Syncretism as a tool for probing syntactic structure: the case of GEN.SG = NOM.PL

Pavel Caha

Morphology as Syntax II, June 10, 2022

The puzzle

Towards a solution

The proposal

Morphological realization

Tripartite and split systems

Conclusions

Appendix I: indefinite quantities

Appendix II: A stab at the dual and the singular

(1) you

(1) you

a. ADDRESSEE

- (1) you
 - a. ADDRESSEE
 - b. Addressee + others

(1) you

a. ADDRESSEE

b. ADDRESSEE + OTHERS

My puzzle

Czech declension (partial)

| | | woman PL. | song sg. | 0 | bone sg. | | car sG | car PL |
|-----|--------|--------------|-------------|----------|-------------|----------|-----------|-----------|
| NOM | žen-a | žen-y | píseň-ø | písn-ě | kost-ø | kost-i | aut-o | aut-a |
| ACC | žen-u | žen-y | píseň-ø | písn-ě | kost-ø | kost-i | aut-o | aut-a |
| GEN | žen-y | žen-ø | písn-ě | písn-í | kost-i | kost-í | aut-a | aut-Ø |
| LOC | žen-ě | žen-ách | písn-i | písn-ích | kost-i | kost-ech | aut-u | aut-ech |
| DAT | žen-ě | žen-ám | písn-i | písn-ím | kost-i | kost-em | aut-u | aut-ům |
| INS | žen-ou | žen-ama | písn-í | písn-ěma | kost-í | kost-ma | aut-em | aut-ama |

My puzzle

Czech declension (partial)

| | | woman PL. | song sg. | song PL. | bone sg. | | car sg | car PL |
|-----|--------|--------------|-------------|-------------|-------------|----------|-----------|-----------|
| NOM | žen-a | žen-y | píseň-ø | písn-ě | kost-ø | kost-i | aut-o | aut-a |
| ACC | žen-u | žen-y | píseň-ø | | kost-ø | kost-i | aut-o | aut-a |
| GEN | žen-y | žen-ø | písn-ě | písn-í | kost-i | kost-í | aut-a | aut-Ø |
| LOC | žen-ě | žen-ách | písn-i | písn-ích | kost-i | kost-ech | aut-u | aut-ech |
| DAT | žen-ě | žen-ám | písn-i | písn-ím | kost-i | kost-em | aut-u | aut-ům |
| INS | žen-ou | žen-ama | písn-í | písn-ěma | kost-í | kost-ma | aut-em | aut-ama |

(1) you

a. ADDRESSEE

b. ADDRESSEE + OTHERS

My puzzle

Czech declension (partial)

| | | woman PL. | song sg. | U | bone sg. | | car sG | car PL |
|-----|--------|--------------|-------------|----------|-------------|----------|-----------|-----------|
| NOM | žen-a | žen-y | píseň-ø | písn-ě | kost-ø | kost-i | aut-o | aut-a |
| ACC | žen-u | žen-y | píseň-ø | písn-ě | kost-ø | kost-i | aut-o | aut-a |
| GEN | žen-y | žen-ø | písn-ě | písn-í | kost-i | kost-í | aut-a | aut-Ø |
| LOC | žen-ě | žen-ách | písn-i | písn-ích | kost-i | kost-ech | aut-u | aut-ech |
| DAT | žen-ě | žen-ám | písn-i | písn-ím | kost-i | kost-em | aut-u | aut-ům |
| INS | žen-ou | žen-ama | písn-í | písn-ěma | kost-í | kost-ma | aut-em | aut-ama |

- (1) you
 - a. ADDRESSEE
 - b. ADDRESSEE + OTHERS

Baerman et al. (2002): "Few would dispute that these patterns have come about by chance as a result of independent phonological developments, and [...] no Gesamtbedeutung should be sought."

The puzzle

Towards a solution

The proposal

Morphological realization

Tripartite and split systems

Conclusions

Appendix I: indefinite quantities

Appendix II: A stab at the dual and the singular

(2) The Czech genitive has at least the following uses a. possession (the table of my colleague)

- (2) The Czech genitive has at least the following uses
 - a. possession (the table of my colleague)
 - b. part-wholes (the leg of the table)

- (2) The Czech genitive has at least the following uses
 - a. possession (the table of my colleague)
 - b. part-wholes (the leg of the table)
 - c. dimension (the colour of the table)

- (2) The Czech genitive has at least the following uses
 - a. possession (the table of my colleague)
 - b. part-wholes (the leg of the table)
 - c. dimension (the colour of the table)
 - d. pseudo-partitives (a piece of sugar)

- (2) The Czech genitive has at least the following uses
 - a. possession (the table of my colleague)
 - b. part-wholes (the leg of the table)
 - c. dimension (the colour of the table)
 - d. pseudo-partitives (a piece of sugar)
- (3) The Czech NOM.PL has at least the following uses
 - a. after numerals 2-4 (two ros-es)

- (2) The Czech genitive has at least the following uses
 - a. possession (the table of my colleague)
 - b. part-wholes (the leg of the table)
 - c. dimension (the colour of the table)
 - d. pseudo-partitives (a piece of sugar)
- (3) The Czech NOM.PL has at least the following uses
 - a. after numerals 2-4 (two ros-es)
 - b. reference to pluralities (the ros-es)

- (2) The Czech genitive has at least the following uses
 - a. possession (the table of my colleague)
 - b. part-wholes (the leg of the table)
 - c. dimension (the colour of the table)
 - d. pseudo-partitives (a piece of sugar)
- (3) The Czech NOM.PL has at least the following uses
 - a. after numerals 2-4 (two ros-es)
 - b. reference to pluralities (the ros-es)
 - c. bare plurals (There are ros-es in the garden)

(4) a. cena sirup-u price syrup-GEN 'the price of syrup'

dimension

- (4) a. cena sirup-u price syrup-GEN 'the price of syrup'
 - b. litr sirup-uliter syrup-GEN'a liter of syrup'

dimension

pseudo-partitive

(4) a. cena sirup-u
price syrup-GEN
'the price of syrup' dimension
b. litr sirup-u

liter syrup-GEN

'a liter of syrup'

pseudo-partitive

c. tři sirup-y
three syrup-PL
'three packages of syrup' counting

(4) a. cena sirup-u price syrup-GEN 'the price of syrup' dimension b. litr sirup-u liter syrup-GEN 'a liter of syrup' pseudo-partitive tři sirup-y three syrup-PL 'three packages of syrup' counting d. ty sirup-y the syrup-PL 'the packages of syrup' plural

(5) a. cena másl-a price butter-GEN 'the price of butter'

dimension

(5) a. cena másl-a price butter-GEN 'the price of butter'

dimension

b. kilo másl-a kilo butter-GEN 'a kilo of butter'

pseudo-partitive

(5) a. cena másl-a price butter-GEN 'the price of butter'

dimension

b. kilo másl-a kilo butter-GEN 'a kilo of butter'

pseudo-partitive

c. tři másl-a three butter-PL 'three packages of butter'

counting

(5)cena másl-a price butter-GEN 'the price of butter' dimension b. kilo másl-a kilo butter-GEN 'a kilo of butter' pseudo-partitive tři másl-a three butter-PL 'three packages of butter' counting d. ty másl-a the butter-pi. 'the packages of butter' plural

| | "GEN" | PSEUDO-PART | N numeral | PL |
|------------|--------|-------------|-----------|--------|
| Czech MASC | GEN.SG | GEN.SG | NOM.PL | NOM.PL |

| | "GEN" | PSEUDO-PART | N numeral | PL |
|-----------------|--------|-------------|-----------|--------|
| Czech MASC | GEN.SG | GEN.SG | NOM.PL | NOM.PL |
| Czech SYNCRETIC | -a | -а | -a | -a |

| | "GEN" | PSEUDO-PART | N numeral | PL |
|-----------------|--------|-------------|-----------|--------|
| Czech MASC | GEN.SG | GEN.SG | NOM.PL | NOM.PL |
| Czech SYNCRETIC | -a | -а | -а | -a |
| Fin/Est | GEN | PART | PART | PL |

| | "GEN" | PSEUDO-PART | N numeral | PL |
|-----------------|--------|-------------|-----------|--------|
| Czech MASC | GEN.SG | GEN.SG | NOM.PL | NOM.PL |
| Czech SYNCRETIC | -a | -а | -a | -a |
| Fin/Est | GEN | PART | PART | PL |

- (6) Finnish (many thanks to Anne Häkkinen)
 - a. kirja-n kansi
 book-GEN cover
 'the cover of the book'

(part whole)

- (6) Finnish (many thanks to Anne Häkkinen)
 - a. kirja-n kansi book-GEN cover 'the cover of the book' (part whole)
 - b. suklaa-n hinta chocolate-GEN price 'the price of chocolate' (property)

- (6) Finnish (many thanks to Anne Häkkinen)
 - a. kirja-n kansibook-GEN cover'the cover of the book' (part whole)
 - b. suklaa-n hinta chocolate-GEN price 'the price of chocolate' (property)
 - c. pala suklaa-ta
 piece.NOM chocolate-PART
 'a piece of chocolate' (pseudo-partitive)

- (6) Finnish (many thanks to Anne Häkkinen)
 - a. kirja-n kansibook-GEN cover'the cover of the book' (part whole)
 - b. suklaa-n hinta chocolate-GEN price 'the price of chocolate' (property)
 - c. pala suklaa-ta
 piece.NOM chocolate-PART
 'a piece of chocolate' (pseudo-partitive)
 - d. kaksi suklaa-ta
 two.NOM chocolate-PART
 'two chocolates' (counting)

- (6) Finnish (many thanks to Anne Häkkinen)
 - a. kirja-n kansibook-GEN cover'the cover of the book' (part whole)
 - b. suklaa-n hinta
 chocolate-GEN price
 'the price of chocolate' (property)
 - c. pala suklaa-ta
 piece.NOM chocolate-PART
 'a piece of chocolate' (pseudo-partitive)
 - d. kaksi suklaa-ta two.NOM chocolate-PART 'two chocolates' (counting)
 - e. Nämä suklaa-t ovat halpoja. these chocolate-NOM.PL are cheap 'These chocolates are cheap.' (plural)

Estonian is like Finnish except that...

(7) Three Estonian paradigms

| | 1 0 | | |
|---------|-------------|-------------------------|--------------|
| | church, sg. | corridor, sg. | church, PL. |
| NOM | kirik | koridor | kiriku-d |
| ACC | kirik-u | koridor-i | kiriku-d |
| GEN | kirik-u | koridor- <mark>i</mark> | kiriku-te |
| PART | kirik-u-t | koridor-i | kiriku-sid |
| DAT/ALL | kirik-u-le | koridor-i-le | kiriku-te-le |
| INS/ADE | kirik-u-le | koridor-i-l | kiriku-te-l |
| ••• | ••• | ••• | ••• |

- (8) Estonian (many thanks to Merilin Miljan)
 - a. šokolaad-i hind chocolate.GEN price.NOM 'the price of chocolate'

(dimension)

- (8) Estonian (many thanks to Merilin Miljan)
 - a. šokolaad-i hind chocolate.GEN price.NOM 'the price of chocolate' (dimension)
 - b. tükk šokolaad-i
 piece.NOM.SG chocolate-SG.PART
 'a piece of chocolate' (pseudo-partitive)

- (8) Estonian (many thanks to Merilin Miljan)
 - a. šokolaad-i hind chocolate.GEN price.NOM 'the price of chocolate' (dimension)
 - tükk šokolaad-i
 piece.NOM.SG chocolate-SG.PART

 a piece of chocolate'
 (pseudo-partitive)
 - c. kaks šokolaad-i
 two.NOM chocolate-SG.PART
 'two chocolates' (counting)

- (8) Estonian (many thanks to Merilin Miljan)
 - a. šokolaad-i hind chocolate.GEN price.NOM 'the price of chocolate' (dimension)
 - tükk šokolaad-i
 piece.NOM.SG chocolate-SG.PART
 'a piece of chocolate' (pseudo-partitive)
 - c. kaks šokolaad-i two.NOM chocolate-SG.PART 'two chocolates' (counting)
 - d. Need šokolaad-id on odavad. these.NOM.PL chocolates-PL.NOM be.PRES.3 cheap.PL 'These chocolates are cheap.' (plural)

| | "GEN" | PSEUDO-PART | N-NUM | PL |
|-----------------|--------|-------------|--------|------------|
| Czech MASC | GEN.SG | GEN.SG | NOM.PL | NOM.PL |
| Czech SYNCRETIC | -a | -а | -а | - a |
| Fin/Est | GEN | PART | PART | PL |

| | "GEN" | PSEU | DO-PART | N-NUM | PL |
|-----------------|----------|--------|---------|--------|------------|
| Czech MASC | GEN.SG | GEN.SG | | NOM.PL | NOM.PL |
| Czech SYNCRETIC | -a | -а | | -а | - a |
| Fin/Est | GEN | PART | | PART | PL |
| | | | | | |
| | PSEUDO-I | PART | N-NUM | PL | |
| Czech MASC | GEN.SG | | NOM.PL | NOM.PL | |
| Czech SYNCRETIC | -a | | -а | -а | |
| Fin/Est | PART | | PART | PL | |

| | "GEN" | PSEU | DO-PART | N-NUM | PL |
|-----------------|--------------|------|---------|--------|------------|
| Czech MASC | GEN.SG | G | EN.SG | NOM.PL | NOM.PL |
| Czech SYNCRETIC | -a | | -a | -а | - a |
| Fin/Est | GEN I | | PART | PART | PL |
| | | | | | |
| | PSEUDO-PART | | N-NUM | PL | |
| Czech MASC | GEN.SG -a | | NOM.PL | NOM.PL | |
| Czech SYNCRETIC | | | -a | -а | |
| Fin/Est | PART | | PART | PL | |
| | | | | | |
| | PSEUDO-PART | | N-NUM | PL | |
| Czech MASC | GEN.SG | | NOM.PL | NOM.PL | |
| Fin/Est | PART | | PART | PL | |
| Czech SYNCRETIC | -а | | -а | -a | |

| | "GEN" | PSEU | DO-PART | N-NUM | PL |
|-----------------|-------------|------|---------|--------|--------|
| Czech MASC | GEN.SG GI | | EN.SG | NOM.PL | NOM.PL |
| Czech SYNCRETIC | -a | | -a | -a | -a |
| Fin/Est | GEN I | | PART | PART | PL |
| | | | | | |
| | PSEUDO-PART | | N-NUM | PL | |
| Czech MASC | GEN.SG | | NOM.PL | NOM.PL | |
| Czech SYNCRETIC | -а | | -a | -а | |
| Fin/Est | PART | | PART | PL | |
| | | | | | |
| | PSEUDO-PART | | N-NUM | PL | |
| Czech MASC | GEN.SG | | NOM.PL | NOM.PL | |
| Fin/Est | PART | | PART | PL | |
| Czech SYNCRETIC | -а | | -a | -a | |

(9) Two smaller tasks

| | "GEN" PSEU | | DO-PART | N-NUM | PL |
|-----------------|-------------|-------|---------|--------|--------|
| Czech MASC | GEN.SG G | | EN.SG | NOM.PL | NOM.PL |
| Czech SYNCRETIC | -a | | -a | -а | -a |
| Fin/Est | GEN | GEN I | | PART | PL |
| | | | | | |
| | PSEUDO-PART | | N-NUM | PL | |
| Czech MASC | GEN.SG | | NOM.PL | NOM.PL | |
| Czech SYNCRETIC | -a | | -a | -а | |
| Fin/Est | PART | | PART | PL | |
| | | | | | |
| | PSEUDO-PART | | N-NUM | PL | |
| Czech MASC | GEN.SG | | NOM.PL | NOM.PL | |
| Fin/Est | PART | | PART | PL | |
| Czech SYNCRETIC | -а | | -a | -a | |

(9) Two smaller tasks

a. Pseudo-partitive = counted noun (mass-count ambiguity)

| | "GEN" PSEU | | DO-PART | N-NUM | PL |
|-----------------|-------------|---|---------|--------|--------|
| Czech MASC | GEN.SG G | | EN.SG | NOM.PL | NOM.PL |
| Czech SYNCRETIC | -a | | -a | -a | -a |
| Fin/Est | GEN |] | PART | PART | PL |
| | | | | | • |
| | PSEUDO-PART | | N-NUM | PL | |
| Czech MASC | GEN.SG | | NOM.PL | NOM.PL | |
| Czech SYNCRETIC | -а | | -a | -a | |
| Fin/Est | PART | | PART | PL | |
| | | | | | |
| | PSEUDO-PART | | N-NUM | PL | |
| Czech MASC | GEN.SG | | NOM.PL | NOM.PL | |
| Fin/Est | PART | | PART | PL | |
| Czech SYNCRETIC | -а | | -а | -a | |

(9) Two smaller tasks

- a. Pseudo-partitive = counted noun (mass-count ambiguity)
- b. counted noun = plural (number-neutral denotation vs. true plural)

The puzzle

Towards a solution

The proposal

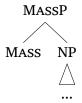
Morphological realization

Tripartite and split systems

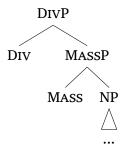
Conclusions

Appendix I: indefinite quantities

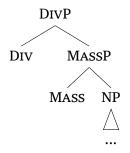
Appendix II: A stab at the dual and the singular



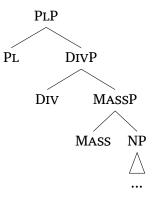
In pseudo-partitive structures, the measure noun (*a liter*) applies to a mass noun. Mass nouns are the simplest denotation type, which lacks a clearly defined atomic layer in their denotation (e.g., Borer 2005)



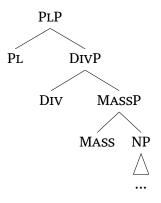
Numerals require their complement to be a count noun. Count denotations arise as a result of providing the mass denotation with a layer of non-overlapping atomic units (e.g., Borer 2005; Rothstein 2010). The count denotation is number neutral, corresponding to the so-called join semilattice (Link 1983)



(10)
$$[DIVP] = \{\alpha, \beta, \gamma, \alpha\beta, \alpha\gamma, \beta\gamma, \alpha\beta\gamma\}$$

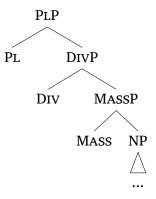


The plural denotation arises by restricting the countable (but number-neutral) denotation of DivP to all its non-atomic members (Harbour 2014; Martí 2020)



(11)
$$[DIVP] = \{\alpha, \beta, \gamma, \alpha\beta, \alpha\gamma, \beta\gamma, \alpha\beta\gamma\}$$

(12)
$$[PLP] = \{\alpha\beta, \alpha\gamma, \beta\gamma, \alpha\beta\gamma\}$$



Structures like these are known to restrict syncretism: Only structurally adjacent layers can show syncretism (Caha 2009; Bobaljik 2012)

The puzzle

Towards a solution

The proposal

Morphological realization

Tripartite and split systems

Conclusions

Appendix I: indefinite quantities

Appendix II: A stab at the dual and the singular

Structures are built from abstract meaningful features

- Structures are built from abstract meaningful features
- Morphemes are inserted "late" (after syntax)

- Structures are built from abstract meaningful features
- Morphemes are inserted "late" (after syntax)
- Structures are mapped directly on their pronunciation (no morphological component)

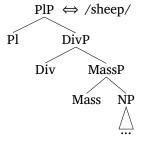
- Structures are built from abstract meaningful features
- Morphemes are inserted "late" (after syntax)
- Structures are mapped directly on their pronunciation (no morphological component)
 - language-invariant "spellout algortihm" (Starke 2018)

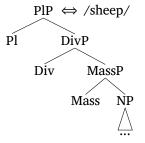
- Structures are built from abstract meaningful features
- Morphemes are inserted "late" (after syntax)
- Structures are mapped directly on their pronunciation (no morphological component)
 - language-invariant "spellout algortihm" (Starke 2018)
 - language specific lexical entries

- Structures are built from abstract meaningful features
- Morphemes are inserted "late" (after syntax)
- Structures are mapped directly on their pronunciation (no morphological component)
 - language-invariant "spellout algortihm" (Starke 2018)
 - language specific lexical entries
- Lexical entries are links between syntax and phonology (/concepts)

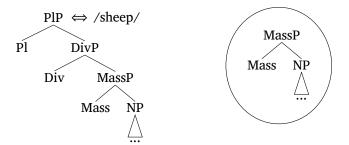
- Structures are built from abstract meaningful features
- Morphemes are inserted "late" (after syntax)
- Structures are mapped directly on their pronunciation (no morphological component)
 - language-invariant "spellout algortihm" (Starke 2018)
 - language specific lexical entries
- Lexical entries are links between syntax and phonology (/concepts)
 - they pair a syntactic tree with its pronunciation

- Structures are built from abstract meaningful features
- Morphemes are inserted "late" (after syntax)
- Structures are mapped directly on their pronunciation (no morphological component)
 - language-invariant "spellout algortihm" (Starke 2018)
 - language specific lexical entries
- Lexical entries are links between syntax and phonology (/concepts)
 - they pair a syntactic tree with its pronunciation
 - lexical entries are restricted (only well-formed trees)

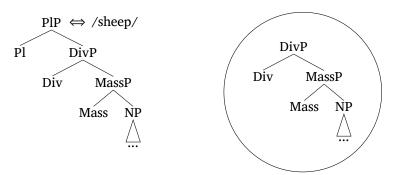




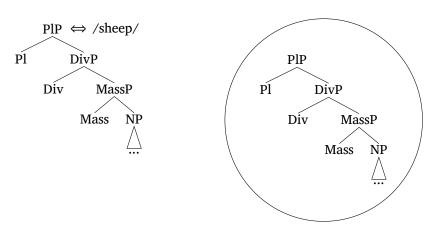
(13) The Superset Principle (Starke 2009): A lexical item can spellout structures it contains.



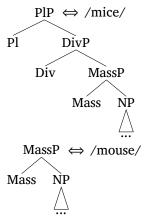
(13) The Superset Principle (Starke 2009):
A lexical item can spellout structures it contains.

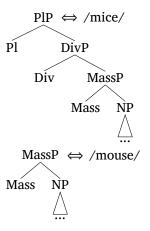


(13) The Superset Principle (Starke 2009):
A lexical item can spellout structures it contains.

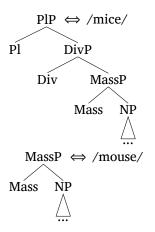


(13) The Superset Principle (Starke 2009):
A lexical item can spellout structures it contains.

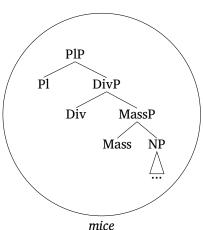


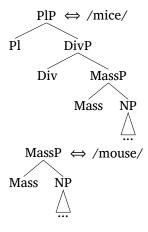


(14) The Elsewhere Condition: When multiple items match, use the more specific one.

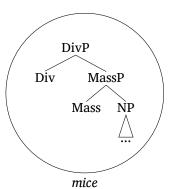


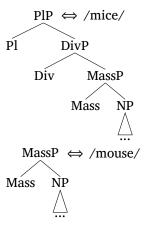
(14) *The Elsewhere Condition*: When multiple items match, use the more specific one.



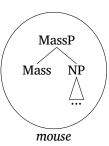


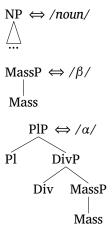
(14)*The Elsewhere Condition*: When multiple items match, use the more specific one.

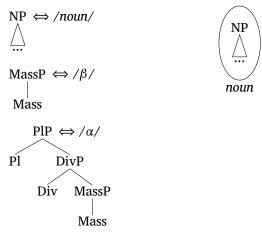




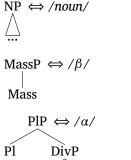
(14)*The Elsewhere Condition*: When multiple items match, use the more specific one.

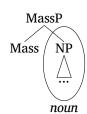






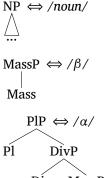
- (15) a. Merge F and spell out FP
 - b. If (a) fails, move the spec of the complement of F and spell out FP
 - c. If (b) fails, move the complement of F and spell out FP

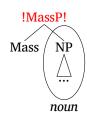


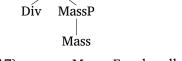




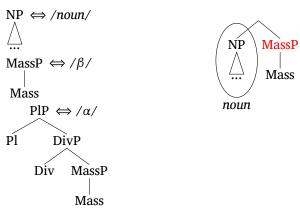
- (16) a. Merge F and spell out FP
 - b. If (a) fails, move the spec of the complement of F and spell out FP
 - c. If (b) fails, move the complement of F and spell out FP





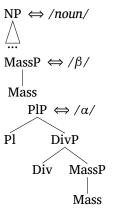


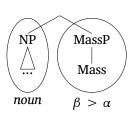
- (17) a. Merge F and spell out FP
 - b. If (a) fails, move the spec of the complement of F and spell out FP
 - c. If (b) fails, move the complement of F and spell out FP



- (18) a. Merge F and spell out FP
 - b. If (a) fails, move the spec of the complement of F and spell out FP
 - c. If (b) fails, move the complement of F and spell out FP

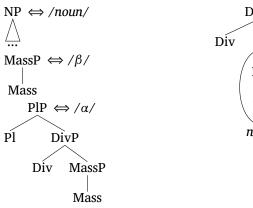
$N-\beta$

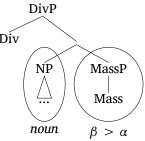




- (19) a. Merge F and spell out FP
 - b. If (a) fails, move the spec of the complement of F and spell out FP
 - c. If (b) fails, move the complement of F and spell out FP

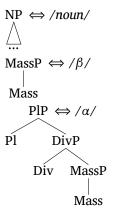
$N-\beta$

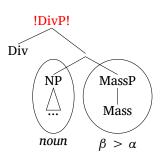




- (20) a. Merge F and spell out FP
 - b. If (a) fails, move the spec of the complement of F and spell out FP
 - c. If (b) fails, move the complement of F and spell out FP

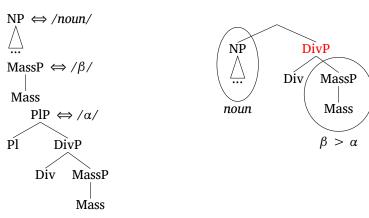
N-β



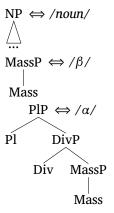


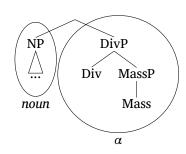
- (21) a. Merge F and spell out FP
 - b. If (a) fails, move the spec of the complement of F and spell out FP
 - c. If (b) fails, move the complement of F and spell out FP

$N-\beta$

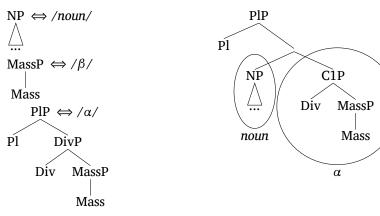


- (22) a. Merge F and spell out FP
 - b. If (a) fails, move the spec of the complement of F and spell out FP
 - c. If (b) fails, move the complement of F and spell out FP

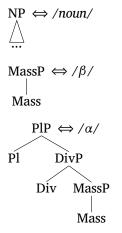


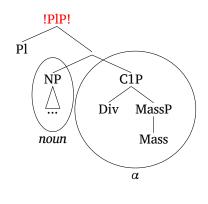


- (23) a. Merge F and spell out FP
 - b. If (a) fails, move the spec of the complement of F and spell out FP
 - c. If (b) fails, move the complement of F and spell out FP

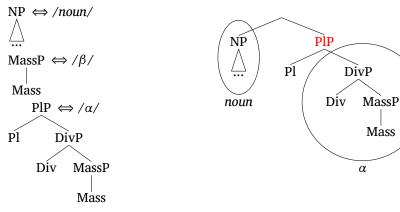


- (24) a. Merge F and spell out FP
 - b. If (a) fails, move the spec of the complement of F and spell out FP
 - c. If (b) fails, move the complement of F and spell out FP



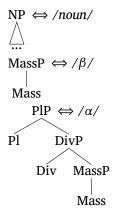


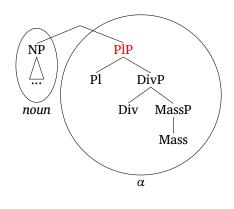
- (25) a. Merge F and spell out FP
 - b. If (a) fails, move the spec of the complement of F and spell out FP
 - c. If (b) fails, move the complement of F and spell out FP



- (26) a. Merge F and spell out FP
 - b. If (a) fails, move the spec of the complement of F and spell out FP
 - c. If (b) fails, move the complement of F and spell out FP

$N-\beta - N-\alpha - N-\alpha$





- (27) a. Merge F and spell out FP
 - b. If (a) fails, move the spec of the complement of F and spell out FP
 - c. If (b) fails, move the complement of F and spell out FP

► All Czech nouns have two different plurals:

- ► All Czech nouns have two different plurals:
 - one after the numeral (corresponding to the Estonian partitive)

- ► All Czech nouns have two different plurals:
 - one after the numeral (corresponding to the Estonian partitive)
 - another one as the true plural (corresponding to the Estonian plural)

- ► All Czech nouns have two different plurals:
 - one after the numeral (corresponding to the Estonian partitive)
 - another one as the true plural (corresponding to the Estonian plural)

(28) Estonian

- a. kaks kinnas-t two.SG glove-SG.PAR 'two (individual) gloves'
- b. kahe-d kinda-d two-PL glove-PL 'two pairs of gloves'

- All Czech nouns have two different plurals:
 - one after the numeral (corresponding to the Estonian partitive)
 - another one as the true plural (corresponding to the Estonian plural)

(28) Estonian

- a. kaks kinnas-t two.SG glove-SG.PAR 'two (individual) gloves'
- b. kahe-d kinda-d two-PL glove-PL 'two pairs of gloves'

(29) Czech

- a. dv-ě rukavic-e two glove-PL 'two gloves'
- b. dv-oje rukavic-e two-PL glove-PL

'two pairs of gloves'

- All Czech nouns have two different plurals:
 - one after the numeral (corresponding to the Estonian partitive)
 - another one as the true plural (corresponding to the Estonian plural)

(28) Estonian

- a. kaks kinnas-t two.SG glove-SG.PAR 'two (individual) gloves'
- b. kahe-d kinda-d two-PL glove-PL 'two pairs of gloves'

(29) Czech

- a. dv-ě rukavic-e two glove-PL 'two gloves'
- b. dv-oje rukavic-e two-PL glove-PL

'two pairs of gloves'

The puzzle

Towards a solution

The proposal

Morphological realization

Tripartite and split systems

Conclusions

Appendix I: indefinite quantities

Appendix II: A stab at the dual and the singular

Tripartite systems

| Anatolian | Digor | Ossetic |
|-----------|-------|---------|
|-----------|-------|---------|

| | MASS one bowl water |
|-----|--------------------------|
| NOM | eu khoppa don-Ø |
| ACC | eu khoppa don-Ø |
| INE | eu khoppa don-i |
| DAT | eu khoppa don-æn |
| ABL | eu khoppa don- æj |
| ADE | eu khoppa don-bæl |
| ALL | eu khoppa don-mæ |

Tripartite systems

Anatolian Digor Ossetic

| | MASS one bowl water | COUNT ten horses | |
|-----|--------------------------|---------------------|--|
| NOM | eu khoppa don-Ø | dæs bæx-i | |
| ACC | eu khoppa don-Ø | dæs bæx-i | |
| INE | eu khoppa don-i | dæs bæx-em-i | |
| DAT | eu khoppa don-æn | dæs bæx-em-æn | |
| ABL | eu khoppa don- æj | dæs bæx-em-æj | |
| ADE | eu khoppa don-bæl | dæs bæx-e -bæl | |
| ALL | eu khoppa don- mæ | dæs bæx-e -mæ | |

Tripartite systems

Anatolian Digor Ossetic

| | MASS one bowl water | COUNT ten horses | PLURAL horses |
|-----|--------------------------|-----------------------|--------------------------|
| NOM | eu khoppa don-Ø | dæs bæx-i | bæx- <mark>tæ-Ø</mark> |
| ACC | eu khoppa don-Ø | dæs bæx-i | bæx- <mark>tæ-Ø</mark> |
| INE | eu khoppa don-i | dæs bæx-em-i | bæx-t -i |
| DAT | eu khoppa don-æn | dæs bæx-em-æn | bæx-t -æn |
| ABL | eu khoppa don- æj | dæs bæx -em-æj | bæx-t -æj |
| ADE | eu khoppa don-bæl | dæs bæx-e -bæl | bæx- <mark>tæ-bæl</mark> |
| ALL | eu khoppa don- mæ | dæs bæx-e -mæ | bæx- <mark>tæ-mæ</mark> |

Bulgarian

(30) a. Masculine nouns: A - B - C

Bulgarian

(30) a. Masculine nouns: A – B – C

b. Feminine nouns: A - B - B

Bulgarian

(30) a. Masculine nouns: A – B – C

b. Feminine nouns: A - B - B

A tripartite system

- (31) Bulgarian masculine nouns (informant data, ABC)
 - a. edno parche keksone piece cake'a piece of (pound) cake' (pseudo-partitive)

A tripartite system

- (31) Bulgarian masculine nouns (informant data, ABC)
 - a. edno parche keksone piece cake'a piece of (pound) cake' (pseudo-partitive)
 - b. dva keks-a two cake-COUNT 'two (pound) cakes' (counting)

A tripartite system

```
(31) Bulgarian masculine nouns (informant data, ABC)
```

- a. edno parche keksone piece cake'a piece of (pound) cake' (pseudo-partitive)
- b. dva keks-atwo cake-COUNT'two (pound) cakes'(counting)
- c. keks-ove-te
 cake-PL-DEF
 'the (pound) cakes' (plural)

Syncretism within a tripartite system

- (32) Bulgarian feminine/neuter nouns (informant data, ABB)
 - a. edno parche tort-a / masl-o
 one piece cake-sg butter-sg
 'a piece of cake/butter' (pseudo-partitive)

Syncretism within a tripartite system

- (32) Bulgarian feminine/neuter nouns (informant data, ABB)
 - a. edno parche tort-a / masl-o
 one piece cake-SG butter-SG
 'a piece of cake/butter' (pseudo-partitive)
 - b. dve tort-i / masl-a
 two cake-COUNT butter-COUNT
 'two (whole) cakes / two packages of butter'
 (counting)

Syncretism within a tripartite system

- (32) Bulgarian feminine/neuter nouns (informant data, ABB)
 - a. edno parche tort-a / masl-o
 one piece cake-SG butter-SG
 'a piece of cake/butter' (pseudo-partitive)
 - b. dve tort-i / masl-a
 two cake-COUNT butter-COUNT
 'two (whole) cakes / two packages of butter'
 (counting)
 - c. tort-i-te / masl-a-ta cake-PL-DEF / butter-PL-DEF 'cakes / packages of butter' (plural)

Adjectival modification in BG

- (33) a. Masculine nouns: A B C
 - b. modifying adjectives: A B B

Adjectival modification in BG

- (34) Bulgarian masculine nouns (informant data, ABC)
 - a. edno parche vkusen-Ø keks
 one piece tasty-MASC.SG cake
 'a piece of good cake' (pseudo-partitive)

Adjectival modification in BG

- (34) Bulgarian masculine nouns (informant data, ABC)
 - a. edno parche vkusen-Ø keks one piece tasty-MASC.SG cake 'a piece of good cake' (pseudo-partitive)
 - b. dva vkusn-i keks-a
 two tasty-PL cake-COUNT
 'two tasty cakes' (counting)

Adjectival modification in BG

- (34) Bulgarian masculine nouns (informant data, ABC)
 - a. edno parche vkusen-Ø keks one piece tasty-MASC.SG cake 'a piece of good cake' (pseudo-partitive)
 - b. dva vkusn-i keks-a
 two tasty-PL cake-COUNT
 'two tasty cakes' (counting)
 - c. vkusn-i-te keks-**ove**tasty-PL-DEF cake-PL
 'tasty cakes' (plural)

| | NOM.SG. | PSEUDO-PART | COUNTING | PLURAL | |
|------------|---------|-------------|----------|--------|-----|
| new, MASC. | nov-Ø | nov-og(a) | nov-a | nov-i | ABC |

| | NOM.SG. | PSEUDO-PART | COUNTING | PLURAL | |
|-------------|-----------|-------------|----------|----------|-----|
| new, MASC. | nov-Ø | nov-og(a) | nov-a | nov-i | ABC |
| rope, MASC. | konopac-Ø | konopc-a | konopc-a | konopc-i | AAB |

| | NOM.SG. | PSEUDO-PART | COUNTING | PLURAL | |
|---------------------------|--------------------|-------------------|-------------------|-------------------|------------|
| new, MASC. | nov-Ø | nov-og(a) | nov-a | nov-i | ABC |
| rope, MASC. wife, FEM. | konopac-Ø žen-a | konopc-a žen-ē | konopc-a žen-e | konopc-i žen-e | AAB ABB |

| | NOM.SG. | PSEUDO-PART | COUNTING | PLURAL | |
|-------------|---------------------------------------|-------------|-----------|----------|-----|
| new, MASC. | nov-Ø | nov-og(a) | nov-a | nov-i | ABC |
| rope, MASC. | konopac-Ø | konopc-a | konopc-a | konopc-i | AAB |
| | · · · · · · · · · · · · · · · · · · · | | morrope a | Ronope I | |
| wife, FEM. | žen-a | žen-ē | žen-e | žen-e | ABB |

| | NOM.SG. | PSEUDO-PART | COUNTING | PLURAL | |
|---|------------------------------|-----------------------------|-----------------------------|-----------------------------|-------------------|
| new, MASC. | nov-Ø | nov-og(a) | nov-a | nov-i | ABC |
| rope, MASC. wife, FEM. bone, FEM. | konopac-Ø žen-a kost-Ø | konopc-a žen-ē kost-i | konopc-a žen-e kost-i | konopc-i žen-e kost-i | AAB ABB AAA |
| not attested | _ | Α | В | A | *ABA |

- (35) Russian, nominative (S. Toldova, p.c.)
 - a. metr zabor-a meter.NOM fence-GEN.SG 'a meter of fence'

- (35) Russian, nominative (S. Toldova, p.c.)
 - a. metr zabor-a meter.NOM fence-GEN.SG 'a meter of fence'
 - b. dva zabor-a two.NOM fence-GEN.SG 'two fences'

- (35) Russian, nominative (S. Toldova, p.c.)
 - a. metr zabor-a meter.NOM fence-GEN.SG 'a meter of fence'
 - b. dva zabor-a two.NOM fence-GEN.SG 'two fences'
 - c. zabor-y fence-NOM.PL 'fences'

- (36) Russian, nominative (S. Toldova, p.c.)
 - a. metr zabor-a meter.NOM fence-GEN.SG 'a meter of fence'
 - b. dva zabor-a two.NOM fence-GEN.SG 'two fences'
 - c. zabor-y fence-NOM.PL 'fences'

- (37) Russian, instrumental (S. Toldova, p.c.)
 - a. s metr-om zabor-a with meter-INS fence-GEN 'with a meter of fence'

- (37) Russian, instrumental (S. Toldova, p.c.)
 - a. s metr-om zabor-a
 with meter-INS fence-GEN
 'with a meter of fence'
 - b. s dv-umja zabor-**ami** with two-INS fence-INS.PL 'with two fences'

- (37) Russian, instrumental (S. Toldova, p.c.)
 - a. s metr-om zabor-a
 with meter-INS fence-GEN
 'with a meter of fence'
 - s dv-umja zabor-ami with two-INS fence-INS.PL 'with two fences'
 - c. s zabor-**ami** with fence-INS.PL 'with fences'

- (38) Russian, instrumental (S. Toldova, p.c.)
 - a. s metr-om zabor-awith meter-INS fence-GEN'with a meter of fence'
 - b. s dv-umja zabor-ami with two-INS fence-INS.PL 'with two fences'
 - c. s zabor-<mark>ami</mark> with fence-INS.PL 'with fences'

(39) Patterns of syncretism in Russian

| | PSEUDO-PART | COUNTING | PLURAL |
|-----|-------------|----------|--------|
| INS | -a | -ami | -ami |
| NOM | -a | -a | -y |

An ABC pattern in Russian

(40) Russian, special masculines, nominative

a. konec **rjád-a**end row-GEN.SG
'the end of the row'

(part-whole)

b. dva **rjad-á** two row-NUMER 'two rows'

(counting)

The puzzle

Towards a solution

The proposal

Morphological realization

Tripartite and split systems

Conclusions

Appendix I: indefinite quantities

Appendix II: A stab at the dual and the singular

► Starting point: the GEN.SG = NOM.PL syncretism

- ► Starting point: the GEN.SG = NOM.PL syncretism
- ▶ One of the uses of the genitive is in pseudo-partitives

- Starting point: the GEN.SG = NOM.PL syncretism
- ▶ One of the uses of the genitive is in pseudo-partitives
- Pseudo-partitives tend to be syncretic with the noun in noun-numeral constructions

- ► Starting point: the GEN.SG = NOM.PL syncretism
- ▶ One of the uses of the genitive is in pseudo-partitives
- Pseudo-partitives tend to be syncretic with the noun in noun-numeral constructions
 - = mass/count ambiguity

- Starting point: the GEN.SG = NOM.PL syncretism
- ▶ One of the uses of the genitive is in pseudo-partitives
- Pseudo-partitives tend to be syncretic with the noun in noun-numeral constructions
 - = mass/count ambiguity
- Nouns in counting constructions tend to be syncretic with plurals

- ► Starting point: the GEN.SG = NOM.PL syncretism
- ▶ One of the uses of the genitive is in pseudo-partitives
- Pseudo-partitives tend to be syncretic with the noun in noun-numeral constructions
 - = mass/count ambiguity
- Nouns in counting constructions tend to be syncretic with plurals
 - = similar to the ambiguity between the inclusive and exclusive plural

- ► Starting point: the GEN.SG = NOM.PL syncretism
- ▶ One of the uses of the genitive is in pseudo-partitives
- Pseudo-partitives tend to be syncretic with the noun in noun-numeral constructions
 - = mass/count ambiguity
- Nouns in counting constructions tend to be syncretic with plurals
 - = similar to the ambiguity between the inclusive and exclusive plural
- What remains

- ► Starting point: the GEN.SG = NOM.PL syncretism
- One of the uses of the genitive is in pseudo-partitives
- Pseudo-partitives tend to be syncretic with the noun in noun-numeral constructions
 - = mass/count ambiguity
- Nouns in counting constructions tend to be syncretic with plurals
 - = similar to the ambiguity between the inclusive and exclusive plural
- What remains
 - Other uses of the genitive

- ► Starting point: the GEN.SG = NOM.PL syncretism
- One of the uses of the genitive is in pseudo-partitives
- Pseudo-partitives tend to be syncretic with the noun in noun-numeral constructions
 - = mass/count ambiguity
- Nouns in counting constructions tend to be syncretic with plurals
 - = similar to the ambiguity between the inclusive and exclusive plural
- What remains
 - Other uses of the genitive
 - Other uses of the partitive

- ► Starting point: the GEN.SG = NOM.PL syncretism
- ▶ One of the uses of the genitive is in pseudo-partitives
- Pseudo-partitives tend to be syncretic with the noun in noun-numeral constructions
 - = mass/count ambiguity
- Nouns in counting constructions tend to be syncretic with plurals
 - = similar to the ambiguity between the inclusive and exclusive plural
- What remains
 - Other uses of the genitive
 - Other uses of the partitive
 - Other uses of the plural

- ► Starting point: the GEN.SG = NOM.PL syncretism
- ▶ One of the uses of the genitive is in pseudo-partitives
- Pseudo-partitives tend to be syncretic with the noun in noun-numeral constructions
 - = mass/count ambiguity
- Nouns in counting constructions tend to be syncretic with plurals
 - = similar to the ambiguity between the inclusive and exclusive plural
- What remains
 - Other uses of the genitive
 - Other uses of the partitive
 - Other uses of the plural
 - singular, dual, ...

Thank you!

The puzzle

Towards a solution

The proposal

Morphological realization

Tripartite and split systems

Conclusions

Appendix I: indefinite quantities

Appendix II: A stab at the dual and the singular

(41) measure SUBSTANCE — numeral ENTITIES

- (41) measure SUBSTANCE numeral ENTITIES
- (42) SUBSTANCE ENTITIES

- (41) measure SUBSTANCE numeral ENTITIES
- (42) SUBSTANCE ENTITIES

indefinite amount of Substance — indefinite number of entities

Serbian (indefinite amount)

- (43) Serbian (Hammond 2005)
 - a. Molim vas, litar benzin-a.
 I.ask you liter petrol-GEN
 'A liter of petrol, please.'

(pseudo-partitive)

Serbian (indefinite amount)

- Serbian (Hammond 2005) (43)
 - Molim vas, litar benzin-a. I.ask you liter petrol-GEN 'A liter of petrol, please.'

(pseudo-partitive)

Kupili smo čećer-a b. bought we.are sugar-GEN 'We bought (some) sugar.' ('indefinite quantity')

Serbian (indefinite amount)

- (43) Serbian (Hammond 2005)
 - a. Molim vas, litar benzin-a.I.ask you liter petrol-GEN'A liter of petrol, please.' (pseudo-partitive)
 - Kupili smo čećer-a
 bought we.are sugar-GEN
 'We bought (some) sugar.' ('indefinite quantity')
 - c. Bilo je vod-e u česmi. be there.is water-gen in tap 'There was water in the tap.' (existential/locative)

Finnish

(44) Finnish (Kiparsky 1998)

a. Kasa hiekka-a stack.NOM sand-PAR 'a stack of sand'

(pseudo-partitive)

Finnish

- (44) Finnish (Kiparsky 1998)
 - Kasa hiekka-a stack.NOM sand-PAR 'a stack of sand'
 - Matti ost-i maito-a
 Matti bought milk-PART
 'Matti bought milk.

(pseudo-partitive)

('indefinite quantity')

Finnish

(44) Finnish (Kiparsky 1998)

a. Kasa hiekka-a stack.NOM sand-PAR 'a stack of sand' (pseudo-partitive)

Matti ost-i maito-a
 Matti bought milk-PART
 'Matti bought milk. ('indefinite quantity')

Lattialla on vett-ä.
 floor.ADE is water-PAR
 There is water on the floor. (existential/locative)

Estonian

(45) Estonian (Norris 2018)

a. tüki leibapiece.ACC bread.PART'a piece of bread'

(pseudo-partitive)

Estonian

(45) Estonian (Norris 2018)

a. tüki leibapiece.ACC bread.PART'a piece of bread'

(pseudo-partitive)

b. Ostsin leiba.I.bought bread.PART'I bought (some) bread.'

('indefinite quantity')

Estonian

(45) Estonian (Norris 2018)

- a. tüki leibapiece.ACC bread.PART'a piece of bread' (pseudo-partitive)
- b. Ostsin leiba.I.bought bread.PART'I bought (some) bread.' ('indefinite quantity')
- c. Klaasi-s on mehla
 glass-INE is juice.PART
 'There is (some) juice in the glass
 (existential/locative)

Czech

(46) a. litr mlík-a liter milk-GEN 'a liter of milk'

Czech

- (46) a. litr mlík-a liter milk-GEN 'a liter of milk'
 - b. Koupil mlík-o. he.bought butter-ACC 'He bought some butter.'

indefinite quantity

Czech

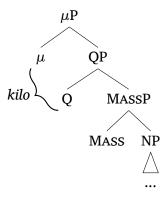
(46) a. litr mlík-a liter milk-GEN 'a liter of milk'

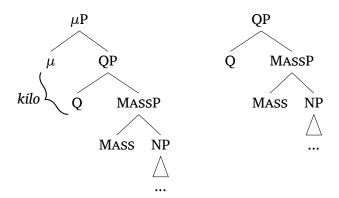
b. Koupil mlík-o.he.bought butter-ACC'He bought some butter.'

indefinite quantity

c. Ve sklenici bylo mlík-o. in glass was milk-NOM 'He bought some milk.'

existential/locative





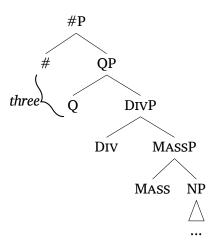
```
Turkish (Utku, d = Alexiadou 2019: 128, e = Bale et al.
2010: 586)
    bi(r) parça kek-Ø
a.
         piece cake
    'a piece of cake'
                                         (pseudo-partitive)
    üç kek-Ø
b.
    three cake
    'three cakes'
                                                 (counting)
    kek-ler
    cake-PL
    'cakes'
                                                   (plural)
    Kitap-Ø al-di-m
    book buy-past-1sg
                                                   indef. O
    'I bought a book/books.'
    John ve Brad çocuk-Ø
    John and Brad boy
    'John and Brad are boys'
    Park-ta ağaç-Ø var.
    park-loc tree exist
    There exist trees in the park.
                                                 existential
    Şura-da-ki ağaç-lar-ı gör-dü.
g.
    There-loc-adj tree-pl-acc see-pst.3sg
    He saw the trees that were there.
                                             definite plural 66/75
```

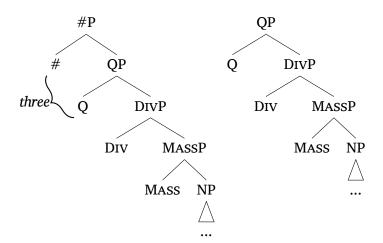
- (48) Armenian Bale et al. 2010: 586)
 - a. yergu dəgha two boy
 - b. John-ə yev Brad-ə dəgha en John-def and Brad-def boy are 'John and Brad are boys'

However...

(49) Bulgarian

- a. dva zelenchuk-a two vegetable-COUNT
- b. domat-at i krastavica-ta sa zelenchuc-i tomato-DEF and cucumber-DEF are vegetable-PL
- c. *domat-at i krastavica-ta sa zelenchuk-a tomato-DEF and cucumber-DEF are vegetable-COUNT





The puzzle

Towards a solution

The proposal

Morphological realization

Tripartite and split systems

Conclusions

Appendix I: indefinite quantities

Appendix II: A stab at the dual and the singular

(50) A possible structure of the dual: [MIN [PLP]]

- (50) A possible structure of the dual: [MIN [PLP]]
- (51) **Guolleoaggu-t** le-**igga** dasa boahtá-n fisherman-NSG be-3DU.PST DEM.ILL come-PRF muohtabiilla-in snow.car-COM
 'The fishermen had come there by snow car.' (North Saami)

(52) A possible structure of the singular: [MIN [CLP]]

```
(52) A possible structure of the singular: [ MIN [CLP]] (53) [ MIN [ CL ] [ MASSP ] ] ] \{a, one, \emptyset_{Sg}\}
```

References I

- Alexiadou, Artemis. 2019. Morphological and semantic markedness revisited: The realization of plurality across languages. *Zeitschrift für Sprachwissenschaft* 38 1: 123–154.
- Baerman, Matthew, Dunstan Brown, and Greville G. Corbett.
 2002. Case syncretism in and out of Indo-European. In CLS
 37: The Main Session. Papers from the 37th Meeting of the Chicago Linguistic Society, Vol. 1., edited by M. Andronis,
 C. Ball, H. Elston, and S. Neuvel, pp. 15–28. Chicago Linguistic Society, Chicago.
- Bale, Alan Clinton, Michaël Gagnon, and Hrayr Khanjian. 2010. Cross-linguistic representations of numerals and number marking. In *Semantics and Linguistic Theory*, vol. 20, pp. 582–598.
- Bobaljik, Jonathan. 2012. *Universals in Comparative Morphology*. MIT Press, Cambridge, MA.

References II

- Borer, Hagit. 2005. *In Name Only*. Oxford: Oxford University Press.
- Caha, Pavel. 2009. *The Nanosyntax of Case*. Ph.D. thesis, University of Tromsø, Tromsø.
- Hammond, Lila. 2005. *Serbian: An essential grammar*. Routledge, London.
- Harbour, Daniel. 2014. Paucity, abundance, and the theory of number. *Language* 90 1: 285–229.
- Kiparsky, Paul. 1998. Partitive case and aspect. In *The Projection of Arguments*, edited by Miriam Butt and W. Geuder, pp. 265–307. Center for the Study of Language and Information, Stanford.
- Link, Godehard. 1983. The logical analysis of plurals and mass terms: a lattice-theoretical approach. In *Meaning, Use and Interpretation*, edited by R. Bäuerle et al, pp. 302–323. Berlin: Mouton de Gruyter.

References III

- Martí, Luisa. 2020. Numerals and the theory of number. *Semantics and Pragmatics* 13: 3.
- Norris, Mark. 2018. Unmarked case in Estonian nominals. *Natural Language & Linguistic Theory* 36 2: 523–562.
- Rothstein, Susan. 2010. Counting and the mass/count distinction. *Journal of semantics* 27 3: 343–397.
- Starke, Michal. 2009. Nanosyntax: A short primer to a new approach to language. *Nordlyd* 36: 1–6.
- Starke, Michal. 2018. Complex left branches, spellout, and prefixes. In *Exploring Nanosyntax*, edited by Lena Baunaz, Karen De Clercq, Liliane Haegeman, and Eric Lander, pp. 239–249. Oxford University Press, Oxford.