Perfects, resultatives and auxiliaries in Early English

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1 Introduction

Early English had constructions consisting of the past participle of the main verb plus an auxiliary *have* or *be*, as in 1, which look very much like the periphrastic perfects of many modern European languages:[1]

(1) a. as ha þreo **weren** ifolen onslepe…
when they three were fallen asleep…
'When the three of them had fallen asleep…' (CMANCRIW-2,II.272.440)

b. …huanne hi **heþ** wel yuoʒte
…when he has wel fought
'…when he has fought well' (CMAYENBI,252.2315)

Such constructions are like their formal analogues in languages like German, Dutch and Italian in the following ways. They are active in voice, they involve at least implicit reference to past or anterior eventualities, and the auxiliary is usually BE with intransitive verbs denoting change of location or change of state, while it is usually HAVE with other intransitives as well as all transitives.[2] However, as is well known, English subsequently diverges from these other languages in losing the version with BE. In the

[1] We use "Early English" as a cover term when speaking of Old English (OE), Middle English (ME) and Early Modern English (EModE) together. Except where otherwise noted, the data for this paper come from the *York-Toronto-Helsinki Parsed Corpus of Old English Prose* (Taylor, Warner, Pintzuk, and Beths 2003), the *Penn-Helsinki Parsed Corpus of Middle English*, 2nd edition (Kroch and Taylor 1999) and the *Penn-Helsinki Parsed Corpus of Early Modern English* (Kroch, Santorini, and Delfs 2005). The final line of each example gives the sentence ID as it appears in the original corpus file.

[2] We write HAVE and BE in small capitals when referring to the auxiliaries in general, cross-linguistic terms. When what is intended are the specific lexical items of an individual language, we use italics, as in *have* and *be* for English, *haben* and *sein* for German.

modern language, HAVE is used to form perfects with all verbs:

(2) a. The three of them **have/*are** fallen asleep.

b. He **has** fought well.

c. We **have** eaten the cake.

In this paper, we will argue for a novel analysis of the auxiliary alternation in Early English, its development and subsequent loss which has broader consequences for the way that auxiliary selection is looked at cross-linguistically. We will present evidence that the choice of auxiliaries accompanying past participles in Early English differed in several significant respects from that in the familiar modern European languages. Specifically, while the construction with *have* became a full-fledged perfect by some time in the ME period, that with *be* was actually a stative resultative, which it remained until it was lost. We will show that this accounts for some otherwise surprising restrictions on the distribution of BE in Early English and allows a better understanding of the spread of HAVE through late ME and EModE. Perhaps more importantly, the Early English facts also provide insight into the genesis of the kind of auxiliary selection found in German, Dutch and Italian. Our analysis of them furthermore suggests a promising strategy for explaining cross-linguistic variation in auxiliary selection in terms of variation in the syntactico-semantic structure of the perfect. In this introductory section, we will first provide some background on the historical situation we will be discussing, then we will lay out the main claims for which we will be arguing in the paper.

1.1 Historical background

Considerable research over several decades has been devoted to the history of the perfect in English (see e.g. Hoffmann 1934, Fridén 1948, Johannisson 1958, Mustanoja 1960, Traugott 1972, Zimmermann 1972, Kakietek 1976, Rydén and Brorström 1987, Kytö 1997) yielding the following more or less standard account. Both the construction with *have* and that with *be* had their pre-OE origins in stative resultatives, the former with transitives like 3a, the latter with intransitives like 3b.[3]

(3) a. I have my bags packed.

i.e. 'I have my bags in a packed state.'

b. My bags are arrived.

i.e. my bags are in the state of having arrived.

In the course of OE and early ME, these resultative constructions grammaticalized to more generalized perfects – constructions with anterior temporal-aspectual meanings beyond just resultativity. In the process, *have* came to be used with unergative intransitives (which could not have formed resultatives), while *be* was established as the norm with more or less what we would class as the unaccusatives.[4] At some point later in the ME period, around 1350, *have* began to replace *be* with unaccusatives. The process was extremely gradual, involving a long period of variation where the relevant verbs could appear with either *have* or *be*. The former appeared earliest and most consistently

[3]Resultatives like 3b with participles of strictly intransitive verbs are not really possible in modern English (except with certain lexicalized participles like *gone* and *rotten*) – but presumably were at the relevant stage of the language.

[4]The traditional term normally used is 'mutative intransitives', which includes verbs which denote a change in the subject, either of location or state. Note that this does not pick out precisely the class of unaccusatives, a point to which we will return in Section 6.

in modal and irrealis contexts, past and infinitive perfects and clauses with iterative or durative semantics. Over the course of EModE, *be* lost more and more ground to *have*. It came to be restricted for the most part to the extremely frequent *come* and *go* and then disappeared entirely by the end of the 19th century.

In our research, based on parsed electronic corpora covering OE, ME and EModE (roughly 800–1710 CE), we have found this scenario to be roughly correct in terms of its assumptions about the origin of the perfects, and in terms of the frequencies of *have* and *be* relative to one another at any given time. However, it raises three important questions which will lead us to fundamentally reconsider the syntactic systems that underlie those frequencies. First, why should the factors just mentioned have favored the spread of *have* and not others? A priori, they seem to be a mixed bag of modal, temporal and aspectual categories, and some of them are quite unlike those relevant for auxiliary selection in the familiar modern languages. Second, why should these factors have only become relevant around the year 1350? That is, if modals, pluperfects, infinitives, iteratives and duratives favored *have* after this time, why didn't they do so before? Third, why did the change subsequently take so long to go to completion? Was there really just a slow, steady replacement of *be* by *have* over the course of 550 years, or were there identifiable stages in the process, smaller changes adding up to the eventual loss of *be*?

1.2 Our claims

In this paper we will present evidence for a revised view of the relevant developments which will allow us to give at least partial answers to these questions. We propose

that the Early English construction with *be* never developed past its resultative roots. It remained a compositional combination of the copula with a stative resultative participle and thus only allowed a perfect of result reading. That with *have*, on the other hand, developed into a real perfect by around 1350, with the full range of interpretations characteristic of the Modern English perfect. At least for the first few hundred years after this, the shift in the relative frequency of *have* and *be* was not actually due to the former taking over from the latter, but to the former expanding into new territory for periphrastic perfects while the latter remained stable. The factors noted above restricted the appearance of *be* because, as a stative resultative, it was semantically incompatible with them. They don't seem to be relevant until around 1350, because it is only at that point the *have* construction comes to be compatible with them itself, thereby drawing attention to the lack of *be* 'perfects'. Until that point, **neither** 'perfect' appeared in the relevant contexts, only the simple past. The subsequent disappearance of the *be* forms seems to have been due to an independent development in the Late Modern English period, i.e. after 1710. Thus it is not the case that we had a single change, whereby *have* replaced *be* gradually over a period of several centuries. Rather, there were at least two distinct and unrelated changes, with a period of relative stability in between.

We will argue that this analysis can be extended to account for comparative data as well. As noted above, the distribution of auxiliaries in Early English was rather different than in the modern continental languages. In particular, the latter do not exhibit such heavy restrictions on the appearance of BE. This is as expected if the BE constructions in German, Dutch and Italian are full-fledged perfects just like the ones with HAVE rather than stative resultatives, a position for which there is abundant independent

evidence. Note crucially that this account relates variation in auxiliary alternations to independently verifiable variation in the semantics of the perfect. To the extent that it is successful, it constitutes a deeper kind of explanation of cross-linguistic patterns of auxiliary alternation than theories which must stipulate rules of selection.

2 The distribution of *be* and *have*

The central claim of this paper is that the *be* 'perfect' in Early English did not have the same temporal/aspectual structure as the *have* perfect. The primary evidence for this claim comes from the rather different distribution of the two constructions during late ME and EModE: while the *have* perfect could apparently show up in all the contexts where it can in Modern English, the *be* perfect was heavily restricted. In this section we will present the basic data showing the nature and strength of these restrictions, establishing the patterns that our analysis proposes to explain. The main restrictions on *be* presented here are essentially those mentioned above which have been noted and catalogued by previous researchers over the past several decades (see especially Fridén 1948, Rydén and Brorström 1987, Kytö 1997). However, with our use of large, syntactically annotated electronic corpora, we have been able to achieve more precision in our findings, which allows us to define some of the restrictions more tightly and to identify crucial connections between them which seem to have escaped attention until now.

2.1 The counterfactual effect

It has long been known that the strongest restriction on *be* in Early English comes from modal/irrealis contexts (see e.g. Fridén 1948, Johannisson 1958, Mustanoja 1960, Traugott 1972, Rydén and Brorström 1987, Kytö 1997, Lipson 1999). In previous work (McFadden and Alexiadou 2005, 2006), we have argued that the relevant context can be identified more precisely as past counterfactuals. By past counterfactuals, we mean clauses which convey (independent of any sentential negation) that the proposition being considered was contrary to fact at a particular time in the past.[5] The prototypical members of this category are (past) counterfactual conditionals, both the antecedent clause as in 4a and the consequent clause as in 4b. Also included are clauses like 4c which have essentially the same semantics as the consequent of a counterfactual conditional, but without an accompanying overt conditional antecedent. In this example, the complementizer *else* could just as easily be replaced by a counterfactual conditional antecedent like "If I were not…". Finally, we also have counterfactual wishes like 4d.

(4) a. and if they **had come** sooner, they could haue holpen them.
'and if they had come sooner, they could have helped them.'
(GIFFORD-E2-P2,G3V.246)

b. he **had** never **come** to himself … if he had not met with this allay
'he would never have come to himself … if he had not met with this distraction' (BEHN-E3-H,189.165)

c. I am satisfy'd with every thing that pleases you; else I **had** not **come** to

[5] We follow Iatridou (2000) in the intentionally vague use of the word 'convey' to avoid the issue of whether the counterfactuality is asserted, presupposed, or implicated, as that question is beyond the concerns of this paper. See Iatridou (2000), Ippolito (2003) and the literature cited there for discussion.

Town at all.

'I am satisfied with everything that pleases you; otherwise I wouldn't have come to town at all.' (VANBR-E3-H,32.10,11)

d. And he . . . will wish he **had** with the poore peoples children **gon** barefoot.

'And he . . . will wish he had gone barefoot with the poor people's children.' (LOCKE-E3-P1,35.46)

The effect of such past counterfactuals on the choice of perfect auxiliaries is extreme. Table 1 shows the frequency of *be* and *have* in ME, comparing past counterfactuals with all other examples, while Table 2 shows the same for EModE. Here as throughout the paper, we restrict our attention to examples with verbs which could at least potentially occur with BE.[6] We see that *be* is vanishingly rare in the counterfac-

	be	***have***	***%be***
Counterfactuals	3	59	4.8%
All other intransitives	535	68	88.7%

Table 1: ME perfect auxiliary selection by modality

	be	***have***	***%be***
Counterfactuals	6	99	5.7%
All other intransitives	984	365	72.9%

Table 2: EModE perfect auxiliary selection by modality

tuals. Between the two corpora, only 9 of 167 (5.4%) counterfactual 'perfects' use *be*, compared to 77.8% *be* selection in non-counterfactuals.[7] Even verbs like *come*, which

[6] Specifically, if a verb appears at least once in a given corpus with *be*, we include all of its occurrences in the perfect in that corpus in our data. If a verb only ever takes *have* in a given corpus, all of its occurrences in that corpus are excluded. This is done to avoid the possibility that an especially high or low frequency of verbs like *work* or *say* in a particular context would skew the numbers on auxiliary selection.

[7] Not surprisingly, the differences between counterfactual and non-counterfactual perfects here are highly statistically significant. For ME, $\chi^2 = 256.0$, $p \leq .0001$, for EModE, $\chi^2 = 202.6$, $p \leq .0001$

otherwise always took *be* up to this point, are forced to take *have* in these counterfactual contexts (as exemplified already in 4a-c). In fact, we'll argue later that the nine instances with *be* listed in Tables 1 and 2 have a special status and aren't really counterexamples, so that this counterfactual effect is essentially without exception.

Now, the examples in 4 all formally involve a past form of auxiliary *have* as their finite verb, but this is not the case for all past counterfactual clauses. As in Modern English, we often find instead a modal auxiliary as the finite verb above a non-finite form of *have*. This is demonstrated by the examples in 5.

(5) a. But and yf he **wolde haue comen** hyther he myght haue ben here
'But if he had come here, he might have been here.'
(CMREYNAR,55.408)

b. she **would have com** to you longe or this tim if I would have let her com
'She would have come to you long before now if I had let her come.'
(JPINNEY-E3-H,40.69)

What is interesting is that **all** of the examples with a modal auxiliary above the perfect which we have found in the ME corpus are in fact past counterfactuals, as are nearly all of the ones in the EModE corpus.[8] In other words, examples like *He must have come to London* or *She may have gone home*, with a non-counterfactual epistemic modal above the perfect, do not appear during this period. The additional examples in 6 demonstrate that we do find perfects with other modals than the vanilla counterfactual *would*, but crucially here as well there is counterfactuality on top of whatever other modal meaning

[8] Note also that in OE this combination of a modal with a formal perfect was vanishingly rare. We have actually found no such examples with intransitive verbs in the YCOE corpus, though Mitchell (1985, p. 388f) cites a few possible cases.

is present. Sentence 6a is talking about a situation where the woman in question **has** come into the man in question's sight, thus the statement that she would not have done so by his will is a counterfactual. Similarly, sentence 6b is about the damned, i.e. people who have not come to bliss, but could have easily done so if they had behaved properly.

(6) a. . . . she **shulde** nouȝt **haue** comen in his sight bi his wille
'. . . she would not have come into sight by his will.'
(CMBRUT3,115.3483)

b. . . . syþ þei **myton** liȝtly **haue** come to blysse
'since they might easily have come to bliss'
(CMWYCSER,303.1386)

While it is not entirely clear why modal perfects should have been restricted to past counterfactuals in this way, the fact is relevant because it has led to a certain amount of confusion. The class of perfects with a modal above the auxiliary are extremely easy to identify on formal grounds, and thus have tended to be treated separately from perfects like those in 4 whose irrealis modality has to be identified on semantic grounds. Furthermore, it is a correct generalization that all examples in this formally defined class have auxiliary *have* rather than *be*. On this basis, it is difficult not to attribute importance directly to the presence of an overt modal auxiliary. However, the perfects with an overt modal are a proper subset of the past counterfactuals during the relevant period, and *have* is the auxiliary with all of these, regardless of their overt form. The right generalization is thus that all past counterfactuals have auxiliary *have*, and nothing special needs to be said about those with a modal auxiliary.

Now, as noted above, one of the other factors which has been reported by previous researchers to favor the use of *have* over *be* during the transitional period is the pluperfect. Kytö (1997) claims e.g. that "[t]he past perfect, which highlights the perfectivity of action, paved the way for the rise of *have*... From early on, the use of *have* is more common in past perfect than in present perfect constructions" [p. 52f]. She reports that, in her corpora spanning the time from Late ME up to the present, 55% of past perfects use *have*, while only 47% of present perfects do. Given the large number of examples she considers, even this apparently small difference is highly statistically significant: $\chi^2 = 18.5$, $p \leq .001$ (see also Rydén and Brorström 1987, for similar remarks and numbers).

Our research indicates, however, that the higher frequency of *have* in such contexts is indirectly de to the counterfactual effect, at least in part. Consider the fact that all past counterfactuals – both in Modern English and the relevant earlier stages – are formally pluperfects. As discussed in detail by Iatridou (2000), only *If I **had** gone...* can be a past counterfactual conditional. *If I **have** gone...* is a conditional, but cannot be counterfactual, and *If I went...* can be a **present** counterfactul conditional, but of course since it is not formally a perfect it is irrelevant to our concerns here. Now, since **all** past counterfactuals use auxiliary *have*, and **all** past counterfactuals are formally pluperfects, we can predict that pluperfects will have a higher overall frequency of *have* than present perfects purely due to the counterfactual effect. If we want to know whether past perfects are independently more or less likely to use *have* than present perfects, we must first remove the past counterfactuals from consideration. As the examples in 7 show, we do find both *be* and *have* with verbs like *come* in non-counterfactual pluperfects:

(7) a. For his tyme was not come to dyen at þe Pasc þat he hadde ordeynot

'For his time had not come to die at the passover that he had ordained.'

(CMWYCSER,I,414.3405)

b. For also thei hadden comun to the feeste dai

'For they had also come to the feast day.'

(CMNTEST,IV,40.334)

Once we restrict our attention to such examples, we find that the reported preference for *have* with pluperfects is reduced or goes away entirely. In fact, in ME, the pluperfect actually **disfavored** *have*, as Table 3 shows, and the difference is statistically significant ($\chi^2 = 9.9$, $p \leq .005$). In EModE, as shown in Table 4, there is still a preference for

	be	***have***	***%be***
Pluperfects	327	23	93.4%
Present perfects	188	32	85.5%

Table 3: ME non-counterfactual present and past perfects

have in the pluperfects, and again the difference is statistically significant ($\chi^2 = 7.6$, $p \leq .01$). In any case, the reported connection between pluperfects and auxiliary *have*

	be	***have***	***%be***
Pluperfects	369	150	71.1%
Present perfects	530	149	78.1%

Table 4: EModE non-counterfactual present and past perfects

can be at least partially be traced back to the counterfactual effect.

A similar pattern is found with negation, which according to Kytö (1997) appears with *have* 68% of the time, compared to only 53% *have* with affirmative perfects (Fridén 1948, Johannisson 1958, Rydén and Brorström 1987, see also). Here again we have to be on the lookout for interference from the counterfactual effect, given the frequency

of counterfactuals of the type *If Jones hadn't X he wouldn't have Y*. Indeed, in our ME corpus, we find that among intransitive perfects, 28.6% of negative clauses are counterfactuals, compared to only 8.7% of non-negative clauses. Similarly in EModE, 14.9% of negatives are counterfactuals, compared to 13.8% of non-negatives.[9] If we thus exclude the counterfactuals from our consideration of the effect of negation on auxiliary selection, we get the numbers in Table 5. In ME, an apparent difference between nega-

		be	***have***	***%be***
ME	**Negative**	12	3	80.0%
	Non-negative	523	65	88.9%
EModE	**Negative**	58	22	72.5%
	Non-negative	926	343	73.0%

Table 5: Non-counterfactual perfects, negative vs. non-negative

tive and non-negative contexts remains, but given the small number of negative perfects, it does not reach statistical significance ($\chi^2 = 1.2$, $p \leq .3$). Crucially, if we leave the counterfactual examples in, *be* only appears in 57.1% of negative perfects, versus 80.9% of non-negative ones, and this time the difference is statistically significant ($\chi^2 = 7.2$, $p \leq .01$). In EModE we can see just from the raw numbers in the table that negation makes no appreciable difference in the frequency of *have* ($\chi^2 = .008$, $p \leq 1$). Here we can say even more clearly then, the preference for *have* with negation was apparently just a side-effect of the counterfactual effect.

2.2 Other factors

Once we move beyond past counterfactuals, the relevance of the other factors reported by previous researchers to affect auxiliary selection is less straightforward. Some do

[9]These differences are again statistically significant. For ME, $\chi^2 = 9.5$, $p \leq .005$. For EModE, $\chi^2 = 7.3$, $p \leq .01$.

turn out to be significant, albeit not as strong as the counterfactual effect, others are fairly weak, and still others do not seem to be relevant at all. In this section we will consider them in turn and evaluate them on the basis of the corpora at our disposal.

It has been repeatedly claimed that the perfect infinitive favored *have* is the perfect infinitive (Fridén 1948, Johannisson 1958, Mustanoja 1960, Rydén and Brorström 1987, Kytö 1997), and here again interference from the counterfactual effect is conceivable. One of the main contexts where perfects show up with non-finite forms of the auxiliary is below modals. We have seen that modal perfects were overwhelmingly counterfactuals at this stage, so in order to avoid interference, we exclude these and restrict our attention to examples like those in 8:

(8) a. to take grete sham˜ & conscyence whan we rede them **to haue doon** so zelously in goddys cause

'…to take great shame and conscience when we read that they have acted so zealously in God's cause'

(CMFITZJA,B1V.108)

b. to make vnable prelatis eithir curatis in the chirche of God, is **to haue come** to the hiȝest degree of trespasis

'…to make people who are incompetent prelates or curates in the church of God is to have come to the highest degree of trespasses.

(CMPURVEY,I,32.1568)

In this case, a clear independent preference for *have* remains, as the numbers in Table 6 show. In both ME and EModE, perfect infinitives take *be* far less frequently than all other kinds of perfects (and the differences are statistically significant; for ME

	ME			EModE		
	be	***have***	***% be***	***be***	***have***	***% be***
Infinitives	1	10	9.1%	17	36	32.1%
All others	548	74	88.1%	973	428	69.5%

Table 6: Infinitive and finite perfects of verbs that can take *be*

$\chi^2 = 58.6$, $p \leq .001$; for EModE, $\chi^2 = 32.8$, $p \leq .001$). So something about the infinitive clearly favors *have*, though the effect is not as strong as that with counterfactuals. In Section 5 we will discuss some additional data on the infinitives and present an explanation for their behavior which is indirectly related to the counterfactual effect.

With the remaining factors discussed in the previous literature, a connection to the counterfactual effect is not likely. Iterativity and durativity in particular have nothing to do with counterfactuality, yet they have been consistently reported to favor *have* (Fridén 1948, Mustanoja 1960, Rydén and Brorström 1987, Kytö 1997). To see what sorts of sentences are at issue here, consider the following examples given by Kytö (1997):

(9) a. Syns the death of them it **hath** sumwhat decayed. (Durative)
(Leland, *The Itinerary of John Lelan* I 143).

b. how wel oftymes **hath** this fel theef goon rounde aboute this wal (Iterative)
(Caxton, *History of Reynard the Fox* 11)

Kytö reports that 73% of the durative perfects like 9a in her corpus have auxiliary *have*, compared to 54% among non-duratives. Similarly, 78% of iterative perfects like 9b have auxiliary *have*, again compared to 54% among non-iteratives.

We can supplement these general numbers with data from our own searches on contexts involving particular kinds of adverbial elements. Consider e.g. the sentences in 10, where we have a PP headed by *through* or *throughout* denoting a path of motion:

(10) a. And haue passed **þorghout** Turkye Ermonye the lityll & the grete þorgh Tartarye Percye…

'…and [I] have passed through Turkey, Armenia Minor and Major, through Tartary, Persia…' (CMMANDEV,3.33)

b. I had past **through** many Countryes

(FOX-E3-P2,110.182)

Whereas goal PPs with *to* set up telic events with nice result states, these *through* PPs point to the duration of an activity. We have found 16 (non-counterfactual) examples with *through* or *throughout* in perfects of verbs which occur at least once in our ME and EModE corpora with *be*. All 16 such examples use auxiliary *have*. Another common formal indication of durativity comes from adverbs and adverbial NPs which explicitly measure the duration or extent of the eventuality, as in 11:

(11) a. he had gon **so longe** be londe & be see

'He had gone so long by land and by sea…'

(CMMANDEV,122.2971)

b. we had travell'd **One and twenty Miles**

(FRYER-E3-P2,2,202.126)

We have found 53 examples of this kind, again among non-counterfactual perfects with a verb that can take *be*. Of these, 35 have auxiliary *have* (66.0%), whereas only 556 of 2077 total perfects with these verbs show *have* (26.8%). This difference is statistically significant: $\chi^2 = 44.7$, $p \leq .001$. We can thus confirm that duratives contexts favor *have*.

Finally, Rydén and Brorström (1987) have reported that *have* was favored also in perfects where the auxiliary is in the form of a present participle, as in the examples in 12.

(12) a. he approved extremely of your **having come** away
(DRUMMOND-E3-P1,2.4,201.37)

b. and at night **being come** to the Towne, I found good ordinary Countrey entertainment
(JOTAYLOR-E2-H,1,128.C2.9)

Here again, there is no expected formal or semantic connection to counterfactuals. In any case, at least within our corpora, the present participle form seems to favor *be*, not *have*. We have found no examples of this kind in the ME corpus, but there are 63 in EModE, the numbers for which are given in Table 7. The preference for *be* shown

	be	***have***	***%be***
Progressives	50	13	79.4%
All other intransitives	940	451	67.6%

Table 7: EModE perfect auxiliary selection with present participle auxiliary

here is statistically significant ($\chi^2 = 3.9$, $p \leq .05$). Kytö (1997) also finds a minor preference for *be* during EModE, but in later periods this disappears. Since Rydén and Brorström (1987) made their claim on the basis of data from Late Modern English, this may explain the discrepancy with our findings.

To summarize, then, during the transitional period, past counterfactuals required a perfect with *have*. Perfect infinitives and those with iterative or durative semantics had a strong preference for *have*, and pluperfects had a weaker such preference, at least during EModE. Other factors which have been reported to be relevant can either be subsumed

under the counterfactual effect or do not turn out to favor *have* at all. What we need, then, is a theory of the distribution of the two auxiliaries which can accommodate and hopefully explain these effects.

3 The *be* 'perfect' as a perfect of result

We have established that the 'perfects' with *be* were distributed rather differently across semantic contexts than those with *have* in late ME and EModE. The question we must answer now is why this should have been. What difference in the two constructions could have been responsible for these discrepancies? Because the restrictions on the use of *be* are semantic in nature, we will propose that the *be* and *have* 'perfects' differed in a semantic way, in terms of the temporal/aspectual interpretations that were available to them. Now, compared to *be*, *have* seems to have been relatively unrestricted. It could be used in the perfect in all of the contexts where *be* could be used, plus some others. Our task is thus to determine what unifies the contexts where *be* was impossible or highly restricted.

The previous literature on perfects in Early English offers some suggestive remarks on what distinguishes forms with *be* from those with *have*, centering on the distinction between state and action. Kytö (1997) e.g. writes:

> "Over the centuries, the distinction between state/result (indicated by *be*) and action (indicated by *have*) seems to have been one of the main distributional factors influencing the choice of the auxiliary." [p. 31]

The generalization that we would like to propose is essentially a stronger and more

explicit version of this idea. Specifically, in Early English auxiliary *be* appears only in what could be characterized as perfects of result, with verbs where the result state holds of the subject. Auxiliary *have* appears everywhere else, in particular with the experiential perfects of these same verbs, and with all kinds of perfects of other verbs. In this section we will provide some background on perfect semantics to clarify exactly what is meant by this generalization and present evidence that it is, in fact, the correct one for Early English.

3.1 A primer on perfect semantics

To simplify the following discussion, we must first introduce some standard terminology used for the semantics of the perfect and of tense and aspect in general. Since Reichenbach (1947), it has been standard to distinguish three different times which are relevant to the meanings of tenses and aspects. The **speech time** is simply the time at which an utterance is made. The **event time** is the time at which or during which the eventuality denoted by the VP takes place. Scholars differ on certain details regarding these times, but their basic sense is clear. More difficult and controversial is the **reference time**. This has most frequently been identified as the time from which an eventuality is viewed or as the time about which a claim is being made, though there is disagreement on the details. In any case, there is a consensus that some notion of reference time is necessary, which can be exemplified nicely by comparing past perfects, present perfects and future perfects, as in 13:

(13) a. When we got home, Randy had been sleeping for 3 hours.

b. Randy has now been sleeping for 5 hours.

c. By the time you come home, Randy will have been sleeping for 8 hours.

In the second clause of 13a, a past perfect (or pluperfect), the reference time is the time at which "we got home", at some point before the speech time. The event time – in this case the time of Randy's sleeping for 3 hours – precedes that. In 13b, a present perfect, the reference time is the same as the speech time, which the event time again precedes. Finally, in 13c, a future perfect, the reference time is the time when "you come home", sometime after the speech time. The event time again precedes this. Simplifying a bit, the perfect in all of these examples indicates that the event time is before the reference time, while the finite tense on the auxiliary indicates the relationship between the reference time and the speech time.

Turning now to our generalization about Early English 'perfects', the line we are drawing is based on the standard distinctions that have been drawn between different interpretations of the Modern English perfect. Iatridou, Anagnostopoulou, and Pancheva (2003), following McCawley (1971) and many others, identify four main types. First, the **Universal Perfect** describes an eventuality (typically a state or activity) which holds over an interval starting some time in the past and continuing up through the reference time. The universal reading of 14a, e.g., means that I have been sick for the entire time from January up to the time when I utter the sentence. Second, the **Experiential Perfect** describes an eventuality which more generally occurred at a time before the reference time. The sense is typically of an experience that the subject has had. The key way in which this differs from the universal perfect is that there is no implication that the eventuality holds or held over the entire span up to the reference time. This is clear if we compare 14a with 14b, where the existential reading is forced by the adverb *twice*. We

have here two separate 'being sick' eventualities, which cannot both hold continuously up to the reference time, here the present.[10] Third, the **Perfect of Result** describes a state which is the result of the underlying eventuality denoted by the VP, and which holds at the reference time. Such a reading is possible for the first sentence in 14c because the context supplied in the second sentence makes clear that the relevant state (the phone being lost) still holds at the reference time – here again the present. Finally, the **Perfect of Recent Past** describes eventualities which have just happened, as in 14d.

(14) a. I have been sick since January. (**Universal**)

b. I have been sick twice since January. (**Experiential**)

c. I have lost my cellphone. Could you help me find it? (**Result**)

d. The Phillies have just won the World Series! (**Recent Past**)

For the rest of this paper we will largely set the universal perfect and the perfect of recent past aside. The former has received considerable attention in the literature on perfect semantics because it seems to be cross-linguistically restricted (e.g. in French and German the relevant contexts would be rendered with simple present tense forms), and because it is somewhat difficult to integrate with the other readings. However, it is essentially irrelevant to our concerns here because the kinds of predicates which can form universal perfects (statives, activities and progressives of verbs with other Aktionsarten, all of which are atelic) do not appear with *be* in Early English. As for the perfect of recent past, it seems to be relatively uncommon, and is difficult to distinguish

[10]Note that a parallel existential reading is possible with 14a, meaning something like "I have been sick at least once since January". In a neutral context it is dispreferred relative to the universal reading.

reliably from the other readings.[11]

Instead, we will be concentrating on the experiential perfect and the perfect of result, and the differences between them, as these are the readings that are clearly available and identifiable with the intransitive verbs which alternate between *have* and *be*. The distinction between the two readings can be made more clear if we consider two kinds of sentences which allow experiential readings, but not perfect of result readings. In contrast to 14c above, sentence 15a cannot have a perfect of result reading, because there is no single result state that continues to hold at the reference time – losing the same phone three times implies having found it again at least twice in the intervening time. Instead, we get a clear experiential reading, that I have had the experience of losing my phone three times in the past year. A perfect of result interpretation is also impossible for 15b, but for a different reason: *ride around the park* is atelic, and thus simply does not yield a good result state.

(15) a. I have lost my cellphone three times in the past year.

b. I have ridden all around the park.

It is important at this point for us to distinguish between two different senses of 'result state'. Parsons (1990) introduced a distinction between so-called target states and resultant states (see also e.g. Kratzer 2000, Anagnostopoulou 2003). A target state is the typical, independently identifiable, reversible state that something is in after the eventuality described by the predicate has applied to it. After I lose my cellphone, it is

[11] For example, in the EModE corpus there are six examples of intransitive perfects involving the adverb *just* or *just now* which would seem to fit the description of perfects of recent past. However, all six of them could also count just as well as perfects of result, and all six use auxiliary *be* just like other perfects of result. It may be that distinguishing between these categories is warranted for other reasons, but for our purposes we have seen no reason to do so.

in the target state of losing: the fact that it is lost can be confirmed independently of any knowledge of how it got to be that way, and once I find it again it will no longer be lost. On the other hand, a resultant state is simply the state of an event having culminated. It will exist for any event and is irreversible. In the case of me losing my cellphone, no matter what happens afterwards, whether I find the phone or not, lose it again or not, there will always be a state of me having lost the phone on that particular occasion. Resultant states in this sense have been argued (e.g. by Parsons 1990, Kamp and Reyle 1993) to characterize certain meanings of the English perfect. If anything, however, this characterization would be appropriate for the experiential reading, in the sense that the resultant state of the eventuality holds at the reference time.[12] What will concern us here, however, will be target states. Specifically, the perfect of result in the sense in which we intend it describes the target state of the eventuality in the VP. We know this because a perfect of result reading is not available if the target state no longer holds, even though the resultant state by definition still must. This is suggested already by 15a and will be supported further by Early English data. As Parson's terminology is somewhat cumbersome, and as we will have no further occasion to dwell on the distinction, for the remainder of this paper we will simply use the term result state. It should however be kept in mind that what we intend are target states in Parson's sense.

[12] Kamp and Reyle (1993) actually propose to handle all readings of the perfect in terms of resultativity. Their account of the experiential perfect corresponds roughly to the resultant state of the culmination of the event as suggested in the text (with the addition that for non-eventive predicates a culmination point will be supplied which represents the point at which the underlying state or activity ceases to hold). For the universal perfect they suggest that the relevant state is not what follows the culmination point, but what follows the beginning of the eventuality described by the predicate.

3.2 Demonstrating the generalization

Now that we have some basic understanding of the different readings of the perfect, we can return to the generalization stated above for Early English. To repeat, at that stage of the language, while the *have* perfect had both experiential and result readings, we would like to claim that the *be* 'perfect' had only the latter. It is a simple matter to find *be* 'perfects' with the result reading, like those in 16, and *have* perfects with the experiential reading, like those in 17.

(16) a. I. . . wil build againe the Tabernacle of Dauid, which **is fallen** downe.
(AUTHNEW-E2-P2,XV,1A.1000)

b. I perceive these honourable Lords, and the rest of this great Assembly, **are come** to hear what hath been scattered upon the Wrack of Report.
(RALEIGH-E2-P1,1,214.59)

(17) a. But I thanke our Lorde when so euer this coniecture **hath fallen** in my mynde, the clearnesse of my conscience hath made mine hearte hoppe for ioy.
'But I thank our lord [that] whenever this conjecture has come into my head, the clearness of my conscience has made my heart hop for joy.'
(MORELET2-E1-P1,540.56)

b. For suche as **hath gone** anye tyme abroade, wyll neuer forsake their trade.
'Whoever has gone some time abroad will never forsake their trade.'
(HARMAN-E1-P1,75.376)

Consistent with our generalization, we also find what look like perfect of result readings with transitive *have* perfects, as in 18.[13]

(18) a. I **have brought** your Lordship as accomplisht a Suit of Cloaths, as ever Peer of England trode the Stage in.
(VANBR-E3-P2,26.39)

b. and saith vnto him, We **haue found** him of whom Moses in the Law, and the Prophets did write, Iesus of Nazareth the sonne of Ioseph.
(AUTHNEW-E2-H,I,40J.137)

c. O, Archer, my Honesty, I fear **has ruin'd** me.
(FARQUHAR-E3-P1,66.534)

What we should not find, according to our generalization, are non-resultative perfects with *be*, regardless of the main verb involved. Now, as we are dealing with corpora for dead languages rather than native-speaker intuitions for living ones, data on ungrammaticality are not, strictly speaking, available. In this case, however, a potential substitute is available. If a verb normally takes auxiliary *be*, but consistently appears instead with auxiliary *have* in a particular context, then we have at least indirect evidence that it was ungrammatical with *be* in that context. This empirical configuration is particularly informative because the choice between *have* and *be* is a binary one – every time *have come* appears, *be come* has failed to appear. The situation is thus distinct from the more general one of a given syntactic construction not appearing in a corpus.

[13]Of course, the interpretation of such examples is not always obvious, as both experiential and result readings are often plausible for a single perfect clause. This is no different, however, from the situation in Modern English, and it is in any case not problematic for our hypothesis.

If we now return to the contexts where the *be* perfect is restricted, what we find is that these are precisely those contexts where a perfect of result interpretation would be ruled out or strongly dispreferred. Consider that duratives are typically atelic, describing an action, not its result. In Aktionsart terms, durative adverbials convert achievements and accomplishments into activities. Iteratives typically imply that the result state of each iteration no longer holds when the next iteration takes place. Thus neither kind of context yields a good result state, and it is this that we would like to connect to the restriction against *be*. The issue is not durativity or iterativity per se, but whether a given context is compatible with a perfect of result interpretation.

Evidence that resultativity is really what is behind the various restrictions comes from examples where *have* shows up with a verb that can take *be*, but which don't fit into any of the categories discussed so far. Several examples involve verbs of motion and are neither iterative nor durative, yet are clearly atelic:

(19) a. þei han gon all aboute the cytee
they have gone all about the city
'They have walked all around the city.' (CMMANDEV,117.2859)

b. ȝe haue in his lande riden wiþ baner displaiede…
you have in his land ridden with banner displayed
'You have ridden in his land with banner displayed…'

(CMBRUT3,222.3998)

Again, an atelic eventuality does not yield a good result state, so these are clear existential perfects, and the fact that we get *have* in such examples can be assimilated to our generalization.

Other examples describe a past eventuality which was in fact telic and produced a proper result state. They are special, however, in that the context makes clear that this result state no longer holds at the reference time:[14]

(20) a. For ye han entred into myn hous by violence

'For you have entered into my house by force' (CMCTMELI,328.C1.814)

b. but he was ȝit in that place, where Martha hadde comun aȝens hym.

'But he was still in the place where Martha had come and met him.'

(CMNTEST,XI,20.1102)

Sentence 20a is uttered by a man accusing thieves after the fact, when they are no longer in his house. Sentence 20b comes at a point when Martha has already left and sent her sister Mary back to the place where she had met Jesus. Since the result state no longer holds in such examples, they must again be experiential perfects, and the appearance of *have* is consistent with our generalization.

Finally, there are a number of examples which describe an eventuality which happened once for each individual denoted by the plural subject, as in 21:

(21) a. many a grete hurte **hath byfallen**

'Many great injuries have occurred' (CMREYNAR,53.369)

b. Sence I came to y^{e} Tower her hath com to or 3 frends

'Since I came to the Tower, 2 or 3 friends have come here.'

(EHATTON2-E3-P2,2,158.60)

[14]Such contexts were noted as favoring *have* by Fridén (1948) and Johannisson (1958), but do not seem to have been investigated since as far as we are aware.

These are not strictly speaking iteratives, but like iteratives they involve a series of independent eventualities which do not yield a nice unified result state when taken together. They are about what has happened, not what is the case as the result of a prior event, again clearly experiential perfects.

Thus by adopting the hypothesis that the *be* 'perfect' can have only a perfect of result meaning, we can immediately account for several of the facts about its distribution. In the next two sections we will see how this analysis can explain the other restrictions we've discussed. First, in Section 4 we present some cross-linguistic comparisons which clarify and support the claim that the *be* 'perfect' was a resultative and provide insight into the counterfactual effect. Then, in Section 5, we formalize our analysis, presenting precise versions of our explanations for the counterfactual effect and the avoidance of *be* with perfect infinitives as well as the other restrictions.

4 Cross-linguistic support

In the preceding section we have proposed to analyze the distribution of perfect auxiliaries in Early English – an essentially syntactic pattern – in essentially semantic terms. While this proposal follows a common strategy for linguistic explanations, it is especially difficult to test in this case because we are dealing with a dead language. We can plausibly argue that the periphrasis with *be* would be restricted in the ways we observe if it had a certain interpretation, but in the end we have no access to native speakers who could confirm or deny this hypothesis. In this section we will discuss cross-linguistic evidence which allows us to at least partially fill this gap. We will look at three modern

languages with auxiliary patterns similar to those we have found in Early English, and argue that the intuitions of native speakers of these languages provide support for our analysis.

4.1 Scandinavian parallels

At least some varieties of Modern Norwegian display what looks like essentially the same pattern of perfect auxiliaries as Early English.[15] Only HAVE is possible in the language with unergatives and transitives (22a and 22b respectively). With unaccusatives, however, in principle either HAVE or BE can appear, as in 22c:

(22) a. Sven har/*er jobbet i Stuttgart.
Sven has/*is worked in Stuttgart.

b. Sven har/*er spist Maultaschen i Stuttgart.
Sven has/*is eaten Maultaschen in Stuttgart.

c. Sven har/er dratt til Stuttgart.
Sven has/is gone to Stuttgart.

The choice between the two is conditioned by much the same factors as in Early English. We find HAVE with duratives (23a), iteratives (23b) and contexts involving the adverb 'ever', a strong indicator of an experiential perfect interpretation (23c):

(23) a. På denne turen har/*er Sven dratt fra Hamburg, via Køln, til Stuttgart.
On this trip, Sven has/*is gone from Hamburg, through Cologne, to Stuttgart.

[15] Special thanks to Øystein Nilsen and Øystein Vangsnes for providing the Norwegian data.

b. Sven har/*er dratt til Stuttgart flere ganger det siste året.

Sven has/*is gone to Stuttgart several times in the past year.

c. Har/*er Sven noensinne dratt til Stuttgart?

Has/*is Sven ever gone to Stuttgart?

We also find that HAVE is preferred when the result state no longer holds. In 24a, the context suggests that the result state still holds, i.e. Sven is still in Stuttgart, thus BE is possible.[16] The second conjunct in 24b, however, makes clear that the result state does not hold any longer, as Sven has gone on to Tübingen. Here BE is not very good.[17]

(24) a. Sven har/er dratt til Stuttgart for idag, og fortsetter til Tübingen i morgen.

Sven has/is gone to Stuttgart for the day, and will continue on to Tübingen tomorrow.

b. Sven har/?er dratt til Stuttgart for et par timer, og så fortsatt til Tübingen.

Sven has/?is gone to Stuttgart for a couple hours, and then continued on to Tübingen.

Finally, we also find a version of the counterfactual effect. As example 25 shows, BE is generally bad in past counterfactuals in Norwegian as well as in Early English:

(25) Hvis Sven hadde/*var dratt til Stuttgart, kunne han ha sett Mercedes museumet.

If Sven had/*were gone to Stuttgart, he could have seen the Mercedes Museum.

Thus far we have not found any formal treatment of these Norwegian auxiliary patterns in the literature. Yamaguchi and Pétursson (2003) have, however, analyzed the

[16]The fact that HAVE is also possible here does not contradict our analysis, as an experiential interpretation would also be appropriate in this context.

[17]Øystein Nilsen (p.c.) offered the following comment on these examples: “It’s as if the ‘be’ version really wants the result state to hold at the utterance time, while the ‘have’ version doesn’t require that”.

situation in Icelandic, and the facts there again seem to be substantially the same. Crucially, they argue that Icelandic *hafa* 'have' forms experiential perfects, while *vera* 'be' can only form perfects of result, i.e. precisely what we are arguing here for Early English. For Icelandic we are again in a better position to test this proposal because we have access to native speaker judgments on interpretation, in addition to data on the formal distribution of the auxiliaries. As in Early English and Norwegian, both auxiliaries are possible with many verbs in the absence of additional context, as shown by the sentences in 26:

(26) a. Pétur hefur farið.
Peter HAS gone.

b. Pétur er farið
Peter IS gone.

However, there is a crucial difference in interpretation. 26a is about Peter having gone at some time in the past, but says nothing about his present state, while 26b implies that he is in fact still gone at present.

Another set of examples clarifies nicely the role that telicity plays in Icelandic. BE is indeed bad and HAVE good with atelic motion predicates, as shown by the contrast in 27, and BE becomes good if telicity is brought in by an adverbial element as in 28a:

(27) a. * Laufin eru flotin.
leaves-the are floated
intended: 'The leaves (have) floated.'

b. Laufin hafa flotið.
leaves-the have floated
'The leaves (have) floated.'

(28) a. Laufin eru flotin burt.
leaves-the are floated away
'The leaves have floated away (and are still away).'

b. Laufin hafa flotið burt.
leaves-the have floated away
'The leaves have floated away (at some point in the past).'

However, HAVE is still possible in such telic contexts, as shown by 28b. It simply leads to a different interpretation, as the parenthetical parts of the translations attempt to show – BE signals a resultative meaning, while HAVE signals an experiential one. Telicity is thus a necessary but not a sufficient condition for the selection of BE. What really matters is the perfect of result interpretation, and telicity is required to make such an interpretation possible.

If it is correct to analyze both Icelandic and Early English auxiliary alternations in terms of an experiential/resultative distinction, then we should find the same restrictions on BE in Icelandic as in Early English. To test this, we have collected additional data from Icelandic speakers on the contexts which are not discussed by Yamaguchi and Pétursson (2003). As predicted, we find HAVE in duratives (29a), iteratives (29b) and past counterfactuals (29c):

(29) a. Í þessari ferð hefur Sveinn farið frá Hamborg, gegnum Köln, til
in this trip has Sveinn gone from H., through C., to
Stuttgart
S.
'On this trip, Sven has gone from Hamburg, through Cologne to Stuttgart.'

b. Sveinn hefur farið til Stuttgart nokkrum sinnum á síðasta ári
Sven **has** gone to Stuttgart several times in past year
'Sven has gone to Stuttgart several times in the past year.'

c. Ef Sveinn hefði farið til Stuttgart hefði hann getað séð
if Sven **had** gone to Stuttgart had he been-able seen
Mercedes-safnið.
Mercedes-museum
'If Sven had gone to Stuttgart, he could have seen the Mercedes Museum.'

The data from Icelandic and Norwegian show that languages do in fact exist, where an auxiliary split follows the experiential perfect vs. perfect of result divide. Indeed, with these languages we have native-speaker intuitions which confirm that this is the relevant interpretive difference. Crucially, the distribution of HAVE and BE in contexts that can be identified independent of native speaker intuitions is essentially the same in these languages as in Early English. This provides strong support for our proposal that the split in Early English was also in terms of experiential perfect HAVE versus perfect of result BE.[18]

4.2 A German comparison

A less direct but no less instructive parallel comes from German. Alongside its *haben* 'have' and *sein* 'be' perfects, exemplified in 30a and 30b respectively, German has a stative passive, shown in 30c, which is formally identical to the *sein* perfect, but semantically quite distinct (see especially Kratzer 2000, for recent discussion).

(30) a. Er hat gearbeitet.
he has worked
'He has worked.'

[18] Auxiliary selection seems to be sensitive to similar splits in many other languages, though less systematically. E.g. Cennamo and Sorace (2007) report for Paduan that with verbs of indefinite change, "[t]he difference in auxiliary selection seems to be related to whether the situation described by the verb has an eventive … or a resultative-stative interpretation" [p. 76]. Since this does not seem to characterize the split in other verb classes, however, a somewhat different analysis than that proposed here for Early English, Norwegian and Icelandic would seem to be called for.

b. Er ist angekommen.
he is arrived
'He has arrived.'

c. Er ist geheilt.
er is healed
'He is healed.'

The difference in the temporal/aspectual semantics is suggested by the English translations. While we use perfects for 30a and 30b, the stative passive 30c is rendered by a simple present. In fact, the stative passive has just the kind of resultative meaning we've posited for the Early English *be* 'perfect'. It implies that the subject is in the result state of the event described by the main predicate at the reference time.[19] The difference is simply that the subject in the German stative passive corresponds to what is otherwise the object of a transitive main verb, while that in the Early English *be* perfects is the sole argument of an intransitive main verb.[20] Crucially, none of the other perfect interpretations are possible for the stative passive. The *sein* perfect, on the other hand, can have experiential in addition to perfect-of-result readings. What is interesting is that the German stative passive – but not the *sein* perfect – shows restrictions on its distribution which are remarkably similar to those on the Early English *be* 'perfect'.[21]

[19]Kratzer (2000) shows that what is involved here can be either a target state or a resultant state (again following the terminology of Parsons 1990), depending on the verb and the modifiers involved. We will thus restrict our attention to examples that clearly involve the target state use of the construction.

[20]German does also form stative resultatives with intransitives, which would be entirely parallel to the Early English *be* 'perfects'. Unfortunately, these are formally identical to the German *sein* perfects and extremely difficult to separate from them reliably. Hence we concentrate on the stative passive, where this problem does not arise.

[21]Modern English has a stative (also called adjectival) passive parallel to the German one in 30c, and thus in principle we could make the same points we will make here without looking at German. The problem is that the English construction is often ambiguous between the intended stative passive reading and an eventive passive reading. As the eventive passive behaves rather differently with respect to the relevant phenomena, we would have to construct our examples with extreme care to avoid confusion. In German, the stative passive with *sein* is clearly distinct from the eventive passive with auxiliary *werden* 'become', thus the demonstration is much simpler.

If we consider the behavior of the three German constructions in the contexts which we discussed with relation to the Early English 'perfects', we find similar contrasts. This time, however, they distinguish not between HAVE and BE perfects, but between both perfects on the one hand, and the stative passive on the other. First, while perfects with both *haben* and *sein* are compatible with durative adverbials (31a and 31b respectively), the stative passive is rather bad (31c). The same applies to clauses with iterative adverbials (32a and 32b versus 32c):

(31) a. Seit deren Tod, hat Erosion die Festung immer weiter zerstört.
since their death has erosion the fort ever further destroyed
'Since their death, erosion has destroyed the fort more and more.'

b. Seit deren Tod, ist die Festung immer weiter verfallen.
since their death is the fort ever further decayed
'Since their death, the fort has decayed more and more.'

c. ?* Seit deren Tod, ist die Festung immer weiter zerstört.
since their death is the fort ever further destroyed
intended: 'Since their death, the fort has been destroyed more and more.'

(32) a. Wir haben ihn in den letzten zehn Jahren immer wieder eingesperrt.
we have him in the last ten years always again locked-up
'In the last ten years we have locked him up again and again.'

b. Er ist in den letzten zehn Jahren immer wieder entkommen.
he is in the last ten years always again escaped
'In the last ten years he has escaped again and again.'

c. ?* Er ist in den letzten zehn Jahren immer wieder eingesperrt.
He is in the last ten years always again locked-up
intended: 'In the last ten years he has been locked up again and again.'

This answers directly to the preference of *have* over *be* in such environments in Early English. The same pattern is found with respect to telicity:

(33) a. Sie haben das Pferd gekitzelt.
they have the horse tickled
'They have tickled the horse.

b. Sie sind in der Stadt herumgeritten.
they are in the city around-ridden
'They have ridden around in the city.'

c. ?* Das Pferd ist gekitzelt.
the horse is tickled
intended: 'The horse is in a tickled state.'

Atelic predicates happily form perfects in German, with some verbs even using *sein* as in 33b. Stative passives like 33c, however, sound distinctly odd with such predicates.[22] Stative passives don't work well with atelic predicates because atelic predicates don't usually yield result states. This is again just like what we saw in Early English, where the *be* 'perfect' is avoided when the predicate is atelic, but the *have* perfect is just fine.

Another parallel comes in contexts where the result state no longer holds. Here again, the German stative passive in 34c is infelicitous, in direct contrast with both the *haben* and *sein* perfects in 34a and 34b:

(34) a. Ich habe mein Handy verloren und dann wieder gefunden.
I have my cellphone lost, and then again found
'I have lost my cellphone and then found it again.'

b. Mein Handy ist verschwunden und dann wieder aufgetaucht.
my cellphone is disappeared, and then again turned-up
'My cellphone has disappeared and then shown up again.'

c. * Mein Handy ist verloren, und ich habe es dann wieder gefunden.
my cellphone is lost and I have it then again found

[22] As has often been noted in the literature on resultatives (see e.g. Kratzer 2000, Embick 2004), a sentence like 33c is possible under a so-called 'job done' reading, e.g. in a context where my job is to tickle all of the horses in the stable before they go to sleep, and I assert that the tickling job for the horse in question is already finished. What makes this reading special, however, is that it makes the activity telic, thus such data strengthen the argument being made here.

intended: ‘My cellphone has been lost, and then I’ve found it again.’

This demonstrates that what we are dealing with in such instances is a statement not about a past eventuality, but about a present state resulting from a past eventuality. In the first clause of a sentence like 34c, we are asserting that the cellphone is in a lost (target) state – not just in a (resultant) state of someone losing it – thus the statement in the second clause that I have found it again is a contradiction. This again parallels the distribution of the Early English *be* and *have* ‘perfects’.

Perhaps the most instructive parallel comes from the interpretation of counterfactuals of the three German constructions. Note first of all that counterfactuality in German is rendered by past subjunctive forms, not simple pasts. This is in line with a generalization proposed by Iatridou (2000): a language may use a subjunctive form for counterfactuals, but only if that form is also marked for the past. Consider that German also has present counterfactual forms, but these can never be used to express counterfactual meanings. Now, if we take a German perfect, either with *haben* or *sein*, and put its auxiliary in the past subjunctive, we get a past counterfactual, i.e. a statement about an eventuality that was contrary to fact at a particular time in the past, as in 35a and 35b. When we take a stative passive and put its auxiliary in the past subjunctive, however, what we get is a contrary-to-fact present state, which happens to be the result of a past event, i.e. a **present** counterfactual. This is the meaning of 35c.

(35) a. Wenn er gearbeitet hätte…
if he worked had:SBJ
‘If he had worked…’

b. Wenn er angekommen wäre…
if he arrived were:SBJ

'If he had arrived. . . '

c. Wenn er geheilt wäre. . .
if he healed were:SBJ. . .
'If he were (in the state of having been) healed.'

Note that 35c is somewhat difficult to render faithfully in English. Indeed, its semantics crucially make it rather marked, only appropriate in very specific circumstances.

The parallel with the Early English 'perfects' is somewhat less obvious in this case, but turns out to be just as strong. We saw that *be* was all but absent in Early English past counterfactuals. In German, the past subjunctive of a stative passive has a highly marked interpretation. We can suppose that, if Early English *be* 'perfects' were semantically similar, this marked interpretation would mean that their occurrence in counterfactual contexts would be relatively infrequent. Still, highly marked is not the same thing as ungrammatical, and 35c is certainly possible in German. If the *be* 'perfect' really was parallel in the relevant respects, then it should have appeared in counterfactuals at least occasionally. Recall then that, while we made the generalization that past counterfactuals required auxiliary *have*, we did find 9 apparent counterexamples (see again Tables 1 and 2 in Section 2.1). In fact, there is reason to believe that these are **present** counterfactuals of resultative states, i.e. with interpretations precisely parallel to the German example 35c. Consider the sentences in 36:

(36) a. and this is to singnefie the certeynte of profecie, whos bifalling of tyme to comynge is so certeyn, as if it **were passid** now
'and this is to signify the certainty of prophecy, whose happening in time to come is as certain as if it had already happened now.' (CMPURVEY,I,55.2214)

b. The Fellow looks as if he were broke out of Bedlam.

'The fellow looks as if he had broken out of Bedlam (and is still loose)[23]'

(FARQUHAR-E3-H,60.477)

c. yf he had your sowle I wene he shold be gone.

'If he had your soul, I think he would be gone.' (MERRYTAL-E1-P1,10.128)

The correct interpretation of such examples is by no means certain, especially since a present result state does after all imply a prior event. It is thus not possible to definitively rule out true past counterfactual readings for them. In each case, however, there is something to support the relevant kind of present counterfactual reading. For example, in 36a, the adverb *now* suggests a present state rather than a past eventuality. It is not the case that *now* is incompatible with other readings of the perfect, but it is particularly well-suited to the perfect of result. Similarly, in 36b, the present tense in the main clause supports a present counterfactual interpretation of the embedded clause. Again, a true past counterfactual is not impossible in such a context, but a perfect of result interpretation is more plausible. A person's present appearance is more likely to lead someone to claim that they are an escaped mental patient, than to claim that they may have escaped from from a mental institution at some point in the past. This is what we have attempted to indicate with the parenthetic addition to our translation. The clearest indication, however, that we are not dealing with normal past counterfactuals comes from example 36c. Here the antecedent clause *yf he had your sowle* looks like a present counterfactual – as it is formally a simple past rather than a pluperfect – thus we expect

[23]Bedlam is the popular name (from Bethlem, i.e. Bethlehem) of an old and infamous psychiatric hospital in London, and has come to refer more generally to scenes of chaos and disorder.

the consequent clause to be a present counterfactual as well.[24] Note that in this instance our analysis can be rendered more clear in the Modern English translation because of the lexicalized stative resultative use of *gone* with *be*. What we are suggesting here is that the Early English sentence really meant 'I think he would **be** gone' as indicated, not 'I think he would **have** gone', and furthermore that 36a and 36b have parallel meanings which are more difficult to translate into the modern language.

There is some additional, suggestive evidence from Norwegian to support this idea. Recall from example 25 above, repeated here as 37a, that BE is generally bad in the language with past counterfactuals. In the special context in 37b, however, native speakers report an improvement:[25]

(37) a. Hvis Sven hadde/*var dratt til Stuttgart, kunne han ha sett Mercedes museumet.

If Sven had/*were gone to Stuttgart, he could have seen the Mercedes Museum.

b. Hvis Sven hadde/??var dratt til Stuttgart, kunne Timo ha spist middag med ham akkurat nå.

If Sven had/??were gone to Stuttgart, Timo could be having dinner with him right now.

What is special in 37b is that the consequent clause (*kunne Timo...*) is about a present contrary-to-fact eventuality. This makes it potentially felicitous for the antecedent clause to mean something like "If Sven were now in Stuttgart as a resulting of coming there".

[24] We will discuss the relevance of the tense of the antecedent clause again in Section 5.

[25] "I pretty strongly prefer 'have', but 'be' feels somewhat better than some of the other bad cases" (Øystein Nilsen, p.c.)

In other words, it encourages precisely the 'present counterfactual of resultative state' interpretation that we have been discussing for German and Early English.

To sum up, in a number of respects, the German stative passive behaves like the Early English *be* 'perfect'. We see that, in German, where grammaticality judgments and intuitions about the semantics are available, a stative resultative construction is impossible in just those contexts where the Early English *be* 'perfect' does not appear. Constructions with more general perfect semantics, on the other hand, work just fine in these contexts, whether their auxiliary is HAVE or BE. This furnishes further support for our proposal that only the Early English construction with *have* was a general perfect, while that with *be* was a stative resultative. Crucially, it clarifies that what is relevant for the distribution of the Early English and Scandinavian constructions with BE is not the fact that they involve BE or anything having directly to do with the perfect. Rather, what matters is their stative-resultative semantics.

5 A formal analysis

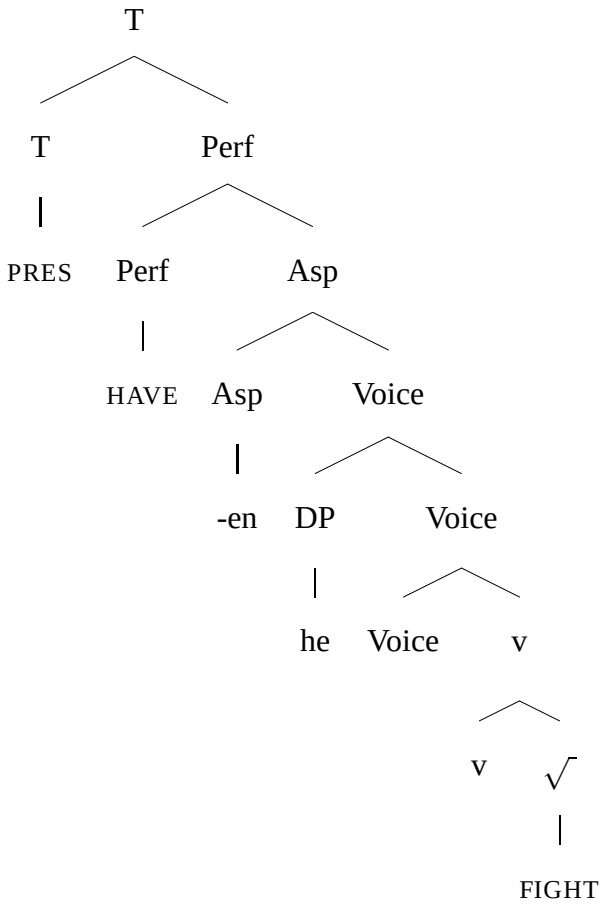
In the preceding sections, we have presented extensive evidence to show that the Early English *have* and *be* 'perfects' were **not** just a single temporal/aspectual category modulo auxiliary selection. Instead, that with *have* was a general perfect, while that with *be* was restricted to perfect of result interpretations. We will now propose a way to formalize this analysis, clarifying in the process how it explains the data.

We propose that the construction with *have* was like the Modern English perfect in that it contained material at the clausal temporal-aspectual level denoting anteriority.

That with *be*, on the other hand, lacked this material, and was instead a copular construction built around a stative resultative participle. For the *have* perfect, we follow several recent works in positing a functional head Perf below T, which is spelled out as *have* (see e.g. von Stechow 1998, 1999, Iatridou et al. 2003, Pancheva and von Stechow 2004). For an unergative *have* perfect like the one in 1b, repeated here as 38a we can thus propose a (pre-movement) structure like 38b:

(38) a. . . . huanne hi **heþ** wel yuoʒte
. . . when he has wel fought
'. . . when he has fought well' (CMAYENBI,252.2315)

b.



For the assumption of category-neutral roots see e.g. Marantz (1997). The assumption of an Asp(ect) head to introduce the participial morphology is taken from Embick (2004) and will be discussed further in Section 6.2. What concerns us more immedi-

ately is the semantic contribution of the Perf head. Now, the semantics of the perfect is a complicated subject, with a vast literature full of controversies. Most of the debates are not directy relevant to our concerns in this paper, and we do not have anything especially insightful to add to them. Rather than presenting our own theory of perfect semantics, we will thus restrict ourselves to demonstrating that the structure we adopt here is compatible with two of the standard theories that have already been proposed, those of Klein (1992) and von Stechow (1999).

Klein (1992, 1994) is built on the classic theory of Reichenbach (1947) mentioned above in Section 3.1. Klein retains Reichenbach's three times, but he reinterprets them as intervals rather than points, gives them more precise definitions, and renames them accordingly. So we have **TU** (time of the utterance) corresponding to Reichenbach's speech time, **TSit** (time of the situation) corresponding to Reichenbach's event time, and **TT** (topic time) corresponding to Reichenbach's reference time. Klein clarifies the status of the latter as being the time about which a particular claim is being made, i.e. the time at which the proposition made by the speaker is supposed to hold. So e.g. a sentence like *The door was made of wood*, with past inflection indicating a past TT asserts that, at some past time, 'the door is wooden' was a true statement. It makes no claims whatsoever about the potential woodenness of the door at any other times. For Klein, tense and aspect are then defined as relations between these three times. Tenses express a relation between TU and TT, aspects between TT and TSit. The past tense says that TT is before TU, the present that TT includes TU and the future that TT is after TU. The perfect aspect says that TT is after TSit, the perfective that TT includes the end of TSit and the beginning of a time after TSit, the imperfective that TT

is properly included in TSit, and the prospective that TT is before TSit. These (more or less) universal tenses and aspects are not to be confused with the morphosyntactic forms that realize them, as languages may differ in which categories they distinguish, and how these are mapped to the morphosyntax. In English, simple (i.e. non-periphrastic) forms encode the perfective aspect, 'progressive' forms (with *be* + present participle) encode the imperfective, while 'perfect' forms (with *have* + past participle) encode the perfect.

Given this background, we can interpret the structure in 38b as follows. The T head represents Klein's tense, i.e. the relation between TU and TT, such that TT includes TU, since we have here a present. Our Perf head is then an instance of Klein's aspect, relating TT to TSit. In this case, it says that TSit is before TT since we have here a perfect. So a sentence like *He has fought well* would mean something like 'there is a situation of him fighting well which is before the time of the utterance'. We refer the reader to Klein (1992, 1994) for explication of how this semantics can accommodate the various perfect readings.

A version of one of the other main approaches to perfect semantics, known as the Extended Now Theory, is presented by von Stechow (1999).[26] This holds that, rather than expressing a simple relation between the reference time and the event time, the perfect introduces its own interval, called XN, which has the reference time as its right edge, and extends to some contextually specified time in the past. The eventuality is then situated within the XN, with temporal and quantificational adverbials playing a crucial role in determining exactly where.[27] The motivation for adopting the XN approach

[26] Other presentations of the Extended Now theory can be found in e.g. McCoard (1978), Dowty (1979), Iatridou et al. (2003). We have chosen to discuss von Stechow's version because he is particularly explict about how the perfect semantics relates to syntactic structure.

[27] Specifically, the XN is implemented neither as an operator nor as a relation between times. Instead,

over something simpler comes from the universal readings of the perfect, which cause difficulties for a Reichenbachian approach. If the perfect means, as Klein claims, that TSit precedes TT, then a sentence like *I have lived in Philly for ten years* should imply that I no longer live in Philly. This is the correct implication under an experiential reading, but not under a universal one (but see Klein 1992, p. 539f., for a response to this objection). Von Stechow's approach avoids this problem by including the reference time in the XN interval, and then allowing the adverbial context to specify for which portion of that interval the eventuality obtains.

For our purposes, the debate between the various approaches to perfect semantics is not terribly relevant. What matters is that the structure we assume above can accommodate the Extended Now theory just as well as Klein's theory. Indeed, in the relevant respects it is essentially identical to what von Stechow himself proposes (von Stechow 1999, §6).[28] The Perf head is responsible for creating the XN interval extending into the past and is spelled out as the perfect auxiliary, while the T head situates the ending point of that interval relative to the speech time and is spelled out as the finite tense marking on the auxiliary. Independent of which theory of perfect semantics one assumes, then, the normal *have* perfect contains an element which we identify as the Perf head, expressing anteriority to the reference time in some form. Under a Kleinian-Reichenbachian

it forms the restriction for a (possibly covert) quantificational adverb, with the VP then constituting the nucleus. Tenses like present and past are treated as referential terms, much like pronouns (an idea going back to Partee 1973). The universal, existential and other perfect readings arise from the various possible quantificational adverbs. So e.g. a universal perfect like *I have always lived here* has an LF along the lines of ∀t[t in XN(pres)][I live here(t)], i.e. 'for every time t, such that t is included in the XN of the present, I live here at t'. An existential perfect is analogous, but with an existential quantifier.

[28] We do differ somewhat from von Stechow in our treatment of the participle. He regards it as essentially an allomorph of the verb which is conditioned by the Perf head above, whereas we locate the participial morphology in a separate syntactic head. This difference is essentially just a result of our assumptions about the syntax-morphology interface (see Section 6.2 below), and is irrelevant to the point we wish to make here.

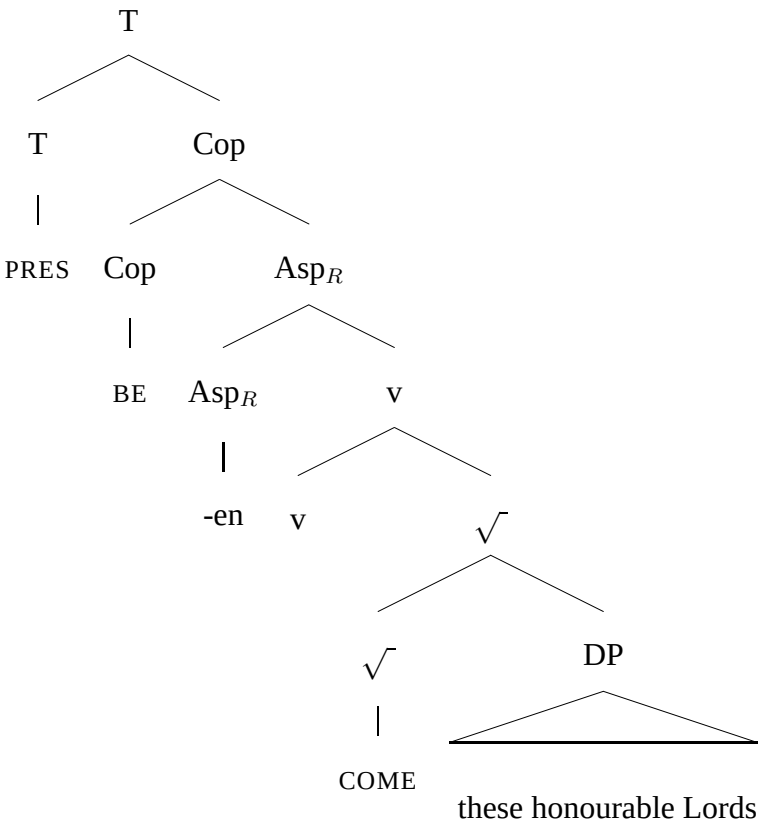
theory it is simple anteriority of the eventuality to the reference time. Under an XN theory it is the extension anterior to the reference time of the interval within which the eventuality is situated.[29]

Our novel claim, then, is that the Early English *be* 'perfect' lacked this Perf head, and thus also the associated anteriority. Given the comparison with German, we will adopt for it a structure similar to what has been proposed in the recent literature for resultative stative passives (see e.g. von Stechow 1998, Kratzer 2000, Anagnostopoulou 2003, Embick 2004, Alexiadou and Anagnostopoulou to appear). Thus for the relevant parts of a sentence like 16b above, repeated here as 39a, we assume 39b:

(39) a. I perceive these honourable Lords, and the rest of this great Assembly, **are come** to hear what hath been scattered upon the Wrack of Report. (RALEIGH-E2-P1,1,214.59)

[29]This anterior extension of the interval is indeed a defining aspect of the XN that appears in the perfect. Consider that von Stechow (1999) proposes a parallel semantics for the future involving an XN with **posterior** extension.

b.



Note crucially that, whereas we claim that *have* spells out the Perf head, auxiliary *be* is nothing more or less than the normal copula that appears with non-verbal main predicates.[30] Semantically, the Asp$_R$ head (from Embick 2004) produces a state which is the result of an event (see von Stechow 1998, Kratzer 2000, for proposals on the semantic details). Because of this, it requires as its complement an eventuality which can produce a result state, a requirement which iteratives, duratives and atelic predicates in general do not meet.[31] Hence they are not eligible to appear in this structure unless somehow

[30] We are not making any strong claims here about the nature or exact position of the head that *be* realizes. We label it Cop to indicate that it is a stand-in for whatever is the proper analysis of the copula. What is clear is that it cannot be in T, but must be situated somewhere below it, since the copula can occur in non-finite clauses and below finite auxiliaries which we would expect to occupy (or to have passed through) T, as in *You must be tired*. See e.g. Bowers (2001) for recent discussion.

[31] See especially Kratzer (2000) for discussion of how exactly this should be formalized. One possibility is that the Asp$_R$ head itself supplies the state, and the meaning that comes out when it is applied to the wrong kind of predicate is simply odd. Another is that the target state is part of the denotation of the predicate in the complement of Asp$_R$. All Asp$_R$ does is existentially bind off the event in the denotation of the predicate, while explicitly passing on the target state argument. According to Kratzer, "…the

coerced to yield a result state (potentially by the addition of some adverbial element which supplies its own result state), and thus don't like to show up in the *be* perfect.

This analysis also allows us to be more explicit about why the Early English *be* 'perfect' can't yield true past counterfactuals. Recall from the discussion in Section 2.1 above that counterfactuality is encoded in languages like English by finite past tense morphology located in T. A clause that is formally a simple past, like the first one in 40a, can either be interpreted as past or as counterfactual – not as both. In order to get a past counterfactual meaning, some additional morphosyntactic material is necessary. What we get is formally a pluperfect, as in 40b:

(40) a. If I owned a car, I would drive to Vegas.

b. If I had owned a car, I would have driven to Vegas.

In such instances, the finite past morphology realized on the auxiliary supplies the counterfactuality, while the perfect morphosyntax yields the past part. This works because the *have* perfect has an interpretation which, while distinct from the simple past, does involve anteriority. What we refer to as 'past counterfactuals' are thus more properly counterfactuals of anterior perfects.[32]

stativity of target state participles is the result of existentially quantifying the Davidsonian argument of a category-neutral predicate that has an additional target state argument" [p. 7]. Complements that do not contain the right kind of state would then be formally incompatible with Asp_R, essentially a type mismatch. Following Alexiadou and Anagnostopoulou (to appear), we assume however that target state participles do involve a little v, rather than having Asp_R attach directly to the root (as Kratzer's mention of a "category-neutral predicate" might imply). The smaller structure without v is reserved for statives with no event implications, like Greek participles in *-tos* and Modern English forms like *open* or *rotten* (on which see also Embick 2004). How this structure could be squared with a semantics like Kratzer's remains to be determined.

[32] Evidence for this comes from sentences like *If I had gone there tomorrow, we would never have met*, what Ippolito (2003) calls 'Mismatched past counterfactuals'. The first clause would seem to be a 'past' counterfactual, yet it's talking about something not happening at a time in the future. This potentially makes sense if the formal perfect is just doing its normal job of setting up an anteriority relationship between the reference time and the event time, without saying anything about the relationship between

The structure we have proposed for the *be* 'perfect', however, has no additional source for pastness or anteriority beyond T. In strictly compositional fashion, it produces the counterfactual of a resultative state reading that we saw in the examples in 36 above. Consider then a typical modern English past counterfactual as in 41, involving a verb which could potentially have appeared in the *be* 'perfect' in Early English. We give two conceivable paraphrases for this example. The one in 42a lays it out in explicit terms as the counterfactual of a present perfect, i.e. involving an eventuality anterior to a present reference time, all under counterfactuality. The paraphrase in 42b, on the other hand, lays it out as the counterfactual of a present result state.

(41) If you had come to London, I could have helped you.

(42) a. If it were the case, that at some time previous to now, you came to London…

b. If it were the case, that you were at present in London as a result of coming there…

As the modern English *have* perfect allows a kind of perfect of result interpretation, it can be used (with formal finite past morphology) when the reading in 42b is intended. We submit, however, that in the vast majority of cases where it is used counterfactually, it is the reading in 42a which is intended. I.e. the former interpretation is the preferred one for a sentence like 41. We can tease out the 42b kind of reading, but it takes a bit of work, e.g. changing the tense in the consequent clause, as in 43, and imagining that it is being said on the telephone by someone in London to someone in Manchester:

the event time and the speech time. If past counterfactuals really had past tense, on the other hand, we would expect them to set up a relationship of anteriority relative to the speech time, which is clearly not the case here. See Ippolito (2003) for extensive discussion.

(43) If you had come to London, I could help you.

The counterfactual of result interpretation indicated in 42b is thus available, but marked. What our analysis implies is that it is only this marked interpretation that the Early English *be* 'perfect' could receive as a counterfactual. The 'counterfactual of present perfect' meaning paraphrased in 42a, on the other hand, could only be conveyed by the *have* perfect. Thus speakers of Early English were obliged to use that construction, even with verbs like *come*, when that is the sort of meaning they intended. Assuming that they had more or less the same sorts of things to say as speakers of modern English, this explains why formally past clauses with counterfactual semantics appear overwhelmingly with *have* in the corpora.

The lack of a source for anteriority below T also provides an explanation for the avoidance of *be* with perfect infinitives. It turns out that a large number of the perfect infinitives in Early English fit into a special and somewhat odd category, exemplified by the sentences in 44:

(44) a. for he was commaundyd to **have londyd** at Calys by the kynge
(CMGREGOR,206.1781)

b. she was rigged and ready in all points to **haue gone away**
(COVERTE-E2-P1,5.53)

The use of the perfect in such contexts is rather unexpected for speakers of Modern English. In the current language, the perfect infinitive would only be used to indicate that the eventuality of the non-finite clause is anterior to that of the main clause. This is because, roughly speaking, the reference time for embedded infinitives is determined

by the event time of the embedding clause. Since the events described by the embedded clauses in the examples above are simultaneous with or subsequent to those of the matrix clauses, we would expect a bare infinitive.

Why Early English had the perfect in such cases is not entirely clear (see Visser 1963, III, 2, 2222ff., and the sources cited there for more information on this use of the perfect infinitive). At least descriptively, it would seem that at this stage of the language, the reference time of embedded infinitives was not (or not always) determined based on the matrix clause. The eventualities described by the embedded clauses are clearly in the past. In the absence of a specified past reference time, there is, at least potentially, a need to express this somehow. The only means for doing so in a non-finite environment is with the perfect infinitive, since Early English (like modern English) had nothing like a past infinitive. Our analysis predicts, however, that only the *have* perfect could serve in this fashion, since only it denoted a kind of anteriority. The *be* 'perfect' with its resultativity would have yielded an entirely different interpretation. Crucially, this special context seems to have been the most common use of the perfect infinitive in late ME and EModE. Though the interpretation of some examples is not certain, based on our readings well over half of the perfect infinitives with *have* reported in Table 6 belong in this category, and thus it is expected that perfect infinitives should have so clearly favored *have*.

The analysis we have presented in this section makes one additional, straightforward prediction. If Early English *have* and *be* represented distinct syntactic categories, we might expect them to co-occur. I.e. if the *be* construction lacks the Perf head which characterizes the *have* construction, it should be possible to add *have* on top, creating

the perfect of a stative resultative. Indeed, we have found 8 examples of just this type, like those in 45:

(45) a. . . . supposing that the prisoners had beene fled
(AUTHNEW-E2-P2,XVI,20A.1123)

b. At which time we thought our Enemies had been come to beset the House
(ESSEXSTATE-E2-P1,200.122)

Crucially, we have found no examples where the second auxiliary is another *have*. This is precisely what we would expect if we can only have one Perf head in a clause. The possibility of examples like 45 then means that the *be* appearing below *have* here is, just as we claim, not realizing Perf, but a head lower in the structure.

6 Theoretical issues and comparisons

The formal analysis of Early English 'perfect' constructions which we presented in the previous section has as a clear consequence that the alternation between *have* and *be* in Early English was not really auxiliary selection as this is normally understood. That is, we do not have anything like a single construction from a temporal-aspectual perspective, with variation in the auxiliary according to properties of the main predicate. Something along those lines may well be the correct analysis for languages like German, where no semantic differences having to do with tense or (outer) aspect have been detected between perfects with *haben* and *sein*. There it is probably reasonable to speak of a single perfect category, with the auxiliary selected on the basis of lexical and predicate-level factors. The situation as we have analyzed it in Early English is,

however, rather different. The choice of auxiliary reflects a choice between two quite distinct temporal constructions: *have* spells out a true perfect, while *be* is just a copula, signalling a stative resultative construction. This raises a number of issues relating to the interfaces of syntax with semantics and morphology, unaccusativity and previous theories of auxiliary selection. In this section we will discuss what we consider to be the most important and interesting of these.

6.1 Auxiliary selection, unaccusativity and resultativity

In this section we would like to briefly discuss what our findings and proposals mean for existing theories about the auxiliaries in the perfect. Given our analysis of the Early English facts, we can expect that theories designed to handle languages like German, Italian and Dutch will be a poor fit. Indeed, to the extent that the construction with *be* was a syntactically distinct entity, accounts of perfect auxiliary selection strictly speaking do not directly apply to it. However, simply excluding the Early English data is not a terribly interesting or productive strategy, and we think that something can be learned from why it is that they present difficulties for existing theories. Even independent of these data, existing theories of auxiliary selection frequently do well on a descriptive level for the languages for which they were created, but tend not to generalize particularly well to other languages, and do not offer much insight as to why languages vary in the ways that they do. We suggest that the reason for this is that auxiliary selection is taken to be susceptible to a simple universal theory, based on the tacit assumption that the perfect is a well-defined category cross-linguistically. There is a good deal of evidence, however, to reject this assumption, and the data from Early English are par-

ticularly clear in this regard. Once we take seriously the conclusion that the 'perfect' is syntactically and semantically heterogeneous, we must fundamentally alter the way we attempt to explain patterns of auxiliary selection. On the one hand, this implies that our analysis must be more complicated, as there can be no single, unified theory of auxiliary selection. On the other hand, if we can make reference to distinctions in the properties of the perfect, we can hope for better empirical coverage and for some explanation of why languages vary in the ways that they do. All other things being equal, two languages will differ in their auxiliary patterns not just due to random variation, but because their perfects are different.

This is not the place for a comprehensive discussion of theories of auxiliary selection (for which we direct the reader instead to McFadden to appear and the contributions in Aranovich 2007). It will be helpful, however, to briefly consider two of the most important broad approaches and to see how they differ from the analysis we are proposing here. Since Perlmutter (1978), Burzio (1986), the choice of auxiliaries in perfect constructions has been connected to unaccusativity. It has been argued that, in languages like Italian, German and Dutch, BE is used with unaccusatives, while HAVE is used with unergatives and transitives. Kayne (1993) proposes to motivate this difference in selection in terms of the presence or absence of a P head which is required to introduce the participial structure, but only when there is an external argument. The auxiliary verb is always underlyingly *be*, but when the P is present, it incorporates into *be*, yielding *have*.

A different approach is taken by Sorace (2000, and much subsequent work), who proposes that auxiliary selection is determined in terms of a hierarchy of semantically-defined classes of intransitive verbs, her Auxiliary Selection Hierarchy (ASH). Verbs

tend more or less strongly to select *have* or *be* depending on where they fall on the hierarchy. The verbs at one end – non-motional, controlled process verbs like *work* – most strongly select *have*, while those at the other end – change of location verbs like *arrive* – most strongly select *be*. Languages can vary in where on the hierarchy they draw the line between selecting *have* and selecting *be*, thus accounting for the differences in their patterns of auxiliary selection. This approach has the advantage that it provides a means to capture cross-linguistic variation and change in a formal descriptive framework, something that was notoriously problematic for older unaccusativity-based theories.

Note that our analysis makes no mention of unaccusativity, nor does it refer to semantic verb classes in the way posited by Sorace. Instead, we claimed that *be* appears only in stative resultatives, where the result state holds of the subject. This restriction is intended to do have roughly the same effect as the unaccusativity requirement or Sorace's ASH in picking out the verb classes that can appear with *be*, but there are some crucial differences which require discussion.

Whether *be* can appear in a particular clause under our account depends not directly on the argument structure of the main verb, but on whether the denotation of the VP contains a target state, and whether this state is predicated of the subject. This makes the right predictions while avoiding thorny issues related to unaccusativity that arise in a number of cases. For example, the fact that no stative verbs appear in *be* perfects is unremarkable – their denotation contains only a state, without the transition event that identifies it as a target state. We thus need not make the potentially problematic assumptions that statives are always unergative in Early English. The behavior of alternating

verbs also comes out right without any additional assumptions. Atelic activity verbs do not have target states in their denotations, and thus it is expected that they cannot appear in the *be* 'perfect' unmodified. However, when the VP contains additional adverbial material containing a target state, like a goal PP, the sudden possibility of *be* is expected as well. We have no need to claim that such verbs have different argument structures with and without modification, nor do we have to complicate our definition of unaccusativity. Sorace's ASH has less difficulty with some of these issues than accounts based solely on unaccusativity because it is constructed explicitly to accommodate the interplay of multiple factors in auxiliary selection. The definition and arrangement of the verb classes takes into account both thematic notions like agentivity and aspectual ones like telicity. Still, for Sorace this has to be essentially stipulated, whereas in our account of English, the various relevant factors are unified in that they prevent or facilitate a perfect of result interpretation.

The widest divergence between our theory and previous ones, however, comes in those areas where Early English behaved differently from languages like German, Dutch and Italian. As we have seen at length, even the most prototypical unaccusative verbs could not appear with *be* in true past counterfactuals and various other clear experiential perfect contexts. In these cases, what is relevant is not whether the denotation of the VP contains a target state, but whether the claim of the clause is that this target state actually holds of the subject at the reference time. In a typical experiential perfect like *I have come here many times*, there is a target state involved in the denotation of the predicate. However, it is not claimed to hold of the subject at the reference time. From a syntactic perspective, there is no Asp_R stativizing element. Instead there is a Perf head, and this

Perf head is always spelled out as *have* in Early English, never *be*. This means of course that our theory is not intended to cover languages like German. It would seem that they really do have variable spell-out of the Perf head, and this may indeed be connected in a more direct way to unaccusativity. Note, however, that the difference we posit between Early English and such languages is not arbitrary: *be* shows up in different places in Early English because it spells out different syntactic elements in the two groups of languages. Put differently, Early English *be* has a different distribution than German *sein* because the two are syntactico-semantically distinct.

6.2 Pieces of the perfect in syntax, morphology and semantics

This brings us to the issue of what exactly the 'perfect' is, given our claims that the Early English perfect was distinct from the Modern German one, and that, even within Early English, the 'perfect' with *be* was different from that with *have*. The initially disappointing answer is that there is no such thing as a well-defined universal category which we could call the perfect. A great volume of work has by now made it clear that there is considerable variation cross-linguistically in the properties of what are plausibly labeled 'perfects' (for extensive recent discussion, see the papers collected in Alexiadou, Rathert, and von Stechow 2003). At the same time, it would be hasty to abandon the idea that the perfect has some reality outside of our desire to impose order. It really does seem to be the case that many languages have constructions sharing a cluster of morpho-syntactic and semantic properties which do not seem to be accidental, which one might like to call perfects.

The approach we will adopt for dealing with this dilemma is inspired most directly

by Iatridou et al. (2003). The idea is that the perfect is not a simple category with a universal definition and consistent properties. Rather, it is a cover term for complex constructions from a wide range of languages which share a similar make-up. What unifies perfects is that they involve multiple pieces related to syntactico-semantic levels of tense, aspect and potentially even Aktionsart, and that some notion of anteriority – either explicit or implicit – is involved.[33] What distinguishes among the various types found cross-linguistically is the presence or absence of specific pieces, the precise denotation of those pieces, and how the syntactico-semantic pieces map onto morpho-syntactic ones. Perfect is then neither a primitive of the theory nor a category that can be precisely defined in terms of such primitives. Rather, we can understand it from a methodological perspective as a cover term for a class of data for which a unified account is desirable. The apparent similarities between the various 'perfects' are sufficient that we would like an explanation of how they arise, and a theory of tense and aspect can be expected to make possible a systematic account of these similarities between perfects as well as the differences. This will obviously be a rather large undertaking. Here we will simply discuss some of the main issues that arise in relation to the Early English data.

One of the central questions for work on the perfect in Modern English and cross-linguistically is exactly where the various readings come from. Are the universal, existential, recent past and resultative interpretations all derived from a single underlying semantic representation? If multiple semantic representations must be posited, do they

[33]By implicit anteriority we mean the kind that can be inferred in a stative resultative. Under our analysis, there is no explicit denotation of anteriority in such a construction, but from the assertion of a result state, one can infer that the causing event was prior to it.

also correspond to distinct syntactic structures, or does the ambiguity arise from choices made entirely in the semantic portion of the derivation? How do contextual elements like temporal adverbs and the Aktionsart of the predicate figure in? Is it possible that all of the readings – at least within a given language – can be derived from the interaction of such factors with a common perfect syntax and semantics? The literature on these issues is vast (see e.g. Reichenbach 1947, McCawley 1971, McCoard 1978, Dowty 1979, Kamp and Reyle 1993, Klein 1994, von Stechow 1999, Iatridou et al. 2003, Pancheva and von Stechow 2004, and the works cited there), and we will make no attempt to summarize it here. A good deal of the controversy in the literature involves the distinction between universal and experiential readings (Iatridou et al. 2003, contains a brief summary of the different positions), which as we have already said is not directly relevant to our concerns here. What is relevant for us is the difference between the perfect of result and all of the others, hence this is what we will concentrate on here.

We have said that the Early English *be* 'perfect' could have a resultative interpretation, but no other, while the *have* perfect had all four familiar perfect readings. We have explicitly tied this semantic difference to a syntactic one, by positing distinct structures for the two constructions. An important question that arises then is how we should analyze the *have*-selecting perfects of result with transitive verbs in Early English, like the examples in 18 in Section 3.2 (and indeed perfects of result with *have* in Modern English). From a syntactic standpoint, there are two main options. Either we claim that they are just like the other *have* perfects, or that they are essentially like the *be* perfects, but with some additional structure to introduce the external argument.

The first option allows a simpler statement of the morpho-syntax, as all formal *have*

perfects would be derived from a single structure. However, it implies a complication in the description of the semantics: we must somehow derive similar perfect of result interpretations from two very distinct structures – one with Perf and the other with Asp_R. The second option implies essentially the reverse pros and cons. The semantics are relatively straightforward, as we have one unified structure for all perfects of result, but the morpho-syntax presents significant difficulties. Recall that, according to our analysis, auxiliary *have* is actually the spell-out of a Perf head. Since this Perf head is, however, absent from the resultative structure with Asp_R, we would need to find some other source for *have* in perfects of result with this structure and give some explanation of why it receives the same spellout as the Perf head.

Given the fact that we are dealing here in part with subtle semantic issues in a dead language, it will be difficult to decide for certain between these two options. We would like to argue, however, that the first one is more promising. In short, the semantic challenges which it raises are probably easier to overcome than the morpho-syntactic problems associated with the second. All that is really necessary is that we show that a perfect of result interpretation can be made compatible with the general perfect semantics associated with the structure containing Perf. Consider then that, while there is some controversy in the literature over whether the universal and existential interpretations can be derived from a single basic perfect denotation, there is remarkably little concern of this kind about the perfect of result (again, see Iatridou et al. 2003). If we think again in the terms of Klein (1992, 1994), the perfect of result interpretation can be seen as consistent with a general semantics for the perfect, with some extra specification. The perfect simply means that the time of the situation described by the verb

precedes the topic time. The perfect of result interpretation could actually just be this plus the assertion that the result state of the (eventive) situation continues to hold at the topic time. It is possible that this additional specification, in the clauses where it obtains, does not come from the meaning of the perfect itself, but from the predicate involved, its modifiers, and the context. In other words, the perfect of result with *have* could just be a specific flavor of the experiential perfect.

This is in clear distinction to the perfect of result interpretation of the *be* 'perfect'. There the aspects of meaning relating to the result state must in fact be implied directly by the construction itself. When there is no appropriate result state or it no longer holds at the topic time, the *be* 'perfect' structure is incompatible and cannot appear. On the other hand, if we have a clause built around a transitive verb which can potentially yield a result state, the question of whether that result state does in fact continue to hold at the topic time has no effect on which surface construction occurs: the *have* perfect is compatible either way. It is thus reasonable to attribute to that structure an essentially underspecified semantics which is compatible with both experiential and perfect of result readings, and to have those readings be distinguished by the contribution of other elements which are strictly speaking independent of the perfect.

Another long-standing issue for theories of the perfect is the status of the past participle (see e.g. Wasow 1977, Jackendoff 1977, Lieber 1980, Bresnan 1982, von Stechow 1998, Kratzer 2000, Anagnostopoulou 2003, Embick 2004, Alexiadou and Anagnostopoulou to appear). In a number of European and other languages, this form appears not only in perfects, but also in eventive passives, stative passives and certain attributive uses. Consider some illustrative German examples:

(46) a. Max hat das Fenster **geschlossen**. (*haben* perfect)

'Max has closed the window.'

b. Das Fenster wurde **geschlossen**. (eventive passive)

'The window was/got closed.'

c. Das Fenster ist **geschlossen**. (stative resultative passive)

'The window is closed.'

d. das **geschlossene** Fenster (attributive stative resultative passive)

'the closed window

(47) a. Das Paket ist **angekommen**. (*sein* perfect)

'The package has arrived.'

b. das **angekommene** Paket (attributive stative resultative active)

'the package which has arrived'

From a morphological point of view, the past participle is a unified category. For example, there are several different ways for forming past participles in German, with the choice between them depending on the lexical verb. However, whichever pattern a given verb follows, it will follow it for all of the contexts listed above.[34] This means we are not just dealing with syncretism applying to isolated forms, thus positinging accidental homophony does not seem correct.[35] From a syntactico-semantic point of view, however, the past participle seems anything but unified. It occurs in active and passive contexts, stative and eventive, predicative and attributive. The participles thus present

[34]This is not the case for all languages. Greek consistently uses different kinds of participles for different kinds of statives (see Anagnostopoulou 2003), and English does for certain verbs e.g. *rotted* vs. *rotten* (see Embick 2004).

[35]In other words, what we are dealing with here is different from the homophony of present and past forms of verbs like *hit* or *set*. We have a merger of whole morpho-syntactic categories, not syncretism in a few morpho-phonological forms.

a smaller version of the whole perfect problem: they are clearly the same in that they constitute a single morphological category, yet they seem to be different in their syntactic and semantic properties. The challenge, as with the perfect in general, is to come up with an analysis that explains the similarities while accommodating the differences.

In this case, unfortunately, the data we data have considered in this paper add little to our understanding of the problem. The Early English situation is in all relevant respects the same as that in German or Modern English. The specific question for us is how to relate the participial morphology in the *have* perfect to that in the *be* perfect. The latter has a clear function in our analysis, yielding the resultative semantics. The former, on the other hand, makes no obvious contribution, since the main semantics of the perfect, we have argued, is in the Perf head spelled out as *have*. The structures we proposed in 38b and 39b in Section 5 already contained the basis of the account we will suggest here, which is suggested e.g. by Embick (2004), Alexiadou and Anagnostopoulou (to appear). In both trees, the participial morphology is inserted in an Asp(ect) head. The morphological unity of the past participle is thus captured by having it represent a single syntactic category. The fact that in one case we have Asp and in the other Asp_R indicates, however, that this category has distinct sub-types. This is intended to serve as a way to accommodate the different semantic and syntactic properties of the participle in its various uses. Now, in the absence of substantive claims about the syntactic category Asp and why it appears in all of the environments listed above, this is not a big step forward: it is essentially just a restatement of the generalization that a single morphological form is appearing in distinct syntactic contexts. The challenge at this stage is to identify some non-morphological property of the past participle that is consistent across

its various uses which could be tied to the Asp category. The alternative would be to abandon the idea that there is any deeper unity to the past participle forms and treat the participial forms as syntactically conditioned allomorphs of the basic verb, as in von Stechow (1999).

7 Retelling the history

Having treated the consequences of our proposals for theories of synchronic grammar, we will now turn to those they have for accounts of the historical development of the perfect in English. The view of events we are led to differs in important ways from the traditional one. To begin with, recall that both *have* and *be* constructions are generally assumed to have started out (pre-OE) as statives built around resultative participles. The analysis we've presented here amounts to saying that *be* + participle more or less retained this status, while *have* + participle became a more general perfect. What we would like to argue now is that this can explain a large part of the relative increase in the frequency of *have* relative to *be* during the ME period, which until now has been interpreted as replacement of *be* by *have*. Note that, regardless of the auxiliary involved, the periphrastic construction was quite rare compared to the simple past in OE, but expanded its role through ME and especially in EModE (see e.g. Elsness 1997). We propose that this amounted to the *have* construction spreading into new contexts where the simple past had been used until then, i.e. the various experiential and other non-resultative perfect contexts, while the *be* construction remained stable as a resultative. In other words, *have* was not actually spreading at the expense of *be* during this period,

but at the expense of the simple past. The idea that *be* was not actually receding during this stage helps us to understand why it held on in the language for several centuries after *have* started expanding, only disappearing as part of a separate change that seems to have occurred in Late Modern English, i.e. circa 1700–1900.

Suggestive evidence that something like this did in fact happen can be found if instead of measuring the frequency of *have* and *be* 'perfects' relative to each other, we measure the frequency of each against the total number of clauses, as in Table 8.[36] Now,

Period	Clauses	*be* prf	%	*have* prf	%
M1	44,050	152	.35	146	.33
M2	22,958	29	.13	116	.51
M3	74,294	223	.30	573	.77
M4	39,737	145	.36	420	1.06
E1	79,756	295	.37	777	.97
E2	94,378	421	.45	1,235	1.31
E3	79,928	276	.35	940	1.18

Table 8: *be* and *have* 'perfects' as compared to total clauses

we must take some care in interpreting these numbers, considering how infrequent the 'perfects' are relative to the total number of clauses. Nonetheless, chi-square tests indicate that, while the difference between M1 and E3 with the *have* perfect is statistically significant ($\chi^2 = 233.3$, $p \leq .001$), with the *be* perfect it is not ($\chi^2 = 5.09 \times 10^{-05}$, $p \leq 1$). That is, the difference in the absolute frequency of *have* perfects between early ME and late EModE is statistically significant, while this is not the case for *be* 'perfects'. This suggests both that the *have* perfect really did become more common, and that the *be* perfect did **not** become **less** common. Note that this does not give us a reliable interpretation of the entire development, because it only compares the two

[36]The periods in the first column cover the following dates: M1 1150-1250; M2 1250-1350; M3 1350-1420; M4 1420-1500; E1 1500-1569; E2 1570-1639; E3 1640-1710.

endpoints in each development, leaving the intermediate periods out of consideration.[37] Still, to the extent that the numbers here are reliable, what we find is exactly what our analysis predicts: while the frequency of *have* perfects rises more or less steadily from early ME through EModE, the frequency of *be* 'perfects' does not go down, but stays rather steady.[38] That is, *have* is **not** replacing *be* at this stage.

We can also follow these developments quite nicely in the history of past counterfactuals. In OE and early ME, past counterfactuals were expressed with simple past subjunctives, i.e. without any kind of periphrasis, as in the following example (from Molencki 2000):

(48) ac hit wære to hrædlic gif he þa on cildcradole acweald wurde
but it were too quick if he then on child-cradle killed were
'but it would have been too early if he had been killed in his cradle then'
(ÆCHom i.82.28)

The finite past inflection here indicates the counterfactuality, not anything temporal, which is again in line with the claims made by Iatridou (2000) about past morphology and counterfactuality. As noted by Mitchell (1985), "…unreality in OE is timeless; unlike Latin and MnE, OE does not distinguish grammatically between unreality in the past, present, or future" (p. 805). Presumably, this was because the construction with *have* was not yet a general perfect, but still only a stative resultative construction. Parallel to what we have said about the *be* 'perfect', as a resultative it was not appropriate

[37] A consideration of the whole development is not possible with chi-square tests, because the different periods along the way are related to each other as a time series, rather than being independent values for some variable.

[38] The marked dip in *be* in the M2 period seems to be due to an unexplained but quite extreme dip in the frequency of perfects with *come*. There are only 11 such examples in M2, versus 71 in M1 and 116 in M3.

as a marker of embedded anteriority the way a general perfect can be.[39] Of course, this assessment of the facts implies that the deficiency lay not in anything specific to counterfactuals, but in the ability to express embedded anteriority.

That this is correct is indicated by the fact that OE also lacked a consistent distinction between the simple past and the pluperfect, and had nothing like a perfect infinitive. Mitchell (1985, vol. I, p. 247-252) provides extensive discussion of the use of simple past forms in OE where we would expect pluperfects in the modern language. Two of his examples are reproduced in 49:

(49) a. On þam dagum wæron on Wihtlande þreo wif, þa twa **wæron** blinde
on those days were on Wightland three women the two were blind
geond nigon geara fec, and þæt þrydde ne **geseah** þære sunnan leoht
through nine years' time and the third not saw the sun's light
næfre (ÆLS 21.156)
never

'In those days there were three women on the Isle of Wight. Two of them had been blind for nine years, and the third had never seen the light of the sun.'

b. buton þæt hi on heofena heanessum gebrohton eal þæt hi on eorþan
outside that they on heaven's highnesses brought all that they on earth
begeaton þurh Godes fultum. (BlHom 53.25)
gained through God's help

'…unless they brought to heaven all that they had gained through God's help.'

Similarly detailed discussion of the lack of a perfect (or passive) infinitive can be found in Mitchell (1985, vol. I, p. 388ff).

[39]We may guess that present and past counterfactuals were distinguished syntactically at the level serving as the input to the semantic interpretation, but that the language at this stage did not have the morphological means to express the distinction, with the structure representing the embedded anteriority being spelled out as a null. Alternatively, there could be a single structure structure that is temporally underspecified and serves for both, any interpretive differences coming from the adverbial and other context.

Note, then, that during the OE and early ME periods, we have no formal perfects with true past counterfactual interpretation, and we also do not find any examples of *have* with *come*, the quintessential (and most frequent) verb which forms perfects of result predicated of the subject. In our searches of the OE corpus, we have found 93 examples of the past participle of *come* with an auxiliary. In every case that auxiliary is *be*. However, once the *have* construction did develop into a real perfect, during the ME period, it began to be used to clearly mark past counterfactuals, irrespective of the main verb involved. Not coincidentally, it is such counterfactuals which constitute the earliest examples of *have* occurring with verbs like *come*. In particular, the first 14 examples of *have* with *come* in our corpora occur in the third period of ME (alongside 97 with *be*), and 9 of those 14 are past counterfactuals. That is, the spread of *have* to verbs that originally only took *be* is simultaneous with the spread of the periphrastic past counterfactual. Crucially, it is not the case that *have* is pushing into *be* territory here. Past counterfactuals were never formed with *be* – neither before this time nor after, neither with *come* nor with any other verb. By spreading here, *have* is claiming territory that is new for the periphrastic tenses period, and taking it away from the old simple past. In the perfect of result predicated of the subject *be* remains, unaffected by these developments.

At this stage, we have little to say about developments after EModE. During the Late Modern English period, i.e. between about 1700 and 1900, *have* truly began to replace *be*, and the *be* construction finally disappeared. We have conducted preliminary research on this development, but as yet have not been able to discern any clear patterns to

indicate why it happened.[40] Based on the evidence from OE, ME and EModE, however, we can say with a fair degree of certainty that what happened during LModE was a second change, independent of the initial expansion of *have*, and that it is thus not inappropriate to consider the two separately.

8 Summary

In this paper we have pursued two goals. On the one hand, we have attempted to motivate a particular understanding of the alternation between *have* and *be* with a past participle in Early English. Specifically, we have argued that while the periphrasis with *have* showed the full range of interpretations of the Modern English perfect, that with *be* was restricted to a particular kind of perfect of result. On the other hand, we have proposed a formal analysis for this alternation and explored a series of consequences that it has for theories of auxiliary selection and the perfect in general. The guiding idea of the theoretical investigation has been that the perfect is not a unified category. It is rather a complex of largely independent syntactic, semantic and morphological pieces with no cross-linguistically stable identity, and our theory of any part of the complex – like auxiliary selection – should be informed by and profit from this insight.

[40] The conditions for doing corpus-based work are currently considerably worse for Late Modern English than for the earlier periods, as there is as yet no large-scale parsed and annotated electronic corpus. Such a corpus is currently under development at the University of Pennsylvania, so the prospects for progress in this area in the near future are good. For the present, we have been working with the ARCHER corpus (Biber, Finegan, Atkinson, Beck, Burges, and Burges 1994), which has only part-of-speech tagging and is considerably smaller than the corpora we used for OE, ME and EModE.

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