

## French Modals and Perfective Aspect: A Case of Aspectual Coercion Vincent Homer, UCLA & ENS

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**1. The Puzzle.** Bhatt (1999) and Hacquard (2006) claim that in French, the complement of a root modal verb (which can be deontic (2), *pace* Hacquard) must hold in the actual world (1a), iff the Viewpoint-Aspect on the modal verb is perfective (i.e. when the morphology is *passé composé*): this is called an actuality entailment (AE).

**2. A previous analysis.** Noting the difference between (1a) and (3) (the AE is necessary in the former and only possible in the latter), Hacquard (2006) analyzes the phenomenon as syntactic and as a result of the binding of the world argument of Asp (which is an event quantifier) by the matrix world binder: sentence (1a) *asserts* the existence of an *actual* event which also takes place in some or all accessible possible worlds.

**3. The proposal.** **a.** Contrary to Hacquard's claim that the 'actuality entailment' is not cancellable, there are a number of contexts (some noted in Mari&Martin 2007) where the AE is still possible but no longer necessary, so that one can use a continuation which is incompatible with the actualization of the complement of the modal, *viz.* contexts where moments are quantified over (4a) and (5) (compare with (6)). Two analytical options arise, both incompatible with Hacquard's proposal: **(i.)** the phenomenon in (1a) is pragmatic, and it is either cancelled or obfuscated by additional inferences in the presence of a quantification over times in (4a)-(5), or **(ii.)** the difference between (1a) and (4a)-(5) is a structural one (we defend this option and show that the contrast is due to the presence/absence of operators which are sensitive to quantification over times). To adjudicate on the case, we use a Gapping test: in (7), the first conjunct contains a quantifier over times, whereas the second has a definite description instead; the ellipsis site cannot contain a quantifier over times, so that the second conjunct is strictly parallel to our baseline sentence (1a). Now, it is impossible to understand that the second prisoner did escape. The sentence means that there have been several occasions upon which the first prisoner was in a position to escape for the first time, and the same held of the second prisoner on the last day of March. So **(i.)** the presence of a root modal in the scope of a perfective operator doesn't suffice for the 'actuality entailment' and **(ii.)** the mechanism which precludes this inference in both conjuncts is syntactic (mixed readings are impossible). **b.** We also note that modal verbs are stative (they are predicate of eventualities such that every proper part of an eventuality in their denotation is homogeneous to the whole); and Pfv selects for bounded predicates of eventualities, i.e. predicates such that no proper parts of the eventualities in their denotations are homogeneous to the whole (Swart 1998, Bary 2009 a.o.), hence the aspectual clash illustrated in (9a). When proper time adverbials are inserted, as in (9b) and (9c), new interpretations become available because so-called coercion operators are licensed (Bary 2009). The MAX operator present in (9b) selects a stative predicate P and returns a predicate of maximal P eventualities, giving rise to a complexive interpretation; it is licensed by modifiers such as *à un moment donné* 'at some point', *à plusieurs reprises* 'on several occasions', etc. that is, by modifiers which make AEs optional (cf. (4a) and (5)). The INGR operator present in (9c) selects a stative predicate P and returns a predicate of minimally short P eventualities initiating an indefinitely long P eventuality: this achieves the inchoative interpretation licensed by *soudain* 'all-of-a-sudden'. Root modals are coercible along the exact same lines, cf. (11a)-(11b) which have a complexive and an ingressive reading respectively. The fact that root modals are sometimes coerced entails that they do not by themselves fulfill the selectional requirements of Pfv, so that whenever they appear under Pfv, they are in fact coerced (i.e. turned into bounded predicates

by some coercion operator). The question is then: why kind of coercion occurs in the baseline sentence (1a)? The answer comes from stative predicates such as *the\_house\_cost\_100.000€*: contrary to *jean\_être\_en\_colère*, they can appear in the perfective without any particular time adverbials; but interestingly, the reading is one in which the existence of some event pragmatically related to the stative predicate is asserted. In the case at hand, (12a) says that the house cost €100.000 and that it was sold for that price (or that the price for building it was €100.000); the phenomenon only occurs in the perfective (witness (12b)). Similarly, (13a) doesn't just say that Jean was tactful yesterday (the way (13b) does): it says that he did something tactful yesterday. We propose to label this type of coercion supervenient, as it asserts the existence of a pragmatically determined event supervening on an existing state: this is the output of the SUP operator (14). The output of SUP is a pragmatically determined event causally related to the stative predicate which serves as its input. In (1a), only the supervenient interpretation is available, in the absence of licensors of the complexive or of the ingressive interpretations. The second conjunct of (8) (as well as (11a)) is ambiguous between the complexive interpretation (licensed by the quantifier) and the supervenient one (which doesn't require any particular adverbial and is therefore available as a default): therefore using a presupposition trigger such as *à nouveau* 'again' doesn't lead to any infelicity; although a licensor of the complexive interpretation is present in (7), the second conjunct is not ambiguous, because the insertion of SUP leads to a nonsensical reading due to *pour la première fois* 'for the first time'. In sum, AEs are an instantiation of a broader phenomenon, i.e. the supervenient coercion of stative predicates. Lastly, the discrepancy between (1a) and (3) can be explained: the verb *avoir* 'have' is special in that it can form bounded predicates of eventualities without aspectual coercion. It is indeed easily interpreted as meaning 'get', 'obtain' cf. (15). This interpretation is exemplified in (3) alongside the supervenient interpretation: the former allows the continuation in (3b) while the latter allows the continuation in (3c).

- (1) a. Hier Max a pu s'évader de sa cellule, #mais ne l'a pas fait.  
 Yesterday Max has can.PASTPART escape from his cell, but NEG it has NEG done.  
*'Yesterday, Max has been able to to escape from his cell, but he didn't escape.'*  
 b. Hier Max pouvait (*Imparfait*) s'évader de sa cellule, mais ne l'a pas fait.
- (2) Autorisée par mon nutritionniste, j'ai pu manger de la viande à mon mariage, #mais je ne l'ai pas fait. (Authorized by my nutritionist, I have can.PASTPART eat meat at my wedding, but I NEG it have NEG done).
- (3) a. Hier Max a eu la possibilité de s'évader de sa cellule (Yesterday Max has had the possibility to escape from his cell... ).  
 b. ... mais ne l'a pas fait (but he NEG it has NEG done).  
 c. ... et il s'évadera à nouveau si nécessaire (and he will escape again if necessary).
- (4) a. Chaque fois que le prisonnier a pu s'évader, il ne l'a pas fait : il a préféré rester dans sa cellule (Each time that the prisoner has can.PASTPART escape, he NEG it has NEG done: he has preferred stay in his cell).  
 b. Chaque fois que le prisonnier pouvait (*Imparfait*) s'évader, il ne l'a pas fait : il a préféré rester dans sa cellule.
- (5) À plusieurs reprises/Une fois, le prisonnier a pu s'évader, mais il ne l'a pas fait : il a préféré

- rester dans sa cellule (At several times/One time the prisoner has can.PASTPART escape, but he NEG it has NEG done: he has preferred to stay in his cell).
- (6) #Tous les prisonniers qui ont pu s'évader sont toujours dans leur cellule (All the prisoners who have can.PASTPART escape are still in their cells).
- (7) —Ce prisonnier a pu s'évader pour la première fois tous les soirs de février, et cette prisonnière, le dernier jour de mars. (This prisoner has can.PASTPART escape for the first time on every evening of February, and this prisoner.FEM on the last day of March).  
—#Elle s'évadera à nouveau si nécessaire. (She will escape again if necessary)/Mais elle a préféré rester dans sa cellule (But she has preferred to stay in her cell).
- (8) —Ce prisonnier a pu s'évader tous les soirs de février, et cette prisonnière, le dernier jour de mars (This prisoner has can.PASTPART escape on every evening of February, and this prisoner.FEM on the last day of March).  
—Elle s'évadera à nouveau si nécessaire. (She will escape again if necessary)/Mais elle a préféré rester dans sa cellule (But she has preferred to stay in her cell).
- (9) a. #Jean a été en colère cet après-midi (J. has been angry this afternoon).  
b. À plusieurs reprises, Jean a été en colère cet après-midi (On several occasions, Jean has been angry this afternoon).  
c. Soudain, Jean a été en colère cet après-midi. (All-of-a-sudden, Jean has been angry this afternoon).
- (10) a.  $[[\text{MAX}]]^g = \lambda P_{vt} \lambda e_v: P(e) \wedge \forall e' [e \sqsubset e' \rightarrow \neg P(e')]$   
b.  $[[\text{INGR}]]^g = \lambda P_{vt} \lambda e_v: \exists t \exists e'. \tau(e) = \text{IB}(t) \wedge \tau(e') = t \wedge P(e') \wedge \neg(\exists t' \exists e''. t \sqsubset t' \wedge t' = \tau(e'')) \wedge P(e'')$   
IB maps an interval  $t$  on the latest moment just before  $t$ . (after Bary 2009)
- (11) a. À un moment donné, le prisonnier a pu s'évader, mais ne l'a pas fait (At some point, the prisoner has can.PASTPART escape, but hasn't done so).  
b. Soudain, le prisonnier a pu s'échapper, mais ne l'a pas fait (All-of-a-sudden, the prisoner has can.PASTPART escape, but hasn't done so).
- (12) a. La maison a coûté 100 000 € (The house has cost.PASTPART €100.000).  $\rightsquigarrow$  It was sold.  
b. La maison coûtait 100 000 € (The house cost €100.000).  $\not\rightsquigarrow$  It was sold.
- (13) a. Jean a eu du tact hier (Jean has had tact yesterday).  $\rightsquigarrow$  He did something tactful.  
b. Jean avait du tact hier (Jean was tactful yesterday).  $\not\rightsquigarrow$  He did something tactful.
- (14)  $[[\text{SUP}]]^g = \lambda P_{vt} \lambda e_v. Q_i(e) \wedge Q_i(e) \text{ iff } \exists e' P(e') \text{ at } \tau(e) \wedge \forall e'' \text{ if } e'' \sqsubset e \text{ then } \neg Q_i(e'')$
- (15) On a son bac à 18 ans (One obtains their A-levels at 18 years old).

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