

Temporal perspectives

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Abstract

The aim of this paper is to show that a model of temporal interpretation has to consider, besides the temporal values of tenses and the actional properties of verb phrases, also the particular point of view presupposed in the description of a given event by means of a tensed sentence. To this end, the concept of *temporal perspective point* is introduced within the framework of a two-dimensional analysis of the eight Italian indicative tenses. In the resulting model with each tense is associated an abstract schema representing both its temporal properties and the perspective point it presupposes. The concept of perspective point (PP) appears to be particularly useful in the representation of the distinction between *Passato Semplice* [Simple Past] and *Imperfetto* [Imperfect], a distinction that cannot be reduced to the temporal properties of these tenses. What I maintain is that *Passato Semplice* and *Imperfetto* can be distinguished on the basis of the particular temporal perspective they introduce. Thus, *Passato Semplice* is characterized as a tense presupposing an external perspective point whereas *Imperfetto*, at least in its progressive interpretation, presupposes a description of the event as seen, so to speak, from within. This determines a representation of the progressive that differs from the theory introduced by F. Vlach and more recently refined by T. Parsons. However, a brief comparison shows that the two representations are complementary rather than contradictory.¹

I.

In the interpretation of a sentence *s* the tense of its verb phrase gives us obvious information concerning *when* the described event happens in time.² This kind of information depends on the temporal values of tenses and, together with that determined by the temporal adverbials which may

¹ The first part of this paper is a revised version of a research I presented in two seminars at the Department of Philosophy of the University of Milan and at the Institut für Maschinelle Sprachverarbeitung Computerlinguistik of the University of Stuttgart. I am grateful to the participants, and particularly to Andrea Bonomi, Paolo Casalegno, Hans Kamp and Christian Rohrer for their comments and suggestions.

² Here the term *event* is understood in a neutral sense as simply equivalent to *something that happens in time*.

occur in the sentence, allows us to locate the event in time: whether it is past, future or contemporary relative to a temporal point (the moment in which the sentence is uttered) contextually determined as relevant.

Another kind of information we have to consider in the temporal interpretation of *s* is that determined by *what* kind of action its verb phrase refers to: whether it refers to a durationless action or to one extending in time, whether it is the kind of action that presupposes the achievement of a goal or not; and so on. All these items of information are encoded in the system of actional classes [Aktionsarten] presupposed by a natural language.³

What I argue in this paper is that in temporal interpretation we need a third kind of information: the information about the (temporal) perspective point (PP) from which the described event is seen. In other words, we need to know not only *when* the event happens in time and *what* kind of event it is, but also *how* it is described in the sentence.

When we report an event by asserting a sentence *s*, the tense we choose informs (in an obvious way) the listener about the event's temporal location. Thus, by using a present tense we can normally communicate that the event is still going on at the moment we are speaking or that it is going to happen in a moment. However, our choice can convey additional information about the point of view we are assuming in describing the event. For example, by choosing a present tense we generally want to suggest that we are describing it as seen, so to speak, from within.

This property explains why we can use the present tense also to report an event whose temporal location is past relative to the moment in which the report is made. In this case, we can use the present to obtain particular stylistical effects. To see how this happens consider the following sentences:

- (1) a. Il primo settembre 1939 l'esercito tedesco passa il confine polacco.
[On September the first 1939 the German army crosses the Polish frontier]
b. Il primo settembre 1939 l'esercito tedesco passò il confine polacco.
[On September the first 1939 the German army crossed the Polish frontier]⁴

From a purely temporal point of view, the two sentences appear completely indistinguishable: both describe the same event, whose location is past relative to the moment in which they are uttered. Nevertheless there is at least one obvious stylistic difference between them. In (1a), the use of

³ In the literature on Tense and Aspect (especially in English) this kind of information is accounted for under the category of *aspectual values* of verb phrases, where the term *Aspect* refers to the problem of distinguishing between concepts such as *event*, *state*, *process*, *accomplishment*, *achievement*, etc. To refer to this kind of problem I will use the term *Azione* and reserve *Aspetto* for the analysis of the distinction, typical in languages such as Italian and French, between *perfettivo* and *imperfettivo*. The *Azione/Aspetto* distinction in Italian is clearly stated in [Bertinetto 1986a].

⁴ I consider only examples in Italian; the English translations I give for them are simply literal translations.

the present tense strongly suggests that the event is described, so to speak, as seen from within (i.e. by assuming a temporal point of view located inside the event's duration). (1b), whose tense is simple past, has no such connotation; in this case the event seems to be described as seen from a distance and, by extension, from outside.

This distinction seems to depend on the fact that, by using simple past, we are simply describing now an event that happened in the past whereas, by using a present tense (the historical present), we are describing it (now) as if we were present when it happened. In the latter case we indicate a relevant *shift in temporal perspective*: the point of view we adopt is no longer coincident with that in which the assertion is made (as in the standard use of the present tense) but it is located inside the past event's duration.

The difference between (1a) and (1b) is quite obvious from a stylistic point of view; however, what is really interesting here is that the perspective shift determined by the use of the present tense affects the possibility of using certain temporal adverbials. Thus, we can combine *ora* with a present tense to follow up (1a) with *ora è evidente che non è più possibile evitare la guerra* [now it is evident that it is no longer possible to avoid war]. On the other hand, if we combine *ora* with a simple past, as in *ora fu evidente che non era più possibile evitare la guerra*, we obtain an unacceptable sentence; if we put it after (1b) we will affect the acceptability of the whole text.

This observation suggests that the idea of *perspective point* (PP) should not be simply limited to stylistical considerations but has a wider importance within a model of temporal interpretation (as we will see below, we can use this very idea in making the distinction between the Italian *Passato Semplice* and *Imperfetto*).

In order to see the significance of the concept of PP for temporal interpretation we will start by considering a model in which only the temporal values of tenses are considered. By analyzing the difficulties such a model encounters, it will become clear that a general model of temporal interpretation should account not only for the temporal values of tenses but also for the perspective point they presuppose.

2.

To represent the temporal values of the eight indicative tenses of Italian we refer to Reichenbach's standard analysis of tense. This means that we need three parameters to locate in time the event described by a given sentence: speech time (S), event time (E) and reference time (R). Reichenbach's model of temporal interpretation is characterized by the introduction of the parameter R; the location of an event is thus determined by a pair of relationships: that between E and R and that between R and S. In this sense Reichenbach's model determines a *two-dimensional* analysis of tense.

The need for such an analysis seems to arise from the consideration of sentences like

- (2) a. Alle due Giovanni aveva (già) telefonato a Lisa.
 [At two o'clock Giovanni had (already) phoned Lisa]
 b. Alle due Giovanni (*già) telefonò a Lisa.
 [At two o'clock Giovanni (already) phoned to Lisa]

The sentences in (2) both describe an event that happened in the past relative to the moment in which they are uttered (S). However, unlike in (2b), in (2a) the event is presented as preceding not only S but also another point explicitly determined by the occurrence of the temporal adverbial *alle due*. This difference explains why the introduction of *già* in (2a) still results in a grammatical sentence while it is unacceptable in (2b). In view of this, the correct analysis of (2a) requires that E precedes a point that, in turn, precedes S. On the other hand, if we want to apply a two-dimensional analysis also to (2b), the reference point must be identified with E which, in turn, precedes S. The intuitive interpretation of (2a) is, therefore, that at two o'clock John had *already* phoned Lisa while (2b) states that John phoned to Lisa *exactly* at two o'clock.

If we take X, Y and X-Y to indicate that X and Y coincide and that X precedes Y, a two-dimensional analysis of the temporal properties of the Italian indicative tenses could be represented as in (3):

- (3) Presente (Pre): E,R,S
 [Present]
 Passato Semplice (Ps): E,R-S
 [Simple Past]
 Futuro Semplice (Fs): S-E,R
 [Simple Futur]
 Passato Prossimo (Pps): E-R,S
 [Present Perfect]
 Trapassato Prossimo (Tps): E-R-S
 [Past Perfect]
 Futuro Anteriore (Fan): S-E-R
 [Future Perfect]

As it stands, table (3) is incomplete since it lacks *Imperfetto* (Imp) and *Trapassato Remoto* (Tpr). This is due to the fact that, from a purely temporal point of view, they seem to be indistinguishable from Ps and Tps (respectively). Like Ps, Imp is used to describe an event temporally located in the past of S while Tpr, like Tps, can be used to describe an event whose temporal location precedes a reference point that, in turn, precedes S. However, this does not mean that the pairs Imp/Ps and Tps/Tpr are completely indistinguishable, but simply that this distinction is not temporal in nature.

Before we go on to explain what these distinctions amount to, there

is one point that deserves more attention. As argued, for example, in [Bertinetto 1986a,b], there is a serious problem in the interpretation of the role that Reichenbach's reference point may play; it seems that many different functions are condensed in R. According to Reichenbach's standard analysis, each tense requires a reference point; however, with some of them R is completely indistinguishable from E (Pre, Ps, Fs) or from S (Pre, Pps). Thus it seems that in these cases R can play no effective role in temporal interpretation. Reichenbach stressed that, when a temporal adverbial occurs in a sentence, its interpretation must be referred to R. However, as example (2b) shows, when the tense is Ps the adverbial does not determine a reference point (relative to which E could be located in time) but directly refers to the temporal location of the event (the same is true with Fs). From this point of view, in the case of simple tenses the function of R cannot be reduced to that exemplified by (2a).⁵

Now consider what happens with the following sentence, whose tense is Pps:

- (4) Giovanni ha telefonato alle due di ieri.
 [Giovanni has phoned at two o'clock yesterday]

Pps is associated with the schema E-R,S and, according to what we said above, *alle due* must be referred to R. But this contradicts the most intuitive interpretation of (4), according to which *alle due* refers directly to E.

Example (4) shows that, if we interpret R in purely temporal terms, we must associate with Pps the same schema E,R-S for Ps, concluding that Ps and Pps have the same temporal properties. This conclusion is not so implausible as it might seem at first sight, for it is a well known fact that in spoken Italian the distinction between Ps and Pps tends not to be made. This conclusion seems to be confirmed also by the fact that (4) could be interpreted as equivalent to *Giovanni telefonò alle due di ieri* [*Giovanni phoned yesterday at two o'clock*]. Nevertheless, there is an important distinction between Ps and Pps, one exemplified in the sentences below:

- (5) a. Giovanni ha telefonato da dieci minuti.
 [Giovanni has phoned since ten minutes]
 b. *Giovanni telefonò da dieci minuti.
 [Giovanni phoned since ten minutes]

The compatibility of Pps with adverbials of the form *da X tempo* shows that, unlike Ps, Pps can be interpreted in the aspectual sense of *completezza* [completeness]. In this sense, the precedence of E relative to R could be seen as typical of this aspectual class.⁶ From this point of view, the

⁵ [Bertinetto 1986a] introduces the term *localizzatore temporale* (L.T) to refer to the function of R exemplified by (2b).

⁶ This is confirmed by the fact that this property characterizes all the tenses that can be interpreted in the sense of *aspetto compiuto*, that is Pps, Tps and Fan. The aspectual classification

occurrence of R has an aspectual function since it could be used to define, within *aspetto perfetto* [perfect], the subclass of *aspetto compiuto* [completed].

Following [Bertinetto 1986a, b], the two-dimensional analysis of tenses given in (3) can be restated as in (6), where R must be intended in the aspectual sense of (2a) whereas the function of R exemplified by (2b) is attributed to LT:

- (6) Pre: S, E(LT)
 Ps: E(LT)-S
 Fs: S-E(LT)
 Pps: E(LT)-R, S
 Tps: E(LT)-R-S
 Fan: S-E(LT)-R⁷

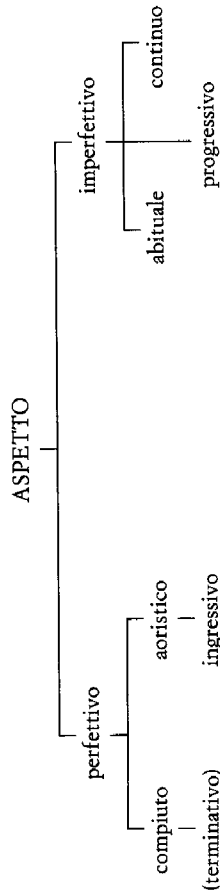
3.

This modification of Reichenbach's standard analysis does not solve the problem we started from, that is making the distinction between Ps and Imp and between Tps and Tpr. Here we first address the latter briefly and then the former, which seems to require much more attention.

Everyday Italian tends to restrict the occurrence of Tpr simply to some temporal subordinated clauses whereas its use in independent clauses results in an unacceptable sentence. Apart from this observation, what distinguishes Tpr from Tps seems to be the temporal relation between E and R; compare, for example, the following sentences:

- (7) a. *Quando Lisa si svegliò Giovanni fu ormai/già uscito.
 [When Lisa woke up Giovanni had already gone out]
 b. Quando Lisa si svegliò Giovanni era ormai/già uscito.
 [When Lisa woke up Giovanni had already gone out]⁸

of Italian tenses I refer to in this paper is that of [Bertinetto 1986a]. This classification could be represented as in the following diagram:



⁷ Note that with Fan the conclusion of the event can be inferred only from the presence of a reference point that temporally follows E.

⁸ (7a) and (7b) give the same English translation since in English there is no distinction like that holding between Tps and Tpr in Italian.

As shown by examples (7a, b), Tps, unlike Tpr, is characterized by being compatible with temporal expressions referring to a distance between E and R. From this point of view, we could represent the temporal value of Tpr by a schema like Tps (E(LT)-R-S), with the additional requirement that E and R are contiguous.⁹

Turning now to the pair Ps/Imp, consider the following sentences:

- (8) a. Ieri Giovanni lesse un libro (*e non lo ha ancora finito).
 [Yesterday Giovanni read a book (*and he has not finished it yet)]
 b. Ieri Giovanni leggeva un libro (e non lo ha ancora finito).
 [Yesterday Giovanni was reading a book (and he has not finished it yet)]
 c. Quando Lisa arrivò a casa Giovanni lesse il giornale.
 [When Lisa arrived home, Giovanni read the newspaper]
 d. Quando Lisa arrivò a casa Giovanni leggeva il giornale.
 [When Lisa arrived home, Giovanni was reading the newspaper]
 e. Giovanni lesse il giornale mentre (invece) Lisa preparò la cena.
 [Giovanni read the newspaper while Lisa cooked dinner]
 f. Giovanni lesse il giornale mentre (?) invece) Lisa preparava la cena.
 [Giovanni read the newspaper while Lisa was cooking dinner]
 g. ? I terroristi telefonarono alla polizia proprio mentre la bomba scoppiò.
 [The terrorists phoned the police just as the bomb exploded]
 h. I terroristi telefonarono alla polizia proprio mentre la bomba scoppiava.
 [The terrorists phoned to police just as the bomb was exploding]

These pairs of sentences point out some of the most remarkable differences between Ps and Imp.¹⁰ In (8a), the use of Ps is not compatible with the possibility that the described event is still going on at S. On the other hand, the temporal indefiniteness of Imp is compatible with such a possibility in (8b). This happens because, unlike *Giovanni lesse un libro*, the simple sentence *Giovanni leggeva un libro* does not give us any information about whether Giovanni finished his book or not.

For sentence (8c) just one interpretation is possible: Giovanni started reading the newspaper immediately after Lisa had arrived home. This interpretation rests on the use of Ps in the main clause since the use of Imp in (8d) determines a completely different interpretation. What (8d) says is that the event described by the main clause was going on at the moment in which Lisa arrived home; in this case nothing can be said about the continuation of that event after the moment focalized by the when-clause. From this we can conclude that, unlike Ps, with Imp it is possible to focalize a moment inside the duration of the event described by the sentence in which it occurs.¹¹

⁹ Bertinetto relates this temporal property to the aspectual value of *terminatività* typical of this tense. See [Bertinetto 1986a], section 8.3.

¹⁰ Note, however, that here we are considering just the progressive reading of Imp whereas this tense is compatible with all the three aspectual interpretations (*progressivo, abituale, continuo*) represented in the diagram of footnote 6.

¹¹ The idea of *focalization point* as one of the main characteristics of the progressive reading

The examples (8e,f) show that the use of Ps in a while-clause tends to force an adversative interpretation on the conjunction whereas Imp determines an interpretative according to which the events described by the two clauses overlap in time. This difference can be best appreciated if we strengthen the adversative interpretation by inserting *invece*.

The verb of the while-clauses in (8g,h) is *scoppiare*, that is a non-durative verb. The acceptability of the occurrence of this verb in a while-clause seems to depend on its tense. Thus the use of Ps in (8g) results in a problematic sentence whereas the use of Imp tends to force on the non durative *scoppiare* an interpretation in the sense of temporal extension.¹²

From the informal analysis of examples (8a-h) the following elements can be inferred regarding the distinction Ps/Imp:

- (i) Unlike Ps, Imp is indeterminate about the conclusion of the described event.
- (ii) Unlike Ps, Imp admits the possibility of focalizing a point inside the duration of the described event.
- (iii) Unlike Ps, Imp seems to determine an interpretation in the sense of temporal extension also for verb phrases referring to action usually conceptualized as non-extensive.¹³

My claim is that facts (i)-(iii) can be explained in terms of the different location of the perspective point presupposed by the two tenses. In particular, I argue that the use of Ps presupposes a description of the reported event as seen from outside, while by using Imp a description of it as seen, so to speak, from within is suggested. This intuitive observation can be made more precise by considering a test based on the adverbial *ora*.

Ora is usually treated as a deictic adverbial directly referring to the speech point. Contrary to this old view, I hold that *ora* has to be interpreted as

of Imp is due to P. M. Bertinetto (see [Bertinetto 1986a]). Bertinetto intuitively characterizes the concept of focalization point in terms of the idea of *point from which the event is seen*; he also claims that this point must be distinguished from the reference point. The location of the focalization point may be determined by the occurrence of temporal adverbials, such as *alle due di ieri*, as well as by subordinated clauses, as in example (8d) above.

¹² (8g) cannot be rejected as simply ungrammatical because the situation isn't completely clear with other perfective tenses. Consider, for example, the following sentence:

- (i) Giovanni è entrato in banca proprio mentre è scoppiata la bomba.
[Giovanni went into the bank just as the bomb exploded]

In this case the use of Pps seems to give an acceptable sentence whose intuitive interpretation is that Giovanni entered into the bank *exactly* at the moment in which the bomb exploded. However, it seems to me that in this case it is much more appropriate to substitute *mentre* with *quando*, as in (ii).

- (ii) Giovanni è entrato nella banca proprio quando è scoppiata la bomba.
[Giovanni went into the bank just when the bomb exploded]

¹³ Kamp and Rohrer [1989] suggest similar observations about the distinction between the French *Imparfait* and *Passé Simple*. However, they suggest another distinction depending on the different textual function of Ps and Imp. In rather crude terms, this distinction amounts to the observation that Ps can be used to drive the narrative action forward while Imp can't be used to this end.

an adverbial referring to the perspective point.¹⁴ The inadequacy of the quite simplistic thesis that refers *ora* to S is clearly shown by sentences like (9a,b):

- (9) a. Ora anche Giovanni dormiva (stava dormendo) profondamente.
[Now Giovanni too was sleeping soundly]
- b. Ora Giovanni aveva visto ciò che aveva terrorizzato Lisa.
[Now Giovanni had seen what had terrified Lisa]

In both cases *ora* can not be referred to S. In (9a) it refers to a moment inside E, a moment at which the described event is still going on.¹⁵ On the other hand, in (9b) *ora* refers to the reference point presupposed by the particular tense used. This is confirmed by the following simple text in which (9b) is embedded:

- (9) c. All'alba quella strana musica cessò. Ora Giovanni aveva visto ciò che aveva terrorizzato Lisa.
[At dawn that strange music stopped. Now Giovanni had seen what had terrified Lisa.]

The reference point necessary for the interpretation of the tense of the second sentence in (9c) is determined by the occurrence of the adverbial *all'alba* in the first sentence. However, *ora* seems to refer exactly to the same moment *all'alba* refers to; thus we can conclude that *ora* refers to R. Note that, in this case, the conclusion of E is strictly contiguous with the point focalized by *ora*, as shown by the sentences below:

- (9) d. Ora Giovanni aveva appena visto ciò che aveva terrorizzato Lisa.
[Now Giovanni had just seen what had terrified Lisa]
- e. *Ora Giovanni aveva visto da pochi minuti ciò che aveva terrorizzato Lisa.
[Now Giovanni had seen since few minutes what had terrified Lisa]

Sentences (9a,b) seem to point to two different conditions for the use of *ora*: (i) PP lies inside the event duration and (ii) PP coincides with R. From this point of view, we can conclude that those tenses which, when combined with *ora*, determine an interpretation in the sense of (9a) presuppose that PP is inside E. On the other hand, those tenses that determine an interpretation in the sense of (9b) presuppose that PP coincides with R.

Now consider the following sentences:

- (9) f. Ora anche Giovanni dorme (sta dormendo) profondamente.
[Now Giovanni too is sleeping soundly]

¹⁴ The relation between adverbials like *ora* and the idea of perspective point is pointed out in greater detail in [Kamp & Rohrer 1989] with respect to the French *maintenant*. For the idea of perspective point see also [Rohrer 1986]. The model of temporal interpretation described in this paper owes a great deal to both [Rohrer 1986] and [Kamp & Rohrer 1989].

¹⁵ More specifically, in the progressive reading of Imp exemplified in (9a) the perspective point identified by *ora* coincides with the focalization point presupposed in this particular aspectual interpretation of the tense. Incidentally, note that the very idea of perspective point could be seen as an extension of Bertinetto's idea of focalization point to other tenses besides *Imperfetto*.

- g. Ora Giovanni ha visto ciò che aveva terrorizzato Lisa.¹⁶
 [Now Giovanni has seen what had terrified Lisa]
- h. Ora Giovanni avrà visto ciò che aveva terrorizzato Lisa.¹⁷
 [Now Giovanni will have seen what had terrified Lisa]
- i. *Ora Giovanni dormì profondamente.
 [Now Giovanni slept soundly]
- l. ? Ora Giovanni dormirà profondamente.
 [Now Giovanni will sleep soundly]

Since (9f) obtains an interpretation analogous to that determined by (9a), I conclude that Pre, like Imp, presupposes that PP is inside E. On the other hand, from (9g,h) I conclude that Pps and Fan, like Tps, presuppose that PP coincides with R. (9i) shows that Ps is incompatible with *ora*; from our point of view, this means that with this tense PP can be neither inside E nor contiguous to it. This leaves us just one possibility for the location of PP: the perspective point coincides with S which, in accordance with the general temporal properties of this tense, is not contiguous with E. At first sight, sentence (9l) might seem problematic, since there is a sense in which, unlike Ps, Fs can be used with *ora*. However, (9l) is acceptable only if we interpret its tense in the sense of imminent future, and this interpretation presupposes such a strict temporal contiguity between S and E that we could represent S (= PP) as indistinguishable from the very beginning of the event duration.¹⁸

On the basis of the above observations, I characterize the distinction Ps/Imp in terms of that between internal and external perspective. This assumption allows us to account in a quite simple way for facts (i)-(iii) above concerning the distinction Ps/Imp. By identifying PP with the focalization point presupposed by its progressive reading, we can account for the possible indeterminacy of Imp with respect to the conclusion of the described event. Because the perspective point is included in E, from the point of view of PP we cannot say anything about the duration of the event after it. Similarly, we can account for the interpretation in the sense of temporal extension Imp seems to force also on non-durative verb phrases. By locating PP inside E, we implicate that the event duration can be divided into a beginning, a middle and an end part; this possibility in turn seems to presuppose that E is not simply non-extensive but must be represented as an interval.¹⁹

¹⁶ In this case *ora* refers to S; however this does not contradict my generalization since with Pps R coincides with S.

¹⁷ Also in this case *ora* seems to refer to S. However, in this example Fan obtains an epistemic interpretation, that is an interpretation according to which E precedes S and R coincides with S. See [Bertinetto 1986a], section 9.3.

¹⁸ This is confirmed by the fact that the occurrence of an adverbial referring to a distance between S and E determines an unacceptable sentence.

(i) *Ora Giovanni dormirà profondamente tra un attimo.
 [Now Giovanni will sleep soundly in a moment]

¹⁹ This is true for the progressive interpretation of Imp, the only one considered in this paper.

The problem we must deal with now is the implementation of the preceding observations in a model of temporal interpretation. Such a model has to account not only for the temporal location of the described event relative to S and (possibly) R, as Reichenbach's model does, but also for the temporal perspective point from which the event is seen. To this end, I will associate with the indicative tenses of Italian the following abstract schemas in which the information concerning PP is also encoded.²⁰

- (10) Pre: < PP # E, R-, PP = S >
 Imp: < PP # E, R-, PP < S >
 Ps: < E < PP, R-, PP = S >
 Fs: < PP < E, R-, PP = S >
 Pps: < E < PP, R^{pre}, PP = R >
 Tps: < E < PP, R^{past}, PP = R >
 Fan: < E < PP, R^{fut}, PP = R >

The problem we started from was the representation of the distinction between *Passato Semplice* and *Imperfetto*. In order to state this distinction precisely, the idea of perspective point was introduced to account for the point of view from which a given event is described.²¹ This allows us to systematically distinguish tenses whose use presupposes a description of the event as still going on (at the relevant perspective point) from those presupposing the conclusion of the event duration before PP. The aspectual distinction between Ps and Imp (in its progressive reading) is thus represented in terms of the location of PP: PP = S (and E < PP) for Ps and PP # E (and PP < S) in the case of Imp.²²

The relevance of the idea of perspective point for the progressive interpretation of Imp (as well as of Pre) is confirmed by the fact that this reading is possible only when a precise perspective point, relative to which the event is presented as going on, is (explicitly or implicitly) given. Consider for example the following sentences:

- (11) a. Giovanni leggeva il giornale.
 [Giovanni read (Imp) the newspaper]
 b. Alle cinque Giovanni leggeva il giornale.
 [At five o'clock Giovanni read (Imp) the newspaper]

²⁰ With X < Y and X # Y we indicate that X precedes Y and that X is temporally included in Y. R- means that the tense does not presuppose a reference point. R^{pre} indicates the occurrence of a reference point whose location relative to S is determined by the values pre (R = S), past (R < S) and fut (S < R).

²¹ In this sense, in the above schemas both temporal and aspectual properties of tenses are represented. Note, however, that I am limiting my analysis to the more typical aspectual interpretation of each tense. Thus, for example, Pre and Imp are considered only in their progressive reading while the compound tenses are represented only in their reading in the sense of *aspetto compiuto*.

²² From this information about Imp we cannot infer that E is concluded before S or that E is not concluded before S. This accounts in precise terms for the possible indeterminacy of the event duration typical of the progressive reading of Imp.

- c. Ieri alle cinque Giovanni leggeva il giornale.
[Yesterday at five o'clock Giovanni was reading the newspaper]
- d. Quando Lisa lo vide per l'ultima volta, Giovanni leggeva il giornale.
[When Lisa saw him for the last time, Giovanni was reading the newspaper]
- e. Tutti i giorni alle cinque Giovanni leggeva il giornale.
[Every day at five o'clock Giovanni used to read the newspaper]
- f. Quando era in vacanza Giovanni leggeva il giornale alle cinque.
[When he was on holiday Giovanni used to read the newspaper at five o'clock]

As they stand, (11a,b) are indeterminate between a progressive interpretation and an habitual one. However, this indeterminacy does not arise with (11c-f), since (11c,d) can be interpreted only in a progressive sense while (11e,f) admit only an habitual interpretation. What distinguishes the two pairs of examples is the fact that, unlike (11e,f), in (11c,d) there is the occurrence of an adverbial (*ieri alle cinque*) or a subordinate clause (*quando Lisa lo vide per l'ultima volta*) referring to a moment in time relative to which the event reported with the clause whose tense is Imp is presented as taking place. According to the terminology used here, this moment represents the perspective point necessary for the interpretation of Imp.

This last observation gives rise to a problem: from what has been said, it might seem that with Imp PP plays the same role as R with compound tenses; consequently, why introduce a new concept in our model of temporal interpretation? Although in the case of compound tenses the perspective point is actually given by the reference point, the two ideas should not be confused. In fact, in the case of compound tenses the occurrence of a reference point is strictly related to their aspectual interpretation in the sense of *aspetto compiuto*. However, such aspectual interpretation is in no way allowable for Imp and, for this reason, we cannot associate the condition R # E with Imp. The same is true for Pre: like Imp, it can be interpreted in a progressive sense. The information we obtain from the progressive interpretation of a sentence whose tense is Pre is that the described event is taking place at S. Thus S represents the relevant perspective point and this gives sense to the condition PP # E associated with Pre. Again, if we substitute PP with R, we would force on this tense an unacceptable aspectual interpretation in the sense of *aspetto compiuto*.

My claim about the progressive interpretation of Pre and Imp is that it can be accounted for in terms of an internal perspective point. However, there is a different way of conceiving the distinction between *aspetto progressivo* and *aspetto perfettivo* that is quite common in recent work about tense and aspect.²³ This view amounts to the idea that the progressive form determines a category shift with respect to the actional properties of the VP occurring in the corresponding non-progressive sentence. Thus, for example,

²³ As an example, one more recent application of this view is that presented in [Parsons 1989]. See also [Vlach 1981a] for an early defense of this theory.

the progressive transforms a non stative VP into a stative one or, similarly, an accomplishment VP into one referring to a process. The distinction between the properties of these actional classes is then accounted for in terms of events that culminate in time and events that simply hold in time.²⁴

In my abstract model of temporal interpretation I do not consider the relation between aspectual values of tenses (including the progressive) and actional properties of verb phrases. This is due to the fact that the main problem I have tried to account for in this paper is the distinction between Ps and Imp and, as everything said so far should have shown, this distinction can be represented simply in terms of an internal/external perspective point. However, as the theory we are considering correctly points out, category shifts of the above mentioned kind could play a relevant role in temporal interpretation. Thus, a more refined version of the model will have to implement also an actional classification of verb phrases as well as of mechanisms which, like the progressive, determine relevant category shifts. From this point of view, the model is compatible with the above-mentioned theory since there seems to be nothing preventing us from incorporating the analysis of the progressive outlined above at a different level of the model.

This informal conclusion is confirmed if we compare the kind of representation Parsons gives for the progressive and the one resulting from the informations encoded in the schema we associated with the progressive reading of Imp. Consider, as an example, the sentence below:

(12) Ieri alle cinque Giovanni correva (stava correndo) nel parco.

[Yesterday at five o'clock Giovanni was running in the park]

In the theory of [Parsons 1989], this sentence obtains a representation (more or less) like the following:

(13) (Et) [t = le cinque di ieri & (Ee) [correre nel parco(e) & Subject(e, Giovanni) & Hold(e, t)]]

On the other hand, from our informal analysis of Imp, we obtain the following informations:²⁵

(14) there is a point in time t (= PP), referred to by *alle cinque di ieri*, and an event E (of the kind *Giovanni runs in the park*) such that (i) $t < S$; (ii) $t \neq E$.

Intuitively speaking, the only difference between (13) and (14) lies in Parsons's assumption of the actional distinction between events that culminate and events simply holding in time. However, as I have claimed above, such an assumption is compatible with the model I have described; from this point of view, my analysis of the progressive and that of Parsons appear to be complementary rather than contradictory.

²⁴ Here our neutral use of the term *event* could be misleading. To avoid this difficulty remember that non-culminating events are typically *states* and *processes*.

²⁵ However, the real problem for us (as well as for Parsons) is to implement this quasi-formal analysis in a model in which the right truth conditions can be systematically associated with (12).

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