

# The semantics of the perfect progressive in English

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The principal purpose of this chapter is to demonstrate how a proper semantics for the English perfect progressive locates in time the event to which it applies. I examine the origins and meanings of the progressive and the perfect in English. I affirm that the progressive is an aspect and the perfect a tense, even though the perfect does have some aspectual traits. The default meaning of the progressive is that the activity (event) denoted by the predicate in the scope of the progressive operator PROG is incomplete at the temporal deictic centre indicated by the tense used in the clause. The perfect is a retrospective tense, a past tense **P** relative to whatever time point is indicated by the deictic centre for the clause, be it **P**, **N**, or **F**. Given these assumptions there is no contradiction in the concatenation perfect  $\hat{}$  progressive, *HAVE + been + Ving*, such as would seem to arise if the perfect is analysed as an aspect. The perfect progressive locates an incomplete event as retrospective from the deictic centre for the clause.

**Key words:** aspect, English, perfect, progressive, semantics, tense

## 1. Introduction

The perfect progressive is also known as the perfect continuous; it has the generalised morphosyntactic form *HAVE been Ving* where *HAVE*, if it is finite, can be past or nonpast and take subject agreement; *V* is a variable for any verb, although stative verbs don't normally appear in the progressive. Traditionally, the perfect progressive was described as a tense, but since the mid-twentieth century it has been more usual to describe it as being composed of the perfect aspect and the progressive aspect. English tense is indicated for the nonpast by a

zero morph and for the past by a PAST morpheme whose regular allomorphs are /t/, /d/, or /əd/ with a number of irregular allomorphs that typically modify the vowel of the verb root; there are suppletions for only very few verbs. The so-called aspectual forms of English are progressive *BE Ving* and perfect *HAVE Vn* (see Chomsky 1957: 39; Chomsky 1965: 42–43, 107). *Ving* is at the same time a present participle (**p**) and a gerund or nominal form of verb V, cf. (1). *Vn* is the past participle (**Pp**) of verb V and loosely similar to an adjectival form of the verb as can be seen from the fact that (2) entails (3) and (4).

- (1) Every day I have been *swimming*. I love *swimming*. *Swimming* is fun.
- (2) I have *broken* Granny's favourite tea-cup.
- (3) Granny's favourite tea-cup is *broken*.
- (4) The *broken* tea-cup was Granny's favourite.

Their morphosyntactic form suggests that both the progressive and the perfect are aspects and so they ought to contrast and should not combine under unexceptional circumstances. The reason they do combine is that although the progressive is aspectual, the perfect is a tense. Aspect describes the internal temporal contour of a situation (event or state); in other words, it captures an aspect of the development of an event – its initiation, ongoingness, termination, completeness, habitualness, iteration, punctuality, etc. (Comrie 1976: 3). A tense consists of a small number of grammatical morphemes which systematically locate situations in time relative to a deictic centre  $t_d$ . Thus, semantic present tense (**N**) means “the predication is located in time such that the situation is current at the time of utterance,  $t_0$ ”. **N** is a fuzzy set of instants of time such that  $\mathbf{N}\Phi \supset t_d=0$  ( $\Phi$  is a variable for the clause/propositional content). The segment  $t_d=0$  symbolises that the deictic centre is the moment of utterance. Past tense, **P**, means “the event or state of affairs spoken of has already taken place before the time of utterance and it is not current at the time of utterance”. Symbolically,  $\mathbf{P}\Phi < t_d=0$ . Semantic future tense means “the event or state of affairs spoken of has not yet taken place at the time of utterance”. Symbolically,  $\mathbf{F}\Phi > t_d=0$ . In this chapter I adopt the view, argued for in section 3, that the English perfect is a retrospective tense,

consequently the pluperfect has a deictic centre in the past, such that where  $P_d < t_0$ ,  $P_d[PF]$ ; the present perfect has a deictic centre that includes the moment of utterance, such that where  $N_d \supset t_0$ ,  $N_d[PF]$ ; the future perfect has a deictic centre that is future, such that where  $F_d > t_0$ ,  $F_d[PF]$ . The principal purpose of this chapter is to demonstrate how a proper semantics for the English perfect progressive locates in time the event to which it applies. In section 2 I discuss the progressive, in section 3, the perfect, and section 4 examines the semantics of the perfect progressive, showing that it locates an incomplete event as retrospective from the deictic centre for the clause. Section 5 offers a summary of the chapter.

## 2. The English progressive

Although Old English made greater use of the progressive form *BE + p* (present participle) than other Germanic languages (Mossé 1938) it was still rare, and progressive aspect was more or less restricted to use with action verbs concerning warfare. Use of the *BE + p* form does not correspond with today's use when translating from Old English. Traugott (1972: 90) says most examples use *WESAN + -ende (p)* as in (5)–(6).

(5) *þæt scip wæs ealne weg yrnende under segle*

that ship was all way running under sail

(6) *Þa wæron simbel binnan Romebyrg wunienode*

Those [senators] were always within Rome dwelling

(Orosius, late ninth century)

In Middle English, *BE + p* was used more frequently than in Old English, but it was still rare until the Modern English period.

(7) *Ely ... was herkenyng Fro þe batayle sum tydyng.*

Ely ... was harkening From the battle some news.

(Robert Manning, c. 1303)

(8) On a day as þis creatur was heryng hir Messe ...

One day as this creature was hearing her mass ...

(Margery Kempe, c. 1438)

Shakespeare's later plays include more instances of the progressive than his earlier plays, but still very few (Traugott 1972: 143). Until the later seventeenth century the use of the progressive in English was similar in frequency to its use in Romance and Germanic languages and only well into the Modern English period did it develop wide usage with strong aspectual characteristics that mark its contrast with the simple form of the verb that we see in comparing (9) with (10).

(9) When he saw me he ran down the road.

(10) When he saw me he was running down the road.

I shall discuss the meaning of the progressive fully in due course, but (9) strongly implies that his seeing me caused him to run down the road, whereas (10) most likely says that he was already running down the road when he caught sight of me. Frequency in using the progressive aspect continues to increase (Collins 2008).

During the Middle English period the Old English **p** suffix *-ende* was replaced by *-ing(e)* or *-yng(e)*, a development that cannot be uncontroversially explained. What seems to have happened is that the form of the present participle came to be assimilated to the form of the gerund. Old English gerunds had the suffix *-ung* or *-ing*, e.g. *ácsung* 'asking', *cíding* 'chiding', *fédung* 'feeding', *gaderung* 'gathering', *huntung* 'hunting'. After about 1250, *-ung* was completely replaced by *-ing(e)* or *-yng(e)*, which during the next century spread to all verbs. The Middle English gerund was rare in poetry and was perhaps influenced by translations of Latin or French gerunds. From the end of the twelfth century, the present participle suffix *-ing(e)* or *-yng(e)* came to dominate in the South East of England; it was favoured by Geoffrey Chaucer (c. 1343–1400), Thomas Hoccleve (or Hoccleve, c. 1368–1426), and John Lydgate (c. 1370–1451) and soon spread countrywide. One possible cause

for the falling together of the gerund and present participle was that in rapid speech both suffixes were pronounced something like /m/, but this canny explanation is hardly credible because it leaves the final <g> graph unaccounted for.

The fact that, by the fifteenth century, the present participle was identical in form to the gerund or verbal noun may well have contributed to the development of the English progressive as an aspect. Cross-linguistically the majority of progressive forms derive from locatives (Bybee, Perkins, and Pagliuca 1994: 129; Comrie 1976: 98–105; Jespersen 1909–1949, Part IV: 168-169f; Langenhove 1925: 83; Visser 1963–1973, Vol. 2: §1022); these may be adpositions or locative verbs such as ‘stand’, ‘sit’, or ‘be at’. It is notable that the progressive constitutes an appropriate answer to a location inquiry:

(11)Q: Where’s Dad?

A: He’s having a nap. / Eating his dinner. / Playing with his grandchildren.

Old English has constructions like that in (12), consisting of the locative periphrastic form BE *on/in/at/a Ving*.

(12)ac *gyrstandæg ic wæs on huntunge*

but yesterday I was hunting

(Ælfric *Colloquy*, late tenth century)

In Middle and Early Modern English similar constructions are found, e.g. (13)–(16).

(13)Whil this Yeman was thus in his talkyng / This Chanoun drough hym neer

(Chaucer 1396: *Canon’s Yeoman’s Prologue* 84–85)

(14)þe ȝomen ... were in amendyng of here berseles

the yeomen ... were repairing their archery-butts

(c. 1396, quoted in Denison 1993: 388)

(15)his mouth and nose brast oute on bledyng ([1485] Malory 1889–1891, II.17)

(16) king Henrie the eight, with all his Lordes on hunting in his forrest at Windsore (Nashe 1594: 36<sup>1</sup>)

The preposition quickly got reduced to /ə/, as in (17)–(21).

(17) he ligge a swæting ([c. 1200] *Lazamon* 1963–1978, 1.8864)

(18) whyll I am a whrytting of thys letter ([1482] *Hanham* 1975: 135)

(19) yonder they be both a milking again [...] God speed, good woman, I have been a fishing  
(Walton 1653: 64)

(20) he ... would always be a preaching to her (Sheridan 1781: 65 [IV.i])

(21) the invitation has been such a long time a-coming (*Daily Telegraph* 18 November 2003<sup>2</sup>)

Jespersen (1909–1949, IV: 168–169) suggests this prepositional remnant suffers aphesis to give rise to the *BE + Ving* form. Mossé (1938) disbelieves that the prepositional construction had any part to play in the development of the English progressive.

It has been suggested by some, e.g. Preusler (1938; 1942); Visser (1955), that there could have been influence from Celtic on the development of this locative periphrastic form in English, see (22)–(24).

(22) *Mae John yn bwyta cinio.* [Welsh]

Is John in eating dinner.

‘John is eating dinner.’

(23) *T’ad g’accan.* [Manx]

They. are at complaining.

‘They are complaining.’

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1 The pages are not numbered. It is image 21 on EEBO. The previous edition has ‘all his Lordes hunting in his forrest’. The example given here is cited by Traugott (1972: 143).

2 [www.telegraph.co.uk/comment/telegraph-view/3599072/Our-American-friends.html](http://www.telegraph.co.uk/comment/telegraph-view/3599072/Our-American-friends.html).

(24) *Bhí Peigí ag obair.* [Irish]

Was Peggy at working.

‘Peggy was working.’

A Celtic influence would account for the fact that no other Germanic language has such a construction. Compare German *er las im Buch* ‘he was [engaged in] reading the book’ where the locative is external to the verbal constituent; Icelandic *jeg er að lesa* ‘I am at to.read [infinitive]’ and not *jeg er að \*lesandi* [p]. Similarly in Dutch *hij is aan het lezen* ‘he is at the to.read’ and not *hij is aan het \*lezing* [p].

There is evidence that the periphrastic form has always been more frequent in spoken than written language, and it still is (Collins 2008); it has become more common in literature over the centuries, particularly in prose fiction and prose drama (see Dennis 1940; Jespersen 1909–1949, IV: 177). This slightly favours the hypothesis that the English progressive is modelled on the Celtic locative construction; however, especially in Welsh, the periphrastic form is not necessarily translated by the English progressive.

The English *BE + Ving* construction became fully aspectual around the late seventeenth century. At that time Lancelot and Arnauld (1660: 19) could write

[C]’est la mesme chose de dire *Pierre vit*, que de dire, *Pierre est viuant*.

‘To say *Peter lives* is the same as saying *Peter is living*.’

This is true for French, Latin (Thomas Aquinas (1225–74) wrote “*nihil enim differt dicere homo convalescens est et homo convalescit*” ‘there is no difference between saying *the man is convalescing* and *the man convalesces*’ (*Sententia Metaphysicae* V.ix.9, Aquinas 2005), and Ancient Greek (Aristotle’s *On Interpretation* 21<sup>b9</sup> asserts propositional equivalence between *the man walks* and *the man is walking*; see also *Metaphysics* 1017<sup>a28</sup>). Presumably the regular aspectual distinction came to be made in English because there was widespread use of both the periphrastic and the simple form and the difference in form encouraged the regularising of the potential meaning difference that already existed (as it did in other languages, too).

Let's turn to the semantics of the progressive. Progressives apply to activities (non-statives); thus, when a normally stative predicate occurs in the progressive, some kind of activity is coerced as we see in (25)–(29).

(25) Harry is being a clown → Harry is clowning (acting like a clown).

(26) Sally is being a virgin

→ Sally is acting in some way that is intended to make people believe she is a virgin.

(27) Ed is being tall → Ed is trying to appear taller than he is.

(28) I'm knowing that speech before I quit tonight

→ I am going to cause myself to know that speech before I quit tonight

(29) Granny is understanding more about computers every time she uses one

→ Granny is coming to understand more about computers / Granny's understanding of computers increases every time she uses one

Consequently, (30) seems undoubtedly anomalous whereas we attribute some plausible meaning to (31) such as that Harry is being environmentally conscientious.

(30) \*The stone's being green.

(31) Harry's being green.

According to Traugott (1972: 178), this coercive function of the progressive developed in the late nineteenth century.

Examples (25)–(31) refute the claim of Vlach (1981: 274) that “[t]he function of the progressive operator is to make stative sentences”. Part of his reasoning is that progressives cannot range over progressives: *\*she is being speaking at the conference*. There was a period from Samuel Pepys' *Diary* (1660) to Jane Austen's *Emma* (1816) during which this was not so (see Denison 1993: 394). Even today it seems possible in sentences where the two *Ving* forms are split by a temporal adverb as in (32)–(33), though they are necessarily non-finite and the construction is severely restricted. It is also arguable that “being” is in both cases a gerund and not a progressive.

(32) I being now making this speech for the fourth time, ...

(33) She being then acting the part for the third time, ...

Another counter to Vlach's observation is that the progressive does not scope over any other aspect (or tense), either.

Examples (25)–(31) demonstrate another common characteristic of the progressive: it normally identifies a condition that is either temporary, as in all these examples, or changed from some former condition as in (34)–(35), where the stay in Cambridge and the new eating habit need not be temporary.

(34) Max used to live in Edinburgh but now he's living in Cambridge.

(35) I used to be a vegetarian but these days I am eating lots of red meat.

Furthermore, as Allen (1966: 54) says, (36) does not entail that the earth will stop rotating.

(36) The earth is revolving on its axis at this very moment.

Typically the activity is ongoing at the time spoken of.

(37) Annie was drawing a circle when the quake ripped the paper from her grasp and the drawing was lost in the debris.

Here Annie's activity was underway when the quake interrupted it. This kind of progressive supports the view of people like Krifka (1992: 47) that the progressive has a partitive character (see also Bennett 1981; Filip 1999). Krifka defined the progressive as in (38).

(38)  $\text{PROG} = \lambda P \lambda e' \exists e [P(e) \wedge e' \sqsubseteq e]$

Although the typical progressive ( $e'$ ) is a proper part of an event ( $e$ ),  $e' \sqsubset e$ , (38) allows that  $e'$  is coextensive with  $e$  ( $e' \sqsubseteq e$ ), which seems to be the situation in (37) and in (39).

(39) Max was crossing the street when the truck hit him.

Example (39) does not entail that Max had crossed the street, but it does entail Max had crossed some part of the street and that there was no time interval after being hit by the truck when Max was still crossing the street.

A progressive may properly be used of scattered subevents. Vlach (1981: 280) points out that the question *Is anyone sitting there?*, indicating an empty seat in a café, can be appropriately answered *My brother is sitting there* even though the event of sitting is interrupted because the brother has left that seat for a time. So the progressive is true over interruptions. Other examples of this are (40)–(44).

(40) I'm loving these [weekly] classes on bee-keeping.

(41) Charles is playing every day this week except Thursday.

(42) I am writing a paper, but I haven't worked on it for the past three days.

(43) Ed was eating biscuits with barely a break between them.

(44) Fred is painting the bathroom twice.

Nearly all the examples of progressives given so far satisfy the claim of Meulen (1995: 29) that “Progressive descriptions presuppose that the start of the event preceded its current ongoing stage.” This is only partially true; it is true for typical progressives but not for those denoting future or (other) hypothetical events, e.g. (41) and (44) can be uttered before the events spoken of are underway, and the same is true of (45)–(47).

(45) Sue is making a cake for her parents' wedding anniversary[; she's out buying the ingredients right now].

(46) I bet it'll be raining when we get to Manchester next July.

(47) If I had the ability I would be speaking to you in Farsi.

The only semantic feature common to all instances of the English progressive is that the activity denoted is incomplete, that is, not yet complete, at the time spoken of – which may be before (**P**), at (**N**), or after (**F**) the deictic centre. This is not to deny that in order for an event to be complete it must have started and, for at least a micro-moment, it must be ongoing; but an event can be not-yet-complete because it has not yet started. Incompleteness may not be the most salient characteristic of the progressive, but it is its default characteristic. The progressive is informally defined in (48).

(48) PROGRESSIVE. Where  $TENSE_i[PROG[\Phi_{ACTIVITY}]]$ ,  $TENSE_i \in \{P, N, F\}$  identifying the time spoken of, and  $\Phi_{ACTIVITY}$  denotes an active event or set of active events  $e$ , then  $e$  is incomplete at the time spoken of. That is,

$$TENSE_i[PROG[\Phi_{ACTIVITY}]] \rightarrow TENSE_i[\neg COMPLETE[\Phi_{ACTIVITY}]]$$

The claim that the progressive scopes over the whole clause and not merely the verb is surely confirmed by the fact that in (49) what is contrasted is Jo's eating of her fish (not just the eating) with Ed's not eating his salad (again, not just the not-eating, cf. *Jo is eating but Ed isn't*).

(49) Jo is eating her fish but Ed hasn't touched his salad.

To the default meaning of the progressive we can add a set of additional probable meanings expressed as non-monotonic inferences (NMI), symbolised  $+>$ . These will be accompanied by a credibility quotient, ranging between 0 and 1, that is here based only on the author's intuition but which ideally should be based on corpus studies when these come to be undertaken.

(50)  $TENSE_i[PROG[\Phi_{ACTIVITY}]] \rightarrow TENSE_i[\neg COMPLETE[\Phi_{ACTIVITY}]]$

$TENSE_i[PROG[\Phi_{ACTIVITY}]]$

$+> [TENSE_i[HAVE STARTED[\Phi_{ACTIVITY}]] \rightarrow ONGOING[\Phi_{ACTIVITY}]]$ , CRED  $\approx 0.9$

$TENSE_i[PROG[\Phi_{ACTIVITY}]] +>$  a behavioural change on the part of the actor, CRED  $\approx 0.2$

a behavioural change on the part of the actor

$+>$  the situation denoted is temporary, CRED  $\approx 0.05$

### 3. The perfect

In classical Latin there was for a time synonymy between (51) and (52) though later the forms with *HABERE* became the norm.

(51)a. *mihi sunt capilli negri*

to.me are hairs black

‘I have black hair’

b. *mihi illud factum est*

to.me that made is

‘I (have) made that’

(52)a. *habeo capillos negros*

I.have hairs black

b. *habeo illud factum*

I.have that made

The ancestor of perfect *HAVE* was like the ancestor of possessive *HAVE* in presenting the actor as the possessor of an accomplishment (cf. Ginneken 1939; Benveniste 1960). The English perfect, too, probably originated from a possessive construction. In Old English the perfect used *BE* with mutative verbs, e.g. *we wæron gecumene* ‘we were in the state of having come’, and *HABB + Pp* with others. In earliest Old English the latter is possessive: *ic hæfde hine gebundenne* ‘I had him in a state of being bound’ (cf. Lussky 1922), but by the eighth century the perfect was being used, e.g. *hæfde geleornode* ‘has learned’, *ic hæbbe gesæd* ‘I have said’ (Traugott 1972: 94), *hie hine ofslægenne hæfdon* ‘they had slain him’ (Denison 1993: 343). The mutative verbs with *BE* and the rest with *HAVE* were common in English until well into the nineteenth century. “Only in later [Modern English] is *have + PP* used unconditionally for perfect in all environments” (Traugott 1972: 145). The earliest example of a perfect passive I know of is from *Lazamon’s Brut* “Twien þu hafuest i-beon ouer-cummen & þine men we habbeð islæn” (Lazamon 1963–1978: 218).

The reason for the use of the past participle in the perfect syntagm was that it identified a state achieved. Although this often no longer holds true for today’s English, it does on occasion remain one argument for the perfect being an aspect. Another reason is that

the perfect's morphological pattern is comparable with that of the progressive:<sup>3</sup> it consists of an auxiliary + participle and it modifies the infinitive in a similar way to the progressive; compare *to eat*, *to be eating*, *to have eaten*. Some scholars, e.g. Bennett (1981: 15), see the perfect as referring to completed events, and therefore comparable with the perfective aspect in, say, Slavic languages.

If we wish to refer to completed activities that took place within the period of time that extends to and includes the present moment, without giving a definite point or period of time for any of these activities, we may use the Present Perfect Tense. The starting point of the period need not be indicated. E.g.

*He has often been to Amsterdam.* (Hornby 1954 §45a)

Hornby is referring to the fact that his sentence refers to a number of completed journeys to Amsterdam. However, whereas (53) is perfective (refers to a completed event), (54) is imperfective – Sam's still alive and still living "here".

(53) Sam has arrived.

(54) Sam has lived here all his life.

So, although the perfect displays some aspect-like characteristics, it is, as many scholars have recognised (e.g. Jespersen 1909–1949; Jespersen 1924; Bull 1960; Comrie 1976; McCawley 1971; Bennett 1981; Carlson 1981; Mourelatos 1981; Bybee, Perkins, and Pagliuca 1994), primarily a retrospective (or "anterior") tense, that is "it establishes a relation between a state at one time and a situation at an earlier time" (Comrie 1976: 64). This is nicely spelled out in the translation of the English perfect into a Celtic language such as Welsh, where *I have written the letter* is *yr ydwyf i wedi ysgrifennu'r llythyr*, lit. 'am I after writing the letter'.

In this chapter I use the term "perfect" to generalise over the pluperfect, present perfect, and future perfect. Jespersen and Comrie apparently use it of only the present perfect:

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3 It is presumably this which leads Meulen (1995) to propose the rules Aspect → Perfect: + / – such that Progressive is –perfect, both in morphosyntax and semantics (p. 95 (6.1)14 and p.101 (6.10)14).

[The perfect] is present, but a permansive present: it represents the present state as an outcome of past events and may therefore be called a retrospective variety of the present. (Jespersen 1924: 269)

[T]he term ‘perfect’ refers to a past situation which has present relevance, for instance the present result of a past event (*his arm has been broken*). (Comrie 1976: 12)

None of the perfects satisfies the definition of aspect (cf. Comrie 1976: 3, 6). “[A]spect is non-deictic, since discussion of the internal temporal constituency of a situation is quite independent of its relation to any other time point” (Comrie 1985: 14). Tense, however, “is grammaticalised expression of location in time” (*ibid.* 9). “An adequate solution [to characterising the English perfect] will probably have to combine past and present time reference” (*ibid.* 35). Comrie’s speculation here is absolutely correct. “[A]n anterior [= perfect] signals that the situation occurs prior to reference time and is relevant to the situation at reference time” (Bybee, Perkins, and Pagliuca 1994: 54). The present perfect is like the past in locating an event that precedes the moment of utterance but, unlike the past, it is used of an event or state of affairs located within a period of time that includes the moment of utterance, such that where  $\mathbf{N}_d \supset t_0$ ,  $\mathbf{N}_d[\mathbf{P}\Phi]$ .

(55) John has been dead for six months  $\rightarrow \mathbf{N}_d[\mathbf{P}[\text{John be dead}]] \wedge \mathbf{N}-\mathbf{P} = \text{six months}$

(56) Have you seen the Monet exhibition?

$\rightarrow \mathbf{Q}[\mathbf{N}_d[\mathbf{P}[\text{you see the Monet exhibition}]]] \rightarrow \mathbf{N}_d[\text{the Monet exhibition is still open}]$

The entailment in (56) stems from the component of so-called “present relevance” in the present perfect. (56’) and (56’’) are therefore unacceptable; both sound like foreigner talk.

(56’) Have you seen the Monet exhibition that’s just ended?

(56’’) Have you seen the Monet exhibition that ended last December?

(56) contrasts with its past tense counterpart in (57), which has the tense form that (56’) and (56’’) should take.

(57) Did you see the Monet exhibition?  $\rightarrow \mathbf{Q}[\mathbf{P}[\text{you see the Monet exhibition}]]$

$\rightarrow \mathbf{N}[\text{The Monet exhibition be no longer open}]$

It is notable that the NMI in (57) is cancelled in (57’).

(57') Did you see the Monet exhibition yet?

The unacceptability of *\*John has died last November* is probably due to the fact that the present relevance needs to be expressed, for instance by using a *since* expression: *John has been dead since last November*.

(58)  $N_d[P[\text{John be dead}] \wedge N-P = \text{since last November}]$

The present relevance accounts for the use of the present perfect in *Have you ever been to London?* and for what McCawley (1971: 104) dubbed the “hot news” use. (59) would have been acceptable a few days after August 8, 1974 or to an addressee who came out of a coma some months later, but otherwise not under any normal circumstance since then.

(59) Nixon has resigned.

If an actor did something at least once, then, while they are still alive (present relevance) it is true that they have done it, cf. (60). It may nonetheless be pragmatically weird, as with (61) from McCawley (1971: 107), uttered by an adult “who stopped wearing diapers 30 years ago” (it would, of course, require that the mother still be alive at the time of utterance).

(60) Suzie lunched at the Savoy → Suzie has lunched at the Savoy.

(61) My mother has changed my diaper many times.

While (62) is perfectly acceptable, (63) seems unacceptable because of the difficulty of creating an appropriate context for it.

(62) It is 1500 and Gutenberg has invented movable type.

(63) ??It is 2011 and Gutenberg has invented movable type.

One can imagine a scenario in which a history of the sixteenth century takes note of the highly significant and comparatively recent (1440) advances in reproducing texts; it is almost “hot news”. By contrast, Gutenberg’s invention is very old-hat in 2011, so why should there be focus on its present relevance unless much of the intervening history has somehow been lost?

The pluperfect functions in a way comparable with the present perfect. The pluperfect is a relative tense denoting a time that precedes a past deictic centre for an event or state of affairs seen as narratively relevant at the deictic centre. In (64) the outer **P** is the deictic centre, i.e.  $\mathbf{P}_d[\mathbf{P}\Phi < \Psi]$  – hence the “past in the past” sobriquet.

(64) Ed had left when Max arrived  $\rightarrow \mathbf{P}_d[\mathbf{P}[\text{Ed leave}] < [\text{Max arrive}]]$

(64) is synonymous with *Ed had already left when Max arrived* and also *Ed had left before Max arrived*. There is a slight difference in meaning between (64) and (65) in that the pluperfect renders Max’s arrival the deictic centre, whereas in (65) the deictic centre remains the moment of utterance so that what is referred to is just a sequence of events without one being in focus.

(65) Ed left before Max arrived  $\rightarrow \mathbf{P}[[\text{Ed leave}] < [\text{Max arrive}]]$

I will say nothing more here about the future perfect.

To recap. We have seen that the English perfect functions like a tense and not like an aspect. Aspect describes the internal temporal contour of an event or state – its initiation, ongoingness, termination, (in)completeness, habitualness, iteration, punctuality, etc. A tense consists of grammatical morphemes which systematically locate situations in time relative to a deictic centre  $t_d$ . Although the perfect may have originated as an aspect that identified a state achieved, it has developed – as many distinguished scholars have recognised – into a tense that locates an event or state  $\Phi$  retrospective to a deictic centre  $t_d$  such that  $\text{TENSE}_d[\mathbf{P}\Phi]$ , where  $\text{TENSE}_d \in \{ \mathbf{P}_d, \mathbf{N}_d, \mathbf{F}_d \}$ .

The perfect is used with infinitives and other non-finites as a past tense marker, see (66)–(68).

(66) Cass claims to have eaten 40 oysters for lunch  $\approx$  Cass claims that she ate 40 oysters for lunch.

(67) The joist seemed to have been eaten away by termites  $\approx$  It seemed that the joist was eaten away by termites.

(68) Max may have spoken too soon  $\approx$  It may be that Max spoke too soon.

Such uses are found from about 1200 (Denison 1993: 354). One further reason for treating the perfect as a tense rather than an aspect is its co-occurrence with the progressive, which is discussed in section 4.

I should here mention the much-discussed matter of time adverbials with perfects. We see from (69)–(71) that the English present perfect may only co-occur with present time adverbs but not with those denoting past or future time.

(69) \*Yesterday Ed has arrived.

(70) \*Ed has arrived tomorrow.

(71) Now, as I am speaking to you, Ed has arrived.

Past time adverbs may accompany the pluperfect, (72)–(73), which cannot co-occur with present or future time adverbs, (74)–(75).

(72) The day before the funeral, Ed had arrived with his new floozy.

(73) Ed had arrived yesterday before the balloon went up.

(74) \*Ed had arrived tomorrow ...

(75) \*Ed had arrived now, as we speak.

Given my account of the perfect the explanation for these judgments is readily accounted for: the adverbs correlate with the deictic centre.

(76) Ed arrived yesterday  $\rightarrow \mathbf{P}_d[\text{Ed arrive}] \wedge \mathbf{P}_d = \text{yesterday}$

(69') \*Yesterday Ed has arrived  $\rightarrow \mathbf{N}_d[\mathbf{P}[\text{Ed arrive}]] \wedge \mathbf{N}_d \neq \text{yesterday}$

(70') Ed has arrived tomorrow  $\rightarrow \mathbf{N}_d[\mathbf{P}[\text{Ed arrive}]] \wedge \mathbf{N}_d \neq \text{tomorrow}$

(71') Now ... Ed has arrived  $\rightarrow \mathbf{N}_d[\mathbf{P}[\text{Ed arrive}]] \wedge \mathbf{N}_d = \text{now}$

(73') Ed had arrived yesterday ...  $\rightarrow \mathbf{P}_d[\mathbf{P}[\text{Ed arrive}]] \wedge \mathbf{P}_d = \text{yesterday}$

As we see from (77)–(79), hypotheticals may co-occur with adverbs denoting past, present, or future; note that in (78)–(79) the past tense form in the protasis of a conditional clause indicates hypotheticality and not past tense.

(77) Ed will / might have arrived yesterday / now / tomorrow.

(78) If Ed had arrived tomorrow instead of today, he'd have missed the strike.

(79) If Ed had arrived now, as we speak, we could have sought his opinion.

What is shown in (69)–(79) is that compatibility with the deictic centre conditions the adverb of time except for hypothetical clauses. The explanation for these exceptions may be that the apparent perfect in hypotheticals is not a tense as such but a past tense form indicating irrealis like the past form in the semantic present *If I were you, ...* (often referred to as a subjunctive, though this is disputed in Allan 2006).

#### 4. The perfect progressive

The concatenation of the perfect with the progressive challenges an analysis of aspect like that of Meulen (1995), for whom Aspect → Perfect: + / – such that Progressive is defined negatively as –perfect, both in morphosyntax and semantics (p. 95 (6.1)14 and p.101 (6.10)14). Meulen completely ignores the perfect progressive and so fails to explain why it would or would not have to have the contradictory features [+perfect, –perfect]. It is notable that the progressive carries tense marking in its first element, the copula: *am eating, was eating*, etc. It is therefore predictable that the perfect, being a tense, would be the first element when it concatenates with the progressive. This explains why the *HAVE been Ving* syntagm is not *\*BE having Vn*.

Consider the meaning of some perfect progressives.

(80) Ted had been writing when Ed arrived →  $\mathbf{P}_d[\mathbf{P}[\text{PROG}[\text{Ted write}]] < [\text{Ed arrive}]]$

(81) Oleg had been working since 7 a.m.

→  $\mathbf{P}_d[\mathbf{P}[\text{START}[\text{PROG}[\text{Oleg work}]]] \wedge \mathbf{P}_d\text{-}\mathbf{P} = \text{since 7 a.m. (period from 7 a.m. to the deictic centre)}$

(82) John has been dying for six months

→  $\mathbf{N}_d[\mathbf{P}[\text{START}[\text{PROG}[\text{John die}]]] \wedge \mathbf{N}\text{-}\mathbf{P} = \text{six months}]$

(83) Ed will have been flying for ten hours when he gets off the plane

→  $\text{PREDICTED}[\mathbf{F}_d[\mathbf{P}[\text{START}[\text{PROG}[\text{Ed fly}]]] < [\text{Ed gets off the plane}] \wedge \mathbf{F}\text{-}\mathbf{P} = \text{ten hours}]$

The aspectual operator START is needed to indicate the onset of the event in (81)–(83) because the durative phrase commences then. It is unnecessary for (80), in which duration is unspecified. In (83), the epistemic modal operator PREDICTED captures the relevant epistemic meaning of “will” (see the discussion at Allan 2001: 358–365).

The perfect progressive has been around since the Middle English period, though I know of no Old English examples. This may be because the perfect needed to lose its aspectual property to become a tense while the progressive was still establishing itself as an aspect.

(84) We han ben waitynge al this fourtenyght. (Chaucer 1396: *Knight's Tale* 929)

(85) I haue bin drinking all night. (Shakespeare, *Measure for Measure* IV.iii.46)

(86) [My uncle thought me wrong, and] I knew he had been talking to you. (Austen 1983: 646, *Mansfield Park*)

I conclude that the semantics of the perfect progressive is very straightforward if the perfect is recognised as a retrospective tense and the progressive as an aspect. Let's take for discussion the semantics of (86) uttered by Fanny Price to Edmund about his father Sir Thomas Bertram.

(86')  $\mathbf{P}_d[\text{I know } \mathbf{P}[\text{PROG}[\text{that he talk to you}]]]$

The deictic centre is past, indicated by “knew”. The progressive is chosen on the basis, one guesses, that Fanny (correctly) conjectured that Sir Thomas Bertram would have spent some

time talking to his son (Fanny Price's addressee, Edmund) about Fanny's marriage prospects, and perhaps done so on more than one occasion. That conversation (or those conversations) had taken place earlier than Fanny's learning of them, hence they are "past in the past", represented by the embedded **P**, and making the pluperfect the appropriate tense for (86). Had Fanny said (87), it would imply that, so far as she knew, the discussions were ongoing.

(87) I knew he was talking to you.

By contrast, the (plu)perfect in (86) implies that the discussions between Sir Thomas and his son about Fanny's marriage prospects were, at least temporarily, concluded at **P<sub>d</sub>**, the deictic centre. Had Austen just used a pluperfect, as in (88), it would have been less forceful than the use of the progressive in (86) just because, as I have supposed, the progressive suggests that Fanny lingers on the time taken in discussion between father and son.

(88) I knew he had talked to you.

A broadly similar analysis can be offered for all perfect progressives.

## 5. Conclusion

This chapter has offered a semantics for the English perfect progressive: a construction that has largely been ignored in the literature. I examined the origins and meanings of the progressive and the perfect in English. I have affirmed that the progressive is indeed an aspect and the perfect a tense, even though the perfect does retain some aspectual traits. The default meaning of the progressive is that the activity (event) denoted by the predicate in the scope of the progressive operator **PROG** is incomplete at the temporal deictic centre indicated by the tense used in the clause. The perfect is a retrospective tense, a past tense **P** relative to whatever time point is indicated by the deictic centre for the clause, be it **P** (past), **N** (present), or **F** (future). Given these assumptions there is no conflict or contradiction whatsoever in the concatenation perfect  $\widehat{\text{perfect}}$  progressive, *HAVE been Ving*, such as would arise if the perfect is analysed as an aspect. The account given here is more accurate and more

succinct than those given in, for instance, Bennett (1981), Carlson (1981), Filip (1999), Krifka (1992), Meulen (1995), Portner (2003), or Vlach (1981).

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