Reduplication as intensification. Evidence from French Sign Language

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1 Introduction

Like most sign languages, French Sign Language (LSF) makes a productive use of reduplication, which can be used on both nouns (1a) and verbs (1b):

(1) a. ENFANT + > + > +
‘child-rep’

b. ENVOYER + > + > +
‘send-rep’

The reduplication morpheme (glossed here as /rep/ following Kuhn & Aristodemo 2017), which consists in various iterations of the sign, can only be licensed on a subset of lexical elements, depending on the morpho-phonological properties of the stem it attaches to (Pfau & Steinbach, 2006). Most of the existing literature on /rep/ argues that it is best analyzed as a plural marker, denoting either pluralities of individuals (as in 1a; Pfau & Steinbach 2006, van Boven 2024 i.a.) or events (as in 1b; Kuhn & Aristodemo 2017). For instance, Pfau & Steinbach (2006) take /rep/ to be an allomorph of the number feature in a variety of sign languages, which is otherwise zero-marked. We present novel data from LSF that challenge this claim: /rep/, we argue, is best analyzed as an intensifier, similar to English *very*. Main evidence for our claim comes from cases in which /rep/ fails to be licensed in contexts where pragmatic inferences associated with plurality typically arise in natural language.

2 The inferential profile of /rep/

Reduplication has been extensively studied from a phonological and morphological perspective in many sign languages, including American Sign Language (ASL, Wilbur 1987, 2005), German Sign Language (DGS, Pfau & Steinbach 2006) and Sign Language of the Netherlands (NGT, van Boven et al. 2023, 2024). Most, if not all, of these studies analyze the meaning of reduplication as corresponding to that of a plural marker, expressing a number feature widely realized in spoken language. However, it has long been noted that, from a semantic perspective, the plural is number- neutral and contrast with the singular, which is usually specified for number; evidence for this comes from data exemplifying the so-called ‘plurality inference’, which only arises in monotone-increasing contexts, such as (2a), but is absent from monotone-decreasing ones, as in (2b) involving negation (Schwarzschild 1996; Chierchia 1998; Sauerland 2003; Spector 2006, 2007 i.a.):

(2) a. Maria has toys.
$\rightsquigarrow$ *Maria has more than one toy.*

b. Maria doesn’t have toys.
$\rightsquigarrow$ *Maria has no toys whatsoever.*

What happens in (2a) is that the plural is not merely interpreted but strenghtened somehow to attain a 'more than one' interpretation in (2a); this inference is not licensed in downward-entailing (DE) contexts, leading to the 'none' interpretation in (2b). This is corroborated by the oddness of (3), which evidences that negation does not target plurality: the plural is therefore semantically number-neutral.

(3) #Maria doesn't have toys, but she has one.

Turning now to sign languages, it seems that this kind of data was largely overlooked (an exception being Koulidobrova 2021 for ASL which partly addresses the issue). We present below novel data from LSF that corroborates these findings.

3 Plurals in LSF.

The present data was elicited with the help of two native signers of LSF, a deaf signer and a coda. Following the 'playback method' (Schlenker et al., 2013),scores represent felicity judgments ascribed by informants after re-exposure to the data. We observe that in LSF, /rep/ is never licensed in downward-entailing contexts (4b)-(4c), except when followed by a contrastive sentence (4d), which is felicitous in LSF, acting as the mirror example of (3).

(4) a. IX$_a$ MAGASIN$_a$ ENFANT$>+>+>+_b$ PLAIRE.BEAUCOUP$_b$. 7 / 7
'Children-/rep/ like this shop a lot.'

b. IX$_a$ MAGASIN$_a$ ACCEPTER$_b$ ENFANT$_b$ NON . 7 / 7
'Children are not allowed in this shop.'

c. #IX$_a$ MAGASIN$_a$ ACCEPTER$_b$ ENFANT$>+>+>+_b$ NON . 2 / 1
Intended: 'Children-/rep/ are not allowed in this shop.'

d. IX$_a$ MAGASIN$_a$ ACCEPTER$_b$ ENFANT$>+>+_b$ NON SEULEMENT$_a$ 1_a POUVOIR$_a$. 6 / 7
'Children-/rep/ are not allowed in this shop, only one is.'

This pattern is fairly robust and can be observed with various /rep/-compatible nouns, such as ETOILE '*star*', PERSONNE '*individual*', and RAYURE '*scratch/stripe*'.

4 The puzzle with PEU (*few*)

A further puzzle arises in sentences containing the quantity word PEU (*few*), which seems incompatible with /rep/-marked nouns, as (5c)-(5d) illustrate:

(5) a. PI$_a$ ARBRE$_a$ (BEAUCOUP) FEUILLE$>+>+$.
'This tree has a lot of leaves-rep.'

b. GRECE$_a$ POUVOIR VOIR ETOILE-CL$>+>+$ LA$_a$.
'When in Greece, one can see a lot of stars-rep.'

c. PI$_a$ ARBRE$_a$ IX$_a$ PEU FEUILLE . 7 / 6.5
'This tree has a few leaves.'

d. POITIERS$_a$ IX ETOILE PEU$_a$. 7 / 7
'When in Poitiers, one can only see a few stars.'

This pattern can also be observed with predicates, such as ENVOYER '*send*' or POSER.QUESTION '*ask questions*', as in (6a)-(6b):

(6) a. ENVOYER $>+>+>+$ MESSAGE .
‘I sent-/rep/ (many) messages.’

b. ENVOYER MESSAGE PEU . 7 / 5.5
‘I sent few messages.’

This is *prima facie* problematic for the plural number analysis of /rep/; assuming that quantity words such as *few* are to be analyzed either as quantifiers (Barwise & Cooper 1981; Romero 1998; Hackl 2000 i.a.) or as gradable adjectives (Cresswell 1976; Partee 1988; Solt 2015 i.a.), they quantify over pluralities and therefore, should enforce plural number marking through agreement whenever possible. Why, then, does /rep/ fails to be licensed in such cases?

5 Towards a solution, first step: /rep/ as intensification

Following previous insights about the treatment of adjectives in sign languages (Fischer 1973; Johnston & Schembri 1999; Wilbur et al. 2012), we propose to analyze the various instances of /rep/ in LSF not as a grammatical plural marker, but as an intensifier. This analysis allows us to capture its observed distribution as well as its semantic and pragmatic behavior. For instance, it allows us to explain why /rep/, like many other quantity words and intensifiers in spoken languages, is compatible with various syntactic categories and can be used both with nouns and verbs (Rett, 2018). Following Solt (2015), we assume that /rep/ quantifies over degrees and degrees intervals, as in (7a); its negative counterpart, PEU, is of the same type, but with a negative meaning, (7b).

(7) a. $[\![\text{/rep/}_{\langle d \langle dt,t \rangle \rangle}]\!] = \lambda d. \lambda I_{\langle dt \rangle}. I(d)$

b. $[\![\text{PEU}_{\langle d \langle dt,t \rangle \rangle}]\!] = \lambda d. \lambda I_{\langle dt \rangle}. \neg I(d)$

The entries above state that both /rep/ and PEU take degrees d as their first argument and then a property that ranges over sets of degrees (intervals); /rep/ is true whenever d is comprised within that interval, while for PEU it is the opposite. This immediately captures why /rep/ and PEU are in complementary distribution in examples (5a)-(6b) above: their conjoined meaning would be contradictory, and they cannot therefore be used together.

6 Towards a solution, second step: obligatory exhaustification

Next, in order to account for the absence of /rep/ in downward-entailing environments such as (4b), we assume that this is the result of a multiple-step process whereby the use of /rep/ is blocked in DE-environments in order to avoid oddness, which otherwise would arise due to the fact that its semantics are not compatible with the plain meaning of these sentences. This solution assumes mandatory exhaustification via the insertion of an operator EXH at the root level (Magri 2009, 2014; Meyer 2015), which triggers an obligatory implicature corresponding to the plurality inference in UE-contexts such as (4a), licensing intensification through the use of /rep/. However, this implicature is blocked in DE-contexts, in which the plurality inference does not arise; since the plain, unexhaustified meaning of such sentences is equivalent to the singular (Spector 2006, 2007; Magri 2014), /rep/ cannot be used, on pain of generating oddness. This account also allows to explain why the use of /rep/ becomes *de novo* felicitous in sentences such as (4d) or (8) below. Such cases, we argue, are in fact cases of metalinguistic negation (Horn, 1989), corresponding to a special kind of DE-context in which EXH can nevertheless be inserted (Fox & Spector, 2018), allowing the implicature to be generated and further negated by an upcoming contrastive sentence; as a consequence, insertion of /rep/ is licensed, being compatible with the implicature.

(8) ENVOYER > + > + MESSAGE NON SEULEMENT UN . 7
'I didn't send-/rep/ (many) messages, only one.'

7 Conclusion and further issues.

Previous studies have established that reduplication has an iconic component (Kuhn & Aristodemo 2017; Schlenker & Lamberton 2019, 2022), evidencing that some geometric properties of /rep/ (i.e., its pace or the number of repetitions it induces) are semantically interpreted. However, the iconic status of nominal reduplication seems to vary across languages: for instance, in Hong Kong Sign Language, reduplication is limited and very frequently associated with an iconic mapping in the signing space (Koenders, 2024); on the other hand, reduplication is more productive in other SLs such as NGT, in which /rep/-iconicity is not systematic (van Boven, 2021). As of now, where LSF stands within this typology is still unclear, and further research is required to determine the iconic status of /rep/ and the way it interacts with the properties described above.

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