On the emergence of an aspectual NPI: comparative polysemy & the case of Diyari *marla*

Will Wegner, Josh Phillips & Claire Bowern
Yale University

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 as an aspectual adverb corresponding to 'anymore' (i.e. in CESSATIVE usage, see Austin 2011: 112-3):

1 *nhani-ya mankarra ngumu* ***marla***
3sfsdx-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 language speak-PRS
'I don't speak the language any more.'

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

This paper proposes lexical entry for *marla* which unifies these three readings and an account of its diachronic trajectory from intensifier to comparative to aspectual NPI. Furthermore, we appeal to data which suggest related grammaticalisation phenomena crosslinguistically, viz. a formal kinship between comparative and cessative semantics.

Intense beginnings. Authors including Dixon (2002: 76) and Schweiger (1984) have noted the widespread absence of "explicit comparative constructions" (i.e. those with dedicated morphological resources, see Kennedy 2004) across the 400+ languages spoken on the Australian continent. In Arabana, a closely related Karnic language, the cognate *arla* sees use as an intensifier (as in **4**); explicit comparative morphology and lexified phasal adverbs are unattested in this language. Accordingly, we argue that the uses in **2** and **3** are innovations and reconstruct *marla*'s intensifier meaning as a semantic starting point. Adopting Klein's (1980) vague predicate semantics, we take Diyari gradable adjectives such as *pirna* ('big') to be one-place predicates interpreted relative to a discourse context c, as in **5** below.

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

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

This interpretation depends on the retrieval of a (contextually-determined) comparison class $\asymp_c$, partitioned according to whether members are adjudged as falling inside or outside the predicate's positive extension. Adapting insights from Beltrama & Bochnak's analysis of "intensifi[ers] without degrees" (2015), we take *marla* to realise a universal quantifier over relevant contexts. 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 $\asymp_{c'}$ is relevantly like $\asymp_c$. On this approach, *marla* strenghtens ("intensifies") the truth conditions of $P(x)$ by asserting that x falls in the positive extension of P across an array of contexts.

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

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) that explicitly restricts $\mathcal{R}_c$ such that it relates c only to those contexts c' in which the comparison class $\asymp_{c'}$ is the minimal set containing the LOC-marked object. A partial derivation for **2** is offered in **7**.

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

$[\![\textit{spot-nhi}_{\text{spot-LOC}}]\!](\mathcal{R}_c) = \lambda\mathcal{X}[\mathcal{X}_{c_{\mathbf{spot}}}](\mathcal{R}_c) = \mathcal{R}_{c_{\mathbf{spot}}}$

c
$$\begin{aligned}
[\![\textbf{7a}]\!]^c([\![\textbf{7b}]\!]^c) &= \forall c'[\mathcal{R}_{c_{\mathbf{spot}}}(c') \rightarrow \mathbf{big}_{c'}(\mathbf{fido})] \\
&= \forall c'[\asymp_{c'} = \{\mathbf{spot}, \mathbf{fido}\} \rightarrow \mathbf{big}_{c'}(\mathbf{fido})] \\
&= \forall c'[\asymp_{c'} = \{\mathbf{spot}, \mathbf{fido}\} \rightarrow [\mathbf{big}_{c'}(\mathbf{fido}) \wedge \neg\mathbf{big}_{c'}(\mathbf{spot})]] \\
&= \forall \asymp_{c'}[\mathbf{big}_{c'}(\mathbf{spot}) \rightarrow \mathbf{big}_{c'}(\mathbf{fido})] \wedge \exists \asymp_{c''}[\mathbf{big}_{c''}(\mathbf{fido}) \wedge \neg\mathbf{big}_{c''}(\mathbf{spot})] \\
&= \lambda c'(\mathbf{big}_{c'}(\mathbf{fido})) \supsetneq \lambda c''(\mathbf{big}_{c''}(\mathbf{spot}))
\end{aligned}$$

The denotation in **7c** demonstrates that LOC-marked comparative constructions are interpreted irrespective of local 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 effec-

tively in the province of a degreeful analysis of *marla* (observe the resemblance between 7c and 8d). Its contribution is reanalysed as in **8** below, mirroring, *e.g.* Bochnak's (2013: 69) compositional derivation of phrasal comparatives. Austin notes that **1** is also compatible with a comparative reading, sc. 'This girl is better [than x]' (2011: 112); in such cases, some implicit comparandum (represented as α_c in **9**) is retrieved from the context.

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

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

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

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

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

Scales and times. As with those uses analysed above, aspectual *marla* can be characterised as a scalar relation between sets. For Israel (1997, 2011), some aspectual operators (*viz.* "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 represents the truth conditions of a simplified **3a** (cf. 7c, 8d) in which an implicit comparandum (≈ '[than I have spoken it]') is taken to refer to the set of times preceding the reference time at which the prejacent holds.

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

b $[\![\textit{wata marla}]\!] = \lambda t\lambda P.\lambda t'(P(t')) \not\supset \lambda t''(P(t'') \wedge t'' \prec t) = \lambda t\lambda P.\lambda t'(P(t')) \subseteq \lambda t''(t'' \prec t)$
$= \lambda t\lambda P.\mathbf{max}(\lambda t'.P(t')) \not\succ \mathbf{max}(\lambda t''.P(t'') \wedge t'' \prec t) = \lambda t\lambda P.\mathbf{max}(\lambda t'.P(t')) \not\succeq t$

c $[\![\textit{marla}]\!] = \lambda t\lambda P.\lambda t'(P(t')) \supsetneq \lambda t''(P(t'') \wedge t'' \prec t) = \lambda t\lambda P.\lambda t'(P(t')) \not\subseteq \lambda t''(t'' \prec t)$
$= \lambda t\lambda P.\mathbf{max}(\lambda t'.P(t')) \succ \mathbf{max}(\lambda t''.P(t'') \wedge t'' \prec t) = \lambda t\lambda P.\mathbf{max}(\lambda t'.P(t')) \succeq t$

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 that **10b** is trivially verified if P does not hold for any $t \in D_i$—i.e. $\lambda t'.P(t')$ is empty / $\mathbf{max}(\lambda t'.P(t'))$ is undefined). We argue that the presupposition in **11** is the result of pragmatic pressures 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 then also be explained pragmatically. **10c** is verified by temporal configurations compatible with 'still', 'henceforth', 'not yet', etc.; it requires only that the endpoint of P be non-past. We argue that this underinformativity renders positive *marla* unfelicitous.

Polarity-sensitive aspectuality crosslinguistically. As analysed above, aspectual readings of *marla* are restricted to negative polar contexts. This observation can be related 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 with Diyari *marla* (and German *mehr*, Serbian *više*, English [*any*]*more*, etc.), the French comparative construction *plus* (shown in **12**) is available to perform aspectual work only in negative polar contexts (**13**).[a] The diachronic proposal described above seeks to precise previous observations about the status of phasal adverbials as scalar operators and, consequently, their synchronic kinship with comparative morphology. Research drawing upon available diachronic and comparative data from a number of languages which exhibit this polysemy promises further empirical support for the semantic phenomenon analysed here and a concomitant conception of phasal adverbs as a species of scalar operator.

12a *J'en veux* ***plus*** [plys]
1S=PART want more
'I want (some) more'

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

13a #*Je crois* ***plus***
1S believe more
✗'I still believe.'

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

[a] Note that, most likely as a result of the optionality of *ne* in these contexts in colloquial French, the pronunciation of *plus* has split: *plus* [plys] /plus [ply].

Selected references. Austin 2011. *Diyari* • Bobalijk 2012. *Universals in comparative morphology.* • Beck 2020. Readings of scalar particles *noch/still*. *L&P43* • Beltrama & Bochnak 2015. Intensification without degrees *NLLT* • Bochnak 2013. *Cross-linguistic variation in the semantics of comparatives* • Dixon 2002. *Australian Languages* • Francez 2009. Existentials, predication & modification. *L&P32* • Hercus 1994. *Arabana-Wangkangurru* • Horn 1970. Ain't it hard (anymore). *CLS6* • Israel 2011. *The grammar of polarity.* • Klein 1980. Semantics for positive & comparative adjectives. *L&P4* • Löbner 1999. Why German *schon* & *noch* are still duals. *L&P22* • Stassen 1985. *Comparison & Universal Grammar* • Thomas 2018. Underspecification in degree operators. *JS* • Wandeweghe 1986. Complex aspectivity particles in some European langs.

Additional submission. Related work on this project has been presented at the 7th workshop on Formal Diachronic Semantics in Budapest (November 2022) and has been accepted for a poster presentation at the 53rd meeting of the North East Linguistic Society (January 2023). Whereas these presentations highlight a trajectory of semantic change as instantiated in Diyari, the work proposed here seeks to afford particular attention to cross-linguistic generalisations about negative polarity and the apparent formal kinship between comparative morphology and phasal adverbs.