Capturing Georgian Verbal Morphology with the Grammar Customization System

Irina Borisova
EMLCT, University of Groningen – Saarland University
borisova.ira@gmail.com

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rijksuniversiteit groningen

Georgian Polypersonal Agreement

- Georgian: South Caucasian, 3.8 million speakers in Georgia:

  (a) complex verbal morphology

  da-g-**a**-*c'er*-in-**eb**-d-a-t

  '(s)he would make you(pl) write it'

  (b) pro-drop

  (c) split-ergative

  (d) free word order

- Polypersonal Agreement: subject and objects can be marked on the verb

Georgian Polypersonal Agreement

ambiguous marking system:

g-xat-av-t

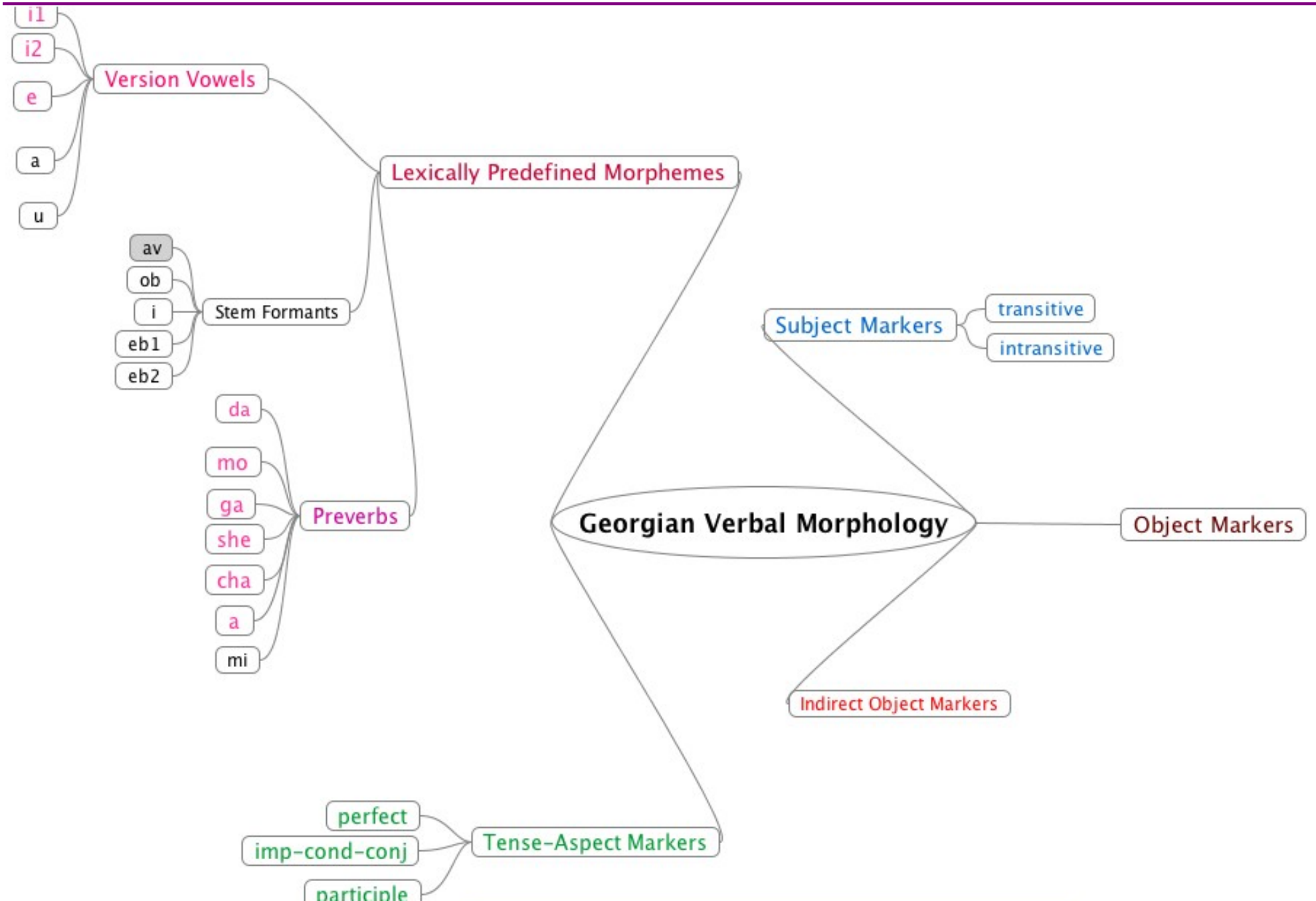
- a) I paint you-pl,
- b) he paints you-pl
- c) we paint you-sg
- d) we paint you-pl

cign-i da-i-cer-a

- a) the book was written
- b) he/she wrote the book for himself/herself

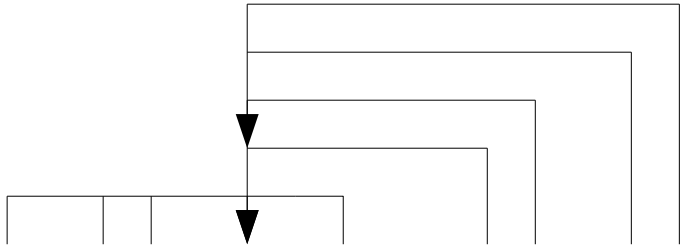
428 grammatical forms

Types of Morphemes



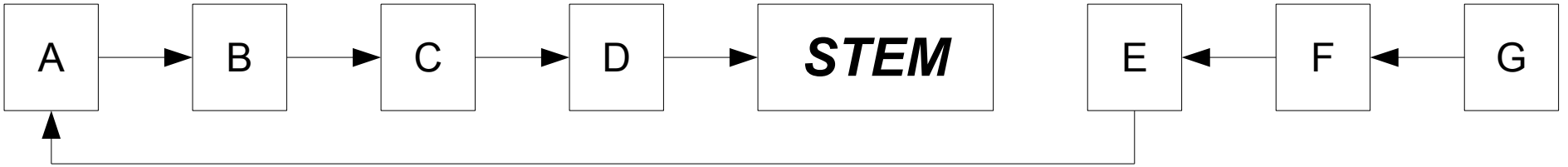
Challenges

- deleted morphemes
- multiple tense-aspect expressions
- disambiguating (fused) morphemes
- choose right input



da-g-**a**-*c'er*-in-**eb**-d-a-t ⇒ dagac'erinebdat is not parsed

Input(1)

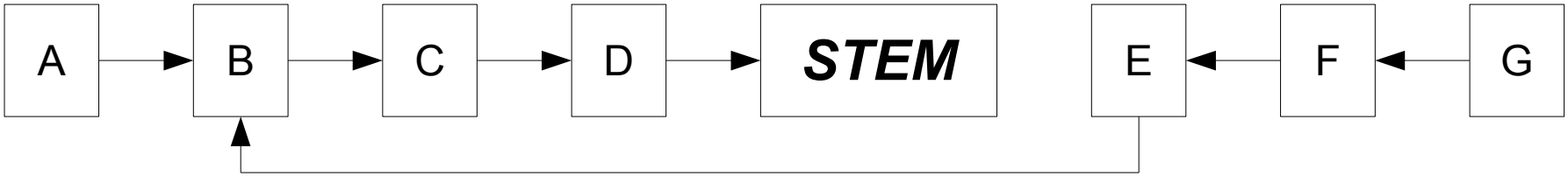


slot_a-lex-rule-super := add-only-no-ccont-rule & infl-lex-rule & slot_e-rule-dtr & slot_f-rule-dtr & slot_g-rule-dtr &
  [DTR slot_a-rule-dtr].

slot_d-lex-rule-super := add-only-no-ccont-rule & infl-lex-rule & slot_a-rule-dtr & slot_b-rule-dtr & slot_c-rule-dtr & slot_e-rule-dtr & slot_f-rule-dtr & slot_g-rule-dtr &
  [DTR slot_d-rule-dtr].

abcd***stem***efg	***stem***ef	bc***stem***efg	ac***stem***ef
abc***stem***efg	***stem***efg	b***stem***bsteme	ac***stem***efg
ab***stem***efg	bc***steme***	b***stem***ef	ac***stem***eg
a***stem***efg	c***steme***	b***stem***efg	ac***stem***fg
a***stem***ef	c***stem***ef	a***stem***	ac***stem***g
a***steme***	c***stem***efg	ac***stem***	ac***stem***f
steme	bc***stem***ef	ac***steme***	ad***stem***f
ad***stem***f	cd***stem***f	d***stem***fg	d***stem***f

Input(2)

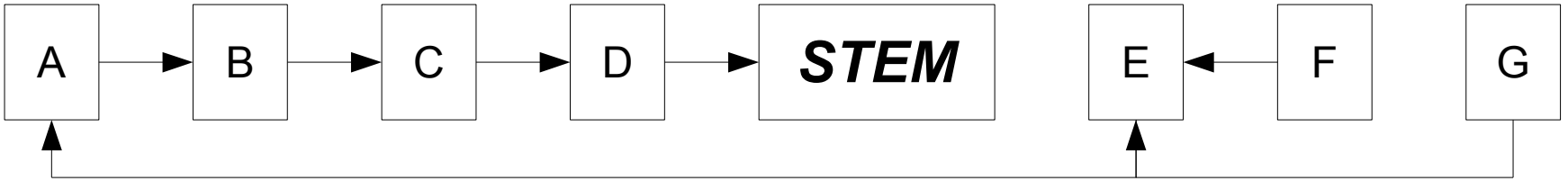


slot_b-lex-rule-super := add-only-no-ccont-rule & infl-lex-rule & slot_e-or-slot_a-rule-dtr & slot_f-rule-dtr & slot_g-rule-dtr &
  [DTR slot_b-rule-dtr].

slot_a-lex-rule-super := add-only-no-ccont-rule & infl-lex-rule &
  [DTR slot_e-or-slot_a-rule-dtr].

slots 'A' and 'E', 'F', and 'G' cannot co-occur

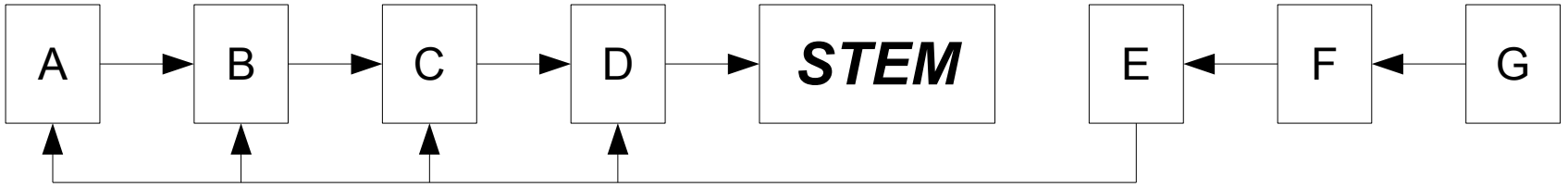
Input(3)



slot_e-lex-rule-super := add-only-no-ccont-rule & infl-lex-rule & slot_f-or-slot_g-rule-dtr &
[DTR slot_e-rule-dtr].

slots 'F' and 'G' cannot co-occur

Input(4) = (1)



slot_d-lex-rule-super := add-only-no-ccont-rule & infl-lex-rule & slot_a-rule-dtr & slot_b-rule-dtr & slot_c-rule-dtr & slot_e-rule-dtr & slot_f-rule-dtr & slot_g-rule-dtr &
  [DTR slot_d-rule-dtr].

Conclusion

Input specification techniques:

- inheritance
- disjunction
- manipulations with input give a decent coverage for complex inflectional systems