

**Background** Warlpiri (Ngumpin-Yapa, Pama-Nyungan; Australia) is argued by Bowler (2016) to be an example of a language with a negative setting of the Beck et al. (2009) Degree Semantics Parameter (DSP). In –DSP languages, property concept words (which are adjectives in languages like English, but can be nouns or verbs in other languages) lack a degree argument. Warlpiri shows many –DSP properties, including a lack of grammatically explicit comparatives, measure phrases, and differential comparatives. However, some Warlpiri expressions containing the nominal suffixes *-piya* and *-kanjayi* are given as translational equivalents of English degree equatives, degree demonstratives, and degree questions. Such expressions are modeled in English using degrees, entailing a +DSP setting. How, then, should Warlpiri be analyzed with respect to the DSP? Does this data require reanalyzing Warlpiri as +DSP? I argue that a degreeless analysis of Warlpiri can be maintained, and that the *-piya/-kanjayi* constructions involve non-degree similatives of manner.

**Data** The relevant Warlpiri expressions include one, or both, of the suffixes *-piya* and *-kanjayi*. These suffixes can only occur on nouns. I first describe *-piya*, then *-kanjayi*.

**-piya** This suffix can occur in Warlpiri expressions that are given as translations of English degree equatives (1) and degree questions (2). However, the truth conditions for these expressions immediately argue against a degreeful analysis. (1) does not require that Japaljarri and Jakamarra be exactly the same height. In fact, (1) is felicitous even if Jakamarra is shorter than Japaljarri, which is not true for the English equative *Japaljarri is as short as Jakamarra*. (1) requires that Japaljarri and Jakamarra are similarly short; i.e., that their heights are similar.

- (1) Japaljarri=ji rdangkarlpa, Jakamarra-piya.  
 Japaljarri=TOP short Jakamarra-PIYA  
 Intended: ‘Japaljarri is as short as Jakamarra.’ *degree equative*  
 More literal translation: ‘Japaljarri is short, like Jakamarra.’

*-piya* combines with the Wh-word *nyiya* ‘what’ to yield questions like (2). This question is underspecified with respect to the property that is being asked about. Speakers can answer with any contextually salient property of the goanna, e.g. ‘big’, ‘small’, ‘spotted’. Warlpiri *nyiya-piya* questions can therefore elicit the same kinds of answers as English degree questions do (e.g. ‘big’); they just cannot elicit measure phrase answers like *5kg* or *1m*.

- (2) Nyiya-piya wardapi=ji?  
 what-PIYA goanna=TOP  
 Intended: ‘How big is the goanna?’ *degree question*  
 More literal translation: ‘What is the goanna like?’

*-piya* is used frequently to form manner similatives that modify clearly eventive predicates (8).

**-kanjayi** This suffix occurs in expressions that can be translated as degree demonstratives (3) and quasi-measure phrases (4). The best possible English translation for N-*kanjayi* expressions is ‘N-far’, where ‘far’ is underspecified for vertical or horizontal distance. (3) refers to a vertical distance, while (5) refers to a horizontal distance. (3) can only describe Japaljarri’s height/length; it cannot mean ‘Japaljarri acts in this manner/looks like this’. *-piya* and *-kanjayi* co-occur in expressions that are translated as degree questions of distance like (5). (5) can only inquire about the distance of Alice Springs, not e.g. its size, quality, or any other property, unlike *nyiya-piya* questions (2).

- (3) Japaljarri kuja-kanjayi.  
 Japaljarri this-KANJAYI  
 ‘Japaljarri is this height.’ (accompanied by gesture) *degree demonstrative*

- (4) Marna=ju mirriji-kanjayi.  
grass=TOP shin-KANJAYI  
'The grass is shin-high.' *quasi-measure phrase*
- (5) Nyiya-piya-kanjayi Alice Springs?  
what-PIYA-KANJAYI Alice Springs  
'How far away is Alice Springs?' *degree question of distance*  
More literal translation: 'Like what-far is Alice Springs?'

**Analysis** I analyse expressions like (1) as involving similatives of manner. (I mean the sense of "manner" in which it is used in the adverbial modification literature, concerning adverbs like *carefully*; Dik 1972; Schäfer 2008, a.o.) The N-*piya* constituent is a manner adverb that can be paraphrased as 'in the manner of N'. (8) can be paraphrased as 'The boy barked in the manner of a dog'; (1) as 'Japaljarri is short in the manner of Jakamarra'; and (2) as 'In what manner is the goanna?' To implement this formally, I assume that 1) all predicates have an eventuality argument of type  $v$ , where the domain of eventualities includes both states and events (Bach 1986); 2) such state arguments are possible targets for manner modification (Ernst 2016); and 3) there is a type  $m$  for manners (following Alexeyenko 2012, Schäfer 2008, a.o). *-piya* combines first with something of type  $e$  (an individual like that denoted by *Jakamarra*, or a kind like that denoted by *dog*, where kinds are a special type of individual; Chierchia 1998). It relates this individual  $x$  to a manner  $m$ , where  $m$  is some contextually salient manner in which  $x$  behaves/exists, and relates the manner  $m$  to an eventuality  $e$  such that  $e$  occurs in the manner  $m$ . In the case of dimensional property concept predicates like *rdangkarlpa* 'short', the manner in which individuals are short refers to their height; having a similar manner of shortness means having the same short height.

I give a compositional semantics for (1) in (6), and a tree in (9). I assume a neo-Davidsonian analysis of predication like in Kratzer (1996). Warlpiri predicates like *rdangkarlpa* 'short' denote predicates of states, and the external argument of the predicate is introduced by functional morphology, perhaps by a Voice head. However, Warlpiri predication could be modeled in different ways, and this has no bearing on the rest of my claims.

- (6) a.  $\llbracket -piya \rrbracket = \lambda x \lambda P_{\langle v,t \rangle} \lambda e_v. P(e) \wedge \exists m[\mathbf{manner}(m,e) \wedge \mathbf{manner-of}(x,m)]$   
 b.  $\llbracket Jakamarra-piya \rrbracket = \lambda P_{\langle v,t \rangle} \lambda e_v. P(e) \wedge \exists m[\mathbf{manner}(m,e) \wedge \mathbf{manner-of}(Jak,m)]$   
 c.  $\llbracket (1) \rrbracket = 1$  iff  $\exists e[\mathbf{short}(e) \wedge \mathbf{holder}(Japaljarri,e) \wedge \exists m[\mathbf{manner}(m,e) \wedge \mathbf{manner-of}(Jak,m)]]$

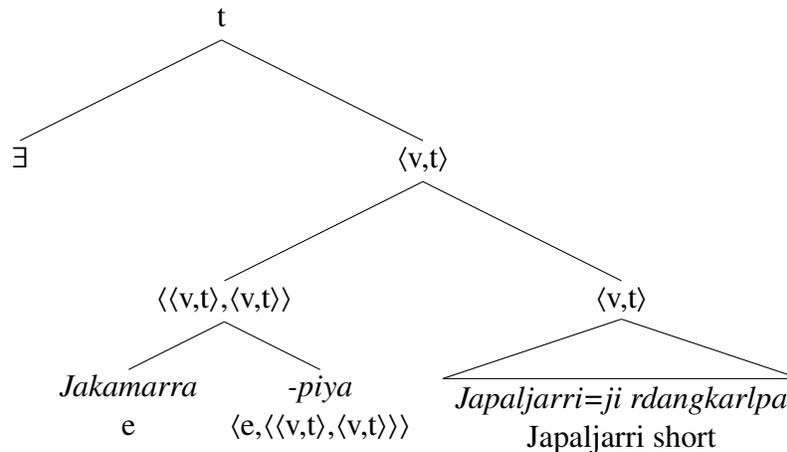
I analyze *nyiya-piya* questions like (2) with a Hamblin question semantics, which I omit for space. I currently analyze *-kanjayi* as a similative like *-piya* that is dimensionally specified for distance, which can be vertical or horizontal. It is of the same type as *-piya*, and combines identically in the syntax. I give a denotation in (7-a), and truth conditions for the quasi-measure phrase expression in (4) in (7-b). I assume that an optionally overt postural verb like *karrimi* 'to stand' (Dixon 2002) serves as the predicate and provides an event for N-*kanjayi* to modify. (4) can be paraphrased as 'The grass stands in a shin-far manner'.

- (7) a.  $\llbracket -kanjayi \rrbracket = \lambda x \lambda P_{\langle v,t \rangle} \lambda e_v. P(e) \wedge \exists m[\mathbf{manner}(m,e) \wedge \mathbf{manner-of}_{distance}(x,m)]$   
 b.  $\llbracket (4) \rrbracket = 1$  iff  $\exists e[\mathbf{stand}(e) \wedge \mathbf{theme}(\text{the-grass},e) \wedge \exists m[\mathbf{manner}(m,e) \wedge \mathbf{manner-of}_{dist.}(\text{shin},m)]]$

**Conclusion** This study has consequences for our understanding of manners as theoretical objects: it shows that some languages use manners to express meanings for which other languages use degrees. This suggests that degrees could be derivable from manners, which in turn suggests that manners, like degrees, could be ordered in some way. It is also relevant to our understanding of the availability of adverbial modification of stative predicates (Ernst 2016, a.o.).

**Additional data and trees**

- (8) Wirriya warlkurr-ma-nu jarntu-piya.  
 boy bark-do-PST dog-PIYA  
 ‘The boy barked like a dog.’
- (9) Tree for (1); truth conditions in (6-c):



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