

# The role of the Imperfect in Romance Counterfactuals

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## Abstract

The Imperfect in Romance is used in an array of constructions: progressives, habituals, generics and counterfactual conditionals. The first three all share hallmarks of the Romance Imperfect: they describe something ongoing, in the past, and which requires contextual framing. Counterfactual uses, however, do not, and thus present an important challenge for a unified semantics of the Imperfect. In this paper, we try to explain the presence of the Imperfect in counterfactuals. We take counterfactuals to involve both a Future and an Imperfect (Iatridou 2000), but with the modal contribution of the latter be neutralized, such that counterfactuals amount to future conditionals. The Imperfect contribute presuppositions of framing and anteriority, which lead to counterfactuality.

## 1 The Puzzle

The Imperfect ('imparfait') of Romance is used in an array of constructions: progressive (1a), habitual (1b), generic (1c):

- (1) a. Paul traversait la rue, quand il s'est fait écraser. French  
Paul cross-**impf** the street, when he got crushed.  
'Paul was crossing the street, when he got run over'  
b. Quand elle était jeune, Marie jouait du piano.  
When she was young, Mary play-**impf** the piano  
c. A l'époque, les femmes portaient des corsets.  
In those days, women wore-**impf** corsets

Furthermore, it is found systematically in counterfactual conditionals. Counterfactuals like (2), require Imperfect in their antecedent, and *conditionnel* mood in their consequent, which morphologically looks like the combination of the future and the Imperfect (Iatridou 2000):

- (2) Si Paul venait, Marie serait heureuse.  
If Paul come-**impf**, Marie be-**COND** happy  
'If Paul came, Mary would be happy.'

The progressive, generic, and habitual uses all share the three hallmarks of the Romance Imperfect: they describe something ongoing, in the past, and which requires contextual framing (Delfitto & Bertinetto 1995, Bonomi 1997). The counterfactual construction, however, has none of these requirements, thus complicating any attempt to unify these uses of the same morphological category. Our goal in this paper is to attempt a unification of sorts – to explicate why the Imperfect is such a comfortable associate of counterfactual interpretation while being faithful to its lack of the peculiar use conditions of the other uses.

The key idea in our proposal is that counterfactuals fundamentally involve past metaphysical modality (Condoravdi 2001, Ippolito 2003). We argue that the anteriority and the modality arise from distinct sources. The anteriority we will propose is a consequence of the modal IMPF (morphologically realized as the Imperfect), which we take to *presuppose* the anteriority and framing hallmarks of the Imperfect (Giorgi & Pianesi 2004). However, following Iatridou (2000), we will argue that counterfactuals additionally involve a future modal (FUT), which is responsible for the metaphysical modality that separates counterfactuals from the other uses of the Imperfect. The technical ingredient allowing this chimerical transformation will be Hacquard's (2006) event-relative modality, under which two stacked modals render the top one vacuous. Thus, IMPF+FUT will be interpreted as FUT, modulo the presuppositions of IMPF, which trigger the counterfactual interpretation. (Iatridou 2000, Condoravdi 2001, Ippolito 2003, Arregui 2005).

After reviewing the Hallmarks of the Imperfect in Section 2, we discuss the semantics of the IMPF modal in Section 3. Section 4 demonstrates how this semantics coupled with a future modal and Hacquard's event relativity leads to a counterfactual interpretation. Section 5 concludes.

## 2 Hallmarks of the Imperfect in Romance

As discussed by Delfitto & Bertinetto (1995) and Bonomi (1997) a.o., the Romance Imperfect has three characteristics (modulo counterfactual uses). First, it has a requirement that the event in question is anterior to the utterance time, as indicated in (1a-c). Second, it exhibits ongoingness or homogeneity, in that the event/habit described must go on in time. Thus, Paul's piano playing is taken to last throughout an interval surrounding Marie's arrival in (3a), and similarly his piano playing habit throughout an interval surrounding 'those days' in (3c).

- (3) a. Quand Marie est arrivée, Paul jouait du piano.  
When Marie arrived-pfv, Paul played-**impf** of the piano  
'When Marie came in, Paul was playing the piano'  
b. A l'époque, Paul jouait du piano.  
In those days, Paul played-**impf** of the piano.  
'In those days, Paul played the piano' (*habitually*)'

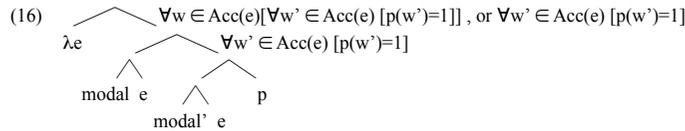
Finally, it is observed that sentences with the Imperfect are deviant without a salient temporal expression. Thus, (4a) is judged by speakers to be significantly worse than the remaining sentences in (4) which involve, respectively, (b) a temporal adverbial, (c) a *when*-clause, (d) a quantificational adverb, and (e) a contextually salient time interval.





system it is argued that all of this information is provided by a particular event, which may be the speech event or an attitudinal event. The system imposes the constraint that the event arguments of modals are constrained to be variables bound by the closest event binder (in the spirit of Farkas 1994, Percus 2000). This thus requires that two modals stacked without any intervening material will require their event variables to be co-bound, resulting in vacuous quantification of the higher modal.

To see this, consider (16), which schematizes the situation in question. Both modals uniformly quantify over worlds accessible from the event in question. But given that the lower modal is evaluated with respect to its event argument, not the worlds quantified over by the higher modal, the higher modal binds vacuously into its scope:



Hacquard (2006) argues this happens with epistemics under doxastic attitudes, yielding a quantificationally-variable doxastic attitude.

- (17) Asp  $\lambda e$  [dox-att e ] [<sub>CP</sub> ... [modal e ] ...]
- John believes that it might be raining.
  - [John believe(e) [<sub>CP</sub> that [<sub>ModP</sub> might (e) [<sub>TP</sub> it is raining ] ] ] ]
  - $\exists e[e \text{ in } w \ \& \ \text{Exp}(e,J) \ \& \ \text{belief}^*(e) \ \& \ \forall w' \in \text{DOX}(e):$   
 $\exists w'' \in \text{DOX}(e) : \exists e'[e' \text{ in } w' \ \& \ \text{rain}(e',w'')]$
  - $\exists e[e \text{ in } w \ \& \ \text{Exp}(e,J) \ \& \ \text{belief}^*(e) \ \& \ \exists w' \in \text{DOX}(e) : \exists e'[e' \text{ in } w' \ \& \ \text{rain}(e',w')]$
  - There is a past belief state of John s.t. it is raining in some world compatible with his belief state.*

As (16) is another instance of this pattern, the modal contribution of IMPF will also be nullified. What differentiates (15) from (16), however, is that, because of its presuppositions, IMPF imposes restrictions on the event argument of the lower modal. We will now investigate the consequences of these restrictions.

## 4.2 Recipe for Counterfactuality

First, we should specify our assumptions about FUT and the structure in (13). Following Condoravdi (2001) and Copley (2003), we will assume FUT is a metaphysical modal, which combines with two properties of times. In order to make metaphysical modality event-relative, we construct metaphysical alternatives with respect to an event argument of the modal (we assume future shifting of the temporal *now* following Abusch 1998):

(18)  $[[\text{FUT}]]^{c.g} = \lambda e \lambda p_{ist} \lambda q_{ist}. "w \in \text{Best}(\text{Meta}(e) \text{ where } p([t_0, \infty))(w)) [q([t_0, \infty))(w) = 1].$

As Iatridou (2000) demonstrated, the conditionnel mood displayed in Romance counterfactuals is the morphological spellout of IMPF above FUT. Given (16), we assume that the FUT modal takes two properties of times. These structures we assume have aspectual elements, whose presence is diagnosed by the availability of ongoing

interpretations with counterfactuals:

- (19) Si Jean courrait régulièrement, il serait en pleine forme.  
 If Jean run-**impf** regularly, he be-**COND** in good form  
 'If Jean ran regularly, he would be healthy.'

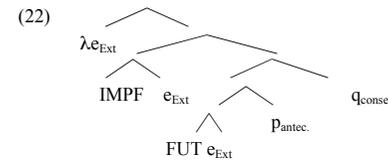
Both antecedent & consequent have obligatory imperfective morphology in counterfactuals, a morphological rule we assume blocks the appearance of the aspect of the embedded clauses:

- (20) a. Si Jean arrivait demain, il rencontrerait Jane.  
 If Jean arrive-**impf** tomorrow, he met-**COND** Jane
- b. \*Si Jean arrivera demain, il rencontrerait Jane.  
 If Jean arrive-**fut** tomorrow, he met-**COND** Jane
- c. \*Si Jean arrivait demain, il rencontrera Jane.  
 If Jean arrive-**impf** tomorrow, he met-**fut** Jane

Thus, despite appearances, we assume that the antecedent is denotationally equivalent to consequent, and that the mandatory appearance of the Imperfect in the antecedent is agreement. While we leave the precise specification of the morphological realization principles to future research, we note that in Quebecois French the agreement is complete – both antecedent and consequent show conditionnel morphology:

- (21) Si Jean serait là, marie serait heureuse.  
 if Jean be-**COND** there, Marie be-**COND** happy  
 'If Jean were there, Marie would be happy.' (Michael Gagnon, p.c.)

These assumptions serve to provide the structure in (22), which is a more detailed version of (15):



Given the denotations for FUT and IMPF as well as the principles governing structures such as (14), (22) has the following denotation:<sup>3</sup>

<sup>3</sup> Note that as it stands IMPF and FUT will not combine because of a type clash. At present, we assume vacuous type-raising of FUT to yield a property of events (as done in the tense literature, e.g., Katz 2001). While this is clearly undesirable, it is unclear to us how to solve this general problem regarding future scoping below modality. Significantly, Copley (2003) manages this by making aspect take temporal property arguments, but this generally produces problems with accomplishments (Landman 1992).

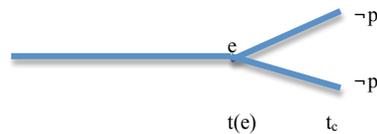
- (23)  $[[[(20)]]]^{c\#} = \lambda e_{\text{Ext}}. t(e_{\text{Ext}}) \subseteq \text{TOP-TIME}(c) \ \& \ \text{TOP-TIME}(c) < t_0$   
 ("w'  $\in \text{Best}(\text{Circ}, \text{NI}, e_{\text{Ext}}, \text{FutP}) : \exists e' [e' < e \ \& \ ]$  ) *vacuous*  
 "w  $\in \text{Best}(\text{Meta}(e_{\text{Ext}}))$  where  $p([t_0, \infty)(w)) [q([t_0, \infty)(w)) = 1]$ .

The denotation of (20) is a future conditional with presuppositions of IMPF and explicit reference to the extensional event.<sup>4</sup> (24) shows a concrete example :

- (24) a. Si Jean arrivait demain, il rencontrerait Jane.  
 If Jean arrive-**impf** tomorrow, he met-**COND** Jane  
 'If Jean arrived tomorrow, he would meet Jane.'  
 b. (22a) defined iff there is a past topical event. If defined, in the best metaphysical alternatives compatible with e where Jean arrives tomorrow, Jean meets Jane.

The question then is what  $e_{\text{Ext}}$  is. Recall that for the canonical Imperfect forms, it was the extensional event part of the P-event in circumstantial worlds. What about counterfactuals? Let's pause for a moment and consider what counterfactual conditionals express. Arregui (2004) makes the intuitively appealing proposal that counterfactuals are *de re* claims about the past. Hence a sentence like (23) makes a claim about a particular salient 'past', such that if that past had led to Jean arriving tomorrow, it would also have led to him meeting Jane. We would like to argue that counterfactuals make claims not just about a particular past time, but a particular 'forking' event, following the terminology of Bennett (2003): a settling event that serves as the fork into those where the antecedent holds and those where it does not.

In counterfactuals, we take  $e_{\text{Ext}}$  to be that very forking event. For (22), that event is Jean's itinerary-fixing event, i.e., the event that led to Jean arriving tomorrow or at some other time. In a sentence like 'If McCain were President, GM would be bankrupt', that forking event is an election event, etc.<sup>5</sup> Assuming this is the case, (22a) roughly asserts that when one considers the futures of the itinerary fixing in which the antecedent is true, the consequent follows.



This is as desired. The remaining task is to demonstrate how one arrives at the forking event given the presuppositions introduced by IMPF. We consider each in turn.

<sup>4</sup> Note that IMPF does additionally make an existential claim about a larger event in circumstantially accessible worlds. However, note that here the property ordering the worlds is trivially true (by vacuity of the type-raised proposition), which renders the condition merely one such that the event is construable as part of a larger event.

<sup>5</sup> This proposal does face problems from examples such as "If gas were \$4/gallon, my plane ticket would have been more expensive." (G. Katz, p.c.). We leave these to future research.

### 4.3 The Anteriority Presupposition

The anteriority presupposition requires that felicitous use of a counterfactual conditional be made with respect to an event that occurred in a topical interval that is prior to the evaluation time. As has been noted by Condoravdi (2001), Ippolito (2003), and Arregui (2007) the counterfactual component of counterfactual conditionals results from evaluating metaphysical alternatives *in the past*,<sup>6</sup> as it is the settledness of the past which yields the contrary-to-fact implicature. In these systems, the anteriority of alternatives is a result of tense. In the event relative system, it is due to an *event* constrained to be in the *past* which determines metaphysical alternatives.

While this allows us to assimilate the contrary-to-fact implicature to prior work, note that the anteriority presupposition does not otherwise determine the extensional event. This is true for the canonical Imperfect sentences as well, where, in the spirit of Landman, we saw that the property argument is what constrains the nature of  $e_{\text{Ext}}$  (it must be merelogically compatible with an event which the property denoted by the VP is true of). In the case of counterfactuals, we assume that it is the framing presupposition which serves to identify the extensional event's characteristics.

### 4.4 The Framing Presupposition

The framing presupposition enforces the run-time of the extensional event within contextual topic time. However, conditionals are not temporal adverbs, and hence by assumption do not shift topic time. Nonetheless, we concluded from (10) that the lexical content of DPs may pragmatically introduce topical intervals. Alongside this, we propose that antecedents themselves introduce the interval under which the forking event was a historical issue, in the sense of Ippolito (2008).

- (25) **Historical Issue** (Ippolito 2008)  
 For any proposition p, world w and time t, p is a historical issue in w at t just in case:  
 (i) w is historically as close to  $w_c$  as allowed by the fact that the set of worlds accessible from w at t (call this set A) must include both p-worlds and  $\neg p$ -worlds;  
 (ii) all the worlds w' in A maximally similar to  $w_c$  are worlds where ps(p) are true (ps(p) = presuppositions in p).

As Ippolito notes, "if p is **foreclosed** [settled] in  $w_c$ , t must be a time immediately before the time when p got foreclosed in  $w_c$ ." Thus, the antecedent pragmatically sets TOP-TIME(c) to an interval immediately bounding the run time of the event which settled the antecedent property. The settling event then serves as a fork (in the sense of Bennett 2003), producing divergence into p and  $\neg p$  worlds, and hence the metaphysical alternatives at the time of the event include both types of worlds.

Thus, in canonical cases the framing presupposition serves to temporally locate an extensional sub-event within some independent temporal interval provided by context (or context shifting of temporal adverbs). In contrast, in counterfactual cases, the framing

<sup>6</sup> M. Gagnon (p.c.) points out that it is possible to use counterfactuals even if the fork has not yet occurred (e.g., in (21), if Jean has yet to buy his ticket), contrary to our analysis. While this is true, such examples seem predictive (Kaufmann 2005), it's unclear how they differ from predictive future conditionals, and leave it for future research.

presupposition individuates a forking event via the temporal interval evoked by the antecedent clause.

## 5 Conclusion

The goal of this paper was to account for the presence of the Imperfect in Romance counterfactuals, despite counterfactuals lacking the traditional hallmarks of the Imperfect. We argued counterfactuals involve both a IMPF and a FUT, as suggested by morphology. We claimed that the differences of the counterfactual were due to quantification by a different modal, the metaphysical modal FUT, while the counterfactual component followed from the anteriority and framing presuppositions IMPF imposes on the event determining the alternatives for FUT. By rendering both IMPF and FUT event relative, we demonstrated that the modal force of IMPF is vacuous in counterfactual contexts, thereby, in effect, removing it from the picture.

Several thorny issues remain. Within Romance, we have not considered what Ippolito (2004) calls Imperfect Conditionals, the necessarily contrary to fact conditions which do not have future morphology. More generally, we have not ventured to comment on either the cross-linguistic split between languages which use the past for the counterfactual and those which use the imperfect or the fact that (in contrast to our semantics for IMPF), generics tend to morphologically pattern with counterfactuals and not progressives (Iatridou 2000).

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