Diyari *marla*: the pathway from intensifier to aspectual NPI

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The Diyari (Karnic: central Australia) word *marla* is associated with a range of readings. It is attested as (**1**) an adjectival intensifier; (**2**) a comparative glossed as 'more'; and (**3**), in negative polar contexts, an aspectual adverb corresponding to 'anymore' (i.e. in CESSATIVE usage, see Austin 2011: 112-3):

1 *nhani-ya mankarra ngumu* ***marla***
3sf.NOM-near girl.NOM good *marla*
'This girl is very good.'

2 *ngakarni kinthala pirna* ***marla*** *yingkarna-nhi*
1s.DAT dog.NOM big *marla* 2s.DAT-LOC
'My dog is bigger than yours.'

3a *wata* ***marla*** *nganhi yawarra yatha-yi*
NEG *marla* 1s.NOM language speak-PRS
'I don't speak the language any more.'

3b *karna wata* ***marla*** *ngama-yi nhigki-rda*
person.NOM NEG *marla* sit-PRS here-VICIN
'People don't live here anymore.'

This paper proposes a sociohistorical and formal account of the diachronic semantics of *marla*, discussing both (**i**) the semantic pathway from intensifier to aspectual NPI and (**ii**) the contact situation which appears to have driven the change. Furthermore, (**iii**) we appeal to data which suggest related grammaticalisation phenomena crosslinguistically, viz. a formal kinship between comparative and cessative semantics.

Diyari. In the mid-19th century, German Lutherans established a mission and school in Diyari country. Diyari was selected as the language of their ministry given that it was understood by and served as a *lingua franca* for a number of different tribal groups in the area (Hoffman 2008). Consequently, Diyari possesses a large corpus of written materials from the 19th and 20th centuries including Bible translations, dictionaries, and letters. These facts position Diyari uniquely among Australian languages. Per Kneebone (2005: 7), "'Mission languages' are characterised by structural standardisation ... The functional range of such languages is engineered and restricted according to the aims of the mission". The deliberate construction of "Mission Diyari" thus produced a new language, functionally and lexically distinct from its pre-contact form.

Semantic change: contexts, degrees, and negative polarity. We argue that sustained contact between indigenous communities and European settlers and the concomitant shifts in usage contexts precipitated significant restructuring of Diyari grammar. Below, we propose an account of the recruitment and reanalysis of *marla* at several stages which has given rise to the synchronic multifunctionality described in **1**–**3**.

Intense beginnings. Dixon (2002: 76) notes the widespread absence of explicit comparative constructions in Australian languages. Comparison with Arabana, a closely related Karnic language, shows that cognate *arla* sees use as an intensifier (as in **4**), but not as a comparative or an aspectual NPI.

4 *Ngurku* ***arla*** *nhiki puntyu-kithiya* [Arabana]
good **INT** this meat-EMP
'This meat is really excellent.' (Hercus 1994: 174)

Accordingly, we argue that the uses in **2** and **3** are innovations and take intensifier *marla* as our semantic starting point. Adopting Klein's (1980) vague predicate semantics, we assume that Diyari gradable adjectives such as *pirna* ('big') are one-place predicates interpreted relative to a discourse context c, as in **5** below.

5 $[\![\, \textit{pirna} \,]\!]^c = \lambda x.\, x$ counts as big in $c = \lambda x.\mathbf{big}_c(x)$

This interpretation depends upon a comparison class $\sim_c$ (a contextually-determined set) and its partition into two subsets whose members lie within and without the positive extension of *pirna*. We adopt Beltrama and Bochnak's (2015) analysis of "intensifi[ers] without degrees" (Washo *šému*, Italian *-issimo*), taking *marla* to realise a universal quantifier over relevant contexts. As shown in **6**, $\mathcal{R}_c$ is a relation which returns from a discourse context c a set of contexts $\mathcal{C} = \{c' \mid c' \in \mathcal{R}_c\}$ whose comparison class $\sim_{c'}$ is relevantly like $\sim_c$.

6a $[\![\, \textit{marla} \,]\!]^c = \lambda P.\forall c'[\mathcal{R}_c(c') \rightarrow P(c')]$ **b** $[\![\, \textit{pirna marla} \,]\!]^c = \lambda x.\forall c'[\mathcal{R}_c(c') \rightarrow \mathbf{big}_{c'}(x)]$

On this approach, *marla* "intensifies" $P(x)$ by asserting that x will count as P across an array of contexts (rather than merely in the local discourse context).

Comparison in context. The locative phrase *yikarna-nhi* ('than your [dog]') in **2** encodes a standard of comparison (Austin 2011: 133). LOC-marked NPs denoting comparanda are robustly attested crosslinguistically (Stassen 1985; Bobaljik 2012). In view of the denotation in **6a** above, we analyse the LOC phrase as a contextual modifier (e.g. Francez 2009) which restricts the accessibility relation $\mathcal{R}_c$ such that it relates c only to those contexts c' in which the comparison class $\sim_{c'}$ is the minimal set containing the LOC-marked object. A partial derivation for **2** is offered in **7**. (Possessives are replaced with individual constants for simplicity.)

7a $[\![\textit{fido pirna marla}]\!]^c = \lambda\mathcal{C}.\forall c'[c' \in \mathcal{C} \rightarrow \textbf{big}_{c'}(\textbf{fido})]$ **b** $[\![\textit{-nhi}_{\text{-LOC}}]\!]([\![\textit{spot}]\!]) = \lambda x\lambda\mathcal{X}[\mathcal{X}_{c_x}](\textbf{spot})$

c $[\![\textbf{7a}]\!]^c([\![\textbf{7b}]\!]^c) = \forall c'[\mathcal{R}_{c_{\textbf{spot}}}(c') \rightarrow \textbf{big}_{c'}(\textbf{fido})]$ $[\![\textit{spot-nhi}_{\text{spot-LOC}}]\!](\mathcal{R}_c) = \lambda\mathcal{X}[\mathcal{X}_{c_{\textbf{spot}}}](\mathcal{R}_c) = \mathcal{R}_{c_{\textbf{spot}}}$

$= \forall c'[\asymp_{c'} = \{\textbf{spot}, \textbf{fido}\} \rightarrow \textbf{big}_{c'}(\textbf{fido})]$

$= \forall c'[\asymp_{c'} = \{\textbf{spot}, \textbf{fido}\} \rightarrow [\textbf{big}_{c'}(\textbf{fido}) \wedge \neg\textbf{big}_{c'}(\textbf{spot})]]$

$= \forall \asymp_{c'}[\textbf{big}_{c'}(\textbf{spot}) \rightarrow \textbf{big}_{c'}(\textbf{fido})] \wedge \exists \asymp_{c''}[\textbf{big}_{c''}(\textbf{fido}) \wedge \neg\textbf{big}_{c''}(\textbf{spot})]$

$= \lambda c'(\textbf{big}_{c'}(\textbf{fido})) \supsetneq \lambda c''(\textbf{big}_{c''}(\textbf{spot}))$

The denotation in **7c** shows that LOC-marked comparative constructions are interpreted irrespective of discourse context c and induce a minimal ordering on $\asymp_{c'}$ which must hold of its members across all contexts. Once (sets of) contexts are analysed as object language expressions, we are effectively in the province of a degreeful analysis of *marla* (observe the resemblance between **7c** and **8d**). Its contribution is reanalysed as in **8** below, following Bochnak's (2013: 69) composition for phrasal comparatives. One-place predicates in Diyari now optionally realise degree arguments, indicating a parametric switch from [-DSP] to [+DSP] which accompanies the grammaticalisation of overt degree morphology (see Beck et al. 2009). Austin observes that **1** is also compatible with a comparative reading, sc. 'This girl is better [than x]' (2011: 112). In these cases, some implicit comparandum (represented as α_c in **9**) is retrieved from the context.

8a $[\![\textit{marla}]\!]_{\langle e,\langle\langle d,et\rangle,et\rangle\rangle} = \lambda x\lambda P_{\langle d,et\rangle}\lambda y.\textbf{max}(\lambda d.P(d)(y)) \succ \lambda x.\textbf{max}(\lambda d'.P(d')(x))$

b $[\![\textit{marla spot-nhi}]\!]_{\langle\langle d,et\rangle,et\rangle} = \lambda P\lambda y.\textbf{max}(\lambda d.P(d)(y)) \succ \textbf{max}(\lambda d'.P(d')(\textbf{spot}))$

c $[\![\textit{pirna marla spot-nhi}]\!]_{\langle e,t\rangle} = \lambda y.\textbf{max}(\lambda d.\textsc{size}(d)(y)) \succ \textbf{max}(\lambda d'.\textsc{size}(d')(\textbf{spot}))$

d $[\![\textit{fido pirna marla spot-nhi}]\!] = \textbf{max}(\lambda d.\textsc{size}(d)(\textbf{fido})) \succ \textbf{max}(\lambda d'.\textsc{size}(d')(\textbf{spot}))$

$= \lambda d.\textsc{size}(d)(\textbf{fido}) \supsetneq \lambda d'.\textsc{size}(d')(\textbf{spot})$

9 $[\![\textbf{1}]\!]^c = \textbf{max}(\lambda d.\textsc{goodness}(d)(\textbf{this.girl})) \succ \textbf{max}(\lambda d'.\textsc{goodness}(d')(\alpha_c))$

Scales and times. As with those uses analysed above, *marla*'s aspectual reading can be characterised as a scalar relation between sets. For Israel (1997, 2011), aspectual operators (or "phasal adverbs", see van der Auwera 1998; Löbner 1999) are taken to encode scalar relations between eventualities. This treatment develops Horn's proposal for the content of aspectual adverbs as relating two temporal phases of a given eventuality (Horn 1970: 321; see also Beck 2020 a.o.). **10a** offers a preliminary, compositional denotation for a simplified **3a** (cf. **7c**, **8d**) in which the implicit comparandum (≈ '[than I have spoken it]') is taken to be the set of times preceding the reference time at which the prejacent holds.

10a $[\![\textbf{3a}]\!] = \lambda t(\textbf{I.speak.diyari}(t)) \not\supset \lambda t'(\textbf{I.speak.diyari}(t') \wedge t' \prec \textbf{now})$

$= \textbf{max}(\lambda t.\textbf{I.speak.diyari}(t)) \not\succ \textbf{max}(\lambda t'.\textbf{I.speak.diyari}(t') \wedge t' \prec \textbf{now})$

b $[\![\textit{wata marla}]\!]_{\langle\iota,\langle\iota t,t\rangle\rangle} = \lambda t\lambda P_{\langle\iota t\rangle}.\lambda t'(P(t')) \not\supset \lambda t''(P(t'') \wedge t'' \prec t)$ $= \lambda t\lambda P.\lambda t'(P(t')) \subseteq \lambda t''(t'' \prec t)$

$= \lambda t\lambda P_{\langle\iota t\rangle}.\textbf{max}(\lambda t'.P(t')) \not\succ \textbf{max}(\lambda t''.P(t'') \wedge t'' \prec t)$ $= \lambda t\lambda P.\textbf{max}(\lambda t'.P(t')) \not\succeq t$

c $[\![\textit{marla}]\!]_{\langle\iota,\langle\iota t,t\rangle\rangle} = \lambda t\lambda P_{\langle\iota t\rangle}.\lambda t'(P(t')) \supseteq \lambda t''(P(t'') \wedge t'' \prec t)$ $= \lambda t\lambda P.\lambda t'(P(t')) \not\subseteq \lambda t''(t'' \prec t)$

$= \lambda t\lambda P_{\langle\iota t\rangle}.\textbf{max}(\lambda t'.P(t')) \succ \textbf{max}(\lambda t''.P(t'') \wedge t'' \prec t)$ $= \lambda t\lambda P.\textbf{max}(\lambda t'.P(t')) \succeq t$

The compositional denotation in **10b** captures the intuitive truth conditions for negative polar 'anymore' except that it lacks the presuppositional content typical of aspectual semantics. Note, however, that it is trivially verified if P does not hold for any $t \in D_\iota$ (i.e. $\lambda t'(P(t'))$ is empty / $\textbf{max}(\lambda t'.P(t'))$ is undefined). We thus argue that the presupposition in **11** is the result of pragmatic pressure to avoid underinformativity.

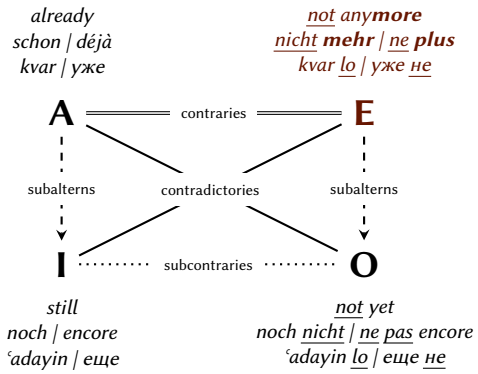
11 $[\![\textit{wata marla}]\!] = \lambda t\lambda P : \lambda t'(P(t')) \neq \varnothing\,.\,\lambda t'(P(t')) \subseteq \lambda t''(t'' \prec t) = \lambda t\lambda P : \exists t'[t' \prec t \wedge P(t)]\,.\,\neg P(t)$

The unavailability of positive *marla* can also be explained pragmatically. **10c** is verified by temporal configurations compatible with 'still', 'henceforth', 'not yet', etc. (see **12**); its semantics require only that the endpoint of P be non-past. We argue that this aspectual ambiguity renders positive *marla* unfelicitous.

Polarity-sensitive aspectuality crosslinguistically. As analysed above, aspectual readings of *marla* are restricted to negative polar contexts. We relate this observation to an apparent crosslinguistic tendency wherein comparative morphology is recruited to perform the work of an adverb with cessative semantics (see also Vandeweghe 1986). As in Diyari (and English, German, etc.), the French comparative construction (seen in **13**) is available to perform this aspectual work only in negative polar contexts (**14**). The diachronic proposal described above seeks to precise previous observations about the status of aspectual/phasal adverbials as scalar operators and, consequently, their synchronic kinship with comparative morphology.

12 aspectual square of opposition

(adapted from Löbner 1989)



13 a *J'en veux **plus***
1s=PART want more
'I want (some) more'

b *Je n'en veux **plus***
1s NEG=PART want more
'I don't want (any) more.'

14 a # *Je crois **plus***
1s believe more
✗'I still believe.'

b *Je ne crois **plus***
1s NEG believe more
'I don't believe #(any)more.'

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