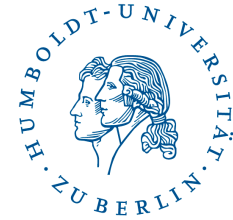


Some puzzles about number
Artemis Alexiadou

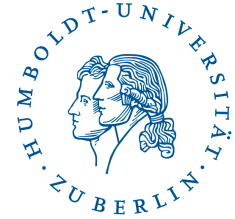
***Syntax and Semantics of the
Nominal Domain***



The category Number

- The category Number has received a lot of attention in the literature.
- Focus on plural marking in particular, and the fact that plurals are not alike across languages.
- Concern: mismatch between form and meaning of plurality and its crosslinguistic distribution in combination with numerals.
- Properties under discussion:
 1. Obligatoriness of plural marking (e.g. with numerals)
 2. Availability of agreement in plurality
 3. Availability of plural interpretation for singular nouns
 4. Availability of mass vs. count noun distinction
 5. Presence vs. absence of pluralia tantum

The category Number

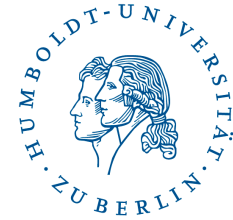


- Thus it has been argued that plural marking does not instantiate the same category across languages.

- **Question:**

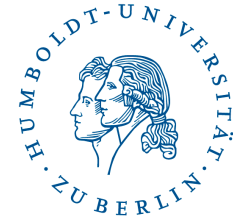
is it just plural that is actually different or is there a more complicated story to be told?

Explaining the differences



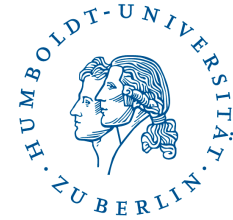
1. Lack of identity reflects differences in functional architecture (status of plural, and height of merge of plural), e.g. Wiltschko (2008).
2. In some languages plurals are unspecified, in others they are only interpreted as plurals, e.g. Sauerland (2003), Bale & Khanjian (2014) and others. Languages of this latter type have unspecified bare nouns (singular), i.e. general number. Depending on the type of numeral modifier these have (subsective vs. intersective), plural will occur with numerals greater than one, cf. Borer (2005).

This talk



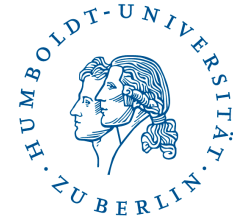
- Wiltschko is right concerning some properties of the plural, but the main opposition is the one identified in the work by Bale & al. (2011).
- Unspecified bare/singular vs. unspecified plural.
- In languages with plural only meaning, there are no mismatches between form and meaning in computing plurality. These have unspecified singular.
- Type of numeral modifier plays a role.
- No difference in status of plural in the Wiltschko sense.

5 properties

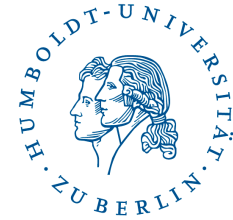


- Properties under discussion:
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The English plural

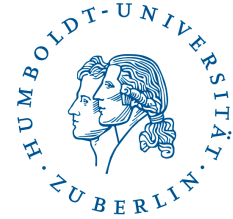


- inflectional marking: *the books*
- numerous lexical idiosyncrasies: *children, oxen*
- obligatory use of plural even in environments in which it is informationally redundant (e.g. after quantifiers/numerals): *many/two books*
- involvement in syntactic agreement: *Children like ice cream*
- mass vs. count: *milk vs. book*
- existence of pluralia tantum: *scissors, trousers*



Plural marking in Persian

- Ghaniabadi (2012):
 - Does not trigger agreement:
- (4) in-(*â) pesar-a mi-dov-and
this boy-Pl dur-run.pres.3pl
- General number, i.e. singular nouns are compatible with plural interpretation, *ketâb* 'book/books'.
 - Systematic pluralization of mass nouns.
 - No pluralia tantum: words corresponding to English *scissors* always in singular.



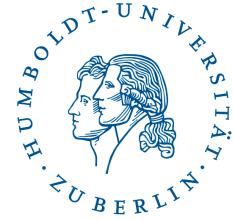
Plural marking in Halkomelem

- Wiltschko (2008): the distribution of plural does not seem to be sensitive to whether the noun it attaches to is count or mass.

(5) Tsel kw`èts-l-exw te syiqyíq
1sg.s see-trans-3o det snow pl
I have seen lots of snow.

- Both count and mass nouns can combine with numerals. In the case of count nouns, the noun can be singular:

(6) Tsel kw`èts-l-exw isale siyitsem
1sg.s see-trans-3o two sand.pl
I have seen two kinds of sand



Plural marking in Halkomelem

(7) Tsel kw`èts-l-exw isale sth`im/sth`eth`im

I see-trans-3o two berry/berries

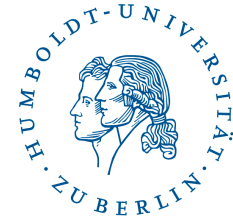
I have seen two berries

•Remarks:

- Plural on mass: plural of ,abundance`
- Numeral in combination with mass, shifted interpretation.
- The pattern where numerals can combine both with singular and plural count nouns attested crosslinguistically, see Bale & al. (2011), e.g. Western Armenian.

(8)Yergu degha/degha-ner

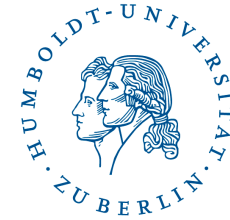
two boy /boys



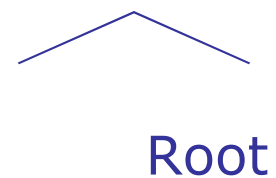
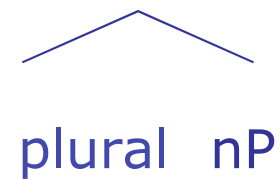
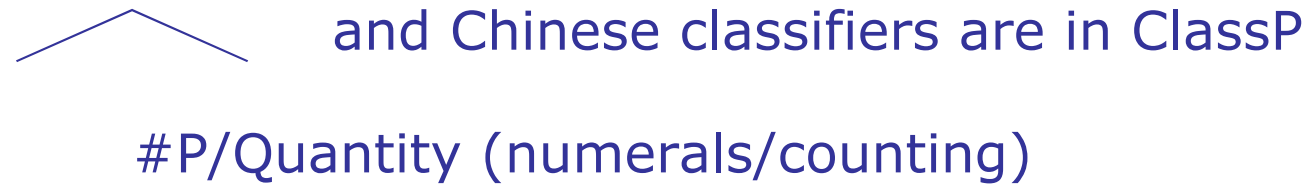
Parameters of plural marking

- Wiltschko (2008): 5 properties explained as follows:
 - Parameters of plural marking:
 - a. How is plural merged?
 - » i) as a head ii) as a modifier
 - » b. Where is plural merged?
 - n-head, Class-head and D-head
 - root-modifier

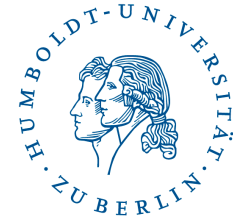
Parameters of plural marking



(9) DP (Borer 2005): English plural morphology

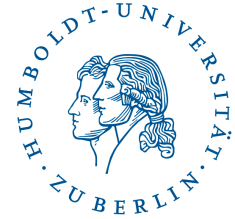


Parameters of plural marking

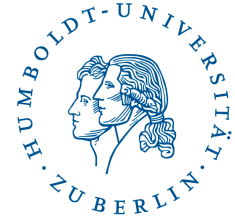


- Wiltschko (2008): there is a correlation of properties, languages with root-modifier plurals show the following properties:
 - plural marking is not obligatory
 - they do not trigger agreement
 - no mass vs. count distinction
 - no pluralia tantum
- This is the case in e.g. Halkomelem and Persian.

Predictions



- According to Wiltschko (2008):
 1. Modifier plurals are not obligatory, do not trigger agreement and do not allow form-function mismatches.
 2. We expect formal and interpretational differences among n-head, Class-head and D-head plurals.
 3. We expect languages with more than one kind of plural.
- Agree with (2) and (3).



Predictions borne out: D-plurals

- Associative plurals:
- associative: a group comprised of a focal individual and her associates (vs. additive plural).
- In several languages these are morphologically and syntactically distinct.
- **Turkish**: different locus of plural morpheme:

(10) a. teyze-ler-im

aunt-PL-1sg

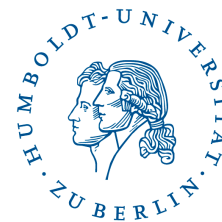
my aunts

b. teyze-im-ler

aunt-1sg-PL

my aunt and her family/associates/friends

Predictions borne out: D plurals

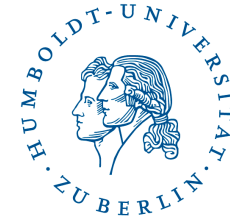


Hungarian: different morphemes:

- (11) a. Janós-ok b. Janós-ék
 more than one Janos Janos and his associates

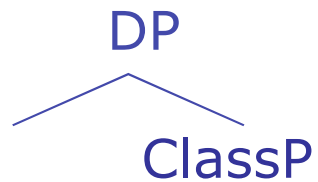
In Hungarian, the asociative plural triggers plural agreement, but does not participate in demonstrative concord.

D plurals and Class plurals

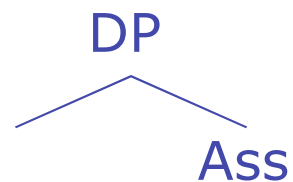


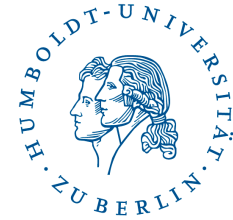
Different syntactic positions: Nakanishi & Ritter (2008), Dekany (2011)

(12) a. additive plural realizes ClassP (individuation)



b. associative is higher; lets say it is in DP.





n plurals: nominalizers

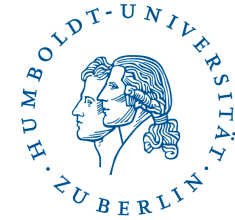
- Plural mass nouns in Greek (Tsoulas 2006, Alexiadou 2011): *same form as in count nouns, e.g. vivlia 'books'*

(13)a. epesan nera sto kefali mu *plural agreement*
fell-3pl water-pl on head my
Water fell on my head

b. *epesan tria nera sto kefali mu *cannot combine with numerals*
fell three waters on my head

Interpretation: (perhaps) 'a lot of water'.

- Not possible with all mass nouns, e.g. *water, oil, mud* are better than *juice*.
- Since Greek mass plurals trigger agreement and the language does have pluralia tantum, these plurals cannot be classified as modifiers.



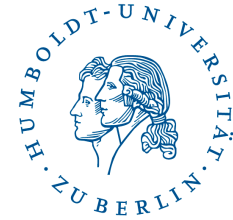
n plurals vs. Class plurals

- n = Lexical plurality, which covers a wide range of interpretations (Acquaviva 2008), it is idiomatic.
- Class = Grammatical plurality, which bears only the 'more than one individual' interpretation, it is compositional.

- We expect that n-plurals would be able to co-occur with Class-plurals as well. Attested: Irregular plurals in Amharic (Semitic; Kramer 2012):

(14)a. k'al-**at**_{irregular} words
 b. k'ala-**at-tsts**_{regular} words

- But: Amharic aside, most languages that have both pluralities do not allow double realization, e.g. English *international waters-s*
- What prohibits double realization?



n plurals vs. Class plurals

Morphological economy?:

double realization is prohibited, and when a situation like this arises, the feature is realized only once.

(see e.g. Kramer 2012, Acquaviva 2008, and others).

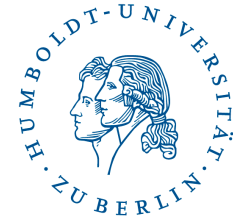
Alternative proposal:

Lexical plural nouns are never the input to individuating plural morphology, these words are simply not countable in any sense.

Unlike mass nouns (*milks*), lexical plural nouns cannot shift interpretation, since they can never combine with individuating plurality.

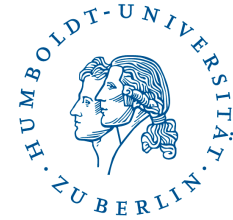
Evidence: they cannot combine with numerals, which count individuals (e.g. the ungrammaticality of the Greek *fell three waters on my head*).

n plurals

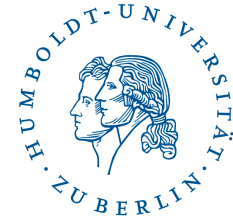


- Acquaviva considers pluralia tantum as an instantiation of lexical plurals, e.g. in *scissors*, plural is on n.
- While lexical plural has the same form with grammatical plural, it does not have the same meaning.
- Plural of abundance (plural on mass) is generally taken to be an instantiation of lexical plurality as well.
- Thus, if Persian and Halkomelem have n plurals, why is it the case that they lack pluralia tantum? This could be one of the main arguments in favor of the view that plural is a root modifier, although in principle it is not clear how one could restrict modification in this system.
- Crucially: what is correct view on plurality?

Plurality



- Wiltschko discussed several properties of the Halkomelem plural in order to show this is not an inflectional category.
- She shows that singular nouns are unmarked in this language, i.e. it has general number.
- Let us take this as the main opposition. There are language with general singular number, and languages which do not have general singular number, e.g. English and Greek.
- Plurality behaves different in these two groups. It is only plural in the former, and underspecified in the latter.



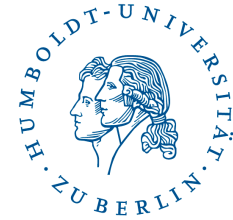
Plural vs. Singular meaning

- Krifka (1989), Sauerland (2003), and Spector (2007): plural nouns are semantically underspecified for number but often communicate a strict plural meaning because of competition with singulars, consider the following from Bale & Khanjian (2014):

(15) Do you have children? (can be answered affirmatively if the addressee has only one child)

- Pluralia tantum nouns:

(16) Those scissors are mine. (can be used to refer to one paper-cutting tool)



Plural vs. Singular meaning

- Bale & Khanjian (2014):
 - the singular-plural contrast in Western Armenian is one between general number and strict plurality.
 - in English, singular nouns have a strict singular interpretation and plural nouns are underspecified for number.

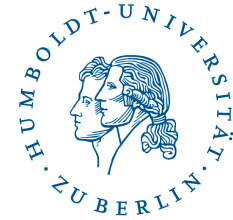
(17) Dgha vaze-ts. *singular can refer to groups*

boy(SG) run-PST

‘One or more boys ran.’

(18) *John- dgha-ner e. *plural can only be predicated o*

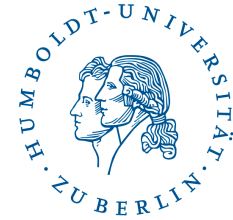
John-DEF boy-PL is *of groups*



Plural vs. Singular meaning

- Numeral modifiers in Western Armenian can combine with both plural and singular nouns, exactly as in Halkomelem.
- Expected, according to Bale & Khanjian (2014), if singular is underspecified for number.
- Expected also if numerals are not identical across languages, Bale & al. (2011):
- Restrictive, intersective and subsective modifiers.
- **Conclusion:** ingredients to understand the crosslinguistic picture:
 - type of number and type of numeral involved

Plural vs. Singular meaning



- From their perspective, Halkomelem is very similar to Western Armenian: the unmarked noun (swíweles) is compatible with a plural interpretation:

(19) the three * boy/boys

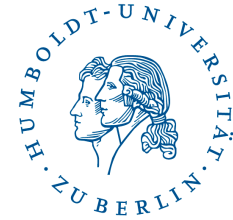
(20) te lhíxw swíweles/swó weles

DET three boy/boy.PL

'the three boys'

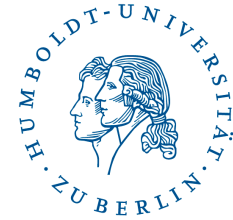
- Plural nouns are interpreted as plural only.

Plural vs. Singular meaning



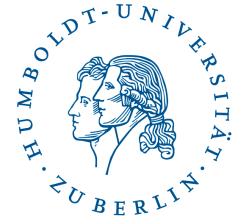
- If plural has plural meaning only in some languages, we expect that these lack pluralia tantum.
- Thus the relevant distinction seems to be: underspecified plural vs. plural only, as well as the interpretation of the bare noun, singular only or underspecified.

Number meaning and the structure of the DP



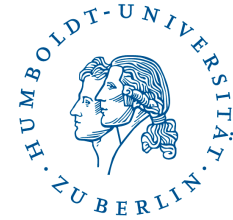
- Which kind of plural?
- Class or n?
- In principle it could be both, in e.g. Persian plural on mass leads both to shifted readings as well as abundance plurals.

Computing number interpretation



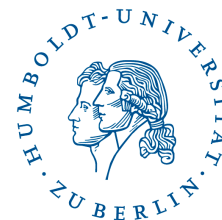
- Bale & al (2011):
- Any language where the bare noun is semantically singular will be a language where numerals greater with one combine with plural (English, Greek).
- Two options for unspecified singular number languages:
 - If numeral modifiers are subsective, they combine with bare nouns (Turkish)
 - If numeral modifiers are intersective, they combine with both bare and plural nouns (Western Armenian).

Computing number interpretation



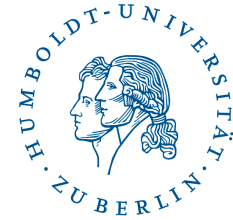
- Thus to compute number interpretation several things should be considered:
- Interpretation of bare noun
- Interpretation of plural
- Interpretation of numerals

Conclusions



- Variation in the domain of number is related to a variety of factors.
- In some languages plural is underspecified, while in others it has a plural only interpretation.
- In the latter group of languages, we find no mismatch between form and meaning. In this group of languages, bare nouns are not interpreted as singular only.
- Another ingredient that plays a role: type of numeral modifier.

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