The semantic evolution of the past irrealis in non-Pama-Nyungan languages: modelling language change without access to written records

Determining the semantic evolution of an expression in a language for which no historical documentation is available is obviously problematic. We intend to illustrate here how access to rich comparative data can help mitigate this problem to some extent, by demonstrating how likely development paths can be reconstructed here the basis of such comparative data, and how known recurrent language change patterns within a language family or phylum, can help formulate diachronic (as well as synchronic) semantic hypotheses, and their formal analysis.

1. On the extreme polyfunctionality of the non-Pama-Nyungan past irrealis

The object of the present talk will be the evolution of a set of particularly polyfunctional and complex forms, namely what we will dub the 'past irrealis', as found in most of the non-Pama-Nyungan languages spoken in Arnhem Land (Northern Territory, Australia) (Caudal 2021). We will focus here on language families possessing recurrent demonstrable genetic links between their irrealis inflections (cf. e.g. Gunwinyguan (Alpher, Evans & Harvey 2003; Baker 2004)). These inflections often jointly exhibit the four following readings:

- Avertive, agentive-volitional meanings (Kuteva 1998; Kuteva et al. 2019), through a conventional construction involving a negative particle on the right edge of the VP (1)
- Modal-aspectual, past proximative meanings (2) – with a cancellable avertive implicature
- A variety of modal meanings (volitional, deontic and or/capacity and/or epistemic and/or hypothetical) – possibly in combination with dedicated modal particles (3)
- In combination with negation, negative past event meanings, (4).2 – but a remarkable ambiguity effect obtains, as the 'reproachative' (Olmen 2018) reading (4).1 of (4) entails the exact opposite of its negative past reading (it entails a hitting event happened).

(1) ayana-wu-ni ba karlu (Iwaidja)
1sg>3pl.PCF-hit-PCF but NEG
'I wanted to hit them/I nearly hit them, but I didn't. (Authors' fieldwork)

(2) nangartbuna this arlirr (Iwaidja)
3sg.PCF-fall-PCF tree
'This tree was going to fall/nearly fell' (Authors' fieldwork)

(3) Ngana-mi-na jumung wulku. (Iwaidja)
1sg.PCF-say-PCF OBL.3sg uncle
'I should have called him uncle.' (Dictionary)

(4) karlu ayana-wu-ni (Iwaidja)
NEG 1sg>3pl.PCF-hit-PCF
1. 'I should not have hit them [the boys]'. (Authors' fieldwork)
2. 'I didn't hit them [the boys].'

It should also be noted that the very same polyfunctionality can be found in other non-Pama-Nyungan languages, exhibiting non-cognate irrealis forms, either synthetic or periphrastic, – language contact and the recurrence of a prevalent cognitive scheme underlying a common development path possibly probably explains this convergence among 'Top End' languages.

The two key questions we would like to investigate here are:

(i) How did these forms come to develop such an amazing range of meanings, i.e. what are their development paths à la (Bybee, Perkins & Pagliuca 1994)?

(ii) How can a diachronic formal implementation explain why the two readings of (4) are seemingly at odds with one another, capitalizing on our answer to (i)?

2. From reconstruction facts to development paths and formal account

Judging from (Caudal 2021)'s study of a sample of the irrealis in a sample spanning seven non-Pama-Nyungan language families, it seems that proximative/volitional meanings and 'should' deontics are the two main overlap zones between the various inflections found – including in

Iwaidjan and Gunwinyguan languages. Capacity meanings, on the other hand, do not seem to have been developed by the past irrealis inflection at least in Iwaidjan languages. This observation is consistent with the reconstruction of two different kinds of modality markers (proclitics and suffixes) in Proto-Australian, differentiating necessity modals from possibility modals. Necessity markers do not seem to develop into possibility or capacity markers (Harvey & Mailhammer forthcoming) This suggests that the following (branching) development path is the most likely for readings (1)-(4):

(5) Past volitional → Past proximative → Past avertive
Past volitional → Past deontic (*via* a conventionalized indirect speech act)

The diachrony of past avertive (1) seems to be a case of strengthening a conversational implicature of the past proximative meaning in an utterance like (2); what once was a two-clause rhetorical device became a conventionalized construction (a very common one across Australian languages, cf. (Caudal 2021)), involving a negative particle on the right edge of the VP – note that there are parallel, reverse diachronic facts deriving sentential negation from avertive meanings in some Australian languages, cf. proto-Ngumin-Yapa **kula* 'can't' modal particle (McConvell & Laughren 2004: 163–164); this stems from avertive structures involving at-issue negative event descriptions (reduced to a mere sentential negation in (1)). In contrast, explaining (4) seems far more challenging. While the 'reproachative' reading (4).2 is compositionally derivable from a past deontic meaning (cf. (3)), the origin of the negative event reading (4).1 seems problematic, as it could potentially arise from any of the four semantic nodes in (5). However, we will argue that it must have derived early from the past volitional (with a volitional/agentive context), as only its negation can yield the correct entailment cf. (6)-(8) – and given that a capacity modal meaning is excluded in the Iwaidjan development path.

(6) He would not go (= he refused to go) → 'He didn't go'. (volitional)
(7) He wasn't going to go → 'He didn't go' OR 'He went'. (proximative)
(8) ??He didn't nearly go. (avertive)

We will specifically argue that the negative event reading (4).2 derived from the conventionalization of a conversational implicature (see (Grossman & Noveck 2015) for a relevant discussion of previous literature) involving a negative event; as argued in (Hansen & Waltereit 2006), we will not propose a CGI-based account of such semanticizations, and instead we will adopt (Davis & Gutzmann 2015)'s 'pragmaticalization' model for language change in relation to conventionalized implicatures. Following (Bernard & Champollion 2018) and their axiom of negation in (9), we will assume that negative events are inactual, but 'real' events in the semantic model, so that (4).2 should be represented as (12) – with, in some contexts , a relatively clear implication that the negated event was expected to take place (cf. e.g. (Zaradzki 2020) for a possible formal account of this)). Diachronically, we will claim that the negative event reading of (4) arose in three stages: (i) from a PCI associated with a negated past volitional in (10) (where → notes a PCI, and *s* the speaker) (cf. (6)), (ii) it became conventionalized as a secondary meaning cf. (11) (where we are using (Davis & Gutzmann 2015)'s hybrid semantics $\mathcal{L}_{CI}$ and its diamond operator ◆; the secondary meaning is not use-conditional, but backgrounded, non-asserted content), and finally (iii) the former secondary content of (11) became the synchronic at-issue meaning of (4) read as (4).2, cf. (12).

(9) $[\exists e \in Neg(P).actual(e)] \leftrightarrow [\forall e' \in P.\neg actual(e')]$ (Bernard & Champollion 2018: 516)

(10) $[\exists e.actual(e) \wedge e \in Neg(\lambda e_1.WANTED(e_1)(s)[\lambda e_2.hit(e_2) \wedge agent(e_2)=s \wedge patient(e_2)= the.boys])]$
$\rightarrow [\exists e'.actual(e') \wedge e' \in Neg(\lambda e''.hit(e'') \wedge agent(e'')=s \wedge patient(e'')= the.boys)]$ **(stage i)**

(11) $[\exists e.actual(e) \wedge e \in Neg(\lambda e_1.WANTED(e_1)(s)[\lambda e_2.hit(e_2) \wedge agent(e_2)=s \wedge patient(e_2)= the.boys])]$
$\blacklozenge [\exists e'.actual(e') \wedge e' \in Neg(\lambda e''.hit(e'') \wedge agent(e'')=s \wedge patient(e'')]$ **(stage ii)**

(12) $\exists e.actual(e) \wedge e \in Neg(\lambda e'.hit(e') \wedge agent(e')=s \wedge patient(e')= the.boys)$ **(stage iii)**

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