

About Imperfectivity Phenomena.

Though the licensing conditions for each reading - and perhaps also the default values - differ cross-linguistically, it seems always possible for any verb form in any language to alternate between a generic-like reading and an episodic reading. As, for example, in the contrast between *Mary swam (last night)* and *Mary swam whenever she needed to unwind*. Formal semantics has overwhelmingly chosen to see that alternation in the following way:

- verbs denote the single-eventuality value;
- pragmatic and/or (com)textual factors occasion an operation over that value which yields the generic reading.

However in Romance, which is specially permissive in allowing the alternation, the empirical analysis of certain verb forms suggest that the strategy might be not always profitable. The aim of this paper is to submit a hypothesis as to how the alternation between episodic and generic readings should be dealt with. It will focus on 'progressive' *be - ing* periphrases and Imperfective tenses of Romance.

The fact that Romance widely allows the same verb forms to vary between generic-like and single-eventuality interpretations, even in the very same context, keeps standard tense-aspect frameworks from straightforwardly and interestingly applying to the bulk of Romance tense-aspect phenomena. The alternation throws doubt in the cognitive plausibility of frameworks that rely: Aktionsart classes, coercion and the reportive view of verbal representations.

The gist of the hypothesis is that the single-eventuality vs. generic alternation of verbs should be treated with weaker specifications (perhaps underspecification) and modularity. With less specification in verbal representations, the single-eventuality and generic readings arise from their bidirectional interaction with Gricean maxims (which, roughly take the place that belonged to coercion). Such a set up, currently pursued in OT Semantics for other domains (Blutner 2000), can deal with Romance and Germanic temporality casting new light on issues of temporal reference, ontology and relations. The question is how to put it interestingly into the language of the event calculus with logic programming.

For concreteness, I sketch what the treatment would look like for progressives periphrases in Romance and English. The highlight is that the notion of progressive comes out **not** as an semantic operation, but as the by-product of the interaction of the underspecified semantics of the verb with precisely formulated pragmatic principles. Such a change in perspective suggests a limitation in the type of operations that are available to each module and the recasting, via modularity, of existing solutions to the imperfective paradox, which will be addressed. Thus, phenomena are saved, empirical coverage and explanation are extended while the semantics is kept from having to deal with the complications which non-veridical operators such as PROG bring.

For progressives, the single-eventuality vs. generic alternation takes the forms progressive vs. habitual. Depending on the stretch of discourse where the (1) sentences occur they may take either of those values. Notice, that this includes English.

- (1) a. The dog is barking now / too much these days.
b. O cachorro está latindo agora / muito essa semana. (Brazilian Portuguese)
c. El perro está gruñendo ahora / mucho esta noche . (Spanish)
d. Il cane sta abbaiano /molto quest'anno. (Italian)

Analyses stemming from Dowty 1979 claim *be-ing* denotes eventualities in progress and that habituality comes in as (some sort of) coercion or a different operator altogether occasioned by context linguistic or not. Such privileging of the single-eventuality progressive reading seems to be the standard Montagovian strategy. According to Bennet & Partee (1978:

63, 90), the PTQ definition of the English Present Simple captures its ‘reportive’ (single-eventuality reading) meaning. Since the definition of other tenses builds on the definition of Present Simple, the reportive strategy spread throughout the tense system and influenced the shape of the analysis that were to come: habituality had to be accounted for by coercion or separate operators.

But the Romance *be – ing* periphrases are actually much more common as habituales than as strictly progressives and also they alternate between progressive and habitual with virtually no constraints. The development of the ‘reportive view’ since Dowty has offered no principled insight for that most pervasive Romance phenomena. That is, despite the surface similarity of the periphrases in (1), in what concerns Romance the standard accounts give no reason to posit that progressive is coerced into habitual. It might as well be the other way around, since habitual meaning is actually more frequent.

The reportive view also brings problems for *Aktionsart* classes. Romance *be-ing* periphrases occur unrestrictedly with stative verbs. In other words, in those languages *Paul is knowing the answer* reads just like *Paul is running* and is just as acceptable and frequent. This is not merely a descriptive problem. When the view that progressive does not take stative verbs and coercion are taken together, the argument for the existence of stative verbs (and/or for the view that progressive is the semantic value of *be ing*) takes the form of Molière’s *virtu dormitiva* argument. We arrive at the conclusion that there is coercion in *I am liking this play* because *like* is a stative which, as such, cannot be in progress. (But) We arrive at the conclusion *like* is a stative because the *be-ing* is semantically progressive and thus must have undergone coercion.

Thus, the analysis based on the ‘reportive view’ and coercion does not sustain from the data facts that we want to be sustained since, by all else, they seem to be language independent. For example the claim that states do not make progressives by their very nature. The problems seem to be: coercion is not yet structured enough notion to handle the necessary aspectual changes in a principled manner; the frequency of habitual readings throughout Romance suggest that verbal representations might be non-reportive in their nature.

With weaker specification of verb representations and modularity we can circumvent those problems and save solutions to traditional ones in a recast form. Suppose that semantically verbs carry no specification with respect to:

- (i) the eventuality being in progress at utterance time;
- (ii) to its having yielded a result or not (as suggested by the gerund main verb);
- (iii) and to how many times it occurred.

Those lacunae in the representation are filled in their interplay with the maxim of quantity divided into the speaker’s perspective (*say as much as you can*) and the hearer’s perspective (*read in as much as compatible with what you know*) in the form of constraints *BeStrong* and *AvoidAccommodation* (Blutner 2000). Filling the lacunae gives rise to the notions of progress and habit. For brevity, the summary condenses the two perspectives into one and skips the role of *AvoidAccommodation*.

(2) **AvoidAccommodation**: *the more discourse markers accommodated, the more costly the expression.*

BeStrong: *the stronger the output relative to context, the less costly the expression.*

By *BeStrong* and the underspecified verbal representation, if a speaker/hearer has no direct evidence that the eventuality is in progress at utterance time, the preferred interpretation will say that it occurred at some point different than the utterance time of the relevant interval, perhaps more than once. For example, the sentence *the cat is drinking the milk I poured in its bowl* when uttered at a time when one knows there is no cat by the bowl, will be interpreted as pertaining to as many different sequences of milk-drinking as compatible with one’s knowledge of the world.

The progressive reading arises when some sort of ‘direct evidence’ of the eventuality is presumed. That suggests the not-strictly linguistic nature of the notion. Suppose one infers (by urgency in the intonation, by sight etc. ...) the milk-drinking is in progress when the sentence is uttered. Since there is ‘direct’ evidence, progressive reading is preferred: the habitual interpretation would express only what is already presupposed, thus it is not informative and violates *BeStrong*. So, taken together with the underspecified semantic material *BeStrong* restricts the assertion such that it pertains to utterance time and does not extend beyond it.

A similar case can be made for the other verb forms. For example, the Brazilian Portuguese Imperfective tense, (called *Imperfeito*) poses similar problems. Most work on Imperfective tenses has focused on French *Imparfait*. However, applying the ideas developed for *Imparfait* to *Imperfeito* does not capture the otherwise obvious relation between the two parallel forms. As was the case for the progressive periphrases, the favoured interpretation for *Imparfait* is that it denotes an extended homogeneous continuity as can be seen in this rule from Lascarides and Asher (1993):

- (3) If α describes an eventuality e_1 and α is taken as the temporal antecedent of a sentence β in the *Imparfait*, which describes a state s_2 then $*s_2 \vee e_1$ (where \vee means temporal discontinuity).

It is not clear that this rule applies to BP. The first intuition about BP *Imperfeito* is that it denotes discontinuous events within an interval. For example, out of the blue, (4 a) where *fumar* ‘to smoke’ appears as an imperfective says that: when I arrived in town, João was a smoker; **not** that João was puffing at a cigarette upon the arrival.

- (4) a. Quando eu cheguei na cidade, o João fumava.
When I arrived in-the town, the J. smoked-Impf.
b. Quando eu cheguei na cidade, o João estava fumando.
When I arrived in-the town, the J. was-Impf smoking.
‘When I arrived in town, J. was smoking.’
c. *Quando eu cheguei na cidade, o João esteve fumando.
When I arrived in-the town, the J. was-PS smoking.
d. O João esteve fumando.
the J. was-PS smoking.
‘John has been/must have been smoking’

Also, (4 b, c, d) shows that questions arise about the relation between the notions of imperfectivity and progressive. BP allows progressive periphrases in the *Imperfeito* tense and in the Past Simple tense. When the progressive has *Imperfeito* tense as in (4 b) we get a sentence ambiguous between readings of João being a smoker and João puffing at a cigarette upon the arrival. The hypothesis that imperfective appears because progressive requires a past tense which agrees with its aspectual nature is plausible. But the compatibility of progressive with the Simple Past tense, though restricted as (4 c) shows, suggests there is more. In (4 d) the progressive Past Tense also alternates between an episodic and a generic-like reading and it gives rise to an epistemic modal reading (as in *The ashtray is dirty. João esteve fumando*). I will show that these readings can follow from a treatment of imperfective tenses that uses the strategy sketched above for the progressive periphrases. However different from the progressive periphrases whose representation was neutral between the single-eventuality and the habitual, the correct representation for imperfective tenses will be argued to be a variety of genericity.

Also I will show that this interpretation of Imperfective tenses is much more than an *ad hoc* modification and can capture the difference between French and Portuguese without losing their obvious close relationship. It opens the line for explaining the French favouring of strictly continuous interpretation of *Imparfait*s, in contrast to BP favouring discontinuity, as due to overt differences in the nominal system of the two languages. In the hypothesis proposed here

arriving at continuity (progressivity) depends on commitment to truth at reference time. Commitment to truth at utterance time depends amongst other things on definiteness and specificity of NPs.

French and Brazilian Portuguese are very different with respect to their article systems. If we are to take the vocabulary of Chierchia's (1996, 1998) nominal parameter hypothesis, French is a /-arg, +pred/ language: there are no bare nouns. As for Brazilian Portuguese, it has not given much consensus with respect to the Nominal Mapping Parameter (see Müller (2002) and Schmitt & Munn (1999)). But regardless of that, if we take the NMP purely descriptively, BP would fall in one sense in the line of Chinese, /+arg, -pred/ because bare nouns denote kinds and in another sense in the line of English, which is /+arg, +pred/ because it has an article system for countables.

So, by not allowing the semantics to express progress opens the line the simplest possible conjecture to explain the subtle but solid differences between the two imperfective tenses: we derive the difference in the two languages from where they have to be different anyway (noun denotation) and try to keep what is only minimally different (imperfective forms) within a unified account. The prediction made is that differences where NP definiteness / specificity arises will account for the differences in which continuity / discontinuity of imperfective verbal forms arise in each language.

A current challenge in the study of temporal reasoning embodied in natural languages is for a tractable system which is conceptually real. Tractability suggests sparseness, whereas conceptual reality suggests ontological lushness and deviations from the classical formal setting. A measure of success towards that cognitive plausibility is how well phenomena in different languages can be accounted for. The more phenomena accounted, the closer to cognitive plausibility and the more justified the enriching of the systems. This hypothesis shows a strategy to attain cognitive plausibility avoiding too much deviation from the classical setting.

Reference:

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