

## Characterizing French *laisser* using causal functions and scales

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Verbs that mean 'let' pose a problem for Dowty (1979)-style decompositions of the verb phrase that include a CAUSE operator. Either the notion of causation recruited by CAUSE is vague and needs to be made more precise, or as Wolff (2007) claims following Talmy (2000), 'causing' and 'letting' are best seen as two different modes of causation, and the CAUSE operator needs to be replaced. French *laisser* 'let' in particular poses an additional puzzle as it appears in two different constructions: a biclausal one with a pre-V embedded agent (the *laissé*), similar to its English counterpart (1a); and a monoclausal one with a postverbal *laissé* (Kayne 1975, Hu 2017), resembling *faire*-infinitives (1b).

(1) a. Jean a laissé les enfants courir *PreV*      b. Jean a laissé courir les enfants. *PostV*  
       Jean let.PF the children run-INF                      Jean let.PF run-INF the children  
       'Jean let the children run.'                              'Jean let the children run.'

(2) a. Authorize: *Laissezur* authorizes *laissé* to perform event.  
       b. Non-interference: *Laissezur*'s lack of action allows *laissé* to continue doing event.

(1a) can receive either possible reading in (2) (Engiels & Roegiest 2012). However, (1b) resists reading (2a). This difference has already been pointed out (French: Borel, 1972, Kayne 1975; Spanish: Engiels & Roegiest 2012), but neither the relevant denotations nor the syntax-semantics interface have been fully characterized. Here we do so, replacing the Davidsonian event argument with a function that causally individuates situations (Copley & Harley 2020); causal individuation is explained below. Our characterization also helps us explain the following pattern, which has so far gone unnoticed in the literature. If the event has not begun, the *laisseur* must have authority over the *laissé* for the event in question (4a,c) vs. (4b,d), no matter the construction (though *PreV* is preferred). If the event has already started, authority is not required (5).

(4) La salle d'audience était silencieuse;                      (5) L'accusé n'arrêtait pas d'interrompre;  
       'The courtroom was silent'                                      'the defendant kept interrupting'  
       a. finalement, la juge a laissé l'accusé parler. *PreV*                      a. finalement, il a laissé la juge parler. *PreV*  
       b. #finalement, l'accusé a laissé la juge parler. *PreV*                      b. finalement, il a laissé parler la juge. *PostV*  
       c. ?finalement, la juge a laissé parler l'accusé. *PostV*                      'in the end, he let the judge speak.'  
       d. #finalement, l'accusé a laissé parler la juge *PostV*  
       'in the end, the judge/#defendant let the defendant/#judge speak'

Extending a causal function analysis of dynamic events first to Voice and then to *laisser*, we account for these facts by arguing that *laisser*'s complement can be either a vP (event-associated, allows event in progress) or a VoiceP (agent-associated, disprefers event in progress). In particular, we can explain the infelicity of (4b, d) relying on the idea that authority is best expressed with an embedded agent.

(6)

a.  $\llbracket vP \rrbracket = \lambda f . \left[ \text{measure of impelled difference} \right] \left[ \text{slope relation} \right] 0$   
 $\left[ \mathbf{m}(\llbracket DP_{Theme} \rrbracket)(f(s))(\mathbb{S}_{[Comp,v]}) - \mathbf{m}(\llbracket DP_{Theme} \rrbracket)(s)(\mathbb{S}_{[Comp,v]}) \right] \left[ > / = / < \right]$   
 b. "Affectedness" scale (our terminology):  $\mathbb{S}_{[Comp,v]} = \langle D_{[Comp,v]}, P_{+/-Q} \rangle$

**Causal functions:** We follow Copley & Harley's (2020) treatment of dynamic events: The Davidsonian event argument in dynamic verbs is replaced with an argument *f*, which makes reference to a causing input of energy and which is formally a function.

As a function it takes a situation argument *s* (the initial situation, anchored by tense and aspect) and returns the causally-individuated situation *f(s)* (the result situation; "causally-individuated" means it only occurs if the input of energy occurs). The input of energy that *f* refers to impels a difference in the Theme, measured on a scale across *s* and *f(s)* by measure function **m**. Scales are pairs  $\langle D, P_Q \rangle$ : the *dimension D* interprets the endpoints [0,1]; the *polarity P* is > or <; and there is a *quantization* feature

$Q$  which makes the scale either categorical (+ $Q$ ) or dense (- $Q$ ). The complement of  $v$  provides the scale and *measure of impelled difference*, and the verb root gives the *slope relation*  $>$ ,  $=$ , or  $<$ .

**Our analysis for *laisser*** We assume that: (A) Not only  $v$ Ps and force arguments, but other phrases and the arguments they introduce also have scales, differences, and slope relations associated with them. (B) The dimension of the scale  $S$  is formed from the complement of the head which introduces the argument in its specifier. (C) The two measure terms used for the difference are causally individuated, because they take as arguments  $f(s)$  and  $s$ , which are causally individuated. The effect is a kind of counterfactuality for the measure term that takes  $s$  as its situation argument. So, on the affectedness scale at the *Comp*,  $v$  level, the  $s$  term represents what would happen to the theme without the input of energy, and the  $f(s)$  term represents what happens to the theme with the input of energy. At the VoiceP level (7a) (using the "event extent scale", (7b), the  $s$  term shows how far the event would unfold without the agent, and the  $f(s)$  term shows how far it unfolds with the agent. (D) *Laisser* can take either a  $v$ P or a VoiceP complement (8a). (E) With a VoiceP complement, the terms built with the "agency extent scale" (8b) measure the intentional participation of the agent with and without (in the case of *laisser*) the *laisseur*. (F) Regardless of *laisser*'s complement, its slope relation is  $=$ . That is, the *laisseur*'s "participation" in  $f(s)$  does nothing, neither opposing the event's unfolding (8b) nor intervening in the agent's action (8c).

(7)

- a.  $[[Voice_{act}P]] = \lambda f . \mathbf{m}([DP_{Agent}])(f(s))(S_{[vP]}) - \mathbf{m}([DP_{Agent}])(s)(S_{[vP]}) > 0$
- b. Event extent scale:  $S_{[vP]} = \langle D_{[vP]}, >+Q \rangle$

(8)

- a.  $[[laisserP]] = \lambda f' . \mathbf{m}([DP_{laisseur}])(f'(s))(S_{[Comp]}) - \mathbf{m}([DP_{laisseur}])(s)(S_{[Comp]}) = 0$
- b. *laisser*+ $v$ P:  $S_{Comp} =$  Event extent scale  $S_{[vP]}$  ( $=$  (7b))
- c. *Laisser*+ $Voice_{act}$ P:  $S_{Comp} =$  Agency extent scale  $S_{[Voice_{act}P]} = \langle D_{[Voice_{act}P]}, >+Q \rangle$

**Explaining the facts:** In the PostV construction, *laisser* takes  $v$ P, which then measures the *laisseur*'s participation on an event extent scale; this allows for the event to be in progress and yields the non-interference reading. Conversely, in the PreV construction *laisser* takes VoiceP, which then measures the *laisseur*'s participation in (directly) affecting the *laissé*'s participation on the agency extent scale. This can be done in two ways: either the *laisseur* and *laissé* are both sentient and the *laisseur* has authority over the *laissé* (authorize reading); or the *laisseur* affects the *laissé*'s participation by affecting the unfolding of the event (non-interference reading).

**Predictions:** (i) Predicates without agents (unaccusatives, perception verbs) should prefer the PostV construction; this is borne out (Engiels 2009). (ii) Nonsentient *laissés* should also prefer the PostV constructions as they are not intentional agents; this is the case, and when they marginally occur in PreV a sense of "intention /goal-oriented" action must be accommodated with varying success (9)-(10).

- (9) a. Marie a laissé siffler la cocotte *PostV* (10) a. Laissez entrer le soleil dans votre maison! *PostV*  
 b. ??Marie a laissé la cocotte siffler *PreV* b. ?Laissez le soleil entrer dans votre maison! *PreV*  
 'Marie let the steam cooker whistle' 'Let the sun come in your house!' (a = IKEA ad)

**Selected references** Abeillé et al. (1997) Les constructions causatives en français : un cas de compétition syntaxique, *Langue française* 115, 62-74. Borel 1972. *Sémantique des factitives en français*. Master's thesis, Paris 7. Copley & Harley 2020. [What would it take to tame the verbal Hydra?](#) CNRS/Paris 8 & Univ. Arizona ms., bcopley.com.Engiels 2009 The syntactic position of the perceived participant as indicator of the internal structure of the Spanish and French infinitival complement. *Linguistics* 47(3). Engiels & Roegiest 2012. *Los verbos de causación negativa dejar y laisser: sintaxis y polisemia*. Peter Lang Publishing. Hu 2017. *Les constructions causatives du français et du chinois*. PhD thesis, Univ. Paris Sorbonne Cité. Wolff 2007 Representing causation. *Journal of Experimental Psychology* 136, 82-111.