

A typologically rare reduplication pattern seen through the lens of learning biases

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In morphological reduplication, reduplicants are rarely defined in terms of the syllable structure of the base. For instance, while copying a segmental melody template from the base (e.g., CV, CVC) is typologically frequent, copying a syllable from the base is exceedingly rare [1]. Using an artificial language learning paradigm with *written* stimuli, [2] reported a learning bias in line with the typological facts, i.e. a bias against syllable-defined reduplication. Here, we report on four preregistered experiments with an exposure + test design in which we used *auditory* stimuli.

For each experiment, we recruited 100 native speakers of Italian, a language that has no morphological reduplication. Half of them were attributed to the syllable-defined condition (CVX) and the other half were divided over two string-defined conditions (CV and CVC). All experiments used the same set of 60 items, half with an initial open syllable and half with an initial closed syllable (Table 1). Forty items were used for exposure, 20 for testing.

Exp. 1 and 2: On each exposure trial, participants heard an item and saw a picture of either one object or two identical objects. (As the participants were told, the pictures only served to show whether the word was a singular or a plural.) On each test trial, they heard a novel item. In Exp. 1 (perception) this novel item was followed, also auditorily, by two associated reduplicated forms, one with a CV- and the other with a CVC-reduplicant; participants had to choose the correct one. In Exp. 2 (production), participants were asked to produce the corresponding reduplicated form. The results (Fig. 1A-B) showed no difference between the syllable-defined and the string-defined conditions in perception ($t < 1$), but worse performance in the syllable-defined condition in production ($p < .0001$). Yet, since in Exp. 2, 44 participants had been rejected and replaced because they failed to produce any reduplication in the majority of the test trials, it may have suffered from a sampling bias.

Exp. 3 and 4: These experiments only differed from the previous ones in that exposure trials consisted of the presentation of a singular-plural pair of a given item. Learning was therefore easier and more explicit, and there was no sampling bias anymore. Again, the results (Fig. 1C-D) showed no difference between conditions in perception ($p = .08$), but worse performance in the syllable-defined condition in production ($p < .0001$).

Thus, in line with the typology and regardless of exposure design, we found a robust bias against syllable-based reduplication in production but not in perception. We will discuss possible reasons for this difference. Time permitting, we will show additional data from two experiments with written stimuli that shed more light on the original bias reported in [2].

References

- [1] Marantz, A. (1982). Re Reduplication. *Linguistic Inquiry*, 13, 435-482.
- [2] Haugen, J.D., Ussishkin, A. & Dawson, C.R. (2022). Learning a typologically unusual reduplication pattern: An artificial language learning study of base-dependent reduplication. *Morphology* 32, 299–315.

Figures and Tables

Table 1: Sample items

	base form	CV-reduplicated	CVC-reduplicated
CV-initial base	/kilamo/	/ki-kilamo/	/kil-kilamo/
	/bumifra/	/bu-bumifra/	/bum-bumifra/
	/varoge/	/va-varoge/	/var-varoge/
CVC-initial base	/dantrupo/	/da-dantrupo/	/dan-dantrupo/
	/vilmapre/	/vi-vilmapre/	/vil-vilmapre/
	/♣urfita/	/♣u-♣urfita/	/♣ur-♣urfita/

Figure 1: Boxplots of results for Exp. 1 (A), Exp. 2 (B), Exp. 3 (C), and Exp. 4 (D); triangles indicate mean accuracy, and error bars 1 SE.

