On number and number-neutrality in languages with and without articles

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Languages without articles

- **Universal DP:** are structurally like languages with articles (DPs/NPs):

- **Parameterized DP:** are structurally very different from languages with articles (NPs only):
Number in languages with articles

  - number is syntactic (whereas gender is lexical)
  - functional projection NumP
    - in much of the literature on Slavic -- QP
  - hosts plural morphology
  - noun-to-Num movement (and possibly on to D)
Number in languages without articles

- **Universal DP:** number is expressed in NumP

- **Parameterized DP:** number is expressed on the noun itself
  - no functional projection to host number externally to NP
Proposal

- Morphological number and semantic number are mediated by **syntactic number**
- Number is expressed **in NumP**
  - in languages **without articles** (as well as with)
- This projection hosts number **feature**, not number morpheme
  - number morphology isn’t always an expression of the corresponding number feature
- Nominals lacking NumP are **number-neutral**
Number (mis)matches

Morphological:  singular \quad plural

Semantic: \quad '1' \quad '2 or more'
Number mismatches: “inclusive plurals”

Morphological: singular plural

Semantic: ‘1’ ‘2 or more’

(1) a. Do you have kids? Yes, I have one.
   b. If you have kids, please raise your hand.
   c. Everyone who has kids, raise your hand.
   d. Ed didn’t see kids. (False if Ed saw one kid)

Number mismatches: “inclusive plurals” in Russian

Morphological:  
- singular
- plural

Semantic:  
- ‘1’
- ‘2 or more’

(2) U vas est’  
- to you there-is

deti?  
- children

– Da, u menja est’ rebënok  
- yes to me there-is

rebënok

- child

‘Do you have (one or more) children?’
Number mismatches: Genitive complements of intensive reflexives in Russian

Morphological: singular plural

Semantic: ‘1’ ‘2 or more’


(3) Lena na-jela-s’ kotlet.
Lena na-ate-sja cutlets(GEN)
‘Lena ate her fill of cutlets.’ =
= ‘Lena ate (one or more) cutlets & Lena doesn’t want to eat (one or more) cutlets anymore.’
Number mismatches: complements of v ‘into’ in Russian

Morphological: singular plural

Semantic: ‘1’ ‘2 or more’


(4) Medvedeva vybrali v prezidenty.
Medvedev they-elected into presidents
‘Medvedev has been elected president.’
Number mismatches: complements of v ‘into’ in Russian

Morphological: singular plural

Semantic: ‘1’ ‘2 or more’


(5) klonirovanie životnyx / remont avtomobilej

cloning animals / repairing cars

‘cloning of animals/an animal’; ‘repair of cars/a car’
Number mismatches: “inclusive singulars” in Norwegian

Morphological: singular plural

Semantic: ‘1’ ‘2 or more’


(6) Per har hatt *hund* i ti år. *Alle* har vært svært snille.

Per has had dog in ten years all have been very kind

‘Per has had *(one or more)* dogs for ten years. They all have been very kind.’

- Other languages with articles and bare singulars: Brazilian Portuguese, Spanish, Catalan?
Number mismatches: “inclusive singulars” in Armenian

Morphological: singular, plural

Semantic: ‘1’, ‘2 or more’

• (Eastern) Armenian (cf. Dum-Tragut 2009: 106)

(7) Dursek a pòloc’ mard tes a.

go out AUX.1.SG.AOR street person.NOM see AUX.1.SG.AOR

‘I went out on the street and saw (one or more) persons.’
Number mismatches: “inclusive singulars”

Morphological: singular plural

Semantic: ‘1’ ‘2 or more’

- (Eastern) Armenian (cf. Megerdoomian 2011)

(8) Ara-n *girkʰ*a  ař-el.

Ara-NOM book AUX.3SG.PR buy-PERF

‘Ara has bought *(one or more)* books.’
Two sides of the same coin – “number-neutral nominals”?

Morphological: singular  plural

Semantic: ‘1’  ‘2 or more’

Morphological: singular  plural

Semantic: ‘1’  ‘2 or more’

Both “inclusive plurals” and “inclusive singulars” have the same interpretation:
\{a, b, c, ab, ac, bc, abc\}
Two sides of the same coin – “number-neutral nominals”?

- Complementary distribution of “inclusive singulars” and “inclusive plurals”
- Both “inclusive plurals” and “inclusive singulars” are
  - not necessarily licensed in a Downward Entailing context (contra Sauerland et al. 2005, a.o.)
  - syntactically selected, but not syntactically incorporated (à la Baker)
  - fit the syntactic profile of a Small Nominal (Pereltsvaig 2006)
- Whether a language has “inclusive plurals” or “inclusive singulars” does not correlate with the presence/absence of articles
Complementary distribution of “inclusive singualrs” and “inclusive plurals”

- (Western) Armenian (cf. Bale et al. 2010):
  1. \textbf{Bezdig} unis? \newline
     child have(2.SG) \newline
     ‘Do you have \textbf{(one or more)} children?’
  2. \textbf{Bezdig-ner} unis? \newline
     child-(INDEF.PL) have(2.SG) \newline
     ‘Do you have \textbf{(two or more)} children?’
  3. \textbf{jete bezdig-ner} unis, dun kəna. \newline
     if child-(INDEF.PL) have(2.SG), home go(2.SG) \newline
     ‘If you have \textbf{(two or more)} children, then go home!’
  4. \textbf{amen mart vor bezdig-ner} uner vodk-i gajne-tsav \newline
     All person that child-(INDEF.PL) had foot-(GEN/DAT) stand-up \newline
     ‘Everyone who had \textbf{(two or more)} children stood up.’
Are these Downward Entailing contexts?

- Genitive complements of intensive reflexives (\(na-sja\) verbs)

\[(13)\] Lena najelas’ \textit{frukтов}. \(\rightarrow\) Lena najelas’ \textit{jabloк}.

Lena \textit{na-ate-sja} fruits \quad Lena \textit{na-ate-sja} apples

‘Lena ate her fill of fruit.’ ‘Lena ate her fill of apples.’

- Complements of \(v\) ‘into’

\[(14)\] Medvedeva vybrali \(v\) \textit{президенты}. \(\not\rightarrow\) \(v\) \textit{президенты S.Sh.A.}

Medvedev they-elected into presidents into presidents U.S.A.

‘Medvedev has been elected president.’
Where do number-neutral nominals appear?

- Objects (= complements of V)
  - only of certain verbs
- Complements of P
- Selected by verbal morphology (na+sja)
- Predicative position (= complements of copula)
- Rarely, in subject position (of unaccusative verbs and copula)

→ Syntactically selected
Not N-incorporation (à la Baker)

(15) Lena na-jela-s’ rybnyx kotlet.
Lena na-ate-sja fish cutlets(GEN)
‘Lena ate her fill of fish cakes.’

(16) Medvedeva vybrali v prezidenty S.Sh.A.
Medvedev they-elected into presidents U.S.A.GEN
‘Medvedev has been elected president.’

(17) Jeg ønsker meg svart sykkel.
I want black bike
‘I want some black bike or other.’ (Borthen 2003: 26)
Syntactic properties of number-neutral nominals

- Bare NPs (Small Nominals; cf. Pereltsvaig 2006):
  - No expression of specificity
  - No expression of quantity
  - No expression of reference/definiteness
  - No high adjectival modifiers (in the sense of Svenonius 2008, Beuseroy and Knittel 2008)
  - No movement for scope (surface scope only) or focus
  - No controlling PRO, anaphora or agreement (where applicable)
No expression of specificity

- Russian complements of intensive reflexives:
  
  (18) *Ja najelas’ **opredelënnenyx** kotlet.
  
  I *na-ate-sja** specific cutlets

- Russian complements of *v ‘into’:

  (19) *On izbiraetsja v **opredelënnye** prezidenty.

  He being-elected into specific presidents

- Norwegian bare singulars:

  (20) *Jeg hadde på meg viss **gul** skjorte.

  I had on me certain yellow shirt

- (Eastern) Armenian:

  (21) Ara-n **girkh-o** ař-el a.

  Ara-NOM book-SP buy-PERF AUX.3SG.PR

  ‘Ara has bought {the / a specific} book.’  not number-neutral
No expression of quantity

- Russian
  
  (22) *Ja najelas’ **pjati kotlet**.
  
  I *na-ate-sja* five cutlets
  
  (23) *Ja napilas’ **stakana vody**.
  
  I *na-drank-sja* glass water
  
  (24) *Obama i Medvedev byli izbrany v **dva prezidenta**.
  
  Obama & Medvedev were elected into two presidents
  
  ‘Obama & Medvedev were elected into presidents.’

- (Eastern) Armenian (cf. Megerdoomian 2011)

  (25) yerex-erk-ə **me hat muk** en č’ar-el.
  
  child-PL-NOM one CL mouse AUX.3PL.PR find-PERF
  
  ‘The children have found a mouse.’ ➙ **not number-neutral**
No movement for scope or focus

- Russian complements of intensive reflexives -- surface scope only:
  
  (26) Lena nasmotrelas’ {
        francuzskix\text{ fil’mov}.\n  
  Lena na-watched-sja French films
  
  ‘Lena has watched French films to the limit.’
  
  (French films in general, not specific films)

- Norwegian bare singulars -- surface scope only (Borthen 2003: 24):
  
  (27) Alle barna prøvde jakke.
  
  all children.DEF tried.on jacket
  
  ‘All the children tried on some jacket or other.’

- Armenian bare singulars -- stay in vP (cf. Megerdoomian 2011)
  
  (28) a. Ara-n [girk\text{h} a \text{ aŕ-el}].
  
  Ara-NOM book AUX.3SG.PR buy-PERF
  
  ‘Ara has bought {a book/books}.’
  
  b. Aram-e [girk\text{h-ə} a \text{ aŕ-el}].
  
  Aram-NOM book-SP AUX.3SG.PR buy-PERF
  
  ‘It is the (specific) book that Aram bought.’
Recap:

- Number-neutral nominals are
  - syntactically bare NPs
  - morphologically either plural (English, Russian) or singular (Norwegian, Armenian)

- Singular or Plural? This is a parameter

- Does it correlate with availability of articles?
Expression of number-neutrality and articles (vs. Gil/Boškovič)

<table>
<thead>
<tr>
<th></th>
<th>Articles</th>
<th>No articles</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Singular</strong></td>
<td>Norwegian</td>
<td>Armenian</td>
</tr>
<tr>
<td><strong>Plural</strong></td>
<td>English</td>
<td>Russian</td>
</tr>
</tbody>
</table>
Analysis: syntactic number and number-neutral nominals

- Syntactic number
- Number-less nominals

```
DP
  \[ D^\circ \quad \text{NumP} \]
    \[ \text{Num}^\circ \quad \text{NP} \]
      \[ \pm \text{plural} \]
```

```
NP
  \[ N^\circ \]
```
Syntactic number in Russian

- ‘these five cutlets’
- ‘cutlets’
Consequences of the analysis

- Russian nominals with paucal numerals
- Russian nominals with *pluralia tantum* nouns
Russian: paucal numerals

- Paucal numerals: *dva* ‘2’, *tri* ‘3’, *četyre* ‘4’, complex numerals ending in 2-4, *pol* ‘1/2’ and *poltora* ‘1 1/2’


Pesetsky (2010):

```
numberless
```

a. tri stol-a
table(MASC)-GEN.SG

b. tri gor-ý
mountain(FEM)-GEN.SG

c. tri gorničn-ye
maid(FEM)-NOM.PL

```
Russian: paucal numerals

My proposal:

Number: [paucal] = [-SG, -AUGM]
(cf. Bailyn & Nevins 2008)

Form: GEN.SG = NOM.DU

a. три стол-а
   three table(MASC).GEN.SG
   ‘three tables’

b. три гор-ь
   three mountain(FEM).GEN.SG
   ‘three mountains’

c. три горнич-ь
   three maid(FEM).NOM.PL
   ‘three maids’

d. пять стол-ов
   five table(MASC).GEN.PL
   ‘five tables’

e. пять гор-ь
   five mountain(FEM).GEN.PL
   ‘five mountains’

f. пять горнич-ь
   five maid(FEM).GEN.PL
   ‘five maids’

the syncretism spread only to nominal declensions; with adjectival declension PL takes over DU slots
Morphology of Old Russian

<table>
<thead>
<tr>
<th>declension</th>
<th>SG</th>
<th>DU</th>
<th>PL</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>NOM</td>
<td>GEN</td>
<td>NOM/ACC</td>
</tr>
<tr>
<td><strong>C-declension</strong></td>
<td>drug-ã ‘friend’</td>
<td></td>
<td>drug-a</td>
</tr>
<tr>
<td><strong>o-declension</strong></td>
<td>čisl-o ‘number’</td>
<td>čisl-a</td>
<td></td>
</tr>
<tr>
<td><strong>a-declension</strong></td>
<td>žen-a</td>
<td></td>
<td>žen-y</td>
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<tr>
<td><strong>adjectival declension (FEM)</strong></td>
<td>nov-a</td>
<td></td>
<td>nov-yja</td>
</tr>
</tbody>
</table>
Morphology vs. syntax

Pesetsky (2010):
- syntactic account
- no account!!!

tri krasiv-ye gorničn-ye
three beautiful.NOM.PL maid(FEM).NOM.PL
‘three beautiful maids’

My proposal: same morphological account
Russian nominals with *pluralia tantum* nouns

- Observation: pluralia tantum nouns cannot occur with paucal numerals

```
* DP
   D° NumP
   Num° NP
   [paucal] [plural]
   * tri sutok / sutki
   three 24-hour-period.GEN/NOM.PL
   ‘three / five 24-hour periods’
```

```
tröe / pjet' sutok
three / five 24-hour-period.GEN.PL
```
Questions for future research

- Does the morphological expression (singular vs. plural) of number-less nominals correlate with anything else?
- Possibly with a degree of fusion:
  - in Russian number is encoded by the same morpheme as case (and declension class)
  - in Armenian the number morpheme is separate
- A wider typological study is needed.
Thank you!

- I am grateful to Kaya Borthen, Greville Corbett, Scott Grimm, Olga Kagan, Beth Levin, Karine Megedoomian and David Pesetsky for very inspiring and helpful discussions.

- The bibliography and an electronic version of these slides are available upon request: asya_pereltsvaig@yahoo.com


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