Number neutrality and the structure of DPs in Buriat

Nouns in Buriat show morphological distinction between two forms: one traditionally referred to as 'singular' (morphologically unmarked) – and 'plural' (hosting an overt plural suffix). Downward-entailing (DE) contexts reveal that the plural in Buriat is number neutral (NN). Interestingly, inanimate unmarked nouns appear to be NN – even in upward-entailing (UE) contexts. The distribution with both singular and plural forms acting as NN is typologically unusual and looks problematic for major semantic theories of number.

   We show that in fact three rather than two number marking options are attested in Buriat: structurally singular, structurally plural and numberless. The latter is structurally less complex than the first two. A competition-based theory with structurally-constrained alternatives can help account for number neutrality of unmarked forms and non-singularity inferences of the plural in UE contexts.

Data 1: Plural forms. Morphologically plural nouns (both inanimate and animate) in Buriat give rise to non-singularity inferences in UE contexts (this makes Buriat different from otherwise similar Western Armenian pattern, as reported in Bale & Khanjian 2014):

(1) bʲi nom-uːd-iːn tʉlөː   xoʒomdoː-b
    I   book-PL-GEN because.of was.late-1SG
    'I was late because of the books / #book.'

(2) nom-uːd honʲin   baig-aː
    book-PL interesting be-PST
    'The books were / #book was interesting.'

   In DE contexts the non-singularity inferences of morphologically plural nouns disappear:

(3) namda burʲaːd nom-uːd ʉgiː
    I.DAT   Buriat book-PL COP.NEG
    'I don't have (any) Buriat books.'

(4) ʃamda burʲaːd nom-uːd biː xada-nʲ, tәdәː-niːjә asar-aː-rai
    you.DAT Buriat   book-PL COP if-3.POSS they-ACC   bring-PST-PRSCR
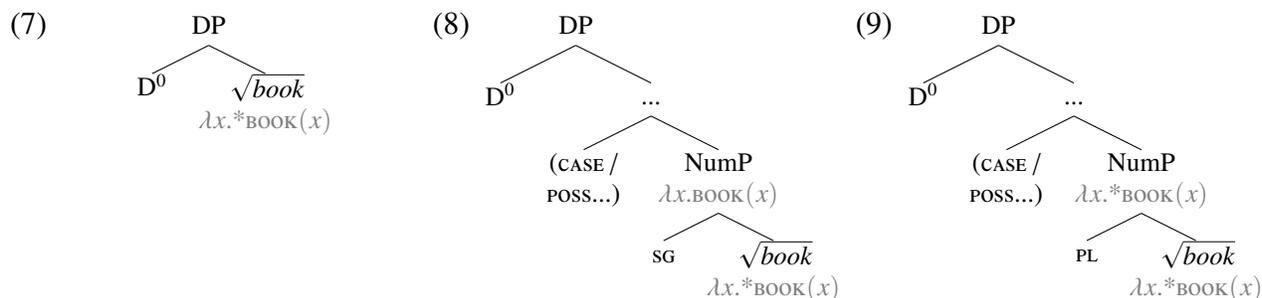   'If you have Buriat books (even if you only have one), bring them.'

Data 2: Unmarked forms. Inanimate nouns unmarked for number are NN, even in UE contexts.

(5) bʲi nom unʃ-aː-b
    I   book read-PST-1SG
    'I read a book / books'

(6) nom honʲin   baig-aː
    book interesting be-PST
    'The book(s) was/were interesting'

   Crucially, number neutrality of inanimate nouns is not reducible to (pseudo-)incorporation. Nouns unmarked for number systematically get NN interpretation in a range of syntactic positions, including direct objects, nominative subjects, object of postpositions and (for many speakers) inherent/lexical/quirky-case marked arguments. Inanimate nouns unmarked for number do not have to be adjacent to their predicates. They can be subjects of collective predicates. Unlike (pseudo-)incorporated nominals in other languages, NN inanimates unmarked for number in Buriat support discourse anaphora, they may be interpreted as wide scope existentials and may be used in telic clauses (examples are omitted for reasons of space).

Analysis. The Buriat data seems problematic for major competition-based theories of number interpretation, including Farkas & de Swart 2010, Sauerland 2003, Sauerland et al. 2005, Spector 2007, Zweig 2009. In fact, number neutrality of plural DPs in DE contexts is incompatible with number neutrality of singular DPs and strictly plural interpretation of DPs in UE contexts – under any theory.

   The conundrum is resolved if we assume that inanimate nouns unmarked for number in Buriat are structurally ambiguous between a numberless DP (semantically NN) and a singular DP (atom-denoting). The number system in Buriat effectively makes a three-way rather than a two-way number distinction.

(7)

DP
├─ D⁰
└─ √*book*
   $\lambda x.{}^*\text{BOOK}(x)$

(8)

DP
├─ D⁰
└─ ...
   ├─ (CASE / POSS...)
   └─ NumP $\lambda x.\text{BOOK}(x)$
      ├─ SG
      └─ √*book* $\lambda x.{}^*\text{BOOK}(x)$

(9)

DP
├─ D⁰
└─ ...
   ├─ (CASE / POSS...)
   └─ NumP $\lambda x.{}^*\text{BOOK}(x)$
      ├─ PL
      └─ √*book* $\lambda x.{}^*\text{BOOK}(x)$

The domain of singular forms has exclusively atomic individuals (8). Plural forms (9) and numberless (7) forms are denotationally equivalent: their domains include both atoms and sums. We argue that they behave differently for structural reasons. We assume a mechanism of strengthening through negation of logically stronger alternatives and a theory of structurally defined alternatives, according to which B counts as an alternative to A only if A can be transformed into B by a finite series of deletions, contractions, and replacements of constituents in A with constituents of the same category taken from the lexicon (cf. Fox & Katzir 2011, Katzir 2007).

The least complex, NumP-less structure cannot compete with the more complex singular and plural alternatives: $[...[_{NumP} \text{ Sg } [_{\surd} \text{ book}]]...]$, $[...[_{NumP} \text{ Pl } [_{\surd} \text{ book}]]...]\} \nsubseteq A_{STR}(...[_{\surd} \text{ book}]...)$[1] – *the meaning of [$_{\surd}$ book] is not strengthened and remains NN.*

For the plural NumP: $[...[_{NumP} \text{ Sg } [_{\surd} \text{ book}]] ...] \in A_{STR}(...[_{NumP} \text{ Pl } [_{\surd} \text{ book}]]...)$ – *this will give rise to the strictly plural reading in UE contexts, and to the NN reading in DE contexts.*

$[...[_{\surd} \text{ book}]...] \notin A_{STR}(...[_{NumP} \text{ Pl } [_{\surd} \text{ book}]]...)$ – *since $[...[_{\surd} \text{ book}]...]$ and $[_{NumP} \text{ Pl } [_{\surd} \text{ book}]]$ are synonymous: the negation of the sentence with [$_{\surd}$ book] contradicts the original sentence.*

For the singular NumP: $[...[_{\surd} \text{ book}]...]$, $[...[_{NumP} \text{ Pl } [_{\surd} \text{ book}]] ...] \in A_{STR}(...[_{NumP} \text{ Sg } [_{\surd} \text{ book}]]...)$ – *these forms are synonymous, the unmarked alternative doesn't play a role.*

The main evidence for the structure-based account of number neitrality comes from various morpho-syntactic environments, where inanimate nouns unmarked for number appear to be strictly atom-denoting. Direct objects with overt Acc case marking are strictly atomic, as well as nominative subjects with overt 1&2-person possessive morphology are strictly atomic:

(10) bʲi nom-iːjə unʃ-aː-b
     I   book-ACC read-PST-1SG
     'I read a book/#books.'

(11) nom-ʃni honʲin   baig-aː
     book-2SG interesting be-PST
     'Your book was/#books were interesting.'

For many speakers, nominals with adjectival modifiers are strictly atomic[2]:

(12) ulaːn nom honʲin   baig-aː
     red   book interesting be-PST
     'The red book was/#books were interesting.'

We interpret such facts as suggesting that extended syntactic structure correlates with the strictly atomic reading of forms unmarked for number. There are elements within DP that select for NumP. When these elements are present, number neutrality disappears.

Projecting a NumP could also be a lexical requirement of a noun (see Klockmann 2017 on such requirements). If animate nouns are specified in the lexicon as requiring a NumP, this explains why animates unmarked for number are never numer-neutral.

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[1] where $A_{STR}(\text{X})$ is the set of structural alternatives to X.

[2] There is a certain amount of inter-speaker variation in whether adjectival modification precludes number neutrality. Within our system, it may signal different attachment sites of adjectives in individual grammars.