



DURATIONAL MEASURES OF PALATAL STOPS ACROSS AUSTRALIAN LANGUAGES

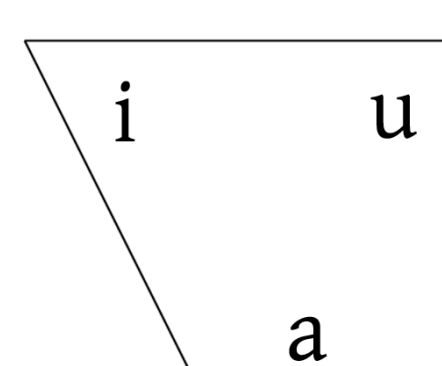


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BACKGROUND & QUESTIONS

- Australian languages: similar phonological inventories (e.g. Dixon, 1980; Round, 2023)
- Are similar phoneme inventories similarly realized in related languages?
- Variation in palatals: e.g. Tabain and Beare (2011)
 - Pitjantjatjara vs Arrernte; differences due to 1 series of laminals vs 2?
- Others suggest limited between-language variation (e.g. Graetzer et al., 2015)
- **What is the structure of phonetic variation in these languages?**

	Labial	Lamino-dental	Apico-alveolar	Retroflex	Palatal	Velar
Nasal	m	ɲ	n	ɳ	ɲ	ŋ
Stop	p	t̪	t	ʈ	c	k
Liquid		l̪	l, r	ɭ	ʎ	
Glide	w		j			



DATA & METHODS

- 11 languages (cf. Babinski, 2022)
 - 4 languages with 2 stop series
 - 4 with contrasting lamino-dentals
- Monologic narrative data force-aligned with MFA (McAuliffe et al., 2017) + manual correction
- ≈100 tokens per language; balanced for environment
- Measured
 1. closure onset and consonant release
 2. burst length where present
 3. intensity (per Kingston 2008)
- Analyses: ANOVA in RStudio using `stats`
- Intensity measures with Praat script © John Kingston (2008), modified by Christian DiCanio (2020)
- **Proof of concept**, provisional



RESULTS—RELEASE BURST

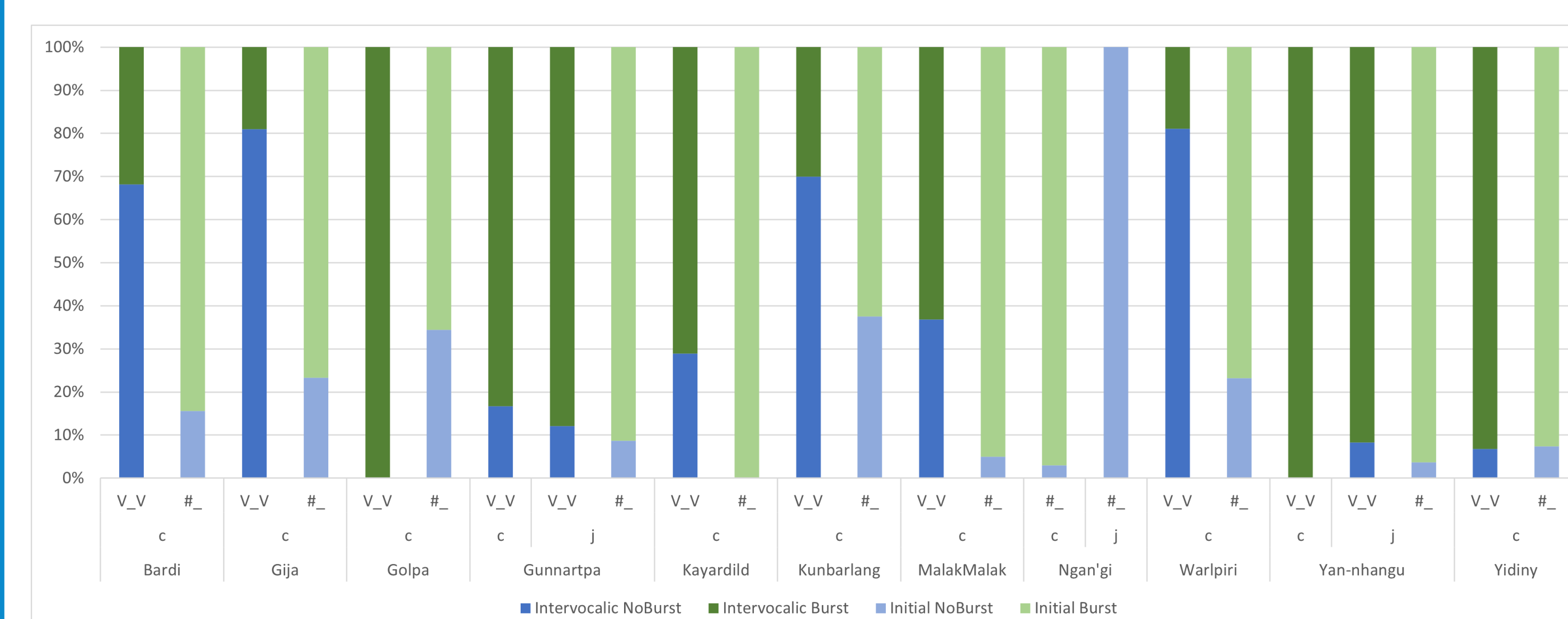


Figure 1: Percentage of stops with release burst, by language & environment

RESULTS—DURATION

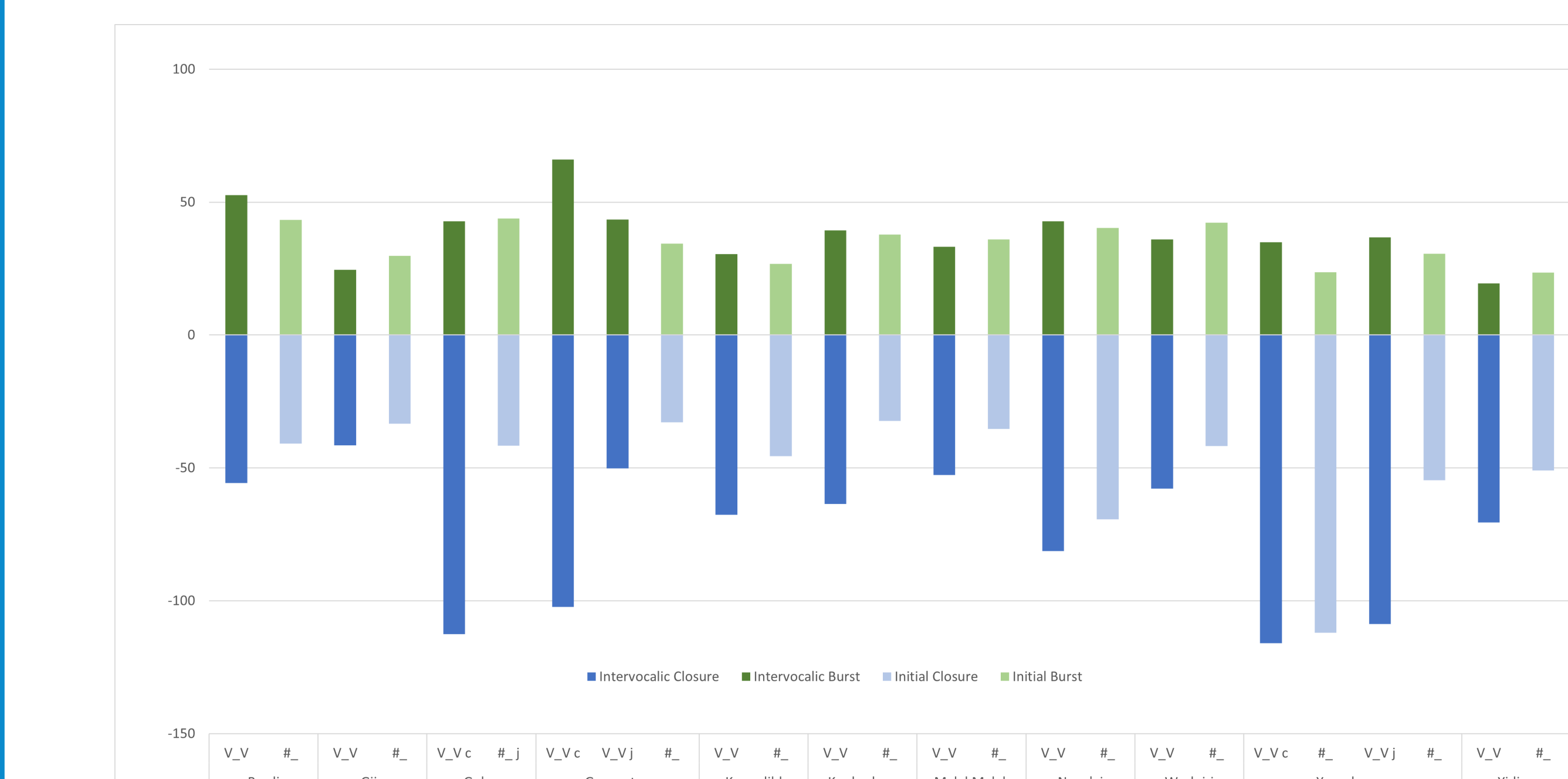


Figure 2: Mean durations of closure and release burst, by language & environment

RESULTS—INTENSITY

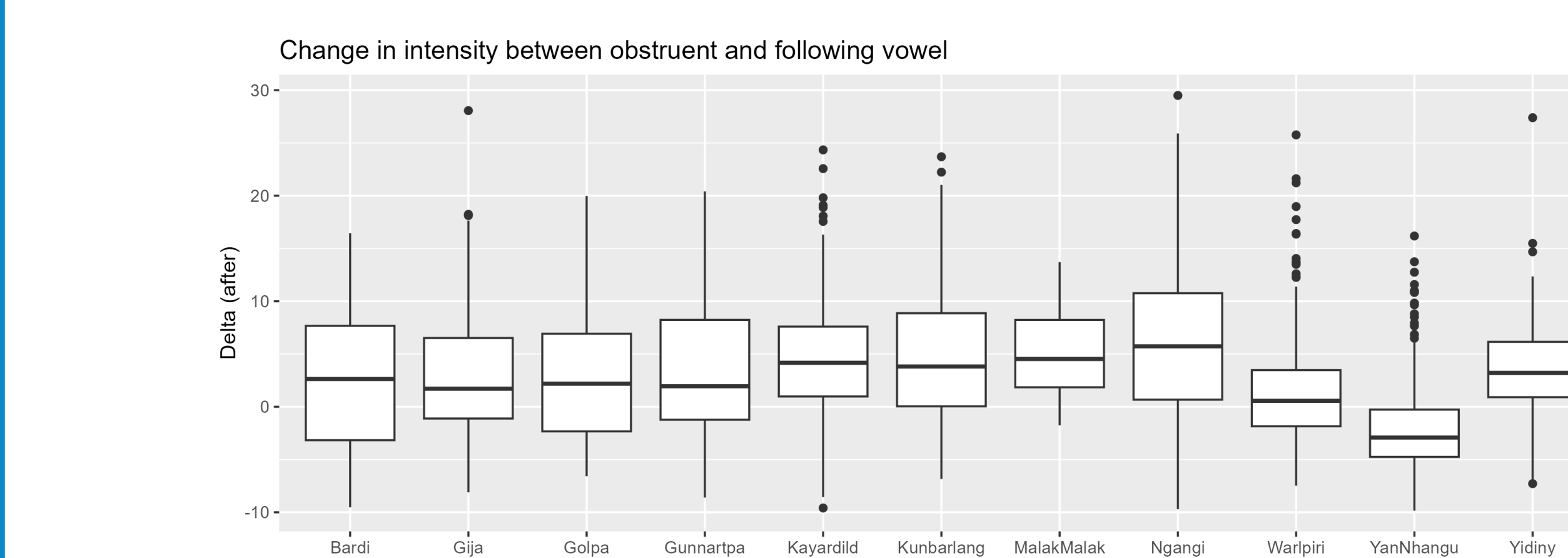


Figure 3: Intensity differences between obstruent and following vowel

DISCUSSION & CONCLUSIONS

- Inventory composition doesn't seem to be conditioning variation, pace Tabain & Beare (2011).
- Australian languages show broad variation in release burst presence and closure duration (more uniformity in burst duration).
- There's also substantial (significant) variation in intensity slopes between the obstruent and following vowel, suggesting a range of lenition patterns both within and between languages.
- Language-specific variation isn't surprising in itself but Australian descriptions tend to stress similarity (e.g. Graetzer et al. 2015).
- Theoretical implications for how variation becomes contrastive (Kakadelis 2018; Drescher 2009; Katz 2016, 2021) and whether lenition is intensity-smoothing (per Kingston 2008).
- Potential for archival phonetics, of interest for language revitalization (e.g. pronunciation and recovering variation from written records).

SELECTED REFERENCES

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