

Intersectivity at the interface: the syntax and semantics of Russian adjectives

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A problem of form and function

- Russian adjectives can (sometimes) appear in **short** and **long** forms
 - **krasiv** ‘beautiful’
 - **krasivyj** ‘beautiful’
- These forms have been argued to correspond to semantic differences:
 - **stage-level** vs. **individual-level** (Švedova et al. 1980)
 - **states** vs. **properties** (Geist 2010)
 - **intersective** vs. **non-intersective** (Siegel 1976)

The intersective ambiguity

- Siegel (1976) argues **short-form (SF) adjectives** are intersective:
 - (1) Studentka **umna**
‘The student is intelligent’ = intelligent in general, absolute terms
- ...while **long-form (LF) adjectives** are uniformly non-intersective:
 - (2) Studentka **umnaja**
‘The student is intelligent’ = intelligent in her role as a student
- But this is based on a very small amount of data: “I asked **an informant** about [these sentences]”

The intersective ambiguity

- Instead, Larson (1999) argues **LFs** are ambiguous:
 - (3) **krasivyj** tancor
'beautiful dancer' = one who dances beautifully (non-intersective) OR
a dancer who is beautiful (intersective)
- This claim is highly influential in the adjective syntax literature, e.g., in motivating some of Cinque's (2010) conclusions
- But again: "I have gathered preliminary data from **one Russian speaker**... an undergraduate student working in USB Linguistics Dept."

Expanding the data

- We gathered data from **75 Russian speakers** via an online form
- 48 questions
 - 6 adjectives: *krasivyj* 'beautiful', *umnyj* 'intelligent', *bystryj* 'fast', *znamenityj* 'famous', *xoroshij* 'good', *ploxoj* 'bad'
 - 4 nouns per adjective
 - 2 scenarios per adjective-noun pair
- Participants read a scenario setting up an intersective or non-intersective reading, then choose any of three sentences that are appropriate to describe that scenario

Expanding the data: sample question

- Scenario (non-intersective): Vasyok is a very skilled thief who can break into any location, and is morally a terrible person.
 - ❑ Étot vor **xoroshij**
‘This thief is good.LF’
 - ❑ Vasyok **xoroshij** vor
‘Vasyok is a good.LF thief’
 - ❑ Étot vor **xorosh**
‘This thief is good.SF’

Expanding the data: sample question

- Scenario (intersective): Pavlik is a thief who isn't particularly skilled, but he uses the money he steals for good causes, like feeding orphanages, and so is a morally good person.
 - Étot vor **xoroshij**
'This thief is good.LF'
 - Pavlik **xoroshij** vor
'Vasyok is a good.LF thief'
 - Étot vor **xorosh**
'This thief is good.SF'

Non-intersective alternations

- Complicating the picture, the non-intersective reading also breaks down into two different readings:

(4) Sonya is a beautiful dancer.

-> IR: 'Sonya is a dancer and physically beautiful'

-> event-related NIR: 'Sonya dances beautifully'

-> scale-related NIR: 'Sonya is physically beautiful for a dancer'

- So, nouns were split between setting up event or scale NIR readings

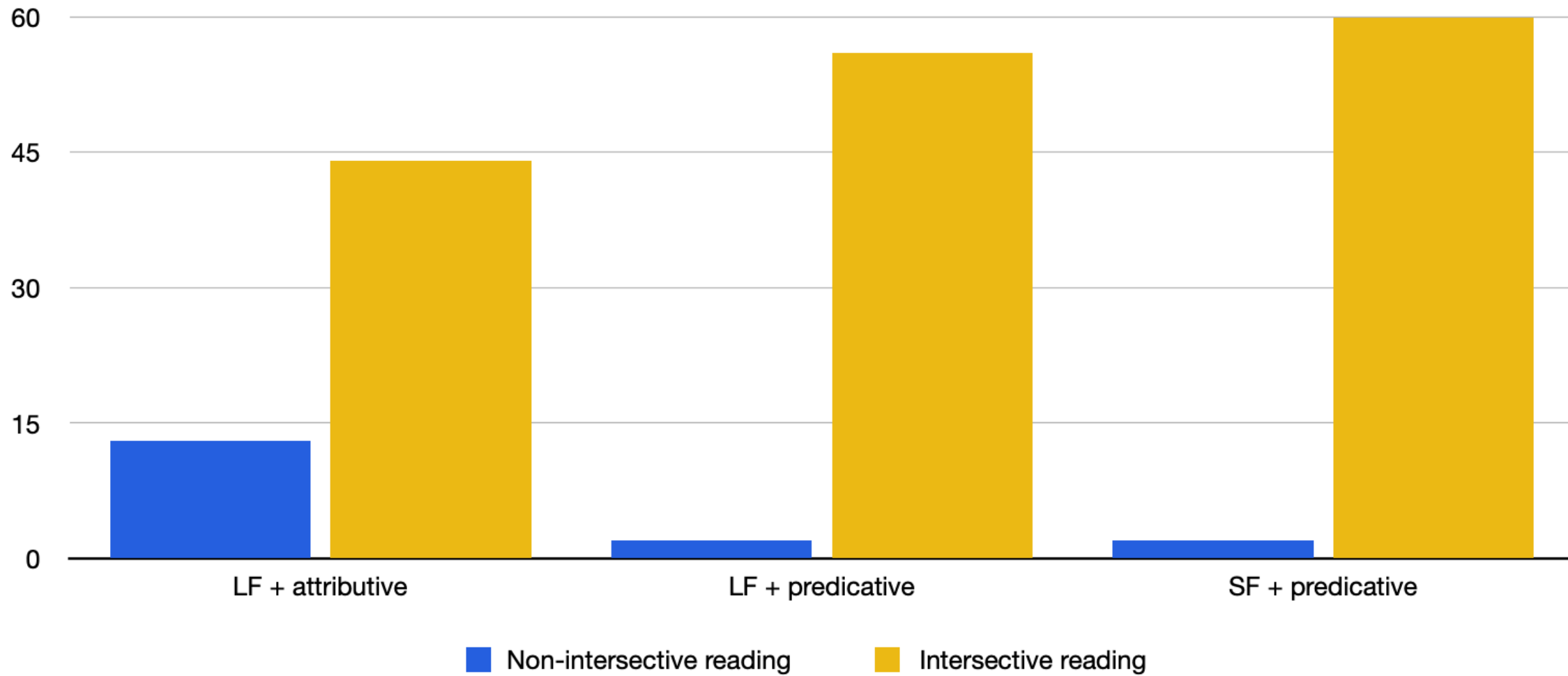
Questions and data are available here:

bit.ly/fasl30adjectives

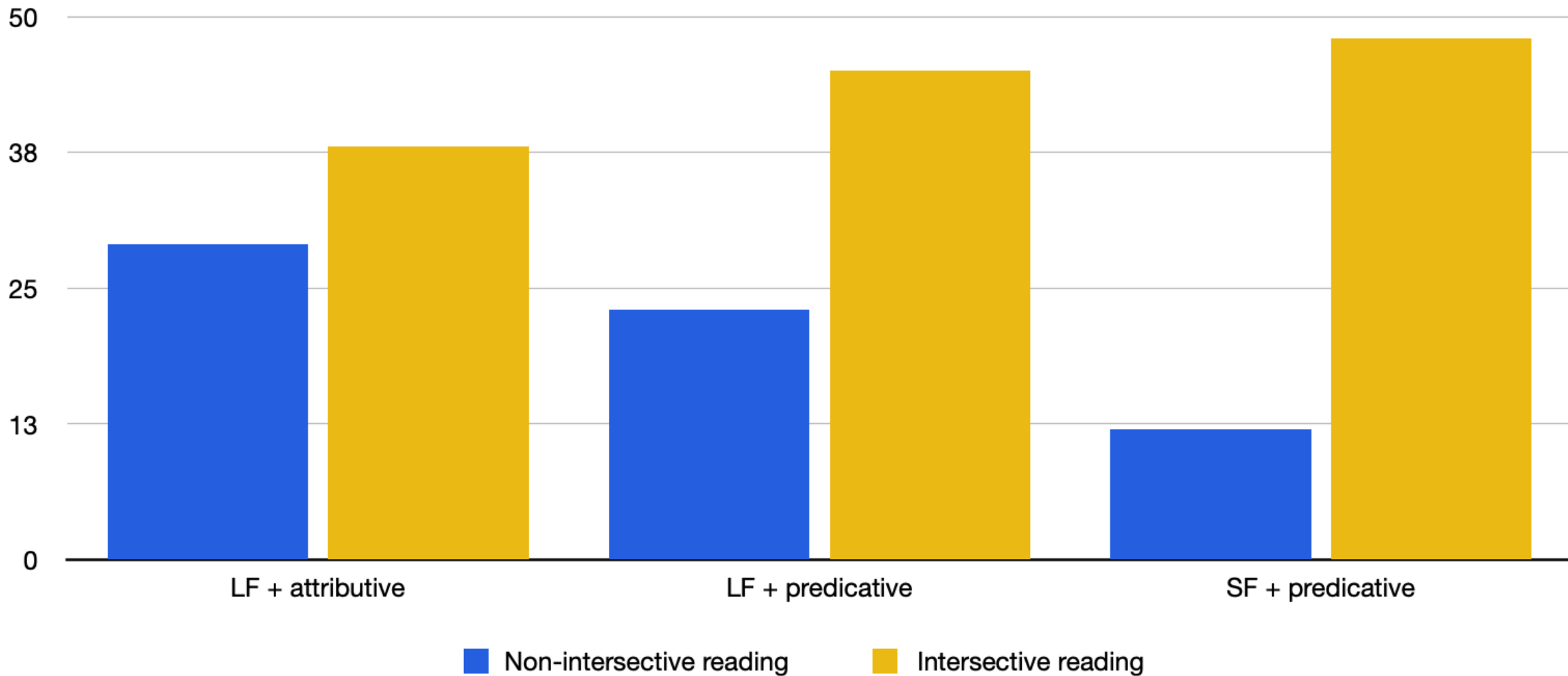
Results: wide variation across adjectives

- Some are compatible with only one reading
- Some have their reading fully determined by syntactic position
- None have their reading fully determined by long/short form
- Some have long/short morphological form and syntactic position interact to determine the reading!

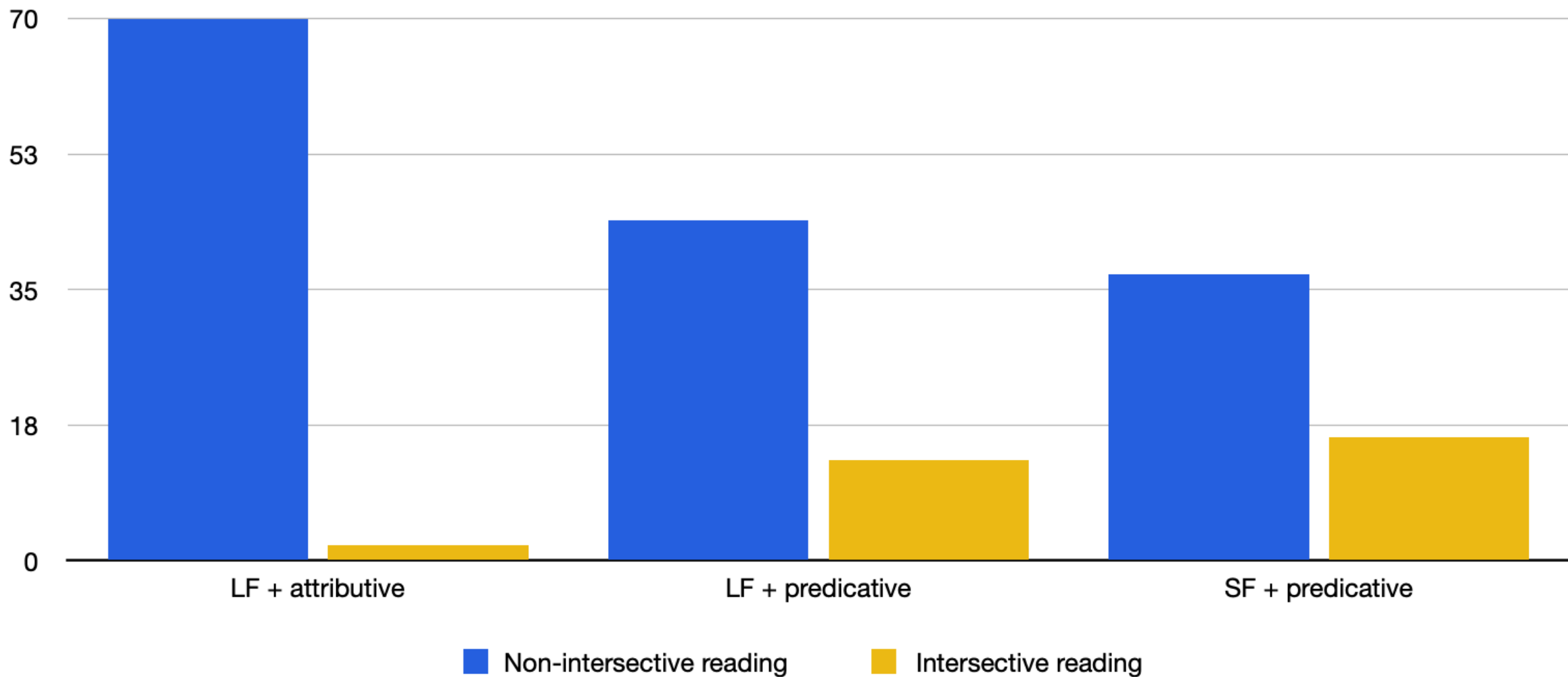
krasivaya 'beautiful' + pevica 'singer'



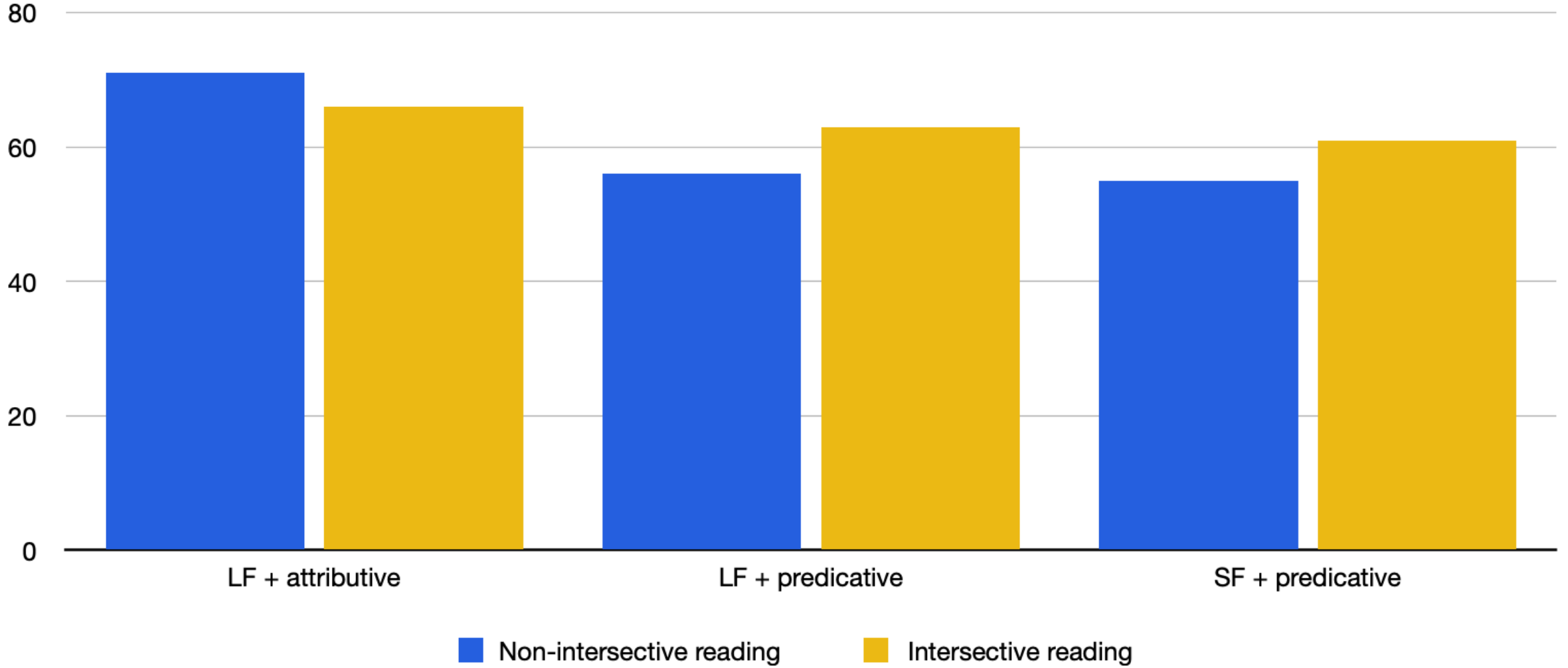
krasivaya 'beautiful' + tur'ma 'prison'



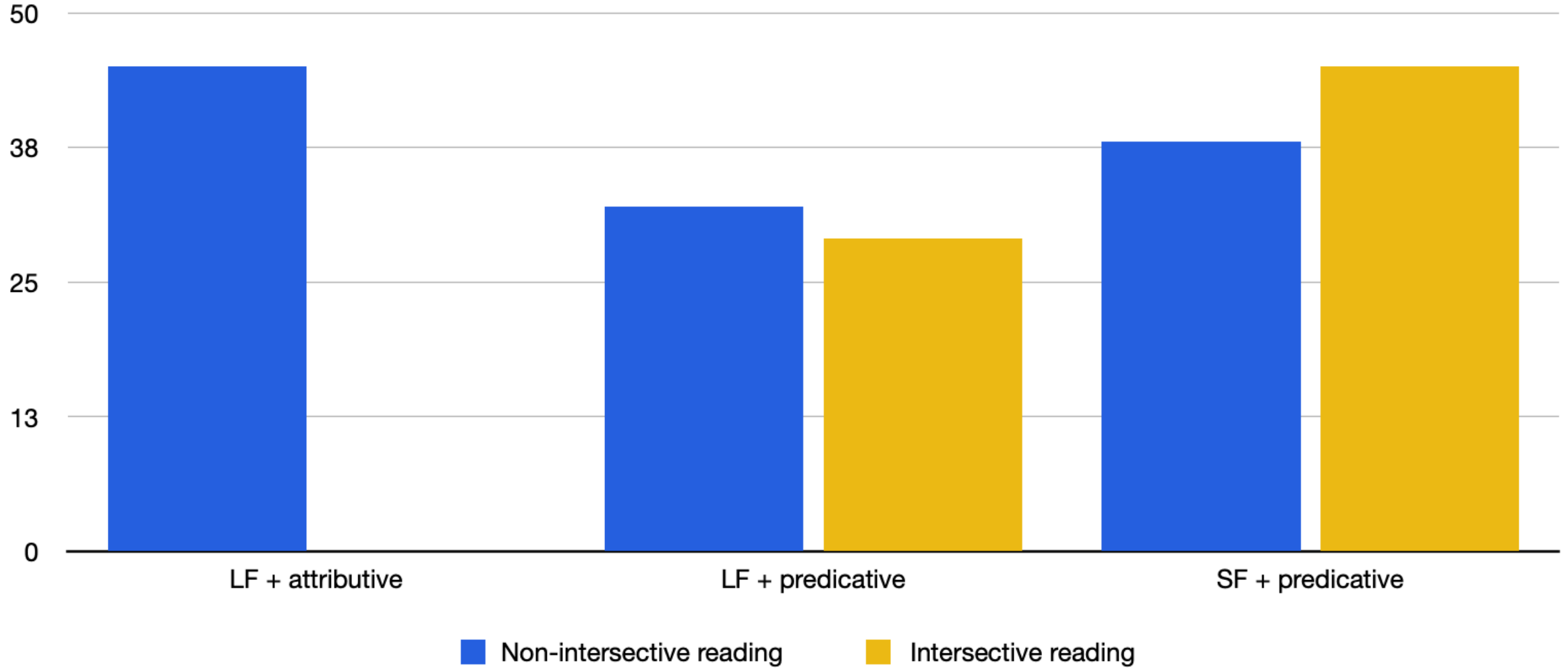
bystryj 'fast' + plovec 'swimmer'



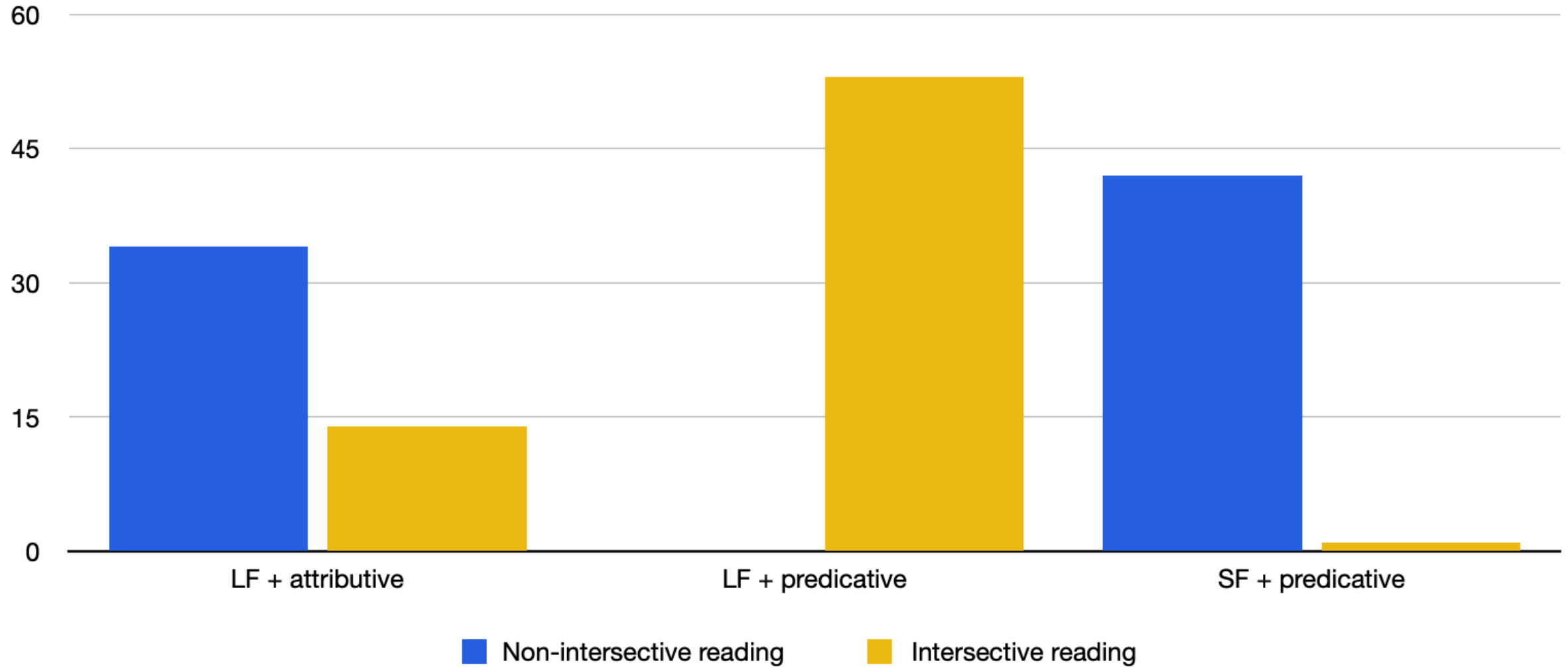
bystraya 'fast' + ulitka 'snail'



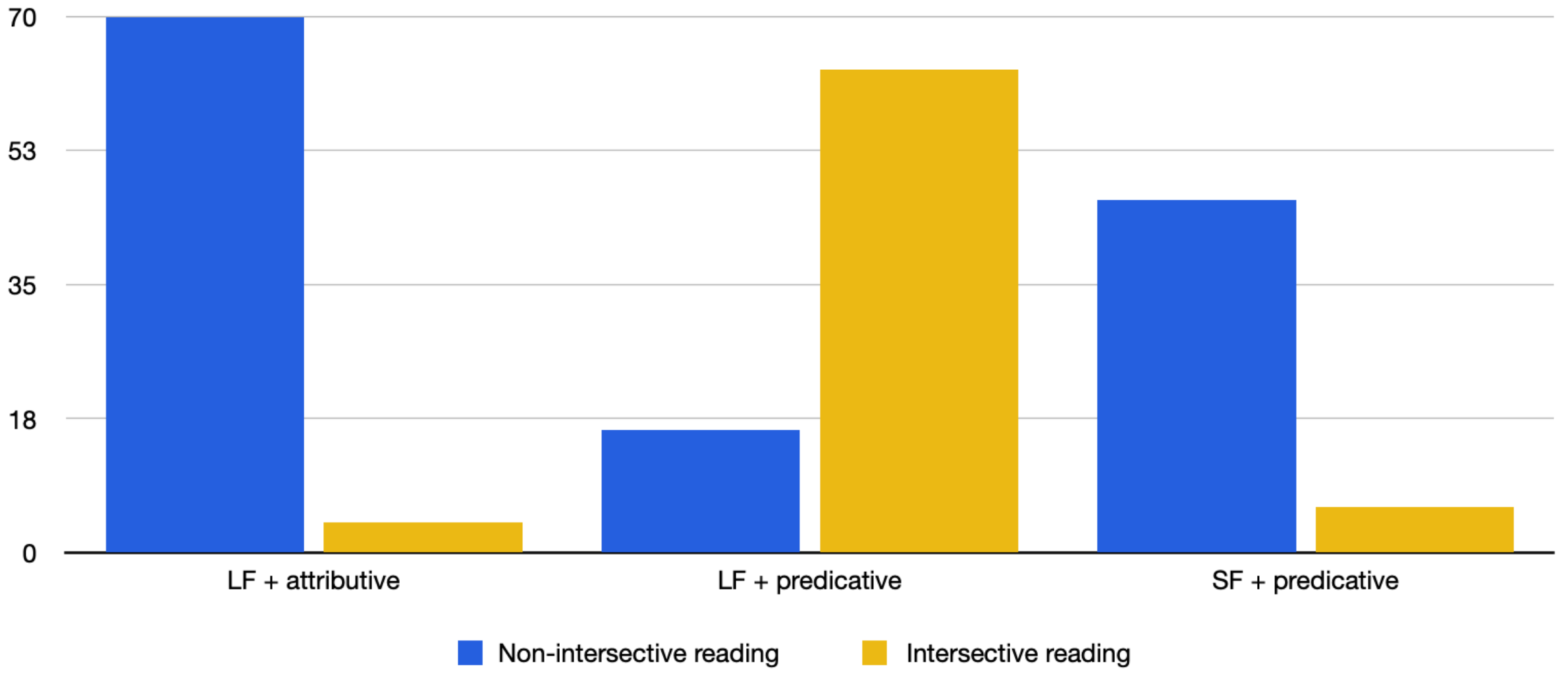
znamenityj 'famous' + xudozhnik 'painter'



xoroshij 'good' + vor 'thief'



ploxoj 'bad' + voditel' 'driver'



| Adjective | Reading | Attributive LF | Predicate LF | Predicate SF |
|--------------------------------|--------------|----------------|--------------|--------------|
| <i>krasivyj</i> 'beautiful' | intersective | ✓ | ✓ | ✓ |
| | non-inter. | * | * | * |
| <i>umnyj</i> 'intelligent' | intersective | ? | ✓ | ✓ |
| | non-inter. | ✓ | * | * |
| <i>bystryj</i> 'fast' | intersective | * | * | * |
| | non-inter. | ✓ | ? | ? |
| <i>znamenityj</i> 'famous' | intersective | * | ? | ✓ |
| | non-inter. | ✓ | ✓ | ✓ |
| <i>xoroshij</i> 'good' | Intersective | * | ✓ | * |
| | non-inter. | ✓ | * | ✓ |
| <i>ploxoj</i> 'bad' | intersective | * | ✓ | * |
| | non-inter. | ✓ | * | ✓ |

Background analysis

- Maienborn (2020) argues for an account of the intersective ambiguity that is purely pragmatic and post-compositional
- Adjectives contain underspecified trope variables (Moltmann 2007) denoting a property, of which their individual argument is the bearer
- **[[beautiful]]** = $\lambda y_{\text{ENTITY}}$ [bearer(r_{TROPE} , y) & beautiful(r)]

Background analysis

- Resolution of this trope variable to a specific value occurs at the semantics-pragmatics interface
- The trope variable is never compositionally active
- Pragmatic principles guide this specification process: ‘Free variables are instantiated preferentially by linguistically introduced material’ (Maienborn 2020: 78)

| Adjective | Reading | Attributive LF | Predicate LF | Predicate SF |
|--------------------------------|--------------|----------------|--------------|--------------|
| <i>krasivyj</i> 'beautiful' | intersective | ✓ | ✓ | ✓ |
| | non-inter. | * | * | * |
| <i>umnyj</i> 'intelligent' | intersective | ? | ✓ | ✓ |
| | non-inter. | ✓ | * | * |
| <i>bystryj</i> 'fast' | intersective | * | * | * |
| | non-inter. | ✓ | ? | ? |
| <i>znamenityj</i> 'famous' | intersective | * | ? | ✓ |
| | non-inter. | ✓ | ✓ | ✓ |
| <i>xoroshij</i> 'good' | intersective | * | ✓ | * |
| | non-inter. | ✓ | * | ✓ |
| <i>ploxoj</i> 'bad' | intersective | * | ✓ | * |
| | non-inter. | ✓ | * | ✓ |

Beautiful-type adjectives

- Pattern:
 - Only the intersective reading, in all positions (dancer who is physically beautiful, *one who dances beautifully)
- Easy to handle in the Maienborn analysis
 - Analogous to German *schön*, which shows the same pattern
 - **[[beautiful]]** = $\lambda y_{\text{ENTITY}} [\text{bearer}(r_{\text{TROPE}}, y) \ \& \ \text{beautiful}(r)]$
 - **[[krasiv(yj)]]** = **[[schön]]** = $\lambda y_{\text{ENTITY}} [\text{bearer}(r_{\text{SENSORY-TROPE}}, y) \ \& \ \text{beautiful}(r)]$

| Adjective | Reading | Attributive LF | Predicate LF | Predicate SF |
|--|---------------------|----------------|--------------|--------------|
| <i>krasivyj</i> 'beautiful' | intersective | ✓ | ✓ | ✓ |
| | non-inter. | * | * | * |
| <i>umnyj</i> 'intelligent' | intersective | ? | ✓ | ✓ |
| | non-inter. | ✓ | * | * |
| <i>bystryj</i> 'fast' | intersective | * | * | * |
| | non-inter. | ✓ | ? | ? |
| <i>znamenityj</i> 'famous' | intersective | * | ? | ✓ |
| | non-inter. | ✓ | ✓ | ✓ |
| <i>xoroshij</i> 'good' | intersective | * | ✓ | * |
| | non-inter. | ✓ | * | ✓ |
| <i>ploxoj</i> 'bad' | intersective | * | ✓ | * |
| | non-inter. | ✓ | * | ✓ |

Fast-type adjectives

- The pattern:
 - Only allows non-intersective reading, in all positions (swimmer who is fast at swimming, *swimmer who is fast at running)
- Surprisingly more difficult!
 - What kind of lexical specification can the trope property be given to rule out the intersective interpretation?
 - It would have to be r_{SWIMMING} , but that's obviously not part of *fast*
- Possibly just a pragmatic, processing, clarity story

| Adjective | Reading | Attributive LF | Predicate LF | Predicate SF |
|----------------------------------|---------------------|----------------|--------------|--------------|
| <i>krasivyj</i> 'beautiful' | intersective | ✓ | ✓ | ✓ |
| | non-inter. | * | * | * |
| <i>umnyj</i> 'intelligent' | intersective | ? | ✓ | ✓ |
| | non-inter. | ✓ | * | * |
| <i>bystryj</i> 'fast' | intersective | * | * | * |
| | non-inter. | ✓ | ? | ? |
| <i>znamenityj</i> 'famous' | intersective | * | ? | ✓ |
| | non-inter. | ✓ | ✓ | ✓ |
| <i>xoroshij</i> 'good' | intersective | * | ✓ | * |
| | non-inter. | ✓ | * | ✓ |
| <i>ploxoj</i> 'bad' | intersective | * | ✓ | * |
| | non-inter. | ✓ | * | ✓ |

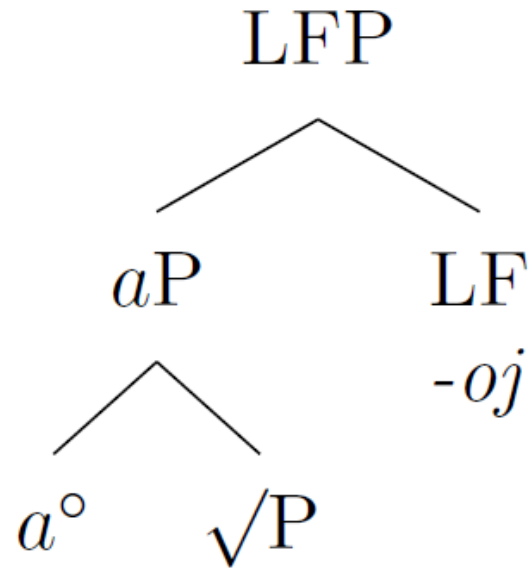
Good/bad-type adjectives

- The pattern:
 - Attributive LFs: only non-intersective (good at thieving)
 - Predicate LFs: only intersective (morally good)
 - Predicate SFs: only non-intersective (good at thieving)
- These are the core problem for Maienborn's analysis: how can pragmatic, post-compositional specification be made sensitive to this kind of morphosyntactic paradigm?

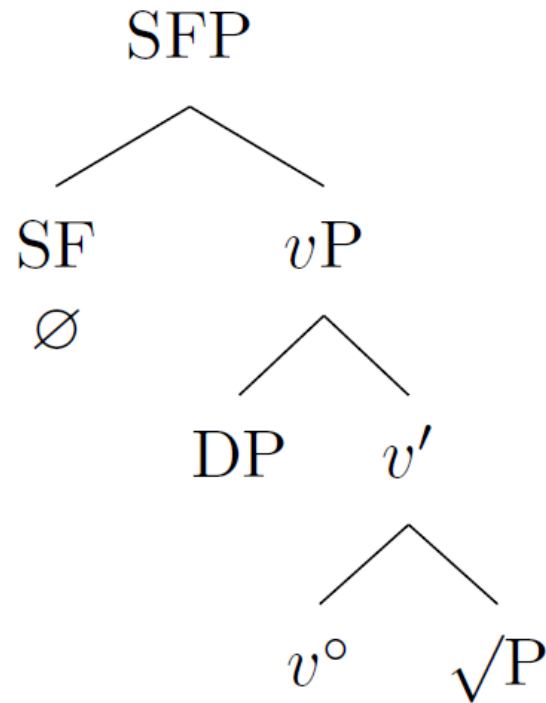
Capturing Attributive LFs and Predicate SFs

- No obvious pragmatic way to cross-cut this; most current syntactic analyses don't suggest one either (e.g., Geist 2010, Babby 2010)
- But we can find it in **Borik's (2014) analysis of argument structure**
- Core claims (on the basis of argument realization + case data):
 - SFs are fundamentally verbal, and syntactically select for their argument
 - LFs in predicate position are categorially adjectival, and therefore don't have the obligatory syntactic argument structure
 - LFs in attributive position are covertly SFs with the LF suffix inserted for case reasons, and DO have internal verbal structure and therefore select for a syntactic argument

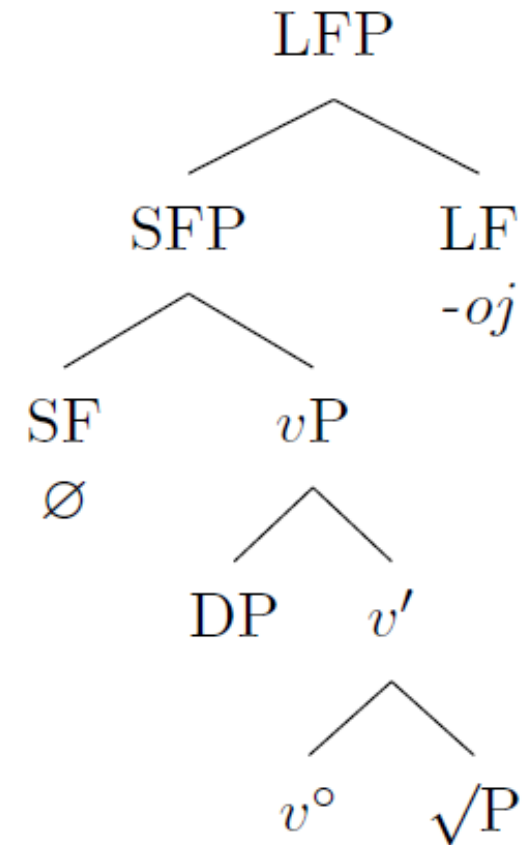
Predicate LF:



Predicate SF:



Attributive LF:

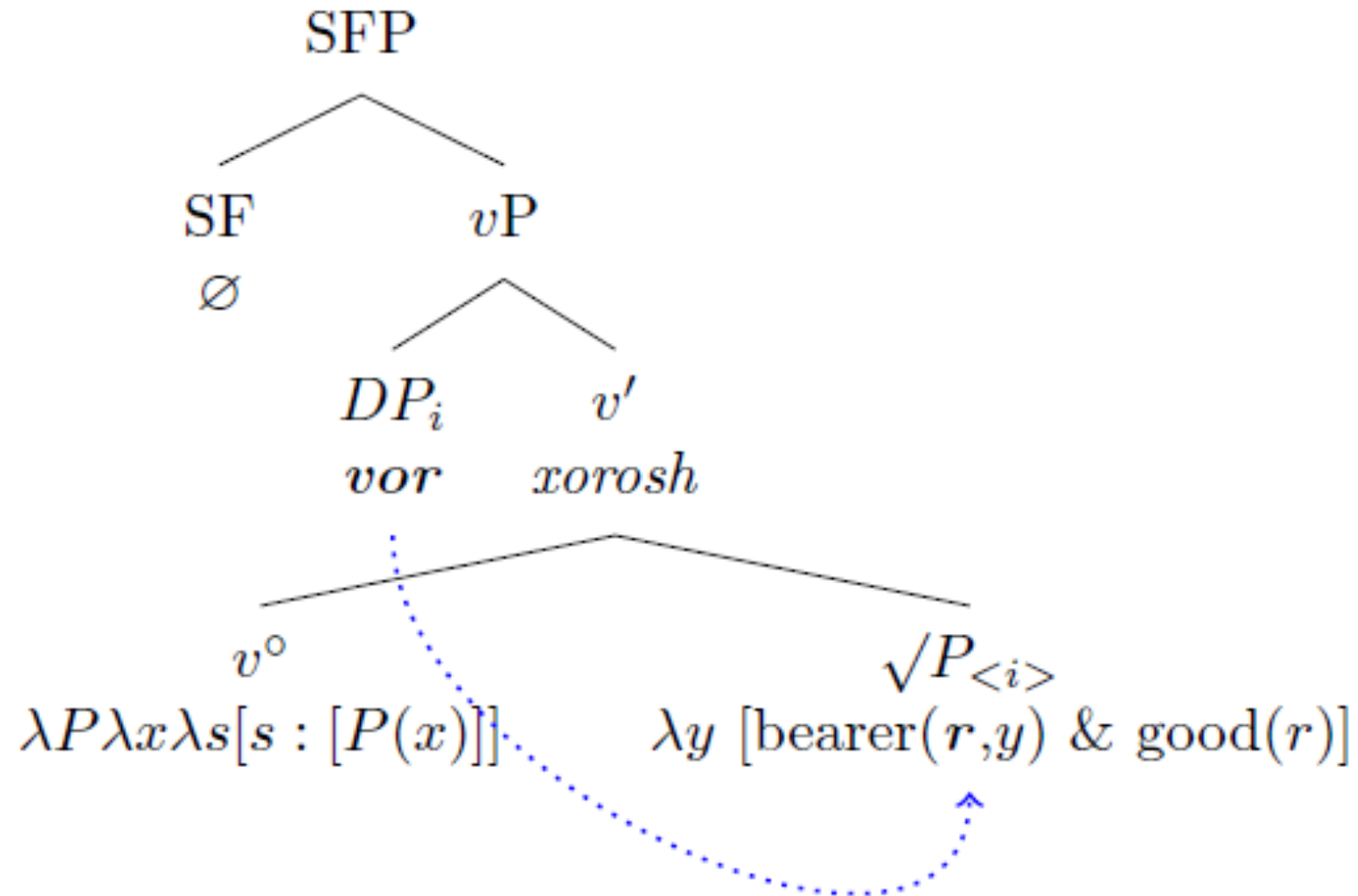


- For our purposes: conclusions about verbal vs. adjectival structure, etc. are irrelevant – only the differences in obligatory syntactic argument structure

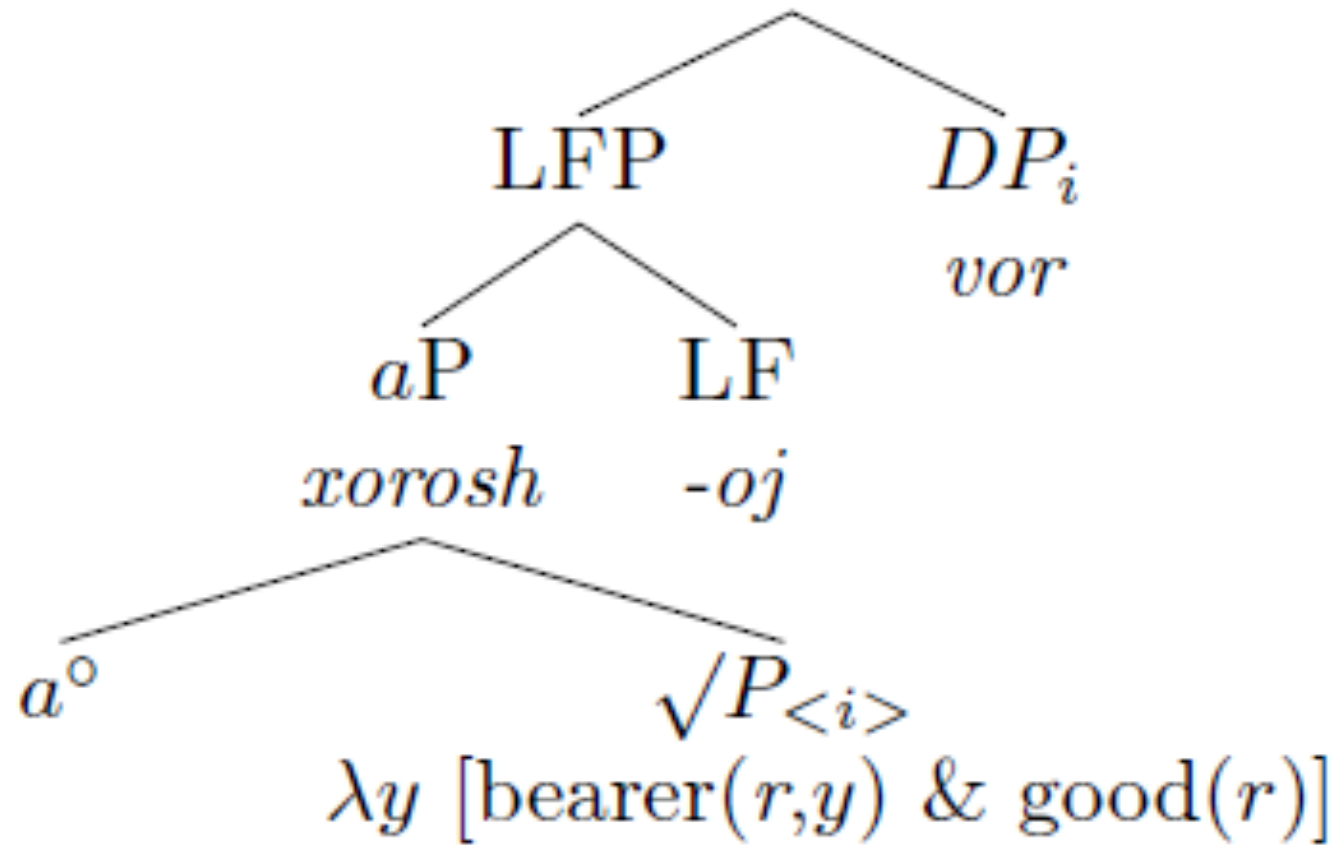
Unifying the analyses

- The resolution process for unspecified trope variables needs to be made sensitive to syntax: if the adjective selects a noun as a syntactic argument, that noun is used to specify the adjective's trope variable.
 - Because attributive LFs and predicate SFs syntactically select the noun as their argument, this forces the non-intersective reading (which is noun-relative)
 - Predicate LFs, instead, can resolve their trope variable pragmatically to some contextually-supported value
 - Competition with obligatorily non-intersective predicate SFs blocks pragmatic resolution to the same value as the noun -> predicate LFs are obligatorily intersective

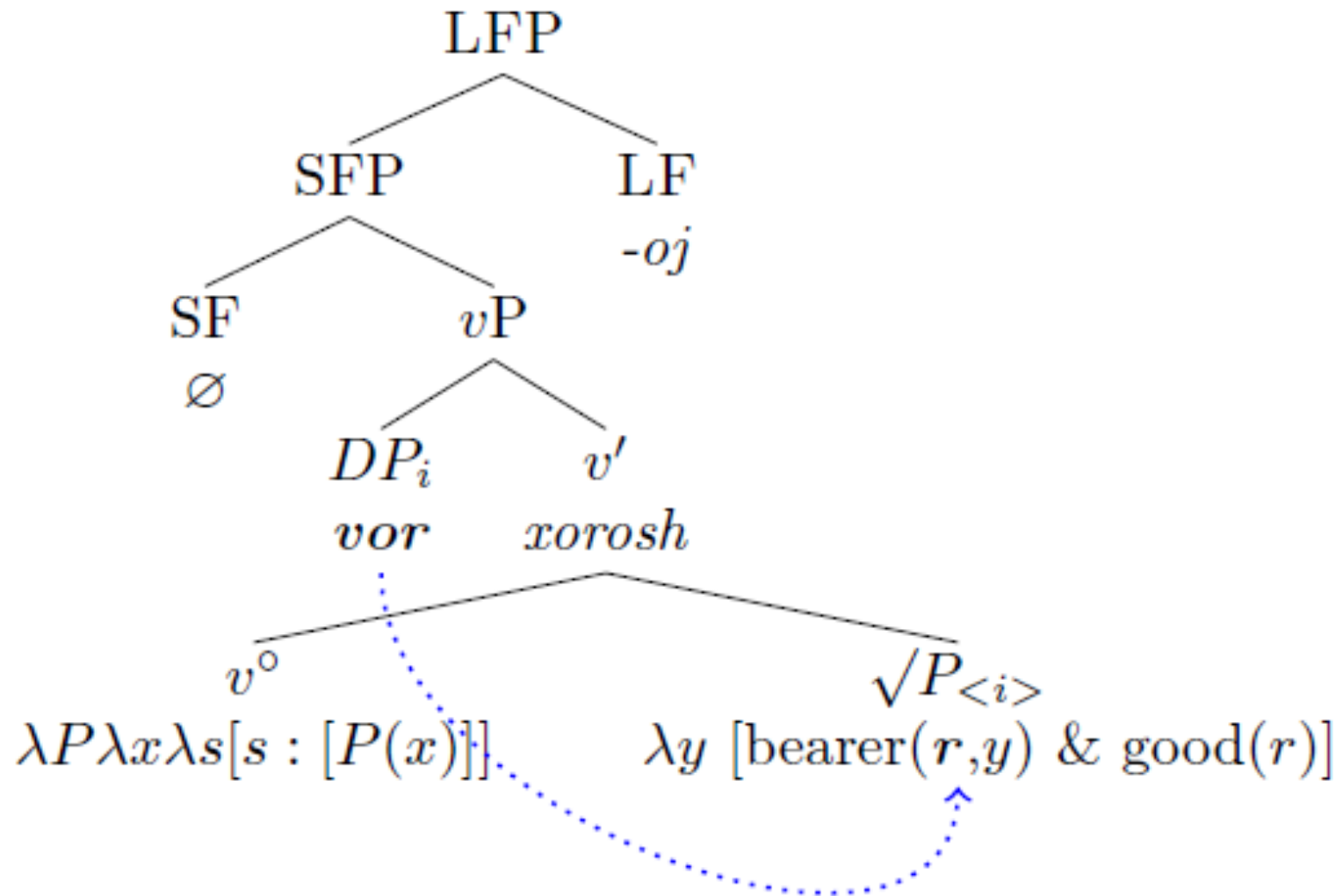
Derivation of predicate SF adjective + noun



Derivation of predicate LF adjective + noun



Derivation of attributive LF adjective + noun



Remaining questions

- How many possible adjective paradigms are there?
- What is the nature of the syntactic operation that constraints interpretation (of tropes, or any other notational system you use)?
- How do these generalizations hold up across other Slavic languages?

Conclusions

- Widespread variation in (non-)intersective interpretations of Russian adjectives which can't be reduced to long vs. short form
 - Highlights the importance of robust data collection!
- A puzzle for syntactic accounts of Russian adjectives: semantic interpretation groups attributive-LFs and predicate-SFs, unexpected from the perspective of morphosyntax
 - Any successful syntactic account should be able to predict this!
- Contemporary pragmatic theories of the intersective ambiguity need to allow sensitivity to morphosyntax, and therefore be compositional
 - Data from Slavic languages will be a critical testing ground for such theories!

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