

Imperfectives and Plurality
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Imperfectivity, understood as a semantic notion, expresses the idea that an event or habit is ongoing. A sentence like (1) exemplifies the so-called continuous reading. It says that at the time of utterance there is an ongoing event of Mary dying her hair. A sentence like (2) exemplifies the so-called habitual reading. It says that at the time of utterance, Mary is in the habit of dying her hair.

- (1) Mary is dying her hair.
 (2) Mary dyes her hair.

In this talk, I argue that continuous and habitual readings of imperfective sentences share the same temporal and the same modal ingredients. I propose that the source of imperfectivity is a temporal determiner, which introduces existential quantification over time intervals and universal quantification over possible worlds, and suggest that the only difference between the logical forms of these sentences concerns the number (singular/plural) of the time intervals that are quantified over. Continuous readings involve quantification over singular intervals, whereas habitual ones involve quantification over plural intervals. I investigate several constructions in English and Romance, and show that the sensitivity to number that I propose for the temporal determiners is similar to what happens in the nominal domain, where we find determiners like *every*, which only combine with singular noun phrases, *some*, which combine with both singular and plural noun phrases, and *many*, which only combine with plural noun phrases.

Temporal ingredients: My proposal is couched within an interval-based semantics. The core assumptions are the following:

- The domain of time intervals contains both singular and plural intervals;
- A plural interval is a mereological sum of intervals, whose minimal parts are singular intervals;
- Verbs have a temporal argument, and VPs denote sets of time intervals.
- VPs, like NPs, can be singular or plural. So, if Mary dyed her hair three times, $[_{VP} \text{ Mary dye her hair}]$ denotes the set $\{t_1, t_2, t_3\}$ if it is singular, and $\{t_1 \oplus t_2, t_1 \oplus t_3, t_2 \oplus t_3, t_1 \oplus t_2 \oplus t_3\}$ if it is plural.

Once we assume the existence of singular and plural intervals, we need to generalize the relations between intervals to both types of interval. Central to my discussion is the inclusion relation, which should be understood as follows: An interval i is i -included (\subseteq_i) in an interval i' iff the left boundary of i' precedes the left boundary of i , and the right boundary of i precedes the right boundary of i' . Notice that the interval ‘March/2003’ is i -included in the plural interval ‘January/2003 \oplus June/2003’.

Imperfectives and plural intervals: the contribution of an Imperfective operator (Imp) to the logical representation of a sentence is the inclusion relation. Thus, a sentence with a logical form as in (3) will have the truth-conditions in (4). The meaning of Imp is in (5):

- (3) $[_{TP} \text{ Pres } [_{AspP} \text{ Imp } [_{VP} \dots \text{ Mary dye- her hair } \dots]]]$
 (4) (3) is true iff there is an interval at which Mary dyes her hair that includes the utterance time.
 (5) $[[\text{Imp}]] = \lambda P_{\langle i, t \rangle}. \lambda t. \exists t': t \subseteq_i t' \ \& \ P(t') = 1$

Now, if VP is singular, then (3) is true iff an event of Mary dying her hair is going on at the utterance time. That gives us a continuous interpretation. If VP is plural, (3) is true iff there is a sequence of (two or more) events of Mary dying her hair going on at the utterance time. In this case Mary does not have to be dying her hair at the utterance time (given our definition of inclusion above). That gives us a habitual interpretation.

As I said above, determiners in the nominal domain are sensitive to number of the predicates they combine with. I claim that the same is true with Imp. We predict the existence of three types of Imp: (i) Imp_{sg}: combines only with singular VPs; (ii) Imp_{pl}: combines only with plural VPs; (iii) Imp_N: combines with both types of VP. I argue that English and Romance provide us with instantiations of all three kinds. Here is a non-exhaustive list: Simple Present sentences in Italian, French, and Spanish give rise to both continuous and habitual readings. I assume they all involve Imp_N. Imp_N is like the determiner *some* in English (some boy/some boys); Simple Present sentences in English and Portuguese only have habitual readings. I assume they involve Imp_{pl}. Imp_{pl} is like the determiner *alcuni* in Italian (Chierchia (1998))(alcuni uomini/*alcuno uomo) or the determiner *many* in English; Progressive sentences in Italian and Spanish only give rise to continuous readings. I assume they involve Imp_{sg}. Imp_{sg} is like the determiner *every* in English (every boy/*every boys). The analysis thus provides a simple and elegant account of crosslinguistic variation within the domain of imperfectivity, reducing the differences to a single parameter related to the ‘number’ requirements of a (existential) determiner.

Modal ingredients: Having shown how we can unify the temporal semantics of continuous and habitual readings of imperfective sentences, I argue that they also involve the same modal semantics. I will focus on two facts that have been discussed in connection with progressive sentences: (i) that a sentence like ‘Mary was crossing the street, when a bus hit her’ can be true, even if Mary never managed to cross the street. (ii) that a sentence like ‘Mary is crossing the Atlantic’ is false, if Mary is a normal human being (Landman (1992)). These facts can be accounted for if one adopts a modal analysis according to which the events in question are asserted to exist only in worlds which share certain circumstances (including Mary’s physical and mental states) with the actual world, but in which all external obstacles are removed. (Dowty (1977); Bonomi (1997); Portner (1998)) (i) is true because in these worlds, no buses, or cars, or anything hits Mary, and she can safely cross the street; (ii) is false because Mary’s physical conditions make it impossible for her to cross an ocean, even if we remove external obstacles (shark attacks, big waves, etc). I show that exactly the same kind of modality can be coupled with what I suggested above for habituals to give us the right meaning of the sentences. Thus, ‘Mary used to dye her hair, when she got hit by a bus and died’ can be true if Mary had already dyed her hair at least once before, despite the fact that she would never do it again after the accident. In this case, what prevented the existence of a sequence of intervals at which Mary dyes her hair that includes the time of her death is an external obstacle that gets removed in the worlds being quantified over. That is why the sentence can be true. Now, consider the sentence ‘Mary (herself) dyes her hair’. It is false if Mary used to dye her hair, but due to a recent accident, she cannot control the movements of her hands anymore. As in the Atlantic case, it is an ‘internal’ limitation that is at stake here, preventing the existence of a sequence of events of Mary dyeing her hair that includes the utterance time. That is why the sentence is judged false. These parallels strengthen the motivation for a unified semantics of continuous and habitual readings. That is exactly what the analysis that I propose here delivers.

References

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