

Two future particles in Haitian Creole

In Haitian Creole (HC), future reference can be expressed by the morphemes *pral* and *ap* (a third future form, *(a)(va)*, will not be discussed here). The meaning of the morpheme *pral* has not been well-characterized in existing research on HC; *ap* is generally described as a morpheme which expresses a "CERTAIN" future (Valdman, 1978; Damoiseau, 2005). Certainty does not distinguish *ap* from *pral*, however. Intuitively, *pral* is used when the causal processes leading to the future eventuality could not in principle be interrupted, while *ap* is used when such processes could be interrupted. For example, when a cup is on the edge of a table, threatening to fall, *pral* is acceptable, as in (1a), while *ap* is not so acceptable, as shown in (1b). However, with a ball rolling toward a cup which is secure in the middle of the table, *pral* as in (1a) is unacceptable while *ap* as in (1b) is acceptable.

- | | | cup teetering on edge | ball rolling toward secure cup |
|--------|--|-----------------------|--------------------------------|
| (1) a. | Tas la pral tonbe.
cup DET PRAL fall
'The cup PRAL fall' | ✓ | # |
| b. | Tas la ap tonbe.
cup DET AP fall
'The cup AP fall.' | #? | ✓ |

Likewise, if John wishes to buy a car and everything is already planned and he already has the money, both *pral* as in (2a) and *ap* in (2b) are acceptable; however, in the case where John has no money yet, *pral* as in (2a) is unacceptable while *ap* as in (2b) is acceptable.

- | | | money and plan | no money yet |
|--------|---|----------------|--------------|
| (2) a. | Jan pral achte yon machin demen.
John PRAL buy a car tomorrow
'Jean PRAL buy a car tomorrow.' | ✓ | # |
| b. | Jan ap achte yon machin demen.
John AP buy a car tomorrow
'John AP buy a car tomorrow' | ✓ | ✓ |

Note that *ap* and *pral* are not the same as familiar English forms that behave similarly on the tests in (1) and (2); e.g., *ap* is not like English *may*, and *pral* is not like the English progressive.

- (3) #Tas la ap tonbe men tas la p ap tonbe. *ap* is not like *may/might*
cup DET AP fall but cup DET NEG AP fall
'The cup AP fall but the cup not AP fall.'
- (4) Jan pral gen eleksyon an demen. *pral* doesn't require plannability
John PRAL win election DET tomorrow
'John PRAL win the election tomorrow.' (cf. English #*John wins the election tomorrow.*)

Building on the work of Copley (2005, 2018), we propose ((5a, b, d) below) that *pral*, like futurities in English (e.g. *John is buying a car tomorrow*, (5c)) expresses *ceteris paribus* direct causation between an ongoing situation and the situation that the prejacent is predicated of. The causation has to be direct because (1a) is unacceptable when the ball has to roll to get to the vase, and because (2a) is unacceptable when Jan has still to get the money. That is, the ongoing

situation including only the subject and its properties does not itself cause a situation of which the prejacent is true, under a *ceteris paribus* assumption (closed-world plus normality). Unlike futurates in English, however, *pral* does not require plannability ((4) above). Following Copley (2018), English futurates require plannability because (i) they require an extra causal relation introducing *s* so as to avoid the case where the agent's action occurs both now and tomorrow; (ii) direct causation enforces spatiotemporal contiguity between *s* and *s'* (Fodor 1970); (iii) spatiotemporal contiguity requires *s* to doubly access now and tomorrow; (iv) only statives do double access (Enç 1987); (v) hence *s* must be an intentional state which causes the agent's action, i.e., a plan.

We propose that HC verbs that allow *pral* even though unplannable (as in (4)) have an extra causal relation (Kratzer 2005, Alexiadou et al 2006). This makes (4) acceptable even though winning the election is unplannable: There is an extra causal relation between *s* and the situation of which the prejacent is true, namely *s''*, so there is no spatiotemporal contiguity required between *s* and *s''* (cf. ii), so no double access is required (cf. iii and iv) so *s* need not be a plan (cf. v). (This analysis implies that such verbs in English don't have an extra causal relation.)

- (5) a. $\llbracket pral \rrbracket = \lambda s \lambda p . \exists s' : s \text{ DIRECTLY-CAUSES } s' \ \& \ p(s')$
 b. $\llbracket (2a) \rrbracket = \lambda s . \exists s' : s \text{ DIRECTLY-CAUSES } s' \ \& \ \text{AGENT}(Jan, s') \ \& \ \text{buy}(s') \ \& \ \text{tomorrow}(s') \ \& \ s' \text{ DIRECTLY-CAUSES } s'' \ \& \ \text{Jan-has-a-car}(s'')$
 c. English futurates (modified from Copley 2018): $\llbracket \text{John is buying a car tomorrow} \rrbracket = \lambda s . \exists s' : s \text{ DIRECTLY-CAUSES } s' \ \& \ \text{AGENT}(Jan, s') \ \& \ \text{buy}(s') \ \& \ \text{tomorrow}(s') \ \& \ s' \text{ DIRECTLY-CAUSES } s'' \ \& \ \text{John-has-a-car}(s'')$
 d. $\llbracket (4) \rrbracket = \lambda s . \exists s' : s \text{ DIRECTLY-CAUSES } s' \ \& \ s'' : s' \text{ DIRECTLY-CAUSES } s'' \ \& \ \text{PATIENT}(Jan, s'') \ \& \ \text{win-the-election}(s'') \ \& \ \text{tomorrow}(s'')$

In contrast to *pral*, *ap* has a "ratificational" meaning (Giannakidou & Mari 2016, 2018) like *will*.

- (6) a. Ariadne must/#will be sick.
 b. I Ariadne tha ine arrosti Greek
 DET Ariadne FUT be.3sg.pres sick
 c. Li dwe/#ap malad. HC
 she must/AP sick

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