

## Degrees and modification in Warlpiri

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This work in progress addresses 1) how modification is accomplished in Warlpiri (Pama-Nyungan, Australia), and 2) what the properties of Warlpiri modifiers can tell us about the status of degrees in the language. Following many other authors (Bittner & Hale 1995, Simpson 1991, among others), I propose that Warlpiri lacks an adjectival lexical category. I propose instead that modification in Warlpiri is accomplished through nouns in reduced relative clauses (RRCs). I also evaluate the status of degrees in Warlpiri using Beck, et al’s (2009) questionnaire. I suggest that since Warlpiri lacks adjectives (i.e., terms that typically combine with degree arguments), this can explain why it apparently also lacks degrees. This paper provides an initial look at the status of degrees in Australian languages, which have otherwise been underrepresented in studies on degrees.

**Modifier data** Modifiers in Warlpiri host case marking, can trigger agreement marking (via the second-position agreement clitics), can bind anaphors, and can serve as antecedents to pronouns. Unlike English, ambiguities between intersective and subsective readings don’t exist for Warlpiri modifiers; only the intersective reading is available:

- (1) John is an old friend.
  - a. John is old and John is a friend. *(intersective reading)*
  - b. John has been a friend for a long time. *(subsective reading)*
- (2) Japangardi=ji nyurruwiyi-warnu marlpa.  
 Japangardi=TOP long.ago-from companion
  - a. ‘Japangardi is old and Japangardi is a friend.’ *(intersective reading)*
  - b. \*‘Japangardi has been a friend for a long time.’ *(subsective reading)*

I also provide the following inventory of Warlpiri modifier types, compared to English:

Property	English examples	Warlpiri examples
Intersective	<i>Canadian, amphibian</i>	<i>nyurru-wiyi-warnu</i> ‘old,’ <i>ngurrju</i> ‘good’
Subsective	<i>talented, lousy, experienced</i>	none?
Non-intersective, non-subsective	<i>alleged, probable, likely</i>	none?
Privative	<i>fake, imaginary, pretend</i>	<i>manyumanyu</i> ‘imaginary’

**Degree data** Warlpiri degree data was collected roughly following Beck et al. (2009)’s degree questionnaire. When I report ‘no’ for a construction in Warlpiri, I mean there is no Warlpiri construction(s) used uniquely for that expression, to the exclusion of other readings:

Construction	English example	Available in Warlpiri?
Explicit comparatives	‘X is taller than Y’	no
Differential comparatives	‘X is one meter taller than Y’	no
Comparison with degrees	‘X is taller than one meter’	no
Degree questions	‘How tall is X?’	no
Measure phrases	‘X is two meters tall’	no
Subcomparatives	‘X is wider than Y is long’	no
Explicit equatives	‘X is as tall as Y’	no
Superlatives	‘X is the tallest’	no

Comparison in Warlpiri is accomplished through implicit comparatives (ICs). The use of ICs as the primary method for expressing comparison tends to be a hallmark of degree-less languages:

- (3) Nyirрпи=ji nguru yukanti. Yurntumu=ju wirijarlu.  
 Nyirрпи=TOP country small Yuendumu=TOP big  
 Prompt: ‘Nyirрпи is smaller than Yuendumu.’  
 Literally: ‘Nyirрпи is small. Yuendumu is big.’

**Proposal** The absence of subsecutive readings for Warlpiri modifiers can be accounted for if we assume that modifiers occur in RRCs that combine with the head noun intersectively through predicate modification. I assume that both RC and head noun are of type  $\langle e,t \rangle$ :

- (4) jarntu wiri  
 dog big  
 Prompt: ‘big dog’  
 Literally: ‘(a/the) dog (that is) big’

This RRC proposal also accounts for the absence of non-intersective and non-subsecutive modifiers, since these modifiers cannot occur predicatively:

- (5) \*The thief is alleged.

The absence of explicit comparatives, subcomparatives, comparison with degrees, and so on follows if we assume that Warlpiri lacks degrees and therefore has negative settings for all three degree parameters proposed by Beck, et al. (the Degree Semantics Parameter, Degree Abstraction Parameter, and Degree Phrase Parameter). I propose a denotation for Warlpiri *wiri* ‘big’ (7) that does not refer to degrees, unlike English *big* (6):

- (6)  $\llbracket \text{big} \rrbracket = \lambda d \lambda x. x \text{ is big to degree } d$       (7)  $\llbracket \text{wiri} \rrbracket^c = \lambda x. x \text{ is big in } c$

Some terms exist in Warlpiri that seem to make reference to degrees. These terms include *maya* ‘more’/‘continue,’ *yarda* ‘again’/‘more,’ *-nyayirni* ‘real’/‘very,’ and *-karrikarri* ‘somewhat.’ I show that all of these terms can be accounted for without including degrees in the semantic ontology. I give denotations for *maya* ‘more’/‘continue’ and *yarda* ‘again’/‘more’ that instead make reference to times. Furthermore, I propose a denotation for *-nyayirni* ‘real’/‘very’ that follows Bochnak’s (2013) analysis of the Washo suffix *-šemū*. I suggest that *-karrikarri* ‘somewhat’ has a similar denotation with existential, rather than universal, force:

- (8)  $\llbracket \text{-nyayirni} \rrbracket^c = \lambda P_c \lambda x. \forall c' [cRc' \rightarrow P(x)=1 \text{ in } c']$   
 (P(x) is true in all contexts)  
 (9)  $\llbracket \text{-karrikarri} \rrbracket^c = \lambda P_c \lambda x. \exists c' [cRc' \rightarrow P(x)=0 \text{ in } c']$   
 (there exists a context in which P(x) is false)

**Conclusion** I argue that Warlpiri lacks both adjectives and degrees. I suggest that since there are no adjectives in the language, this can help explain why there are also no degrees.

**References.** Beck, Sigrid, et al. 2009. “Crosslinguistic variation in comparison constructions.” In Van Craenenbroeck, J. (ed.), *Linguistic Variation Yearbook*. Bittner, Maria & Kenneth Hale. 1995. “Remarks on Definiteness in Warlpiri.” In Emmon Bach, et al (eds.), *Quantification in Natural Languages*, 81–107. Bochnak, Ryan. 2013. “Cross-linguistic variation in the semantics of comparatives.” Ph.D. dissertation, University of Chicago. Kennedy, Chris & Louise McNally. 2005. “Scale structure, degree modification, and the semantics of gradable predicates.” *Language* 81(2), 345–381. Pearson, Hazel. 2009. “How to do comparison in a language without degrees.” In Prinzhorn, et al. (eds.): *Proceedings of Sinn und Bedeutung 14*, 356–372. Simpson, Jane. 1991. *Warlpiri Morpho-Syntax: A Lexicalist Approach*. Dordrecht: Kluwer Academic Publishers.