Anglistentag 1994 Graz

Volume XVI

edited by
Wolfgang Riehle
and Hugo Keiper

Sonderdruck

MAX NIEMEYER VERLAG
TÜBINGEN 1995

Wolfgang Klein (Nijmegen)

A SIMPLEST ANALYSIS OF THE ENGLISH TENSE-ASPECT SYSTEM

Zeit Urbarmachen (Lichtenberg)

1. Introduction

Each of the following two sentences describes an event in the past:

(1)   Murgatroyd left the aquarium.
(2)   Murgatroyd has left the aquarium.

Nothing is said about the precise time at which the event happened: it could have been two hours ago, two weeks ago, or two years ago. It is only clear that it is at some time before the time of utterance. Why is it then possible to make this time explicit in (1) but not in (2):

(1a)   Two days ago, Murgatroyd left the aquarium.
(lb)   Murgatroyd left the aquarium two days ago.
(2a)   *Two days ago, Murgatroyd has left the aquarium.
(2b)   *Murgatroyd has left the aquarium two days ago.

The German or Dutch counterparts to (2a, b) - with the PERFEKT and the PERFECTUM, respectively - are perfectly possible. Why is English different? If there is any reason at all - languages can be quite idiosyncratic -, then it must have to do with the particular meaning of the PRESENT PERFECT compared to the English simple PAST, on the one hand, and to deceptively similar forms such as the German or the Dutch 'perfect', on the other. What, then, is the precise meaning of the English 'present perfect' ?

There is no generally accepted answer. Essentially, three (not mutually exclusive) analyses have been advocated in the huge literature, ranging from traditional grammar books to treatments within formal semantics (see McCoard 1978, Fenn 1987). In contrast to the simple past, the present perfect expresses (a) an 'indefinite past', (b) an 'extended now', or (c) some 'current (or ongoing) relevance' of the event. Among those, the current relevance analysis has found widest acceptance.[1] Quirk et al. (1972: 91), for example, write (wrote?, have

---

We shall confine the following discussion to this analysis. Neither of the two other proposals can solve the problems mentioned in this introductory section. This, incidentally, also applies

written?): "[The present perfect] is past with 'current relevance'". If this is correct, then why is it excluded that the time of the event can be made explicit by an adverbial? The present perfect, in contrast to the simple past, may indicate that the event in question has a special relation to the present moment. But after all, it is still described as having occurred at some time in the past, and why should the speaker not be allowed to specify this time by an appropriate adverbial? Apparently, the 'current relevance' analysis of the present perfect cannot capture what is so particular about its meaning in comparison to the simple past, or to parallel forms such as the Dutch or German 'perfect'.

Let us turn now to another little puzzle, which can be illustrated by the following two sentence pairs:

  (3a) Newton was the son of a widow.
  (3b) *Newton has been the son of a widow.
  (4a) Murgatroyd was dead.
  (4b) *Murgatroyd has been dead.

The sentences with the present perfect are distinctly odd, whereas the sentences with the simple past are perfectly correct. Why is this? If the present perfect only differs from the simple past in that it somehow expresses current relevance, then the apparent oddity of the (b) sentences should somehow be related to this fact. But these sentences are strange no matter whether one considers the facts described by them to be relevant for the present moment or not. So again, this analysis, if correct at all, cannot explain the different behaviour of simple past and present perfect.

But is it correct at all? The answer, I believe, is that one can't tell, for the simple reason that the very notion on which the analysis relies, the notion of 'relevance', is quite suggestive but ill-defined.[2] It simply appeals to our every-day understanding of what is relevant. Clearly, we have, or often have, the distinct feeling that something is relevant, and something else is less relevant, or not relevant at all. It is not relevant to an understanding of the English present perfect that German has no counterpart to the English progresssive (or is it?), and it is relevant that it does not go with past tense adverbials (or isn't it?). But 'relevance' is surely not a grammatical term, and in many cases, it is hard to see how it would clearly discriminate between simple past and present perfect. Compare, for example, the following two sequences:

  (5a) John is in jail because he killed his wife.
  (5b) John is in jail because he has killed his wife.

---

  to a three parameter analysis in the sense of Paul (1886) or Reichenbach (1947); for a critical discussion, the reader is referred to Klein (1994:24-26).
[2] This vagueness, incidentally, explains part of the attraction of a Gricean maxim such as "Be relevant!".

There is a noticeable difference, but it is surely not due to the fact that the event in question is 'currently relevant' in the second case but not in the first.

This is not to mean that notions such as 'currently relevant' are without value in the analysis of the perfect, and of temporal meanings in general. They are not precise, but they capture important intuitions, and it is the task of linguistic analysis to explain how these intuitions come about.

In this paper,[3] I will propose an analysis of the English tense-aspect system which is based on a small number of precisely defined notions, all of which are needed independently of tense and aspect. Essentially, these are the notions of (a) temporal relations between time spans, (b) assertion, and (c) lexical meaning which is used to describe a situation. I believe that the analysis of the English tense-aspect system explains why we often have the intuitive impression that there is a particular 'current relevance' or, in the case of the progressive, that the event is 'present in its course'. It also offers simple solutions to the two puzzles mentioned above.

2. The categories TENSE and ASPECT

Two and a half thousand years of research on tense and aspect (recently surveyed by Binnick [1991]) have not led to precise and clear definitions of these categories which all (or at least most) linguists would share; but on a global level, there is some common understanding which is aptly reflected, for example, in the entry "Tense and aspect" (written by Joan Bybee) of the *International Encyclopedia of Linguistics* (1992):

> TENSE refers to the grammatical expression of the time of the situation described in the proposition, relative to some other time. This other time may be the moment of speech: e.g., the PAST and FUTURE designate time before and after the moment of speech, respectively [...]. TENSE is expressed by inflections, by particles, or by auxiliaries in connection with the verb [...]. ASPECT is not relational like tense; rather, it designates the internal temporal organization of the situation described by the verb. The most common possibilities are PERFECTIVE, which indicates that the situation is to be viewed as a bounded whole, and IMPERFECTIVE, which in one way or another looks inside the temporal boundaries of the situation. [...] These aspects are usually expressed by inflections, auxiliaries, or particles.

---

[3] A more detailed presentation of the approach on which this paper is based is found in Klein (1994). This also includes a discussion of the literature which space reasons forbid me to go into here. Let me mention, however, that, like Paul (1886) or Reichenbach (1947), the present approach operates with three, rather than two, parameters, the main difference being that the 'third parameter' is defined in terms of what the finite element of the sentence expresses; in declarative clauses and in questions, this is the assertion.

This understanding underlies virtually all older and a great deal of modern work on tense and aspect, although the way in which they are 'reconstructed' in modern, more formal treatments, varies considerably. I believe that both characterisations are seriously flawed. In a nutshell, the characterisation of aspect is but a metaphor - intuitively appealing but far from a precise definition - and the characterisation of tense is false as a general definition (although under special circumstances, it leads to the correct result). Let us first turn to aspect.

When it is said that aspects are different ways of 'viewing' a situation, it is not at all clear what 'viewing' means here. It can't have its literal meaning: events, states, processes, in short, situations are not like chickens, match boxes or the Eiffel tower which you can 'view' - they are abstract entities which have something to do with time, and you can't see them at all. This metaphorical notion of viewing, intuitively plausible as it might look at first, is in need of explanation. The same problem arises for that part of the definition which concerns perfectivity (and, analogously, imperfectivity) in particular: what does it mean to say that a situation is presented 'in its entirety', 'as a whole', 'without reference to inner constituency', to quote some typical characterisations from the aspect literature? Again, these metaphors have some intuitive plausibility in cases such as *John read a book* vs *John was reading a book.* But they are not very suggestive in other cases, such as *They hoped for a better future* vs *They were hoping for a better future* or *He stood on his toes* vs *He was standing on his toes.*

Summing up, notions such as 'without looking into the boundaries', 'with reference to the inner constituency', 'viewed as a whole' are not what one would call theoretical terms. They characterise valuable intuitions. But somehow they should be replaced by precisely defined terms of a linguistic theory that are able to capture these intuitions.

Let us now turn to tense. According to the 'canonical view', tense is deictic and relational. It expresses a temporal relation - BEFORE, AFTER, SIMULTANEOUS - between two time spans: the time of the state, process, event, in brief, the TIME OF THE SITUATION (T-SIT), on the one hand, and the TIME OF UTTERANCE (TU), on the other; TU is (normally) deictically given. Thus, sentence (3) (selectively) describes a situation - Peter's being cheerful -, and the past tense expresses that the time of this situation, T-SIT, precedes the time of utterance:

(6)   Peter was cheerful.

This is what virtually all grammars tell us. It is easy to see that it is not correct. Sentence (6) does not at all exclude the possibility that Peter might still be cheerful at TU, hence, the past tense is fully compatible with the temporal constellation 'TU IN T-SIT'. What is really said by (6) is that there is some

subinterval T of the entire situation time, and only for this particular subinterval T it is asserted that it precedes the time of utterance. Hence, we must carefully distinguisth between the time of the situation which is selectively described by the utterance, and the time for which an assertion is made by that utterance. This latter time I will call the TIME OF ASSERTION (T-ASS). It is T-ASS which is temporally related to TU, rather than the time of the situation T-SIT itself. If the listener knows anything about how T-SIT itself is related to TU - whether the situation precedes, includes, or follows the moment of speech -, it is by virtue of the fact that T-SIT in turn is temporally related to T-ASS. In example (6), T-ASS is interpreted as a subinterval of T-SIT. Other temporal relations are possible: T-ASS may include T-SIT, it may follow it, precede it, etc. - and exactly this is what aspect expresses.[4]

Under this view, both tense and aspect are temporal relations between temporal intervals: TU, T-ASS, and T-SIT:

(7) TENSE IS A TEMPORAL RELATION BETWEEN TU AND T-ASS.
     ASPECT IS A TEMPORAL RELATION BETWEEN T-ASS AND T-SIT.

In the 'imperfective' aspect, for example, T-ASS is fully included in T-SIT. This explains the intuitive feeling that 'the situation is presented from its interior, not as a whole, as being incomplete'.

The situation itself is only indirectly related to TU; in a way, T-ASS mediates between these two time spans:

(8) TU <————————> T-ASS <————————> T-SIT
              tense   aspect

Both tense and aspect are temporal relations. What are these relations? The answer depends on how we assume time to be structured - a difficult, a perennial problem. It seems, though, that in natural languages only a few very simple temporal relations play a role. In what follows, we shall use some abbreviations for temporal relations; all of these can be precisely defined (cf. Klein

---

[4] There is an obvious problem here: not all utterances make an assertion. Questions or imperatives, for example, do not. In the former case, this is not so very much of a problem because there is still an assertion 'at issue', which is time-bound, and the assertion itself is only made in the answer. The 'time of assertion' need not necessarily be the time for which the assertion is MADE; in more general terms, it is the time for which an assertion is either made or made an issue. The case is more tricky with imperatives. Therefore, a more complete account would have to replace the notion of 'assertion time' by a more general notion such as 'speech act function time' in combination with an assertion operator with certain scope properties. Under special conditions, this assertion operator is replaced by some other operator. We shall not follow this up here; for a discussion of how cases other than assertions should be handled, see Klein (1994: chapter 11). The basics of the analysis are not affected by these cases.

1994: chapter 4), but for present purposes, we only give informal definitions (a and b are time intervals, not points):

(9)   a AFTER b: a is fully after b
      a INCL   b: a is fully included in b
      a OVL   b: a and b overlap, i.e. they have a common subinterval.

As usual, we permit Boolean operation on these, such as 'a AFTER b OR a IN b', which means that a cannot be before b, or 'a NOT OVL b', which means that a and b must be disjoint.

Accordingly, we have a few characteristic tense relations and aspect relations.

(10) Tense

FUTURE   TU BEFORE   T-ASS
PRESENT   TU INCL   T-ASS
PAST   TU AFTER   T-ASS

(11)   Aspect

IMPERFECTIVE   T-ASS IN T-SIT
PERFECTIVE   T-ASS OVL T-SIT AND TIME AFTER T-SIT
PERFECT   T-ASS AFTER T-SIT
PROSPECTIVE   T-SIT AFTER T-ASS

It is important to keep in mind that tense and aspect, as defined here, are abstract temporal relations, not inflectional forms. Languages encode these relations in different ways. It may be that a language collapses all tenses distinguished in (10) in one morphological form, in other words, it has no overt (morphological) TENSE MARKING. Chinese illustrates this possibility. English, by contrast, has a very clear and transparent system of tense and aspect marking, which will be discussed in the following section. First, however, we will have to discuss an important complication - the role of inherent temporal properties of the verb meaning or, as I shall say, the 'lexical content' of the verb.

3. Types of lexical content

The following utterance describes a situation which obtained in the past:

(12) Murgatroyd was watching TV.

This situation has many properties. For example, it has a place, it has a beginning point and an endpoint (which, incidentally, need not be in the past) and hence a duration, and many others. Only some of these properties of the situa-

tion are described by the 'lexical content' of (12) - by the meaning of the individual words contained in (12) and the way in which they are put together.[5] We shall designate the lexical content of a constituent by its infinitival form in angled brackets. Thus, the lexical meaning of (12) is <Murgatroyd watch TV>, and the lexical meaning of *was watching* is <watch>. The listener who has to interpret (12) completes its lexical content by all sorts of contextual information - deictical, anaphorical, general world knowledge, and so on.

The lexical content of a sentence which refers to a situation is a SELECTIVE DESCRIPTION of this situation: the speaker chooses some features which he wants to make explicit, and leaves others aside. In (12), place and endpoints of the situation are left implicit. But it would be easy to make them explicit by enriching the lexical content, for example by adding *from two to four, for two hours, in the basement, with decreasing interest.* In all of these cases, the situation which is described is the same - but the lexical content is richer, and hence more features of the situation are made explicit. Therefore, it is important to distinguish carefully between properties of a situation, on the one hand, and properties of lexical content which describes this situation, on the other.

Consider now the following two utterances, each of which selectively describes a situation in the past:

(13) It snowed.
(14) Murgatroyd slept.

In both cases, world knowledge tells us that the time of situation has a beginning and an end, hence is bounded, although the lexical contents <snow> and <Murgatroyd sleep> do not say anything about these boundaries. There are also lexical contents which normally exclude the possibility of a beginning and an end of the situation which they describe, such as <the square of an odd number be odd> or <Newton be the son of a widow>. A situation described by such a lexical content either obtains without temporal boundaries or not at all:

(15) The square of an odd number is odd.
(16) Newton was the son of a widow.

The term 'lexical content' might be understood to refer to the meaning of minimal elements, like words or morphemes, in contrast to the compound meaning which results from the application of some compositional rules. In this sense, the meaning of *last* and of *year* is lexical, and the meaning of *last year* is not. Alternatively, 'lexical content' may be used in contrast to 'meaning in context'. It is this latter sense in which 'lexical content' is understood here. Thus, the lexical content of *last year* is something like 'in that year which precedes the year which contains the time of utterance'. This lexical content takes a particular value, say 1985, when applied to some - contextually given - time of utterance, and the meaning in context is then 1984.

Therefore, it is useful to distinguish between lexical contents which describe situations which are normally limited in time, and others for which this is not the case. Those of the former type, I will call 1-state contents, and those of the latter type, 0-state contents (or 'atemporal contents'). In the examples above, this distinction applies to the content of entire sentences. It may already be found in the content of its parts, in particular in the verb content.

A situation described by a 1-state content is preceded and followed by situations in which this state does not obtain - by its negative counterparts. In (13), T-SIT is followed and preceded by a situation which can be described by <not snow>. Similarly, in (14) T-SIT is followed and preceded by situations which can be described by <Murgatroyd not sleeps». A speaker might now want to speak about a longer time interval which includes, first, a situation in which it snows, and then its negative counterpart - the subsequent situation in which it does not snow. This is always possible in the case of 1-state contents, and never in the case of 0-state contents. In doing so, the speaker normally has several options, the simplest of which is to describe each situation by a separate sentence, perhaps with the addition of appropriate adverbials which indicate the intended order:

(17) First, it snowed, and then, it did not snow.
(18) First, Murgatroyd slept, and then, he did not sleep.

The lexical content of (17) has then two parts, <first, Murgatroyd sleep> and <then, Murgatroyd not sleep>. The first part describes the SOURCE STATE (abbreviated SS) of the entire complex situation (consisting of two subsituations), and the second part describes its TARGET STATE (abbreviated TS), and when put together, they describe a change of state from SS to TS. In the examples (17) and (18), each state of the two states is described by a separate clause. But their description can also be packed into a single verb (with or without an affix). Thus, the lexical content of *to die* includes diese two states, roughly to be described as 'to be alive, to be not alive'. It expresses a '2-state content'. The difference between verbs (or larger constructions) with a 1-state content and those with a 2-state content is not that the latter are 'bounded', and the former are 'not bounded'. The situation described by a 1-state content is normally bounded, as well. The difference is whether the content involves only one state, as in *to sleep,* or two distinct states (SS and TS) in a temporal order- as in *to die.*

The difference between 0-state contents, 1-state contents and 2-state contents has many consequences for the analysis of aspect (and, indirectly, for tense as well). Aspect is a temporal relation between TU and T-SIT, the time of the situation, which is selectively described by the lexical content of an utterance. But this situation, and hence its time T-SIT, looks very different for the different types of lexical contents. In the case of 0-state contents, T-SIT 'has no limits': if

the situation described by *Two plus two is four* obtains at some time T, it obtains at any time. A situation described by a 1-state content - as in the utterance *Murgatroyd slept* - has a beginning point and an endpoint, no matter whether the lexical content says anything about these boundaries. The difficult case is 2-state contents, because the situation described by such contents has two distinct substates, source state and target state. Each of these states in itself has a beginning point and an endpoint. Thus, their T-SIT INCLUDES TWO SUBINTERVALS, which we may call T-SS and T-TS, respectively. Thus, a situation described by the lexical content <*Murgatroyd leave the aquarium*> - as in examples (1) and (2) from section 1. - has two substates: a source state in which Murgatroyd is in the aquarium, and a target state in which Murgatroyd is not in the aquarium, each of which is limited in time. Which of these substates is relevant to aspect, i.e. temporally related to T-ASS? For example, if T-ASS is said to fall into T-SIT, does it then fall into T-SS or into T-TS - or is this arbitrary? Languages vary in this regard; more precisely, they vary with respect to what they consider to be the 'distinguished state' (DS) - the one which behaves like the single state of 0-state expressions or 1-state expressions. In the next section, we shall see how this works in English.

4. The English tense-aspect system

So-called English 'tense forms' combine a tense component and an aspect component - their meaning includes both a relation between TU and T-ASS and between T-ASS and T-SIT. The tense component is simple - it corresponds to the general definition given in (10) above. The aspect, too, corresponds to the characterisation given in (11) - with two exceptions. First, we have to replace T-SIT by T-DS. It is not the entire T-SIT to which T-ASS is related but the time of the 'distinguished state'. The difference only applies to situations which consist of two mutually exclusive subintervals. Second, it is unclear whether there is a grammaticalised counterpart to the PROSPECTIVE. There are good reasons to assume that the *to be going to*-construction assumes this function. But since this form may belong to a somewhat different register, we shall not include it in the following analysis.

In English, the distinguished state is (a) the single state, if there is only one (bounded or non-bounded) state, and (b) the source state, if there are two states. Three aspectual relations are grammaticalised (T-DS is the time of DS, and posttime of T-DS is the time after T-DS):

(19)   IMPERFECTIVE   T-ASS INCL T-DS
        PERFECTIVE   T-ASS OVL T-DS AND POSTTIME OF T-DS
        PERFECT   T-ASS AFTER T-DS

Normally, these aspectual relations are encoded by the progressive form, the
simple form and the perfect form, respectively. (There are some exceptions, such
as the copula or verbs like *to know, to consider* which conflate IMPERFECTTVE
and PERFECTIVE.) We shall illustrate this with three simple examples of
PERFECTIVE and IMPERFECTIVE and then turn to a somewhat closer
consideration of the PERFECT.

Consider the following three utterances:

(20) Murgatroyd was sleeping.
(21) Murgatroyd was building a house.
(22) Murgatroyd built a house.

The lexical content of (20) is of the 1-state type. Hence, the time of the
distinguished state is identical to the time of the entire situation. The tense is
PAST: it says that the time for which the assertion is made precedes the time of
the utterance. The aspectual component is IMPERFECTIVE: it expresses that
the time for which the assertion is made falls within the time of a situation
described by <Murgatroyd sleep>. Nothing is said about the boundaries of this
situation, although it surely has boundaries, and nothing is said about how these
boundaries are related to the time of utterance. It may well be that Murgatroyd is
still asleep at TU, but this is left open.

The situation described by the lexical content of (21) includes two states, a
target state, where there is a house, and a source state (counting as DS) where
there is no house but where Murgatroyd is somehow active in bringing about the
target state by getting the mortgage, buying the bricks, putting them on top of
each other, and so on. The progressive form expresses IMPERFECTIVE; hence,
the assertion time falls fully into this first state, and nothing is said about
whether the second state is ever reached or not. The tense component is PAST,
hence T-ASS must precede TU. But note that the assertion only affects the
source state. The speaker only claims that at some time in the past, Murgatroyd
was in this source state. If nothing particular happened, the listener may suppose
that Murgatroyd eventually reached the state where he has his house - but this is
not asserted.

Utterance (22) is identical to (21) except that the aspect is PERFECTIVE.
This means that T-ASS partly includes T-DS and the time thereafter, in other
words: it affects both source state and target state. Therefore, the assertion is
'stronger': it is not only claimed that there is a time in the past at which
Murgatroyd was active in bringing about a house, but also a time in the past at
which this house existed. The action must be 'completed' before TU, it is 'pre-

sented as a whole, in its entirety', or whatever the metaphorical characterisations of the PERFECTIVE may be. Thus, the strictly time-relational analysis suggested here is not at variance with the 'canonical view'; it simply gives it a precise definition in terms of temporal relations.

In none of these cases is anything said about the duration of T-ASS or about its precise position on the temporal axis, except that it precedes (PAST) or includes (PRESENT) the time of utterance. In context, however, T-ASS is very often given by something mentioned before. Consider, for example, the following sequence of sentences:

(23) John came in. Mary was sitting behind his desk.

The assertion made by the second sentence is confined to the time at which John came in, and this assertion time is completely included in the time of Mary's sitting behind the desk. Hence, we somehow have the feeling that the time of John's coming in is 'framed' by the time of Mary's sitting behind the desk. Thus, the definition of the progressive form given here - T-ASS INCL T-DS, where T-DS in this case is identical to the entire T-SIT - naturally accounts for the 'frame analysis' of this form proposed by Jespersen (1931) and many others.

Let us turn now to the English perfect, where tense and aspect freely combine to form a perfectly elegant compositional system. We have:

(24) The English perfect

	TENSE	ASPECT
Murgatroyd had left the aquarium.	PAST	PERFECT
Murgatroyd has left the aquarium.	PRESENT	PERFECT
Murgatroyd will have left the aquarium.	FUTURE	PERFECT

In the example chosen here, the lexical <Murgatroyd leave the aquarium> content specifies two states - a source state, where he is in the aquarium, and a target state, where he is no longer in the aquarium. The PERFECT indicates that the time for which an assertion is made falls into the posttime of the source state (T-ASS AFTER T-DS), hence, it falls into the target state. T-ASS itself precedes the time of utterance (pluperfect), includes it (present perfect), or follows it (future perfect).

If the lexical content would only specify one state, as in <Murgatroyd be in the aquarium>, then the present perfect *Murgatroyd has been in the aquarium* would express that right now, Murgatroyd is in the posttime of being in the aquarium (for some unspecified time, because nothing is said about the duration of T-SIT).

There are also lexical contents which do not have a proper posttime; when they apply at some time, they apply at any time thereafter. Hence, it does not make sense to confine an assertion to a time span T-ASS which is AFTER *T*-SIT. This is the case for what we have called 0-state contents. Therefore, sen-

tences such as (3b) and (4b) from section 1., repeated here, are odd:

(3b) *Newton has been the son of a widow.
(4b) *Murgatroyd has been dead.

What is possible, though, is to say (4c):

(4c) Murgatroyd has been dead for seven days.

The reason is simply that the addition of the adverbial changes the lexical content to <Murgatroyd be dead for seven days>, and a situation described by this content has a reasonable posttime - it is the time which starts seven days after death, whereas <Murgatroyd be dead> doesn't: once dead, forever dead - unless you believe in resurrection. Then, (4b) should be possible again, and it is.

The simple past, by contrast, only says that T-ASS falls into T-SIT[6] and precedes TU. Therefore, the parallel sentences (3a) and (4a) are perfect:

(3a) Newton was the son of a widow.
(4a) Murgatroyd was dead.

Note that this does not mean that the situation itself precedes the moment of speech; the speaker simply confines the ASSERTION to some time span before TU.

Thus, the analysis of the English perfect suggested above naturally explains one of the two puzzles from section 1. It also accounts for the other problem, the incompatibility of the present perfect with past tense adverbials. But to show this would require some additional pragmatic considerations which we will not follow up here (see Klein 1992).

Under the analysis suggested here, the perfect form has a constant meaning: it assigns the posttime to the distinguished state, and T-ASS is then projected into this posttime. The consequences, however, are quite different, depending on the particular lexical content which is used to describe the situation. In the case of 0-state contents, there is no real posttime, in the sense that the state in question would no longer obtain. In the case of 2-state contents, the posttime is the target state (and the time after the target state), and in the case of 1-state contents, it is simply the time after this single state. Nothing is said about the 'distance' between the situation as such and the time for which *the* assertion is made. It is only said that the former precedes the latter. Nor is anything said about HOW OFTEN the situation obtained. The standard assumption is perhaps 'once', but this is an inference which depends on contextual knowledge; the perfect form as such says nothing about this. Assumptions about the frequency of the situation and the distance from T-ASS give rise to various 'contextual

---

[6] Or vice versa, since in the copula PERFECTIVE and IMPERFECTIVE are normally discriminated, it can have both readings.

usages' of the perfect, which are described as 'perfect of recent past', 'experiental perfect', and others (see, for example, Matthews 1987). These assumptions vary with the particular context; thus, these usages are what one might call 'meanings in context', which result from an interaction between the linguistic meaning proper - T-ASS AFTER T-DS - and various contextual factors.

5. Conclusion

The research literature on tense and aspect in general, and on the concrete form which these categories take in English in particular, is vast, and any new analysis is an audacious enterprise. I think the present proposal is not at variance with most of what is said in the course of this research. It merely reconstructs in simple and precise terms what is couched there in intuitively appealing but not very clear descriptive phrases such as 'current relevance', 'viewed as a whole', 'with reference to the inner constituency', 'as bounded', and many others, including the undefined 'reference point', as used by Paul or Reichenbach. In doing so, it only operates with notions which are needed independently: time spans, temporal relations between them, the notion of assertion, and the distinction between situations and lexical content of the words and sentences which serve to describe these situations.[7]

References

Binnick, R.J. (1991): *Time and the Verb.* - Oxford: Blackwell.
Fenn, P. (1987): *A Semantic and Pragmatic Examination of the English Perfect.* - Tübingen: Narr.
International Encyclopedia of Linguistics (1992). - Oxford: Oxford University Press.
Jespersen, O. (1931): *A Modern English Grammar on Historical Principles.* - Copenhagen: Munksgaard.
Klein, W. (1992): "The present perfect puzzle". - In: *Language* 68, 525-552.
-    (1994): *Time in Language.* - London: Routledge.
McCoard, R.W. (1978): *The English Perfect: Tense Choice and Pragmatic Inferences.* ~ Amsterdam: North Holland.
Matthews, P. (1987): "Present Perfect Tenses: Towards an Integrated Functional Account". - In: A. Schopf (ed.): *Studies in Tensing in English.* Vol. 1. - Tübingen: Niemeyer, 111-176.
Paul, H. (^{2}1886): *Principien der Sprachgeschichte.* - Jena: Niemeyer,
Quirk, R., et al. (1972): *A Grammar of Contemporary English.* - London: Longman.
Reichenbach, H. (1947): *Elements of Symbolic Logic.* - Berkeley: University of Berkeley Press.