

The epistemic and the counterfactual interpretations of present perfect *pouvoir* in French

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Scope and aim Existential modal *pouvoir* in the present perfect in French has an abilitative (1-a) and an epistemic interpretation (1-b). The abilitative reading can be associated with an actuality entailment (AE), (see Hacquard, 2006 and also Bhatt, 1999, for Hindi).

- (1) a. Jean a pu déplacer la table, #mais il ne l'a pas fait.
John Pres.Perf.can move the table, #but he not that-has done
John could move the table, #but he did not do it.
- b. John a pu prendre le train (comme il a pu ne pas le prendre)
John Pres.Perf.can take the train (as he Pres.Perf.can not it take
John might have taken the train (but he might not have taken it)

While several theoreticians have considered these interpretations separately (e.g. Mari and Martin, 2007; Mari, 2010; Homer, 2011; Mari and Schweitzer, 2010; Martin, 2011, Piñón, 2011), the merit of Hacquard (2006,2009,2010) is to present a theory of the systematic ambiguity of the modal that, in her work, is solved as syntactic scope ambiguity, with the scopings PAST > MOD for the abilitative reading, and MOD > PAST for the epistemic reading. As firstly noted in Mari and Martin (2007), the major shortcoming of Hacquard's theory is that it does not leave room for abilitative interpretations without actuality entailment (see also Homer, 2011).

- (2) Ce robot a pu repasser les chemises à un stade bien précis de son développement, mais cette fonction n'a jamais été utilisée. *The robot could have ironed skirts at a precise stage of its development, but this function has never been used.* (Mari and Martin, 2007)

Our goal is to propose a semantic/pragmatic view of the systematic ambiguity, exploiting the aspectual and temporal makeup of the present perfect, which, unlike Hacquard (2006,2009), we analyze as a perfect rather than an aorist (see Schaden, 2009). Our account builds on the common view that the present perfect introduces a result state whose running time is the utterance time t_u (e.g. Kamp and Reyle, 1993; de Swart, 1998). On the pragmatic side, we subscribe to the view that the present perfect is used inferentially, that is to say, that the past event is not presented per se but it is inferred from some less direct result state (Comrie, 1976; Schaden, 2009; Apotheloz and Nowakowska, 2010). Knowledge of the present result state plays a key role in the account.

With these ingredients in place, the paper also redesigns the spectrum of interpretations of *a pu*-sentences, distinguishing between epistemic and counterfactual interpretations. It thus sheds a new light on the previously unanswered question of the competition between the present perfect modal (see (2)) and the modal in the past conditional (see (3)).

- (3) Ce robot aurait pu repasser les chemises à un stade bien précis de son développement, mais cette fonction n'a jamais été utilisée. *This robot could have ironed skirts at a precise stage of its development, but this function has never been used.*

Proposal Available theories of the present perfect consider it to be an operator over properties of events (e.g. de Swart, 2007; Schaden, 2009). In our account we treat the modal, aspectual and temporal operators as propositional and assume that they are interpreted in situ with the scoping PRES > PERF > MOD > p, in all the available interpretations. We call p the prejacent, and distinguish between p and the result proposition q. PERF applies on a modalized proposition and renders a modalized result proposition whose time of evaluation is t_u . We relativize the accessibility relation to times, in the spirit of Condoravdi (2002). Informally, our semantic analysis of an *a pu*-sentence (e.g. *Jean a pu déplacer la voiture* / 'John could move the car/might have moved the car') states that in a world that was metaphysically accessible at a past time $t' < t_u$, the proposition p was true at t' and the result proposition $\diamond q$ is true in the base world w at t_u (the formal details will be provided in the extended version). Contextual information determines which interpretation among the epistemic, the abilitative with AE and the abilitative without AE is obtained. We use $\diamond p(t')$, meaning that p is true in a world accessible at $t' < t_u$. $\diamond q(t_u)$ means that q is true at t_u in an accessible world. We also assume that there is a relation of logical equivalence between the prejacent and

the result proposition: $\diamond p(t') \leftrightarrow \diamond q(t_u)$.

On the model theoretic side, we use a branching time framework (Thomason, 1984; Condoravdi, 2002), in which worlds are represented as metaphysical alternatives. Branching time represents the past as settled and the future as open. Any two worlds are identical until they branch. With PERF scoping over MOD, future possibilities are considered at t' . We note with Condoravdi (2002) that, when settledness is presupposed, the only available interpretation is epistemic. With Condoravdi (ibid.), we also assume that modals have a diversity condition, i.e. the modal base must contain p and $\neg p$.

On the pragmatic side, considering the present perfect in its inferential use, the last ingredient of our explanation is knowledge: we argue that, in order to utter $\diamond p(t')$, at the utterance time, the speaker has to have some knowledge relative to the result proposition $\diamond q(t_u)$.

Deriving the interpretations. Contextual information at the utterance time determines whether, at t_u , the speaker knows that $q(t_u)$ or $\neg q(t_u)$ (both compatible with $\diamond q$ being true at t_u) or whether s/he just knows $\diamond q(t_u)$. Note that, in all the cases discussed here, past and present settledness is presupposed at t_u . (i) The epistemic interpretation of $\diamond p(t')$ is straightforward when the speaker knows that $\diamond q(t_u)$ at the utterance time: settledness is presupposed at t_u , and in order to satisfy the diversity condition, the only available option is the epistemic interpretation (see Condoravdi, 2002). Note that if the speaker knows q at the utterance time the epistemic interpretation cannot be obtained. Consider a situation in which there is something white on the street, which looks like snow. The speaker can utter *Il a pu neiger cette nuit* (ok epistemic) / *It might have snowed last night* (the sentence is out if the speaker knows that there is snow on the street). (ii) When the speaker knows that q is true at the utterance time in the actual world, s/he also knows that p is true at a past time in the actual world. By using the modal (which is associated with a diversity condition), the speaker conveys a counterfactual interpretation: as for (1a), the speaker conveys that John has moved the table and that the actual world at $t' < t_u$ could have continued in a way such that he did not move it (hence the effort flavor). (iii) When the speaker knows that $\neg q$ is true at the utterance time, s/he also knows that $\neg p$ is true at a past time. Opening past possibilities, the past modal conveys counterfactuality; e.g (2) more specifically conveys that the robot could have ironed skirts.

Counterfactuals compete This view allows us to consider the unexplored competition between the counterfactual uses of the modal in the present perfect and in the past conditional (and the imperfect). Two types of scenarios must be distinguished. *Type 1* (present knowledge and metaphysical past alternatives à la Condoravdi (2002)). Consider a situation in which John is playing chess. At a certain point during the game, it was possible for him to win. If the speaker knows that he did not win (i.e. $\neg q(t_u)$ and hence $\neg p(t')$), but s/he wants to co-counterfactually convey that at t' the actual world could have continued in such a way that John won, s/he can employ either the modal in the present perfect or in the past conditional (the modal in the imperfect is also allowed).

(4) A ce moment là, il aurait pu/a pu gagner (mais il a perdu l'occasion de la faire) !

At that point he could have win (but he lost the occasion to do it) !

Type 2 (knowledge-only-based scenarios à la Abush (2012)). A tournament took place in which John did not participate. The speaker speculates on whether John would have won, if he had participated. In this scenario, only the past conditional can be used (the imperfect is not allowed).

(5) Le connaissant, il aurait pu/#a pu gagner ! / *Knowing him, he could have won!*

We can make the hypothesis that the modal in the present perfect and in the past conditional compete in Type 1 scenario. However, in virtue of its wider use, the modal in the past conditional is preferred over the present perfect modal, as it is the more common way to express counterfactuality.

Perspectives In the talk, we consider the use of the modal in the imperfect in Type 1 scenarios, explain how it differs from that of the modal in the past conditional and thus why it survives in the competition.

Selected references Abush, D. (2012) Circumstantial and Temporal Dependence in Counterfactual Modals. *NLS* 20.3, 273-297. • Condoravdi, C. (2002). Temporal interpretation of modals : Modals for the present and for the past. In Beaver, D., Kaufmann, S., Clark, B., et Casillas, L. (eds), *The Construction of Meaning*. Stanford, CA : CSLI, pp. 59-88. • Hacquard, V. (2009). On the interaction of aspect and modal auxiliaries. *Linguistics and Philosophy* 32 : 279-315. • Mari, A. et Martin, F. (2007). Tense, abilities and actuality entailment. In Aloni, M., Dekker, P., et Roelofsen, F., (eds.), *Proceedings of the XVI Amsterdam Colloquium*, ILLI, University of Amsterdam, Amsterdam, pp.151-156. • de Swart, H. (2007). Cross-linguistic discourse analysis of the perfect. *Journal of Pragmatics* 39(12), 2273-2307. • Schaden, G. (2009). Present perfect compete. *L&P* 32(2) : 115-141.