *wiþ-bregdan* to subcategorize for the genitive case.

Other examples where *wiþ* introduces the genitive case into the subcategorization frame of the compound are to be found. In (24) below, the stem *standan* is usually an intransitive verb (24a.i) but occasionally it is used as a copula with the dative (24a.ii). In comparison, the compound *wiþ-standan* can take the dative and the genitive (24b):

(24) *standan* vs. *wiþ-standan*

(a) (i) ealle þa þe ymbe me standeþ
all those who around me stand
'all those who stand around me' (BlHom 141, 2)

(ii) þæron stent þam bisceope eahta marca goldes
there-on stand the bishop-DAT eight marks of-gold
'There eight marks of gold are due to the bishop.'
(BT 911: *standan*)

https://doi.org/10.1017/S0022226796006299 Published online by Cambridge University Press

(b) þe þe oft wiðstod þurh wuldorcyning willan
who you-DAT often hindered through King-of-glory will-GEN
þines
your
'who, through the King of glory, often hindered you against your will' (Jul 427)

Moreover, as expected, whereas *wiþstandan* 'to withstand' occurs with the genitive, *ymbstandan* 'to stand about, surround' compounded with *ymb*, a preposition that does not take the genitive, does not occur with a genitive object. Also, *wiþstandan* is contrasted with *forstandan* 'to stand before, hinder' which takes dative and accusative objects when used as a ditransitive verb, as shown in the following example:

(25) *for-standan*
Ne magon ge him ða wic forstandan
not can you him-DAT the dwellings-ACC hinder
'you cannot deprive him of the dwellings' (BT 318: *forstandan*)

Because the stem *standan* can take a dative object and the preposition *for* can take an accusative object, the compound can take two objects, one in the dative case and the other in the accusative case.

However, the aforementioned compounds are not always found to take all the arguments in a given sentence. Along with (23) above, *wiþ-bregdan* sometimes takes a single dative object and a prepositional phrase as in (26a) below, or it takes only the dative object as in (26b):

(26) *Optional occurrence of objects in* wiþ-bregdan
(a) hi heora handa from ðam blodes gyte
they their hands-DAT from the blood's shedding
ne wiðbrudon
not withdrew
'They did not withdraw their hands from the shedding of blood.' (ÆCHom i.88, 5)
(b) ðæt mod ær ðæm willan ne wiðbritt
the mind before the desire-DAT not opposes
'The mind opposes the desire beforehand.' (CP 71, 8)

Similarly along with (24b), *wiþ-standan* can take only a dative (27):[19]

[19] The verb *withstand* is also found without no NP object at all, as follows:
(i) þet landfolc hardlice wiðstodon
the people hard withstood
'The people offered a stout resistance.' (BT 1256: *withstandan*)
In this case, the missing object can be understood from previous context and thus the verb is still two-place predicate.

https://doi.org/10.1017/S0022226796006299 Published online by Cambridge University Press

(27) *Optional occurrence of objects in* wiþ-standan
him nænig wiþstod
him-DAT nobody withstood
'Nobody withstood him.' (BT 1256: *wiþ-standan*)

This optional inheritance is discussed below in section 4.

In (28), compare *cweðan* 'to speak' and *wiþcweðan* 'to speak against'. The simplex *cweðan* takes an accusative and a dative together, not a genitive, in its fullest subcategorization, shown in (28a). In (28b) we see the compound taking a dative and a genitive together as its objects:

(28) *cweðan* vs. *wiþ-cweðan*
(a) in leohte him þa word cweþað
in heaven him-DAT the words-ACC spoke
'They spoke those words to him in heaven.' (Christ 401)
(b) if inc hwa ðæs wiþcweþe
if you-DAT anyone that-GEN contradicts
'if anyone contradicts you about that' (BlHom 71, 1)

Again, the two arguments for the compound do not always occur in a sentence. (29a) shows only the dative that was taken by the simplex occurring with the compound, and (29b) shows only the accusative taken by the simplex occurring with the compound. In both cases of compounds, we see that the argument taken by the preposition can be optional:

(29) *Optional occurrence of objects in* wiþ-cweðan
(a) ac seo modor him wiðcwæð mid wordum
but the mother them-DAT contradicted by words
'But the mother contradicted them by words.'
(ÆCHom i. 354, 25)
(b) ne dorste ic swa ðeah nanðing wiðcweðan
not dare I as yet nothing-ACC refuse
'I dare not refuse anything, though.' (C: ÆCHom ii. 23.202.96)

Despite the nonoccurrence of the genitive at times, it is still clear from (23), (24b) and (28b) that the ability of the compound to take a genitive object comes from the preverb *wiþ*. Furthermore the extant data show that the preposition takes the genitive (30a) as well as the dative (30b) or accusative (30c) when it is used independently.[20]

[20] Since *wiþ* can take all these three cases, in theory the compound of *wiþ*-V_i can take all these cases too. The following three examples of *wiþ-sacan* (P-V_i) 'to deny, refuse' show that all three cases can occur:

(i) hwaðer he ealles þæs wiþsacan wolde
whether he all that-GEN refuse would
'whether he wished to refuse all that' (C: LS 35 (VitPatr) 81)

https://doi.org/10.1017/S0022226796006299 Published online by Cambridge University Press

(30) *wiþ*

(a) micel liget fleah of ðære dune swilce flan
great lightning flew from the mountain like arrows
wið þæs hæðenan folces
against the heathen folk-GEN
'Great lightning flew from the mountain like arrows against the heathen folk.' (ÆCHom i. 504, 29)

(b) se dæg cume þe he sceole wið þæm lichomon
the day come that he must against the body-DAT
hine gedælon
him separate
'The day shall come that he must separate himself from the body.' (BlHom 97, 20)

(c) he forgifeþ eall swa hwæt swa þes middangeard ær
he forgives all whatsoever this world previously
wiþ hine æbyligða geworhte
against him-ACC offences made
'He shall forgive all offences whatsoever this world has previously committed against him.' (BlHom 9, 12)

Table 2 shows the comparison of the subcategorizations among the preposition, the simple verb and the compound as discussed so far. The optional arguments are represented within parentheses in the frame.

From Tables 1 and 2, therefore, we see that when a preposition and a verb are compounded, not only the subcategorization of the righthand category verb – which has been claimed to be a head – but also that of the preposition

---

(ii) þæt he wolde fæstlice þam deofolgildum wiþsacan
that he would firmly the devil-worship-DAT refuse
'that he wished to firmly refuse the idolatry' (C: Bede 2.10.136.20)

(iii) he þæt eal wiðsacan wolde
he that-ACC all refuse would
'he wished to refuse all that' (C: LS 35(VitPatr) 85)

As expected from the data we have shown above, we can presume that all these nominal objects can be optional:

(iv) þa wiþsoc se biscop
then refused the bishop
'Then the bishop refused the permission.' (BT 1255: *wiþsacan*)

In contrast, the simplex *sacan* 'to fight, disagree' is used intransitively as follows:

(v) God sceal wiþ yfele, lif sceal wiþ deaþe, leoht sceal wiþ þystrum, …,
God shall with evil, life shall with death, light shall with darkness, …,
laþ wiþ laþ ymb land sacan.
hatred with hatred across land fight'
'Across the country God shall fight with evil, life with death, light with darkness, …, hatred with hatred.' (BT 807: *sacan*)

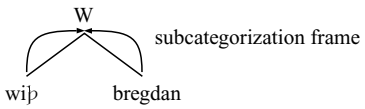
https://doi.org/10.1017/S0022226796006299 Published online by Cambridge University Press

Item	Category	Subcategorization (Case government)	Meaning
wiþ	Prep.	[GEN], [ACC] or [DAT]	towards, against
for	Prep.	[ACC] or [DAT]	before
bregdan	Verb	[ACC] or [DAT]	vibrate, draw, bend
standan	Verb	[DAT] or o	stand, become
cweðan	Verb	[ACC, (DAT)]	say, speak, call
wiþ-bregdan	Verb	[DAT, (GEN)]	restrain, deprive
wiþ-standan	Verb	[DAT, (GEN)]	hinder, withstand
for-standan	Verb	[DAT, (ACC)] or [ACC]	hinder, oppose
wiþ-cweðan	Verb	[DAT, (GEN)] or [ACC]	reply, contradict

Table 2
Subcategorization of P, V_t, and [P-V_t] compounds

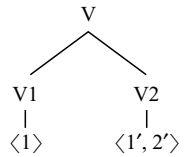
– which has been claimed to be a nonhead – can be inherited to the subcategorization frame of the whole.[21]

(31) *Subcategorization inheritance*[22]



[21] One might argue that the case-government of the compound is solely determined by the meaning of the whole compound, not by the subcategorization inheritance of composites. From a methodological point of view, however, it is difficult for such an argument to avoid vagueness. We find that some compounds are compositional in meaning and this meaning composition is made side by side with inheritance of subcategorization. But in some cases which do not involve straightforward meaning composition, the meaning gives little explanation: for example, both *wiþ-bregdan* and *æt-bregdan* similarly mean 'to take away; restrain; deprive of' but only *wiþbregdan* takes the genitive object as one of its arguments while *æt-bregdan* does not take the genitive. Carlson & Roeper (1981) also argue for the inadequacy of a semantic account in the discussion of subcategorization. Therefore, an appropriate characterization of the formal principle should be made in terms of formal (syntactic) case.

[22] In resultative [V-V] compounds in Chinese, Li (1990) shows that the argument structure (theta-grid) of the compound is determined by some constrained combinations of the arguments of both V composites by theta-identification. The constraints involve (i) a strict ordering of the arguments in the theta-grid and (ii) the theta-role prominence of the head in the theta-grid of the compound. For example, suppose that the first composite (head) of the [V-V] compound originally has one argument and the second has two arguments, as follows:



https://doi.org/10.1017/S0022226796006299 Published online by Cambridge University Press

More specifically, the evidence for the case-determining properties of the preverb can be summed up as follows:

(32) (a) P1 can assign genitive case on its own, e.g. *wiþ*.
(b) P2 assigns accusative case on its own, e.g. *ymb*, *for*.
(c) Simple verb V1 assigns a third case (i.e. zero or dative case), e.g. *standan*.
(d) Compound [P1-V1] assigns genitive and the third case together, or the third case only, e.g. *wiþ-standan*.[23]
(e) Compound [P2-V1] assigns accusative and the third case together, or the third case only, e.g. *ymb-standan*, *for-standan*.

Therefore, the P-component of these compounds optionally determines subcategorization together with the V-component, insofar as case assignment is viewed as an indication of subcategorization.

Therefore, it appears that we should either give up the concept of head in these compounds or treat the feature subcategorization as being independent

---

compound: (a) ⟨1-1′, 2′⟩, (b) *⟨2′, 1-1′⟩, (c) *⟨1-2′, 1′⟩, (d) *⟨1′, 1-2′⟩. But all the others except (a) are ill-formed: (b) and (c) violate the ordering of theta-roles, i.e. in both cases Then, there are four possibilities of combinations for the argument structure of the ⟨1′⟩ should precede ⟨2′⟩; (d) violates the prominence of the theta-role of the head because ⟨1⟩ of V1 is not the most prominent theta-role of the compound.

What is more straightforwardly relevant to our study is found in the compound where both composites take a single argument. In this case both following possible patterns are well-formed: (e) ⟨1-1′⟩, (f) ⟨1, 1′⟩. In (f) we see that the argument ⟨1′⟩ from the non-head is added to the argument structure of the compound.

On a somewhat different track, causative and applicative morphemes also change the argument structure of the stem verb which they combine with. The following examples from Malayalam (cited from Spencer 1991: 270) show that the causative affix *-ičč-* in (ii) adds another argument to the argument structure of the stem verb to which it attaches.

(i) Kuṭṭi annaye nuḷḷi.
child-NOM elephant-ACC pinched
'The child pinched the elephant.'

(ii) Amma kuṭṭiyekkoṇṭə annaye nuḷḷiccu.
mother-NOM child-INST elephant-ACC pinch-CAUSE-PAST
'Mother made the child pinch the elephant.'

The applicative, or applied form of the verb, is a derived transitive verb that applies the action of the base verb V to a new object argument X, yielding a derived meaning paraphrasable as 'do V for, to, with, or at X' [Bresnan & Kanerva 1989]. The following examples from Chi-Mwi:ni (cited from Marantz 1984) show that the applied affix, *-il-*, in (iv) allows the presence of an NP which is not included in the argument structure of the stem verb to which that affix attaches:

(iii) Hamadi O-sh-pishile cha:kuja.
Hamadi SUBJ-OBJ-cook-T/A food
'Hamdi cooked the food.'

(iv) Hamadi O-wa-pik-il-ile wa:na cha:kuja.
Hamadi SUBJ-OBJ-cook-APPL-T/A children food
'Hamdi cooked the food for the children.'

[23] As mentioned above, the genitive can be found along with other cases with a certain compound because there is no preposition in OE which exclusively takes a genitive.

https://doi.org/10.1017/S0022226796006299 Published online by Cambridge University Press

of the notion of head. Following Toman (1987) and others, Lieber (1992) recently has abandoned her previous theory (Lieber 1983) in which it was asserted that argument structures percolate from the righthand stem to the whole. She now distinguishes percolation from inheritance: percolation is the passing of morphosyntactic features from one node to another while inheritance is an operation in argument structures of a nonhead and the head morpheme. However, it is possible to treat this argument inheritance as occurring between the head and the mother, so that we need not abandon the idea that the verb is a head of such compounds. This is possible by means of argument attraction proposed in the Head-driven Phrase Structure Grammar (HPSG) framework, which is discussed in the following section.

4. Subcategorization as a head feature in morphology

4.1 *COMP inheritance in OE compound verbs*

In the Head-driven Phrase Structure Grammar of Pollard & Sag (1994), the feature used to represent subcategorization information is SUBCAT. The value of this feature is a list of SYNSEM objects (combinations of syntactic and semantic information) corresponding to the complements and subject of the head. The SUBCAT value of a phrase and its daughter constituents is subject to the Subcategorization Principle (p. 34). According to this principle, in a headed phrase the SUBCAT value of the head daughter is the concatenation of the phrase's SUBCAT list with the list of SYNSEM values of the complement daughters. This means that the subcategorization information is inherited from the head daughter to the mother, minus the SYNSEM values of the complements combined.

An account of the inheritance of subcategorization in compounding that we have discussed can be constructed in the framework of HPSG. When we adopt the general framework of HPSG to explain the SUBCAT inheritance in morphology, the apparent problem is that the SUBCAT in compound verbs can be inherited both from the nonhead P and from the head V up to the mother, as seen in section 3.

A solution to this problem is suggested by Hinrichs & Nakazawa's (1989, 1994) analysis of German auxiliary verbs. In the German phrase *finden wird*, for example, the infinitival verb *finden* is a transitive verb and has two arguments in its SUBCAT list, as shown in the following partial feature structure:

(33) *Partial feature structure description of* finden

$$\begin{bmatrix} \text{PHONOLOGY} \textit{finden} \\ \text{SYNSEM|LOCAL|CAT|SUBCAT} \langle \text{NP, NP} \rangle \end{bmatrix}$$

The complements of this infinitival verb must be copied in the SUBCAT list of the phrase *finden wird*, because this phrase as a whole should be able to

https://doi.org/10.1017/S0022226796006299 Published online by Cambridge University Press

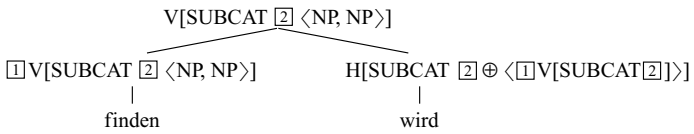
combine with those complements. However, the head of the whole phrase is the auxiliary verb *wird*, not the infinitival verb. To solve the problem, Hinrichs & Nakazawa propose that the SUBCAT list of a head (an auxiliary) should be specified by appending the SUBCAT list that the verbal complement carries and the SYNSEM value of the verbal complement (infinitival verb) itself. This is achieved by coindexing the first argument of the append operation and the SUBCAT list of the second argument, the verbal complement, with the same tag [1]:

(34) *Partial feature structure description of* wird

$$\left[\begin{array}{l}\text{PHONOLOGY } \textit{wird} \\ \text{SYNSEM} \mid \text{LOCAL} \mid \text{CAT} \mid \text{SUBCAT} \quad \boxed{1} \oplus \\ \qquad\qquad \left\langle \left[\begin{array}{l}\text{LOC} \mid \text{CAT} \left[\begin{array}{l}\text{HEAD } \textit{verb}[\text{VFORM BSE}] \\ \text{SUBCAT } \boxed{1}\end{array}\right]\end{array}\right] \right\rangle\end{array}\right]$$

Here the symbol $\oplus$ represents the functor *append*; $\langle X_0 \rangle \oplus \langle X_1, \ldots, X_n \rangle$ is $\langle X_0, X_1, \ldots, X_n \rangle$. By this mechanism, the arguments of the nonhead are ATTRACTED to the argument list of the head, from which the term argument attraction comes. With appropriate Immediate Dominance (ID) rules, the structure-sharing in the SUBCAT value of auxiliaries achieves the effect of the inheritance of subcategorization information in the verbal complex as follows:

(35) *Subcategorization inheritance in a verbal complex*



Gerdemann (1994) adopts this approach to account for the category-changing properties of suffixes like *-ness* and *-ity*. These suffixes are the head in the morphological structure because the category N of the derived word *indebtedness*, for example, is determined by the suffix *-ness*. But the derived word will inherit the subcategorization list from the nonhead *indebted* rather than from the head suffix. Thus the feature structure of the suffix *-ness* can be (36):

(36) *Partial feature structure description of* -ness

$$\left[\begin{array}{l}\text{PHONOLOGY } \textit{-ness} \\ \text{SYNSEM} \mid \text{LOC} \mid \text{CAT} \mid \text{SUBCAT } \boxed{1} \oplus \\ \qquad\qquad \left\langle \left[\begin{array}{l}\text{LOC} \mid \text{CAT} \left[\begin{array}{l}\text{HEAD } \textit{adj} \\ \text{SUBCAT } \boxed{1}\end{array}\right]\end{array}\right] \right\rangle\end{array}\right]$$

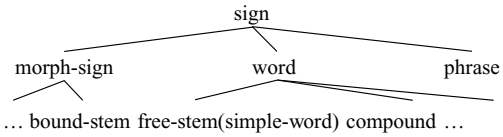
I want to account for the inheritance of the subcategorization value of the nonhead in the compound verb in the same way. Instead of the feature SUBCAT, however, I use COMPS for the subcategorization information,

https://doi.org/10.1017/S0022226796006299 Published online by Cambridge University Press

following Borsley (1987). Pollard & Sag (1994: Ch. 9) also accept Borsley's proposal to distinguish subcategorization information about subjects from subcategorization information about complements, and propose to use two features, SUBJ and COMPS, instead of one, SUBCAT. Since we are dealing with the complements of the P, V, and P-V compound, only the feature COMPS matters in this paper. So the principle corresponding to the former Subcategorization Principle is now the Valence Principle (p. 348). The Valance Principle is now stated as follows: In a headed phrase in syntax, the COMPS value of the head daughter is the concatenation of the phrase's COMPS list with the list of SYNSEM values of the complement daughters.

The difference between the subcategorization inheritance of compounds and that of auxiliaries and suffixes discussed above is that in the case of compounds, the subcategorization (COMPS) list that the head itself carries is inherited and so is the list that the nonhead carries. To prevent the feature structure of the verb that will be compounded from being used for syntactic combination, we need to distinguish two lexical items: e.g. *lacan* (free-stem; to be used for syntactic combination) vs. *-lacan* (bound-stem; not to be used for syntactic combination but for morphological combination). For this purpose a sort-hierarchy is required. In HPSG, feature structures are 'sorted'. This means simply that each node in a feature structure is labeled with a sort symbol that tells what type of objects the structure is modeling. The set of all sort symbols is assumed to be partially ordered, and thus a hierarchy of sorts is constructed. In a sort-hierarchy, sort *word* has subsorts *simple-word* and *compound*. Sort *morph-sign* includes *bound-stem*:[24]

(37) *Partial description of a sort-hierarchy*



A noteworthy difference between syntactic and morphological combinations is that syntactic rules are productive but word-formation rules are not. The bound-stem *-lacan*, for example, does not combine with all preverbs (or prepositions). (The same is true for the preverbs: a particular preverb (e.g. *be-*) does not combine with all verbs.) It may be possible to specify in the COMP list of *-lacan* whatever features characterize the particular prepositions that *-lacan* can combine with. However, since the characterization of those features requires further research beyond the focus of this paper, I simply list possible (or attested) prepositions that a particular verb will combine with. For this purpose, I use the feature LEXEME that Krenn & Erbach (1994) propose for idiomatic combinations.

[24] The terms, *morph-sign*, *free-stem*, *bound-stem* come from Kim (1994).

https://doi.org/10.1017/S0022226796006299 Published online by Cambridge University Press

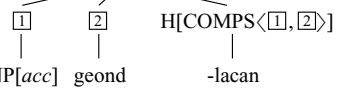
The bound-stem *-lacan* (V_i) will have the following partial feature structure (38). Because the feature PHONOLOGY is not relevant in our discussion, I will not include it in a feature structure:[25]

(38) *Partial feature structure description of* -lacan[26]

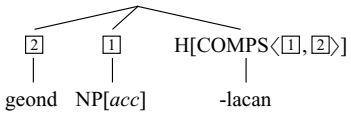
$$\textit{bound-stem}\left[\begin{array}{l}\text{SYNSEM} \mid \text{LOC} \mid \text{CAT}\left[\begin{array}{l}\text{HEAD}\ {}_{\textit{verb}}[\text{VFORM } \textit{inf}] \\ \text{COMPS } \boxed{1} \oplus \langle \text{P[LEXEME L, COMPS } \boxed{1}]\rangle\end{array}\right] \\ \text{L} \in \{\text{be, geond, } \ldots\}\end{array}\right]$$

In order to combine P and V, we need an appropriate ID rule. And we must prohibit syntactic combinations like the following ill-formed flat structures in (39a, b) below. The structure that we want to derive is (39c) in which the P combines the bound-stem first:

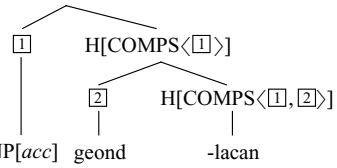
(39) (a) *H[COMPS⟨⟩]



(b) *H[COMPS⟨⟩]



(c) H[COMPS⟨⟩]



The ID rule we need is (40a) below. This should be understood as lexical compounding schema that combines a head verb with its nonphrasal complement P. The Linear Precedence (LP) rule given in (40b) requires P to precede H:[27]

(40) (a) ${}_{\textit{word}}\text{V} \rightarrow \text{P}, {}_{\textit{bound-stem}}\text{H}$
(b) P < H

[25] The free-stem *lacan* will have a different feature structure because it has no argument in its COMPS list.

[26] For the COMPS value, the P[LEXEME L, COMPS $\boxed{1}$] is a short representation of the following SYNSEM value:

$$\left[\text{LOC} \mid \text{CAT}\left[\begin{array}{l}\text{HEAD}\ {}_{\textit{prep}}[\text{LEXEME L}] \\ \text{COMPS } \boxed{1}\end{array}\right]\right]$$

[27] An alternative solution is to use a new feature like GOV which is used in Rentier (1994) and Chung (1995). The following partial feature structure has the same effect of argument attraction and can let the bound-verb select a preposition only:

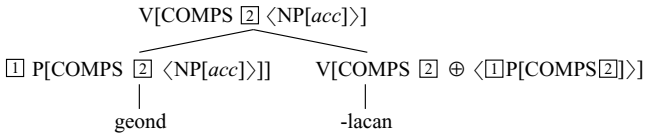
$$\left[\begin{array}{l}\text{SUBJ } \boxed{1} \\ \text{COMPS } \boxed{3} \oplus \boxed{2} \\ \text{GOV } \langle \text{P [COMPS } \boxed{3}]\rangle\end{array}\right]$$

https://doi.org/10.1017/S0022226796006299 Published online by Cambridge University Press

To rule out the ill-formed structures in (39a, b), we can stipulate that syntactic complements must be phrasal.

The combination of *geond* and the bound-stem *-lacan* will give the following tree:

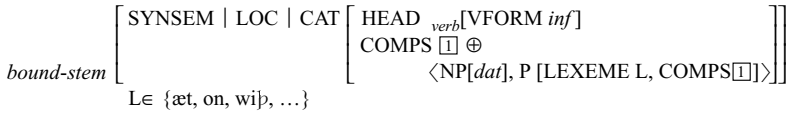
(41) *Subcategorization* (*COMPS*) *inheritance in* [*P-Vi*] *compounds*



The Valence Principle requires that the nonhead should be canceled from the COMPS list of the head. The canceled element is tagged 1. And the remaining elements of the COMPS list will match those of the mother according to the Principle. Thus, although the actual elements inherited are the COMPS list of the nonhead, the inheritance is always by way of the head. So this inheritance does not violate the head-to-mother percolation of the COMPS list.

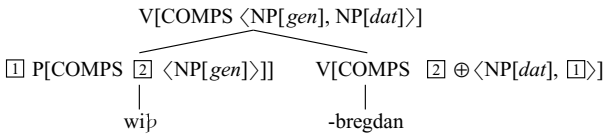
To take a more interesting example, the bound-stem *-bregdan* (V_t) will have the following feature structure:

(42) *Partial feature structure description of* -bregdan



Note that the COMPS list of *-bregdan* has one more argument, NP[*dat*], than that of *-lacan*. The actual inheritance of the subcategorization information for the compound *wiþbregdan* can be formalized as follows:

(43) COMPS inheritance in [P–V_t] compounds



Now let us turn to the issue of optional arguments. In the following examples, previously cited in (8b.ii) and fn. 9, the same verb *becuman* can mean 'become; attain' with an NP object, as in (44a) below, and mean 'come' without an NP object, as in (44b):

(44) *Two kinds of* be-cuman

(a) ic eft up becom ece dreamas
I again on-high about-came eternal joys-ACC
'I again on high attained eternal joys.' (BT 74: *becuman*)

https://doi.org/10.1017/S0022226796006299 Published online by Cambridge University Press

(b) buton þæm twam ne mæg nan man becuman
without those two not can no man come
to þæm ecean life
to the eternal life
'Without those two no man can obtain eternal life.'
(BlHom 77, 21)

In section 3, I showed some other examples (such as (26), (27), (29)) in which an argument can be optional. We saw that the argument determined by a P can be optional but the argument determined by a V cannot. This optionality of the argument can be depicted just by adding the parenthesis notation to the COMPS list. This notation is interpreted as follows:

(45) The list $\langle X_0, \ldots, X_{n-1}, (X_n) \rangle$ subsumes the following possibilities:[28]
(a) $\langle X_0, \ldots, X_{n-1}, X_n \rangle$ or
(b) $\langle X_0, \ldots, X_{n-1} \rangle$

For *wiþbregdan*, for example, the COMPS list of the *-bregdan* shown in (42) should be revised as follows, with the only change being (1) instead of 1 in the COMPS list:

(46) *Revised partial feature structure description of* -bregdan

$$\textit{bound-stem}\left[\begin{array}{l}\text{SYNSEM | LOC | CAT}\left[\begin{array}{l}\text{HEAD } \textit{verb}[\text{VFORM } \textit{inf}] \\ \text{COMPS } (\boxed{1}) \oplus \\ \qquad \langle \text{NP}[\textit{dat}],\ \text{P [LEXEME L, COMPS } \boxed{1}]\rangle\end{array}\right] \\ \text{L} \in \{\text{æt, on, wiþ, } \ldots\}\end{array}\right]$$

Then the compound *wiþbregdan* can have the COMPS list of ⟨NP[*gen*], NP[*dat*]⟩ or ⟨*NP*[*dat*]⟩.

4.2 *COMPS inheritance in Greek and Latin compound verbs*

Similar patterns to those that have been described here for OE are found in Ancient Greek and Latin. The following are from Classical Greek, as cited by Miller (1993: 118).

(47) (a) (i) oĩkon pros-érkhomai
house-ACC to-go-1SG
'I am going to a house.'
(ii) pròs (tòn) oĩkon érkhomai
to (the) house-ACC go-1SG
(b) (i) oíkou ap-érkhomai
house-GEN from-go-1SG
'I am going out of a house.'

[28] This allows for three types of [P-V] compounds which are all attested: the first type that obligatorily attracts the arguments of the nonhead, and thus has only (a) type of COMPS (e.g. *begangan*); the second that takes both (a) and (b) together (e.g. *becuman*); the third that takes (b) only (e.g. a compound which includes the traditional 'inseparable' prefix; *tosendan* 'to disperse').

https://doi.org/10.1017/S0022226796006299 Published online by Cambridge University Press

(ii) apò (toũ) oíkou érkhomai
from (the) house-GEN go-1SG

(c) (i) boũs pónton eis-bállō
cattle-ACC sea-ACC into-cast-1SG
'I am driving cattle into the sea.'

(ii) boũs eis pónton bállō
cattle-ACC into sea-ACC cast-1SG

(d) (i) húpnon ommátōn apo-bállō
sleep-ACC eyes-GEN from-cast-1SG
'I cast sleep from (my) eyes.'

(ii) húpnon apo ommátōn bállō
sleep-ACC from eyes-GEN cast-1SG

(e) (i) teíkhos teíkhei ep-hístēmi
wall-ACC wall-DAT on-stand-1SG
'I am putting a wall on a wall.'

(ii) teíkhos epì teíkhei hístēmi
wall-ACC on wall-DAT stand-1SG

In (47a, b) above, the simple verb *érkhomai* is intransitive but the compounds *pros-érkhomai* and *ap-érkhomai* take the accusative and the genitive objects respectively because the prepositions *pròs* and *apò* respectively take the accusative and the genitive as their objects. In (47c, d) the simple verbs *bállō* and *hístēmi* are transitive and take the accusative object of their own. But the compounds *apo-bállō* and *ep-hístēmi* become ditransitive and each take another object carrying the particular grammatical case determined by the preposition. The features of the compound verb are predictable by inheritance. As in OE, the preverb optionally participates in inheritance, for which Miller distinguishes between prepositions and particles.

Latin shows a similar phenomenon, as in the following examples from Miller (1993: 121–122):

(48) (a) (i) Rhēnum trans-it
Rhine-ACC across-go-3SG
'(he/she/it) crosses the Rhine'

(ii) trans Rhēnum it
across Rhine-ACC go-3SG

(b) (i) equum Rhēnum trans-dūcit
horse-ACC Rhine-ACC across-lead-3SG
'(he/she/it) leads a horse across the Rhine'

(ii) equum trans Rhēnum dūcit
horse-ACC across Rhine-ACC lead-3SG

In (48a) the verb *i-* 'to go' is an intransitive verb and does not take an accusative object. Thus the accusative case of *trans-it* must have been inherited from the preposition because *trans* takes an accusative. In (48b) the

https://doi.org/10.1017/S0022226796006299 Published online by Cambridge University Press

transitive verb takes the accusative object of its own but when it is compounded with the *trans*, it becomes ditransitive and takes another accusative.

The Greek and Latin examples of [P-V] compounding show exactly the same pattern of OE. The COMPS inheritance conflicts with the notion head: the righthand stem V is the head because it has the same categorical features and others, but the subcategorization information can be inherited from the nonhead P to the mother. To reconcile the COMPS inheritance with the notion head, we can use the solution proposed in section 4.1 above. The simplex *-it* in example (48a) is characterized by the following feature structure. This is same as the feature structure of OE *-lacan* except the features PHONOLOGY and VFORM:

(49) *Partial feature structure description of* -it

$$\textit{bound-stem}\left[\begin{array}{l}\text{SYNSEM} \mid \text{LOC} \mid \text{CAT}\left[\begin{array}{l}\text{HEAD}\ _{\textit{verb}}[\text{VFORM } \textit{inf}\,] \\ \text{COMPS } (\boxed{1}) \oplus \\ \langle \mid \text{LOC} \mid \text{CAT}\left[\begin{array}{l}\text{HEAD}\ _{\textit{prep}}[\text{LEXEME L}] \\ \text{COMPS } \boxed{1}\end{array}\right]\rangle\end{array}\right] \\ \text{L} \in \{\text{trans}, \ldots\}\end{array}\right]$$

5. Concluding remarks

In this paper we have examined OE compound verbs of [P-V] composition from the standpoint of the notion of head in morphology. We saw that unlike other features such as category, tense, morphological class, the subcategorization properties of the nonhead P can be inherited to the mother, along with the subcategorization properties of the head V. This was clear when we compared the grammatical cases of the simple verb, preposition, and the whole compound.

This observation may contribute to the philological study of OE. There are numerous examples in which it is unclear which cases a certain verb can govern. When this verb is [P-V] compound, it can be inferred on the basis of our account that the compound can take the object of a case X, if the P takes the object of the case X, even if the head V does not.[29]

There is also a theoretical concern at issue. At first glance, it is tempting to say that since the COMPS behaves in a different manner in percolation from other features in morphology, this feature should be treated as irrelevant in the notion of head. However, we can make the head of the local tree still have control of the inheritance of this COMPS feature as well as of the percolation of other features. This is possible with the mechanism of argument attraction, which has been proposed by Hinrichs & Nakazawa

[29] Kim (1995) accounts for the mystery of the genitive case in Anglo-Saxon poem *Deor* on the basis of this observation.

https://doi.org/10.1017/S0022226796006299 Published online by Cambridge University Press

(1989, 1994) in the analysis of the complex VP containing auxiliaries. With this mechanism, we can ensure that the subcategorization information (or the COMP list) is also directly inherited from the head to the mother, canceling the complements in the local tree from the COMPS list according to the Valence Principle.

The argument attraction of compounding that we have discussed is different from that of the category-changing suffixation (e.g. *-ness*). While the category-changing suffix obligatorily requires its complement whose COMPS it will attract, the head V in compounding does not obligatorily require its complement because it can stand alone. Thus we need to distinguish a bound-stem from a free-stem as two different lexical items. Compounding also differs from the syntactic argument attraction seen in the German auxiliaries because in the latter, the attraction of the COMPS list of the verbal complement was obligatory. For compounding, however, the attraction itself is optional. Thus we find some examples (e.g. *wiþbregdan*, *becuman*) where those attracted arguments do not always occur.

OLD ENGLISH TEXTS: SHORT TITLES AND REFERENCES

(*: Quoted by line. **: Quoted by page and line.)

ÆCHom i, ii. Thorpe, B. (1844–46, 1971). *The sermones catholici* or *Homilies of Ælfric*. (2 vols.) London: The Ælfric society.**

Beo (Beowulf) Klaeber, F. (1922, 1928, 1936, 1941, 1950). *Beowulf and the fight at Finnsburg*. Lexington, MA: D. C. Heath & Co.*

BlHom Morris, R. (1874, 1876, 1880, 1967). *The Blickling homilies*. EETS.**

Christ Krapp, G. & Dobbie, E. (1936). *The Exeter book*. The Anglo-Saxon Poetic Records iii. New York: Columbia University Press.*

CP Sweet, H. (1871). *King Alfred's West-Saxon version of Gregory's pastoral care*. EETS.**

Chron Smith, A. H. (1935). *The Parker chronicle (832–900)*. London: Methuen & Co. [Quoted by year and line].

El (Elene) Krapp, G. (1932). *The Vercelli book*. (The Anglo-Saxon Poetic Records ii.) New York: Columbia University Press.*

Gen (Genesis) Krapp, G. (1931). *The Junius manuscript*. (The Anglo-Saxon Poetic Records i.) New York: Columbia University Press.*

Jn Skeat, W. W. (1878). *The gospel of St. John*. Cambridge: Cambridge University Press. [Quoted by chapter and line].

Jul (Juliana) Krapp, G. & Dobbie, E. (1936). *The Exeter book*. (The Anglo Saxon Poetic Records iii.) New York: Columbia University Press.*

Met (The Meters of Boethius) Krapp, G. (1932). *The Paris psalter and the meters of Boethius*. (The Anglo-Saxon Poetic Records v.) New York: Columbia University Press. [Quoted by meter number and line].

MSol (Solomon and Saturn) Menner, R. J. (1941). *The poetical dialogues of Solomon and Saturn*. London: Oxford University Press.*

Ors (Orosius) Bately, J. (1980). *The Old English Orosius*. EETS.**

Phoen (Phoenix) Krapp, G. & Dobbie, E. (1936). *The Exeter book*. (The Anglo-Saxon Poetic Records iii.) New York: Columbia University Press.*

Soul i. (Soul and Body I) Krapp, G. (1932). *The Vercelli book*. (The Anglo Saxon Poetic Records ii.) New York: Columbia University Press.*

WHom Bethurum, D. (1957). *The homilies of Wulfstan*. Oxford: Clarendon Press.**

https://doi.org/10.1017/S0022226796006299 Published online by Cambridge University Press

REFERENCES

Anderson, S. R. (1992). *A-morphous morphology*. Cambridge: Cambridge University Press.
Borsley, R. (1987). Subjects and complements in HPSG. Technical report 87-107. Stanford: Center for the Study of Language and Information.
Bresnan, J. & Kanerva, J. M. (1989). Locative inversion in Chichewa: a case study of factorization in grammar. *Linguistic Inquiry* **20**. 1–50.
BT = Bosworth, J. & Toller, T. (1898). *An Anglo-Saxon dictionary*. Oxford: Clarendon Press.
C = Healey, A. & Venezky, R. (1980). *A microfiche concordance to Old English*. University of Toronto.
Carlson, G. & Roeper, T. (1981). Morphology and subcategorization: case and the unmarked complex verb. In Hoekstra, T., van der Hulst, H. & Moortgat, M. (eds.) *Lexical grammar*. Dordrecht: Foris. 123–164.
Chung, C. (1995). *A lexical approach to word order variations in Korean*. Ph.D. dissertation, The Ohio State University.
De La Cruz, J. (1975). Old English pure prefixes: structure and function. *Linguistics* **145**. 47–79.
Di Sciullo, A. M. & Williams, E. (1987). *On the definition of word*. Cambridge, MA: MIT Press.
Gerdemann, D. (1994). Complement inheritance as subcategorization inheritance. In Nerbonne et al. (eds.). 341–363.
Hinrichs, E. & Nakazawa, T. (1989). Flipped out AUX in German. In *Papers from the 25th regional meeting of the Chicago Linguistic Society*. 193–202.
Hinrichs, E. & Nakazawa, T. (1994). Linearizing finite AUX in German complex VPs. In Nerbonne et al. (eds.). 11–37.
Kim, H. (1995). On the genitive of Anglo-Saxon poem *Deor*. *Neuphilologische Mitteilungen* **96**. 351–359.
Kim, J.-B. (1994). A constraint-based lexical approach to Korean verb inflections. Paper presented to the 2nd international HPSG workshop held in 1994 at Copenhagen. Ms., Stanford University.
Krenn, B. & Erbach, G. (1994). Idioms and support verb constructions. In Nerbonne et al. (eds.). 365–396.
Li, Y. (1990). On V-V compounds in Chinese. *Natural Language & Linguistic Theory* **8**. 177–207.
Lieber, R. (1983). Argument linking and compounds in English, *Linguistic Inquiry* **14**. 251–285.
Lieber, R. (1992). *Deconstructing morphology: word formation in syntactic theory*. Chicago: University of Chicago Press.
Marantz, A. (1984). *On the nature of grammatical relations*. Cambridge, MA: MIT Press.
Miller, G. D. (1993). *Complex verb formation*. Amsterdam: John Benjamins.
Mitchell, B. (1978). Prepositions, adverbs, prepositional adverbs, postpositions, separable prefixes, or inseparable prefixes, in Old English? *Neuphilologische Mitteilungen* **79**. 240–57.
Mitchell, B. (1985). *Old English syntax*. (Vol. 1.) Oxford: Clarendon Press.
Mitchell, B. (1992). *A guide to Old English*. Cambridge, MA: Blackwell.
Moore, S. & Knott, T. A. (1958). *The elements of Old English*. Ann Arbor: George Wahr.
Nerbonne, J., Netter, K. & Pollard, C. (eds.) (1994). *German in Head-driven Phrase Structure Grammar*. Stanford: Center for the Study of Language and Information.
Pollard, C. & Sag, I. (1994). *Head-driven phrase structure grammar*. Chicago: University of Chicago Press & Stanford: Center for the Study of Language and Information.
Rentier, G. (1994). A lexicalist approach to Dutch cross serial dependencies. In *Papers from the 30th regional meeting of the Chicago Linguistic Society*.
Roeper, T. & Siegel, M. (1978). A lexical transformation for verbal compounds. *Linguistic Inquiry* **9**. 199–260.
Selkirk, E. O. (1982). *The syntax of words*. Cambridge, MA: MIT Press.
Spencer, A. (1991). *Morphological theory*. Oxford & Cambridge, MA: Blackwell.
Toman, J. (1987). Issues in the theory of inheritance. Paper delivered at the Round Table on Word-structure Theories, Fourteenth International Congress of Linguists, Berlin.
Williams, E. (1981). On the notions 'lexically related' and 'head of a word'. *Linguistic Inquiry* **12**. 245–274.

Author's address: *Department of Linguistics*,
Seoul National University,
Sillim-dong, *Kwanak-ku*, *Seoul*, *Korea*.
E-mail: nam@power1.snu.ac.kr

https://doi.org/10.1017/S0022226796006299 Published online by Cambridge University Press