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Root alternation and verbal plurality in Ranmo

➤ **INTRODUCTION.** This paper provides the first investigation of pluractionality in Ranmo, an undescribed Papuan language of Papua New Guinea. Ranmo pluractional verbs exhibit some properties which are atypical of pluractional verbs, and these help shed light on the status of plural in the verbal domain. I propose that (at least some) pluractional verbs (i) are not formed on the basis of their non-pluractional counterparts (contra, e.g., Lasersohn 1995) and (ii) their structure consists of atomic parts. In this respect, they are like mass nouns as characterized by Chierchia (1998).

➤ **EXTENDED ROOTS LIKE PLURACTIONAL VERBS.** Ranmo verbs show morphological alternation between 'extended' and 'restricted' roots, which typically differ in shape only at the right edge, e.g. *faklak-faklam* 'be/put on top' (mutation), *bi-bint* 'bark' (epenthesis), or *mblafèr-mbalf* 'wake up' (truncation). Extended roots show the prototypical semantic effects of pluractional verbs, namely, participant-based distributive and iterative interpretations. For example, the extended root triggers a plural(=3+) participant reading (1c)[1], while the restricted root triggers either a singular (1a) or dual (1b) participant reading, depending on the agreement morphology. Moreover, the extended root can also give rise to an iterative reading (1d).

(1) a. Ndótar t-a-**rfunt**-∅.
        door M.γ-AP-**open.RST**-SG.SUBJ
        'A/the door opened.'

    b. Ndótar t-a-**rfunt**-ai.
        door M.γ-AP-**open.RST**-NSG.SUBJ
        '(The) doors(2) opened.'

    c. Ndótar k-f-a-**rfu**-ai.
        door M.β-AP-**open.EXT**-NSG.SUBJ
        '(The) doors(3+) opened.'

    d. Ndótar tambloi num k-f-a-**rfu**-∅.
        door five time M.β-AP-**open.EXT**-SG.SUBJ
        'A/the door opened five times.'

It seems safe to conclude that extended roots are the pluractional counterparts of restricted roots. Crosslinguistically, pluractional verbs must have cumulative reference (cf. Smith 1991; Tenny 1994; Krifka 1998). As we saw, this requirement is satisfied in one of two ways in Ranmo: (i) via an iterative reading, as in (1d), or (ii) via a participant reading, as in (1c) (given that doors x, y, z opened, it is true that the plural object they form together also opened).

➤ **EXTENDED ROOTS UNLIKE PLURACTIONAL VERBS.** There are, however, two ways in which the behavior of extended roots deviates from that of pluractional verbs found in other languages.

[i] First, morphophonologically speaking, pluractional verbs are typically formed on the basis of their non-pluractional counterparts, often via reduplication (see, for example, the Chechen data in (2)). In traditional analyses of pluractional verbs, the reduplicative (or some other affixal) material is posited to introduce a Plural Operator in the semantics which pluralizes the event argument of the verb (cf. Lasersohn 1995). However, in Ranmo, extended roots are not (always) formed on the basis of their restricted counterparts; the former is often truncated relative to the latter, as in (1). Thus, we cannot say that it is (always) the presence of extra morphology that is behind the plural interpretation. In Ranmo, the verb denoting a plural event is not a combination of some base form denoting a singular event plus a pluractional marker.

[ii] Another way in which extended roots deviate from pluractional verbs in other languages is with respect to numerical quantifiers. Xrakovskij (1997) notes that pluractional verbs are typically incompatible with numerical adverbials. This is illustrated by Chechen, for example (2).

(2) a. Adama   takhan **yttaza** chai **melira**.
        Adam.ERG today **ten times** tea **drink.WP**
        'Adam drank tea ten times today.'

    b. *Aadama   takhan **yttaza** chai **miillira**.
        Adam.ERG today **ten times** tea **drink.PLR.WP**
        'Adam drank tea ten times today.'

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[1] M=middle; AP=antipassive; MULT=multiple; PLR=pluractional; WP=witnessed past; the Greek symbols correspond to TAM-sensitive agreement prefix series.

Yu (2003) accounts for the ungrammaticality of (2b) by proposing that verbal pluralization must yield a mass interpretation. That is, "the plural operator (involved in verbal pluralization) does not just map a singular entity into another garden-variety plural entity, it specifically *maps a singular entity into a mass*" (p. 303). On this account, (2b) is ruled out because it is incongruous to use a pluractional verb—which denotes an *uncountable mass* event—with explicit mention of the number of iterated events. However, the same is not true of Ranmo. A numeric quantifying expression like 'five times' *is* compatible with an extended root, as in (1d). Moreover, the extended root is compatible with a DP object that is quantified by a cardinal numeral (3a), as well as with one modified by a non-numeric degree quantifier (3b).

(3) a. **Traue buk** kèn   th-f-**wartar**-∅.
         Six book   1SG.ERG 3NSG.OBJ.β-F-**burn.EXT**-SG.SUBJ
         'I burnt six books.'
     b. Tabatha buk kèn   s-f-wartar-(an).
         a lot coconut 1SG.ERG 3SG.MASC.OBJ.β-F-burn.EXT-MULT
         'I burnt a lot of books.'

In order to explain the contrast between Ranmo and Chechen, it is first necessary to make explicit what Yu (2003) implicitly assumes: that the ability to yield a mass interpretation in the domain of events is a function of the uncountability of events. I think this is false, at least for Ranmo. I suggest that some pluractional verbs can be both mass-like and countable, i.e., they have *atomic reference*. Chechen pluractional verbs, then, must be of the kind that has *homogeneous reference*; in this way, they parallel mass nouns as characterized by Landman (1991) and Bunt (1985).

➤ **EXTENDED ROOTS AS VERBAL COUNTERPARTS OF (ATOMIC) MASS NOUNS.** I propose that **extended roots in Ranmo are *inherently* plural, i.e., these pluractional verbs have structures which contain atomic/minimal parts in their extension**. In this way, they parallel mass nouns as characterized by Chierchia (1998): the structure of a mass noun is an atomic join semi-lattice consisting of minimal parts, i.e., "for each mass noun there are minimal objects of that kind, just like for count nouns." This proposal immediately explains **[i]** why extended roots do not appear to be "built on" their restricted counterparts. Extended roots simply are born plural. Thus, the plural interpretation of extended roots is not the result of an operation which 'maps' a singular predicate to a mass predicate, as suggested by Yu (2003). Nor does it involve mapping from a singular to a count plural predicate as in many classical analyses of pluractional verbs (e.g., Lasersohn 1995). Furthermore, **[ii]** the compatibility of extended roots with numeric quantifiers is explained under the proposal since these pluractional verbs are atomic in nature.

➤ **CONCLUSION.** This paper brings novel data from an understudied language to bear on the issue of plurality in the verbal domain. Extended-restricted root alternation in Ranmo is treated under the rubric of pluractionality, but extended roots differ from pluractional verbs in other languages like Chechen in important ways. This tension was resolved by proposing that extended roots are inherently plural and not formed on the basis of their non-pluractional counterparts. In this respect, they are like mass nouns which have atomic reference. I conclude from all this that the verbal domain exhibits greater crosslinguistic variation with respect to pluralization than the nominal domain, which robustly shows pluralization whereby a plural is formed on the basis of a singular.

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