SSHRC CRSH

McMaster University

Underspecification of nominal functional categories in Slavic and Semitic

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empirical focus

- two morphemes, one in Slavic (Polish, Czech), one in Arabic (Moroccan, Laventine)
- the same form but range over a number of functional interpretations within the extended nominal domain

accidental homophony?

- is there is a principal explanation for this homophony, that is, can it teach us something about the nature of features and functional categories?

- or is it accidental?

- cue: the same range of structural homophony attested in a number of languages from distinct language families

the upshot

- assuming features on functional heads are variables (Borer 2005), we expect to find syntactic operations and functional elements that target and manipulate these variables beyond matching and valuation in agree

- the result is an extreme but yet structurally restricted homophony in the functional domain

functional polarity operator

- head as a polarity operator on features of its syntactic sisters
- underspecification of functional identity translates into PF uniformity

Slavic K

- here: Czech, Polish
- inflected for gender, number and case; e.g., Czech -**ek**.M.SG, -**ka**.F.SG, -**ko**.N.SG etc.
- systematically homophonous with a variety of functional morphemes

functional homophony

- a default **diminutive** formation that can yield a small degree interpretation, or obtain additional pragmatic readings
- a **nominalizer**
- a conceptually **female-denoting** morpheme
- a semantic **division/number** morpheme (pluria tantum, group formation)

Arabic F

- the “feminine” morpheme
- a similar range of functional and semantic interpretations with some modulation
- here, Moroccan and Levantine Arabic (LA)

differences

- in the division/number domain, F also individuates
- F can function as a nominalizer but only to derive abstract nouns from adjectives or count nouns*
- => the same functions/features as K but a somewhat different realization

*this might be a side-effect of templatic morphology. Moroccan Berber, also Semitic but non-templatic, shows a much wider range of nominalizations by F, similarly Hamar and other Afro-Asiatic languages.

the same morphological form expresses

- derivational & inflectional morphology
- nominality as a categorical distinction
- nominal features/functional heads throughout the extended nominal domain (GENDER, NUMBER, DEGREE, PERSON)
- [in languages not discussed here also specificity and case]

side notes

- not all languages with derivational diminutives and grammatical gender display this type of structural homophony (German, Dutch)

- the default PF realization does not have to take the shape of a particular functional morpheme but can correspond to a morphophonological process instead (reduplication in Halkomelem Salish?)

- templatic morphology plays a role; we leave out spell-out domains in this talk (appendix only)

underspecified head (i*)

- K and F morphological realizations of an underspecified head
- => i* (loosely inspired by the interface-sensitive i* of Wood & Marantz 2015)
- in the context of an extended nominal projection

i* as a polarity head

- i* = a polarity operator
- => a function that takes a specific feature, or group of features of its sister as an argument and reverses the value of the feature

category of i*?

- a functional head is defined by its features
- => the output of i* returns the same ‘category’ as the feature(s) of its sister

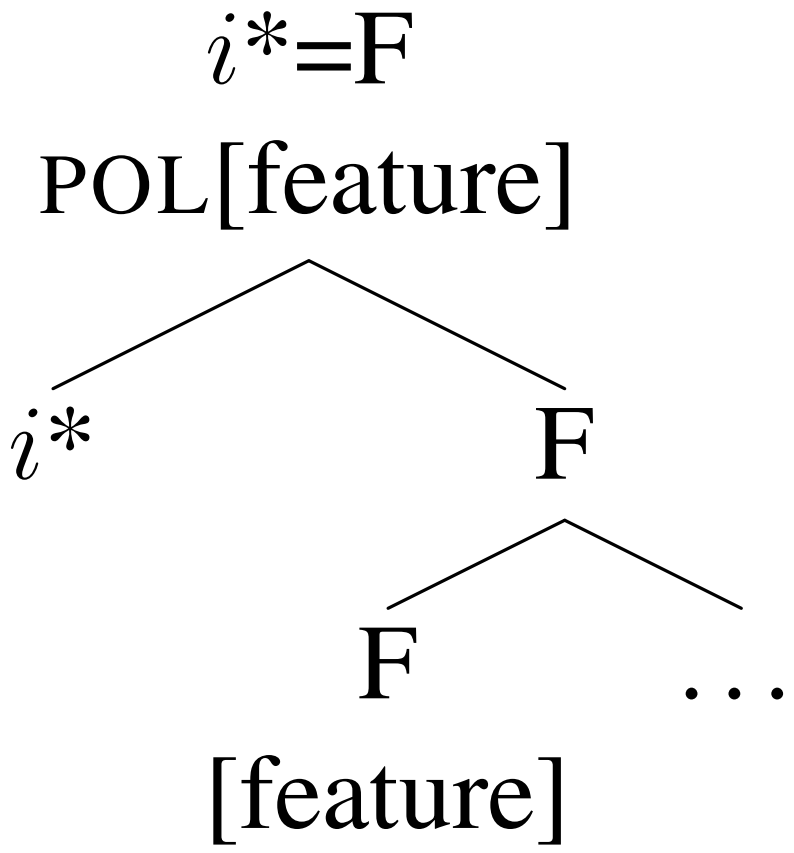
category of i*

- the functional interpretation of i* is a function of its structural position
- ⇒ i* takes its core properties from the head whose features it modifies
- when i* attaches to a category defining head, then it functions as a category defining head; when it attaches to an individuating head, then it functions as a an individuating head, etc.

type of merge

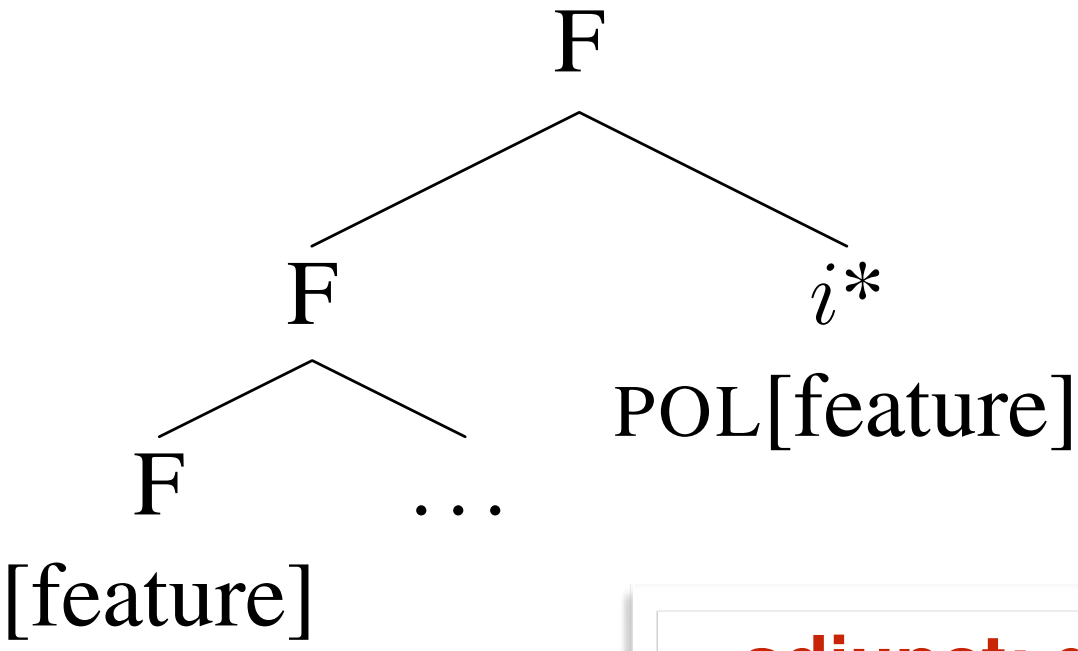
- since i* is underspecified, it can be merged:
- to the output of the merger of a head, or a specifier,
- and **project**
- or it can be merged as an **adjunct**

(a) the feature output of i* projects



most cases

(b) the feature output of i* does not project



adjunct; diminutives, plural of plural

projecting vs non-projecting

- in LA, double diminutive formation ambiguous between a higher degree of diminutive and a female-denoting diminutive
- arnab ‘rabbit.**M**.SG’ → arnub ‘rabbit.DIM.**M**.SG ’
- → arnub**-i** ‘rabbit.DIM.**M**.SG**-F:SG**
  - ‘a **very small (cute)** bunny’
  - ‘a **female** bunny’

when F projects: visible to agree

al-arnub**-i** nam**-et** b-Hodn-ii

the-rabbit.DIM.**M**-**F:SG** sleep.3**F**.SG.PST in-lap-my

‘the female bunny slept in my lap.’

when F does not project: not visible to agree

al-arnub**-i** nam b-Hodn-ii

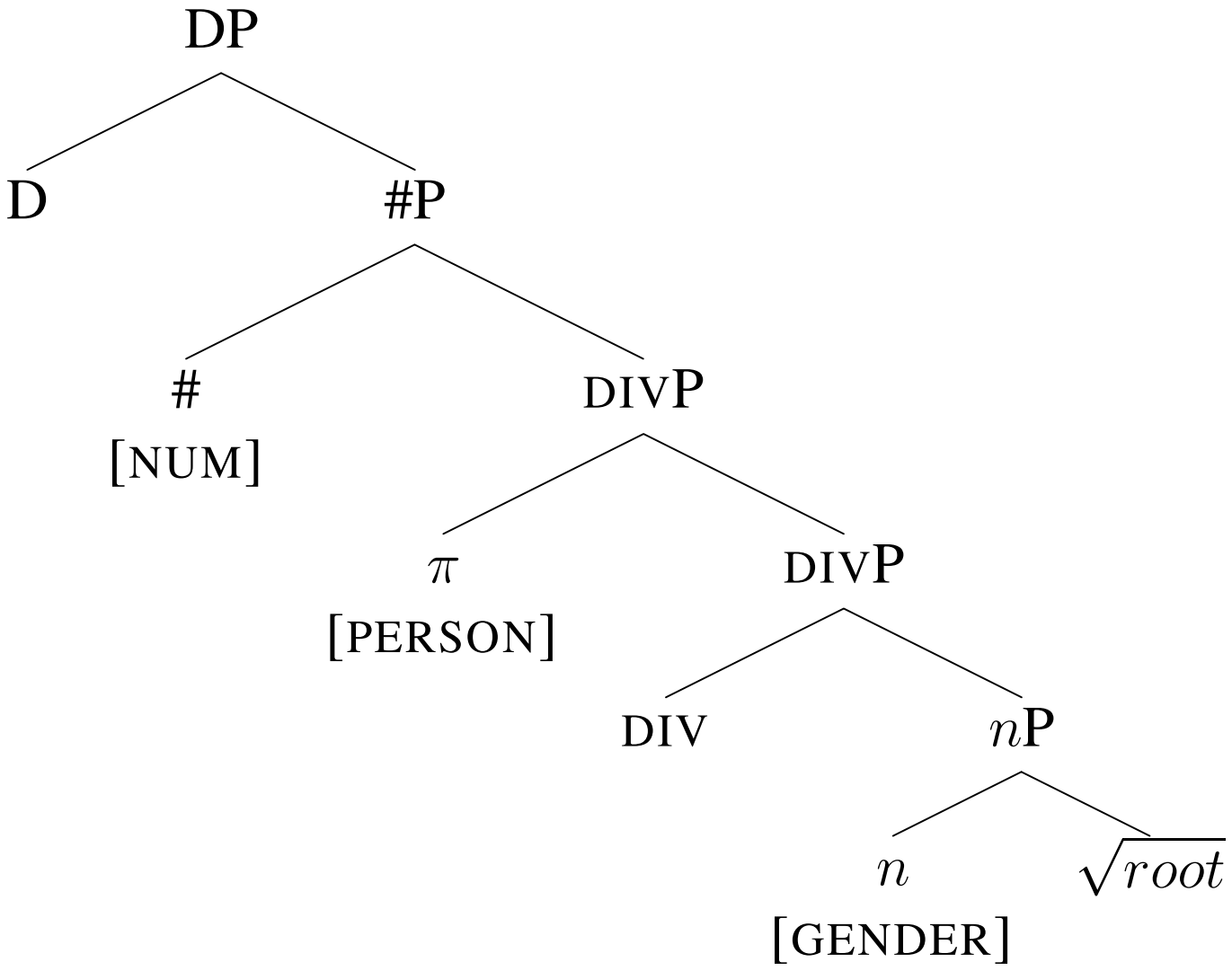
the-rabbit.DIM.**M**-**F:SG** sleep.3**M**.SG.PST in-lap-my

‘the very small (cute) bunny slept in my lap.’

location of merge

- since i* is underspecified, it can be merged:
- at any level within the extended nominal domain
- as long as the relevant projection contains a feature that is in the domain of the polarity function

i* can attach at any level

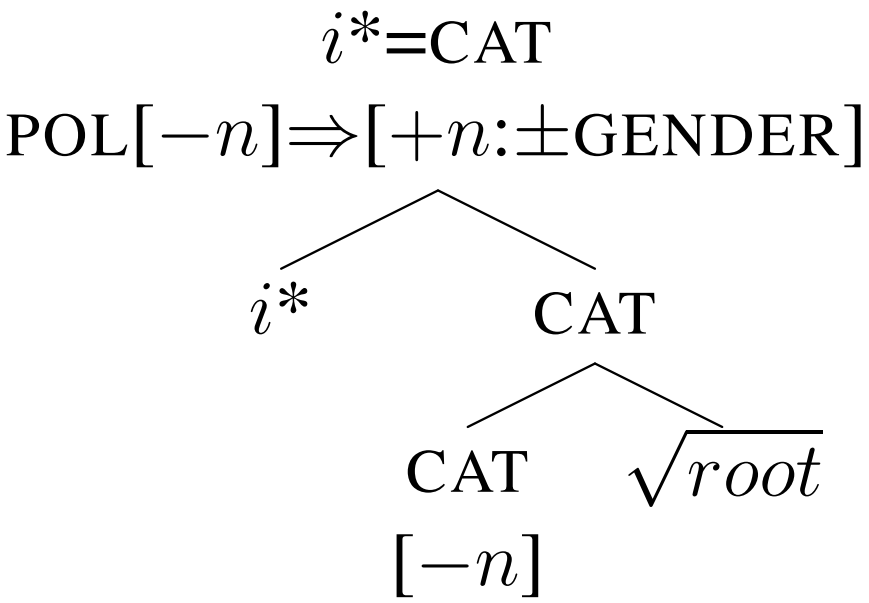


i* at the category head level: category change (nominalizer)

i* as CAT

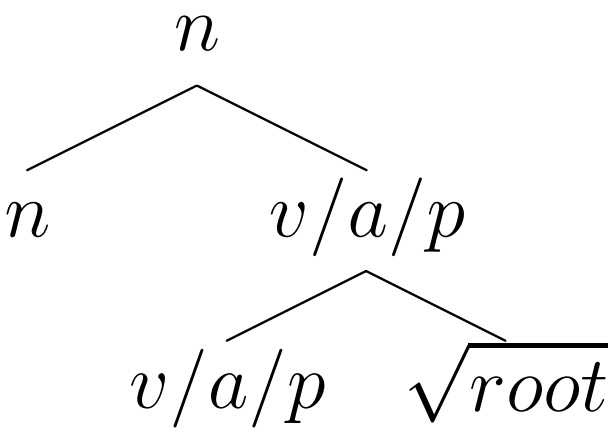
- i* merges to a category head, it turns into a category head
- i* outputs a polarized value of a feature of the categorizing head

i* applies to [–*n*]



- valued [+/–GENDER] as the defining feature of *n* (nominality; e.g., Kramer 2015, Veselovská 2019)
- expected nominalizations from any category, with any gender value as a possible output

category change



deadjectival nominals:
sodová (voda) ‘soda.ADJ (water)’
sodov-**k**a ‘soda-**K**.F.SG, pop’

deverbal nominals:
doplnit ‘to complement’
dopln-ě**k** ‘complement-**K**.M.SG, a complement’

deprepositional nominals:
před (domem) ‘in front of (a/the house)’
před-e**k** ‘front–**K**.M.SG, (the) front (of something)’

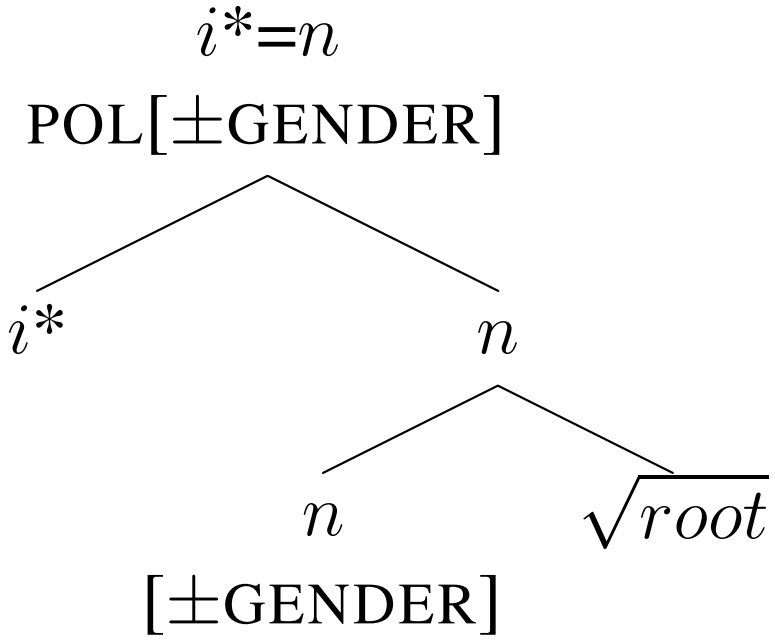
feature profile

Category Change	K
$\text{ADJ} \Rightarrow \text{N}_{masc}$	✓
$\text{V} \Rightarrow \text{N}_{masc}$	✓
$\text{ADJ} \Rightarrow \text{N}_{fem}$	✓
$\text{V} \Rightarrow \text{N}_{fem}$	✓
$\text{ADJ} \Rightarrow \text{N}_{neut}$	×
$\text{V} \Rightarrow \text{N}_{neut}$	×

[+/–GENDER] => M, F

no neuter => complex gender [–PERSON, –GENDER] => too low in the structure for PERSON

i* applies to [+*n*]



- application of i* to [+/–GENDER] expected to return a reversed value of the gender feature

N-to-N conversion

N-to-N Conversion	K
$\mathrm{N}_{masc} \Rightarrow \mathrm{N}_{fem}$	✓
$\mathrm{N}_{masc} \Rightarrow \mathrm{N}_{masc}$	×
$\mathrm{N}_{fem} \Rightarrow \mathrm{N}_{masc}$	✓
$\mathrm{N}_{fem} \Rightarrow \mathrm{N}_{fem}$	×
$\mathrm{N}_{masc} \Rightarrow \mathrm{N}_{neut}$	×
$\mathrm{N}_{fem} \Rightarrow \mathrm{N}_{neut}$	×
$\mathrm{N}_{neut} \Rightarrow \mathrm{N}_{masc}$	×
$\mathrm{N}_{neut} \Rightarrow \mathrm{N}_{fem}$	×
$\mathrm{N}_{neut} \Rightarrow \mathrm{N}_{neut}$	×

[+GENDER] => [–GENDER]
(F => M)
[–GENDER] => [+GENDER]
(M => F)

kůra ‘tree-bark.**F**.SG’
kor-e**k** ‘bark-**K**.**M**.SG, cork’

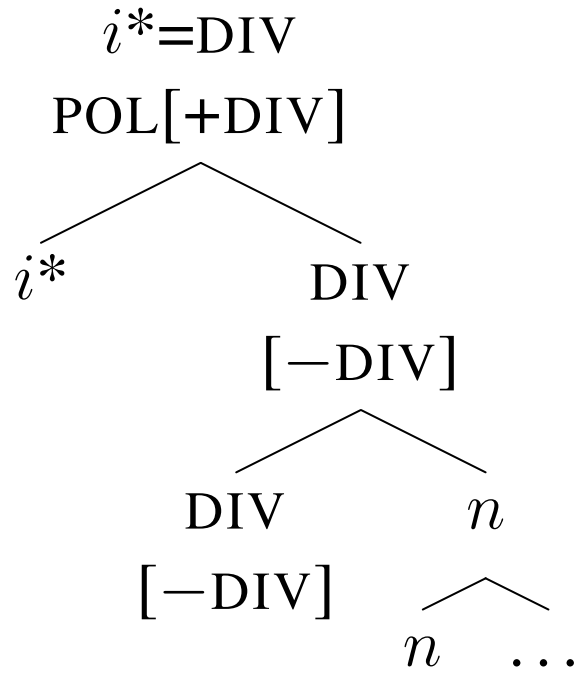
diplomat.**M**.SG
diplomat-**k**a ‘diplomat-**K**.**F**.SG; a briefcase’

i* at the DIV level: individuation, group formation & person manipulation

DIV projection

- DIV is home to [+/–DIV] feature (e.g., Borer 2005)
- but its specifier also hosts [+/–PERSON] feature (den Dikken 2019)
- we expect i* to manipulate either of these features

individuation



- when individuating head is set to [–DIV], i* changes the polarity to [+DIV]
- although certain restrictions apply, individuated structures can be further pluralized

individuation by F (LA)

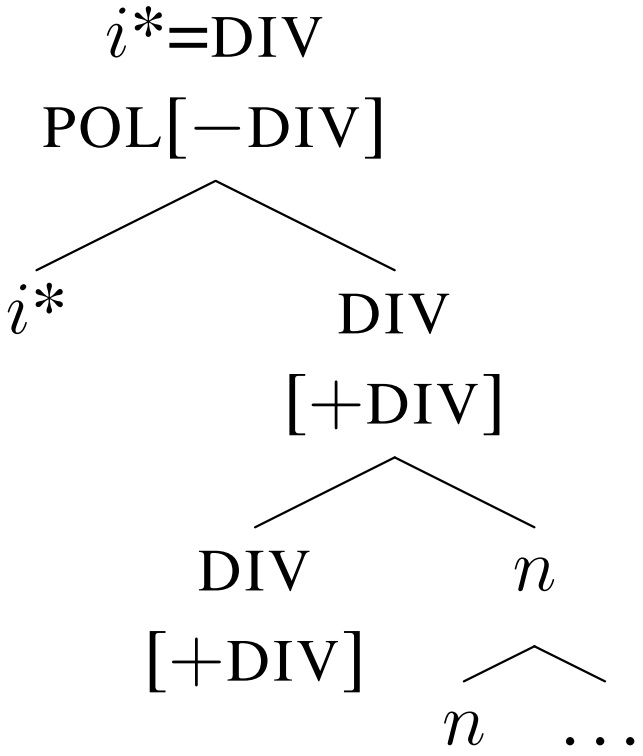
- Tabšuur ‘chalk’ (batch noun)

  => Tabšuur-**a** ‘chalk-**F**:SG, a piece of chalk’

- Saxr ‘stone’ (batch noun)

  => Saxr-**a** ‘stone-**F**:SG; a piece of stone’

group formation by F



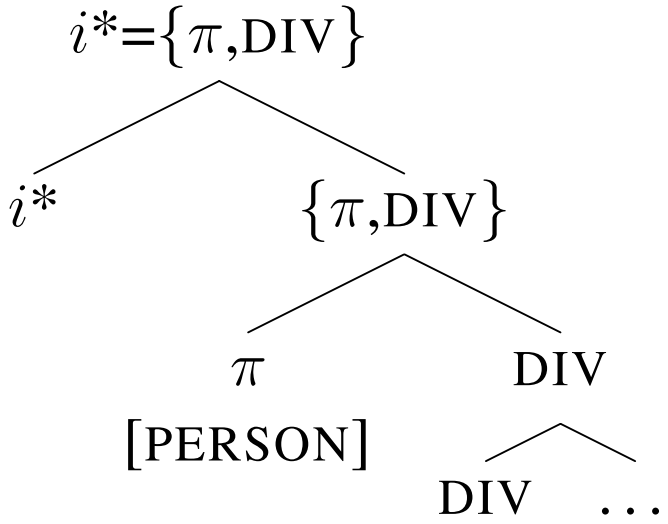
- when individuating head is set to [+DIV], i* changes the polarity to [–DIV]

group formation by F (LA)

- mtdyyen ‘religious.M.SG, a believer’

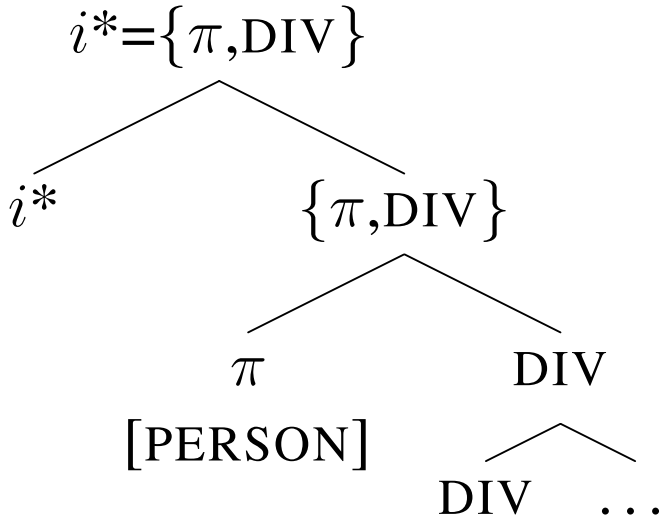
  => mtdyn-**i** ‘religious-**F**.SG, a religious group’

conceptual gender



- PERSON (π) in spec, DIV (den Dikken 2019)
- conceptual gender connected to PERSON (e.g., Heim 2008, Sudo 2012, Kučerová 2018)
- i* applies to a complex feature: [+/–PERSON, +/–GENDER]

conceptual gender



- Cz/Polish/Arabic: only human-denoting masculine syntactically projected ⇒ [+PERSON, –GENDER]
- POL[+PERSON, –GENDER] ⇒ [+PERSON, +GENDER]
- => a FEM denoting noun

for POL[+PERSON, –GENDER] to return [–PERSON, –GENDER], i would change the polarity of DIV as well but that would make it a non-local operation

only Fem from Masc

- ředitel ‘director.**M**.SG’

  → ředitel-ka ‘director-**K**.**F**.SG, a female director’

- far ‘mouse.**M**.SG’

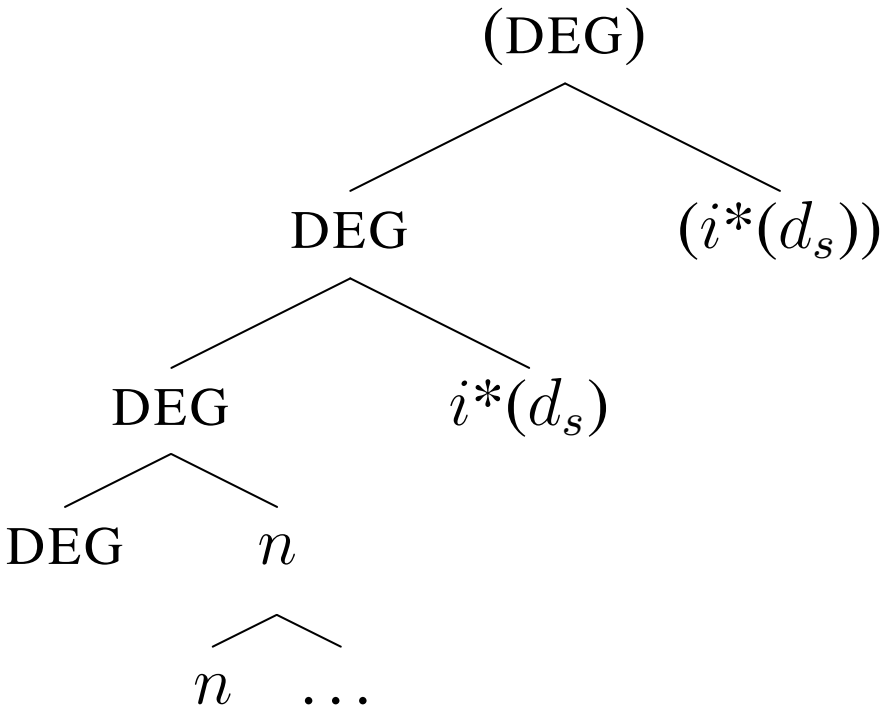
  → far-a ‘mouse-**F**:**F**.SG, she mouse’

- daktor ‘doctor.**M**.SG

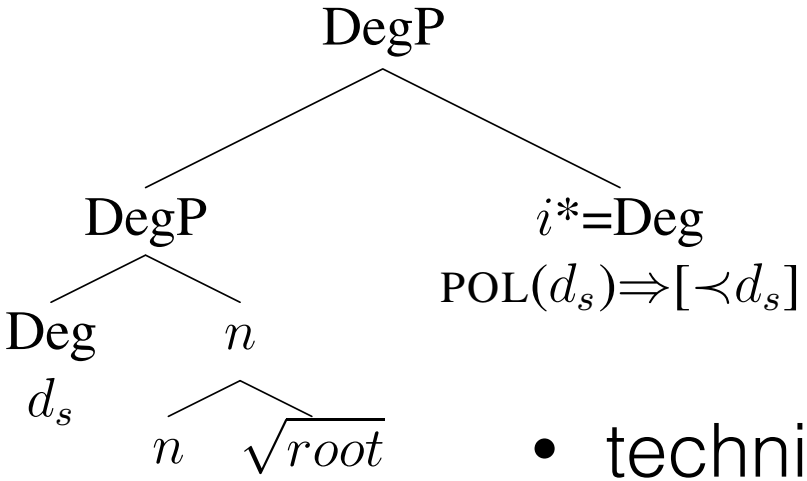
- → daktor-a ‘doctor-**F**:**F**.SG, a female doctor’

i* at the DegP level: diminutives and their doubles

i* applies to DegP



- optional DegP (Morzycki 2009)
- the only feature in the domain of i* is degree standard
- i* doesn't project
- expected more than one application of i*, no effect on ϕ-features



diminutives

- technically, i* changes the default POS heading DEG to NEG
- ⟦POS⟧ = $\lambda g_{<e,d>}.\lambda x.\text{standard}(g) \preccurlyeq g(x)$
- ⟦NEG⟧ = $\lambda g_{<e,d>}.\lambda x.\text{standard}(g) \succcurlyeq g(x)$
- i* changes the point of reference to be below the standard minimal value

no gender change
no restriction on gender input/output

- NEUTER → NEUTER:

  jablko ‘apple.**N**.SG’ → jablíč-**k**o ‘apple-**K**.**N**.SG; a small apple’

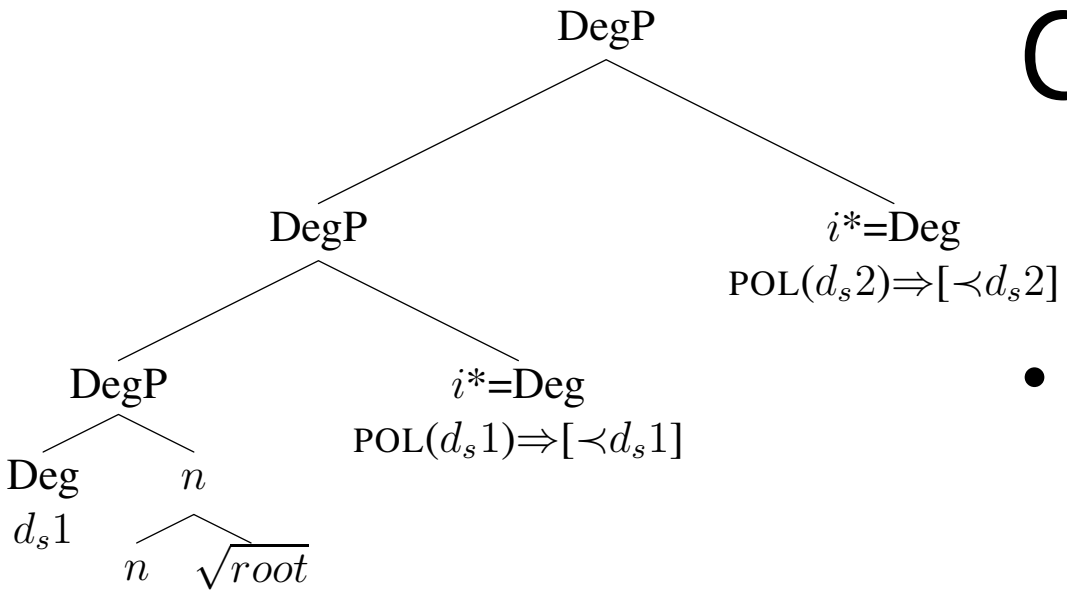
- FEM → FEM:

  jáma ‘pit.**F**.SG’ → jam-**k**a ‘pit-.**K**.**F**.SG; a small hole’

- MASC → MASC:

  stůl ‘table.**M**.SG’ → stol-e**k** ‘table-**K**.**M**.SG; a small table’

double dims



stůl.M.SG ‘a table’
stol-e**k** ‘table-**K**.M.SG,
a ***small*** table’
stol-e**č**-e**k** ‘table-**K**-**K**.M.SG,
a ***very small*** table’

- i* can apply **recursively** to reset the scale to the minimal value of its input
- a double DIM formation obeys structural economy only if it yields additional interpretations (Sichel & Wiltschko 2018)
- ⇒ **a new degree scale**

augmentatives

- in Arabic, the double F formation (and diminutive templatic formation) can yield augmentative reading as well

raahil.M.SG ‘traveler’
rahhaal.AUG.M.SG ‘big traveler’
rahhaal-**at** big_traveller-**F**:SG
‘famous big traveler’

* in Slavic, augmentation requires a specialized morphology formation

augmentatives

- structure the same as with diminutives
- but in augmentatives i* changes the point of reference above the standard maximal value without changing POS to NEG

pragmatic readings

- (doubling of) diminutives and augmentatives yield additional pragmatic readings
- pragmatic readings can constitute affection, or derogation (see, e.g., Fontin 2011, Fassi Fehri 2016, 2018)
- these are not a direct product of feature interaction of i* but rather a mapping of its morphosyntactic effects to the interfaces

conclusions

- assuming features on functional heads are variables (Borer 2005), we expect to find syntactic operations and functional elements that target and manipulate these variables beyond matching and valuation in agree

- K+F: empirical evidence for such a functional element

- i* => a polarity operator manipulating features of a functional head it modifies

- empirical motivation: parallel systematic homophony over the same set of functional interpretations and features within the nominal extended projection

conclusions

- growing empirical support from other languages currently under investigation (Halkemelem, Oromo, Hamar, Tigrinya, Moroccan Berber)
- but many open questions
- application of i* to complex features and structural economy
- timing of spell-out
- in what type of languages this type of structural homophony arises

thank you!

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- Aya Zarka for amazing help with data collection

appendix

recursion, spell-out and templatic morphology

- den Dikken & Dékány (2018): a syntactic recursion requires spell-out
- since an application of i* technically yields recursion, we expect i* to trigger spell-out
- => F in Arabic attached to the templatic stem, i.e., the first spell-out domain

i* as an adjunct

- the first instantiation of i* as an adjunct does not constitute recursion
- => the first application of DIM in Arabic part of the templatic stem
- second application of DIM constitutes recursion
- => the second application of DIM is a suffix attached to the templatic stem, i.e., outside of the first spell-out domain