

Syntactic variation meets PF
uniformity:
Underspecification of
nominal functional categories

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accidental homophony?

- structural homophony ranging over the same set of nominal functional projections
- the same homophony attested in a number of languages from distinct language families

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the case for i^*

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

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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

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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)

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Arabic F

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

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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.

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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]

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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)

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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

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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

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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

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category of i^*

- the functional interpretation of i^* is a function of its structural position
- $\Rightarrow i^*$ 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 an individuating head, etc.

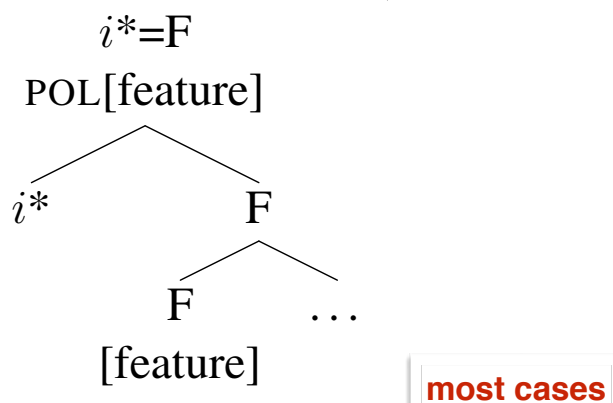
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type of merge

- 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**

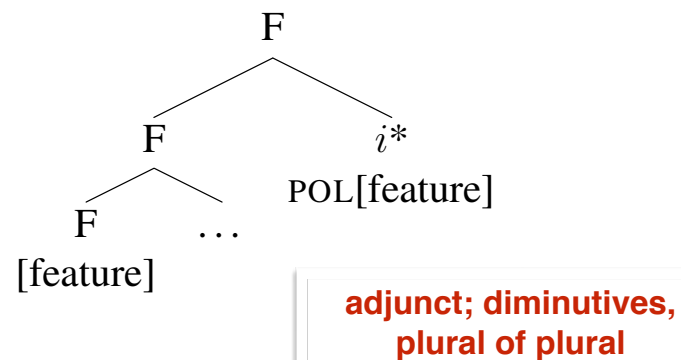
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(a) the feature output of i^* projects



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



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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'

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F visible to agree: projecting

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.'

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F not visible to agree: non-projecting

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.'

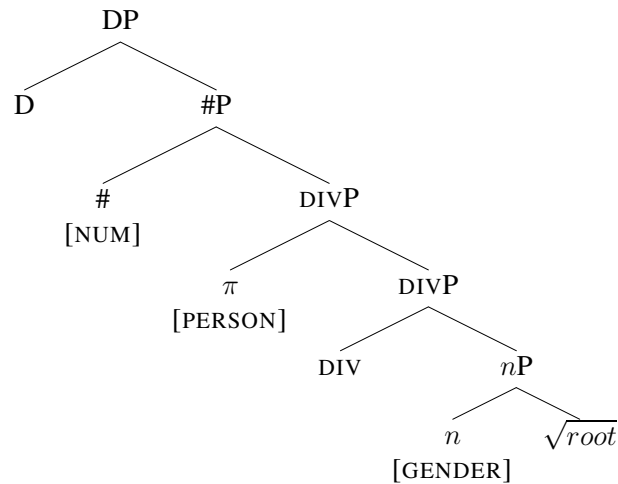
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location of merge

- 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

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i^* can attach at any level



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

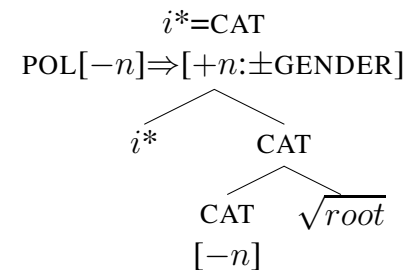
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i^* as CAT

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

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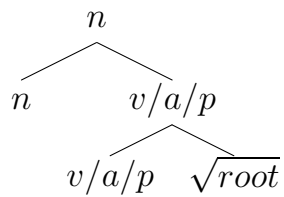
i^* applies to $[-n]$



- 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

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category change



deadjectival nominals:

sodová (voda) 'soda.ADJ (water)'
sodov-**ka** 'soda-**K.F.SG**, pop'

deverbal nominals:

doplnit 'to complement'
doplň-**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)'

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feature profile

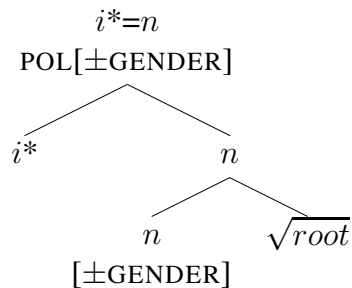
Category Change	K
ADJ \Rightarrow N _{masc}	✓
V \Rightarrow N _{masc}	✓
ADJ \Rightarrow N _{fem}	✓
V \Rightarrow N _{fem}	✓
ADJ \Rightarrow N _{neut}	×
V \Rightarrow N _{neut}	×

[+/-GENDER] \Rightarrow M, F

no neuter \Rightarrow complex gender [-PERSON, -GENDER] \Rightarrow too low in the structure for PERSON

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i* applies to [+n]



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

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N-to-N conversion

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

[+GENDER] \Rightarrow [-GENDER]

(F \Rightarrow M)

[-GENDER] \Rightarrow [+GENDER]

(M \Rightarrow F)

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

diplomat.**M.SG**
diplomat-**ka** 'diplomat-**K.F.SG**;
a briefcase'

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

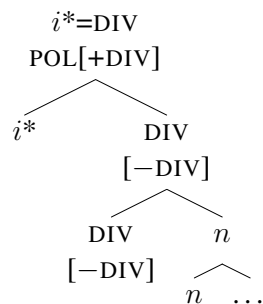
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DIV projection

- 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

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individuation



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

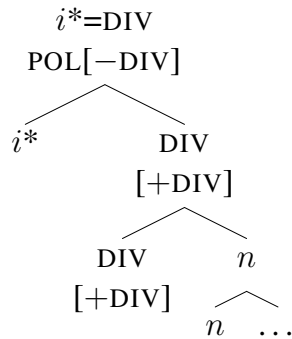
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individuation by F (LA)

- 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'

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group formation by F



- when individuating head is set to [+DIV], i^* changes the polarity to [-DIV]
- these cannot be pluralized: a repeated application of i^* to reset [-DIV] back to [+DIV] would violate structural economy

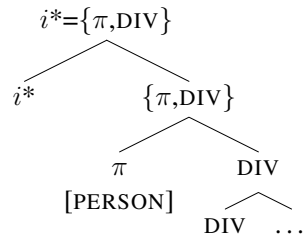
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group formation by F (LA)

- mtdyeyen 'religious.M.SG, a believer'
=> mtdyn-i 'religious-F.SG, a religious group'

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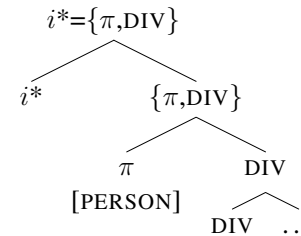
conceptual gender



- 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]

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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

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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'
- doktor 'doctor.**M**.SG'
 - doktor-a 'doctor-**F**:**F**.SG, a female doctor'

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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

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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

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thank you!

SSHRC  CRSH

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And even bigger thank
you to **Anders** for all his
inspiring work!
Happy retirement!

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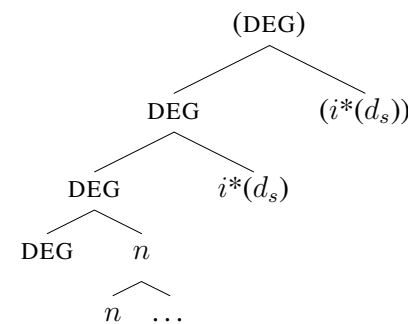
appendix

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i^* at the DegP level:
diminutives and their doubles

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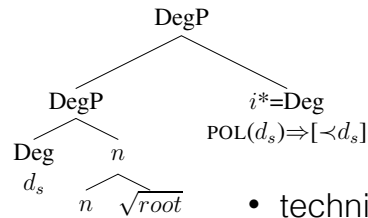
i^* applies to DegP



- 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

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diminutives



- technically, i^* changes the default POS heading DEG to NEG
- $[[POS]] = \lambda g_{\langle e,d \rangle}. \lambda x. \text{standard}(g) \leq g(x)$
- $[[NEG]] = \lambda g_{\langle e,d \rangle}. \lambda x. \text{standard}(g) \geq g(x)$
- i^* changes the point of reference to be below the standard minimal value

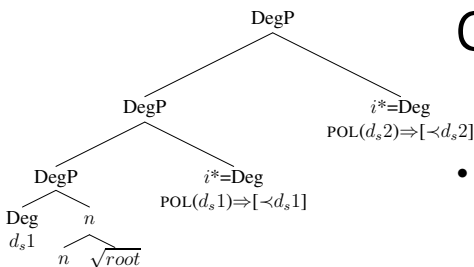
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no gender change
no restriction on gender input/output

- NEUTER → NEUTER:
jablko 'apple.**N**.SG' → jablič-ko 'apple-**K**.**N**.SG; a small apple'
- FEM → FEM:
jáma 'pit.**F**.SG' → jam-ka 'pit-**K**.**F**.SG; a small hole'
- MASC → MASC:
stůl 'table.**M**.SG' → stol-ek 'table-**K**.**M**.SG; a small table'

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double dims



- 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**

stůl.M.SG 'a table'
stol-ek 'table-**K**.M.SG,
a **small** table'
stol-eč-ek 'table-**K**-**K**.M.SG,
a **very small** table'

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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

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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

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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

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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

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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

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