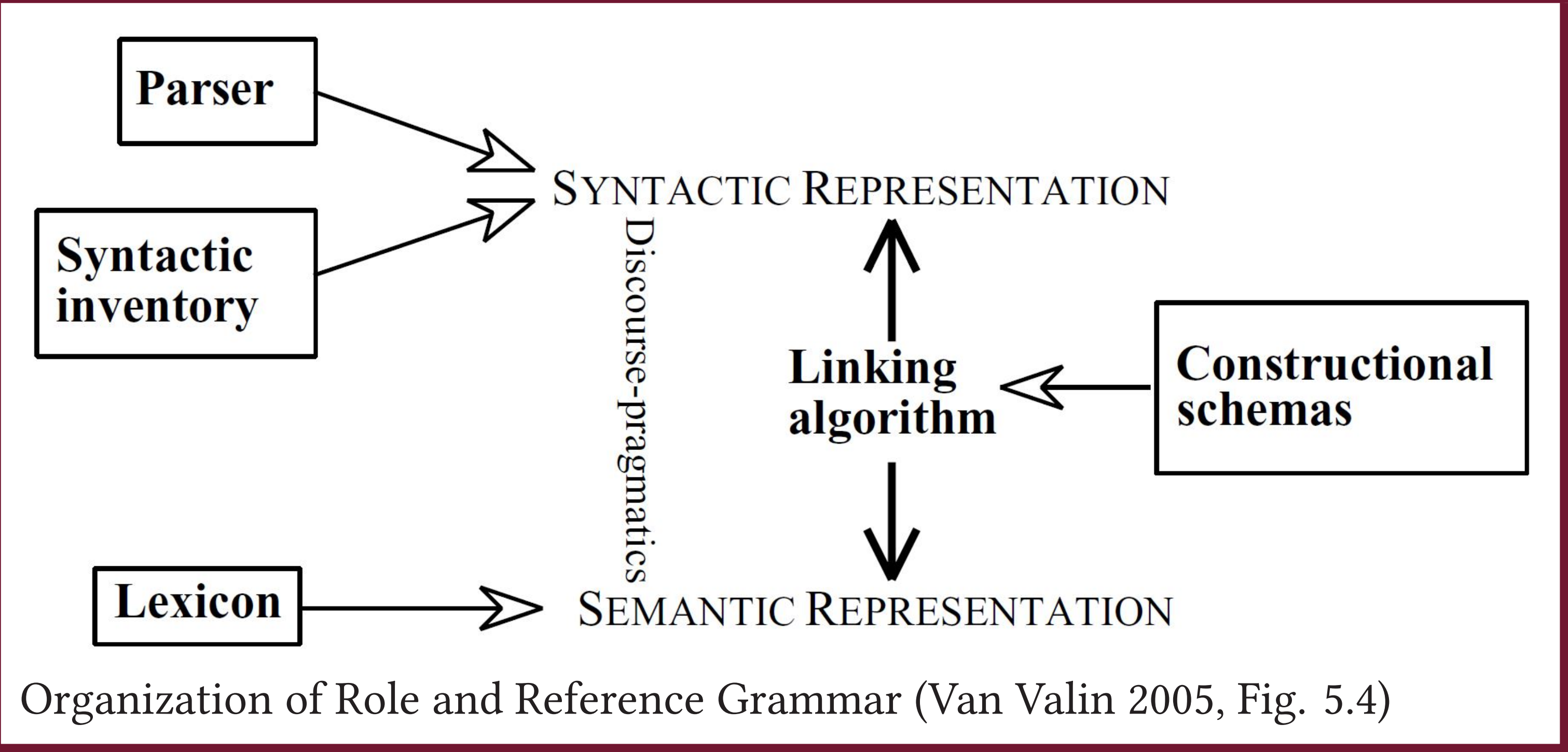# Comparing approaches to linking in RRG

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Organization of RRG

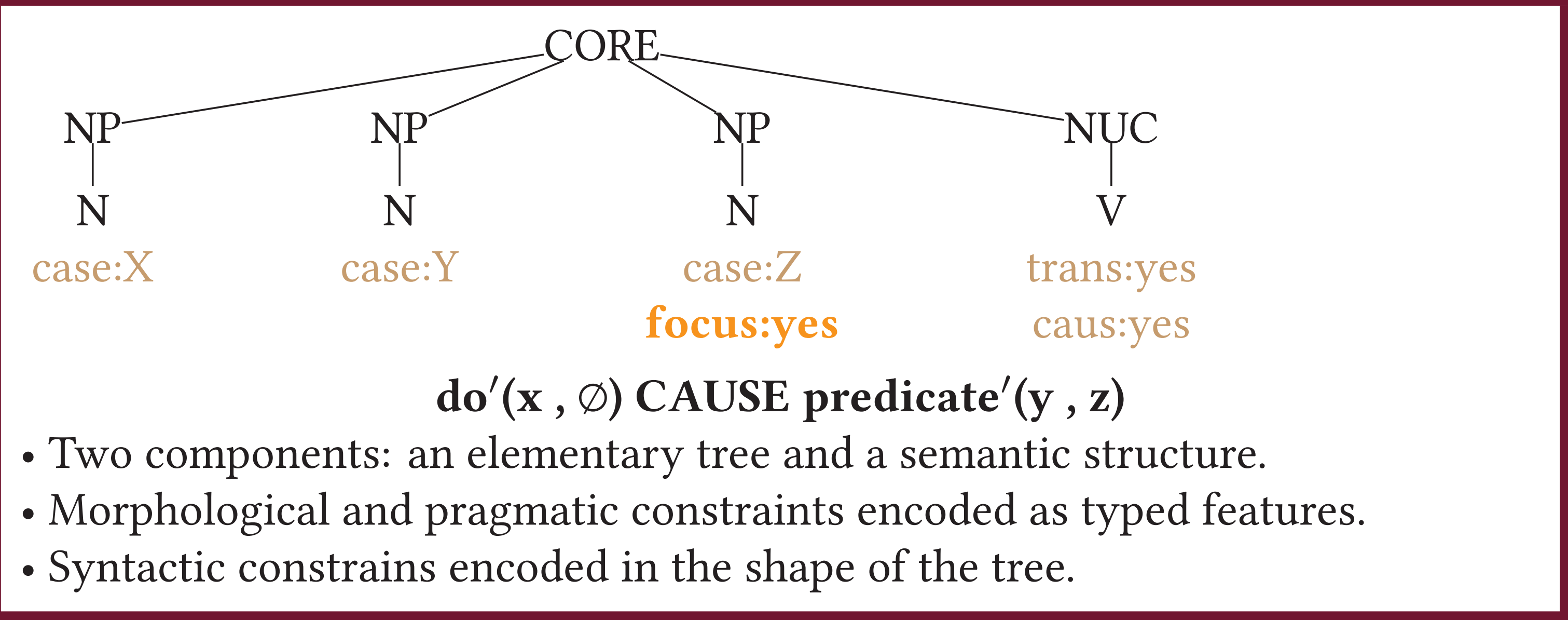Organization of Role and Reference Grammar (Van Valin 2005, Fig. 5.4)

SyToSe linking

1. Determine which participants bear macroroles (MR).
2. Extract the Logical structure from the lexicon + add Constructional schemas.
3. Link NOM to the Actor, ACC to the Undergoer, DAT to the NMR.
4. Link Actor to the highest argument in the LS, UG – to the lowest.

SeToSy linking

1. Construct the semantic representation based on the logical structure.
2. Determine the morphosyntactic coding of the arguments.
3. Select the appropriate syntactic template, following valence, voice and alignment requirements.
4. Assign arguments to positions in the syntactic representation.

Suggested constructional schema

$$do'(x , \varnothing) \text{ CAUSE predicate}'(y , z)$$

- Two components: an elementary tree and a semantic structure.
- Morphological and pragmatic constraints encoded as typed features.
- Syntactic constrains encoded in the shape of the tree.

Discussion

Findings:
- Two constructions permit handling regular variation without modifying the lexicon.
- The suggested data structure combines formats suitable for various data.
- A single device is used for both directions of linking.
- Macroroles and the basic rules of argument linking are kept, allowing compatibility with other (not only) RRG mechanisms.

Advantages over prior studies:
- The linking is no more done in a procedural way, which leads to a quicker computation.
- The new constructional schemata are formulated in a formalized way and used consistently (in line with Diedrichsen 2011).
- Syntax and semantics are independent components of a complex data structure (cf. Haspelmath 2006).
- The new constructional schemata can capture both language-specific (as in Van Valin 2005) and general (as in Diedrichsen 2011) information.
- Typed features are a powerful device to encode language information (see Osswald and Kallmeyer 2018).
- This architecture is more economic than the one proposed by Kailuweit 2013 yet answers its "holistic" aspirations.

Further questions:
- Enrich the suggested structure with frames.
- Develop more features to encode discourse-pragmatic information.
- Use constructional schemata for capturing cross-linguistic generalizations.

Data from Bashkir (Perekhval'skaya 2017)

(1) *Ataj   bala-lar-**ðan** jeläk jəj-ðər-a*
father child-PL-**ABL** berry pick.up-CAUS-IPFV
'The father orders the children to pick up berries.'

(2) *Dilä beð-**gä**   üð-e-neŋ   kejäw jeget-e-neŋ   foto-hə-n*
Dila we-**DAT** he-POSS.3-GEN mate boy-POSS.3-GEN photo-POSS.3-ACC
kür-hät-te
see-CAUS-PST
'Dila showed us the photo of her boyfriend.'

(3) a. *Babaj   ul-ə-**nan**   xat-tə   uqə-t-tər-a*
old.man son-POSS.3-**ABL** letter-ACC read-CAUS-CAUS-IPFV
'The grandfather asks his son to read the letter.'
Lit: 'The grandfather makes the son read the letter.'

b. *Babaj   ul-ə-**na**   xat-tə   uqə-t-tər-a*
old.man son-POSS.3-**DAT** letter-ACC read-CAUS-CAUS-IPFV
'The grandfather lets his son read the letter.'
Lit: 'The grandfather has the son read the letter.'

The linking procedure I
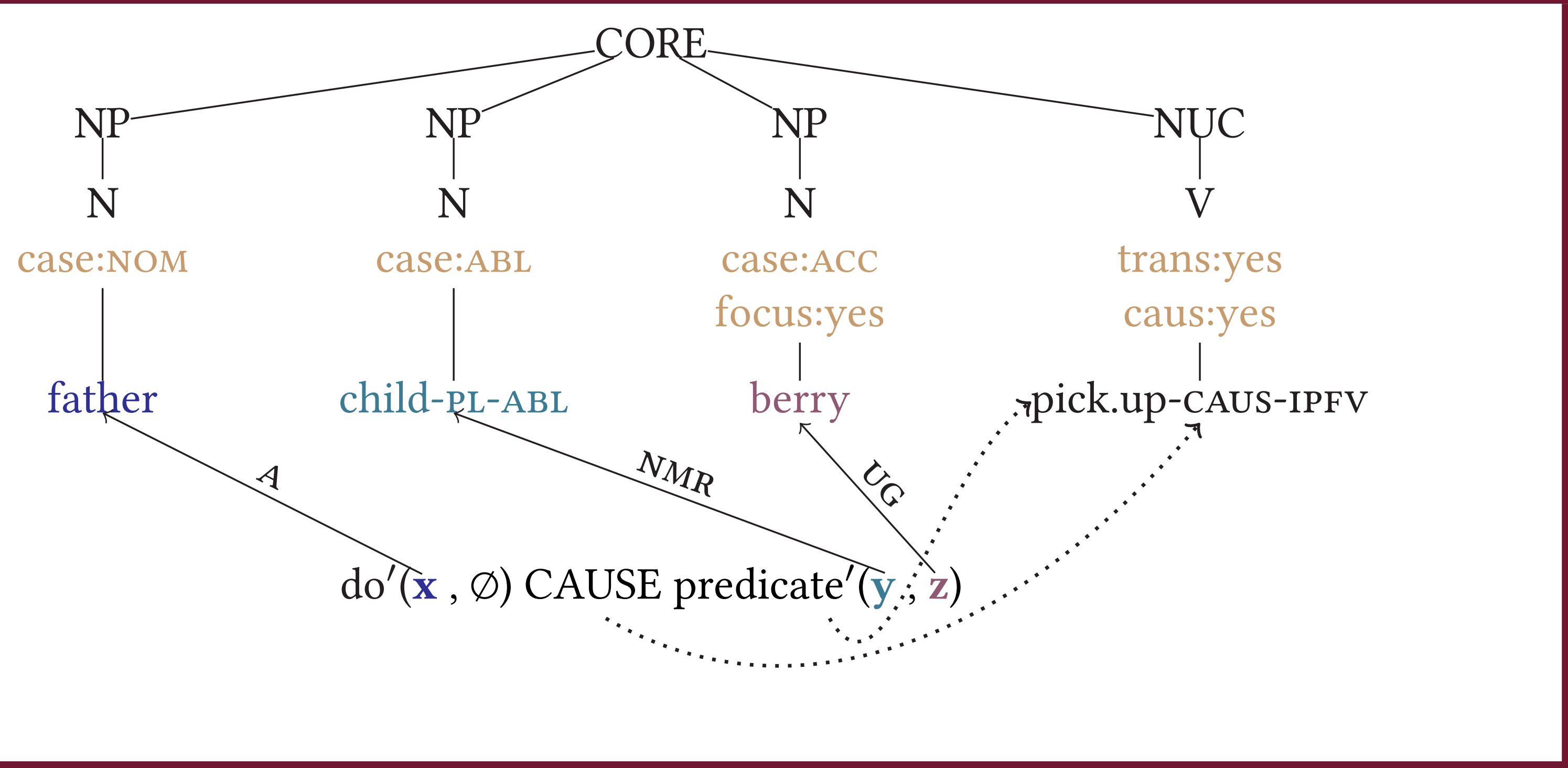
The linking procedure II
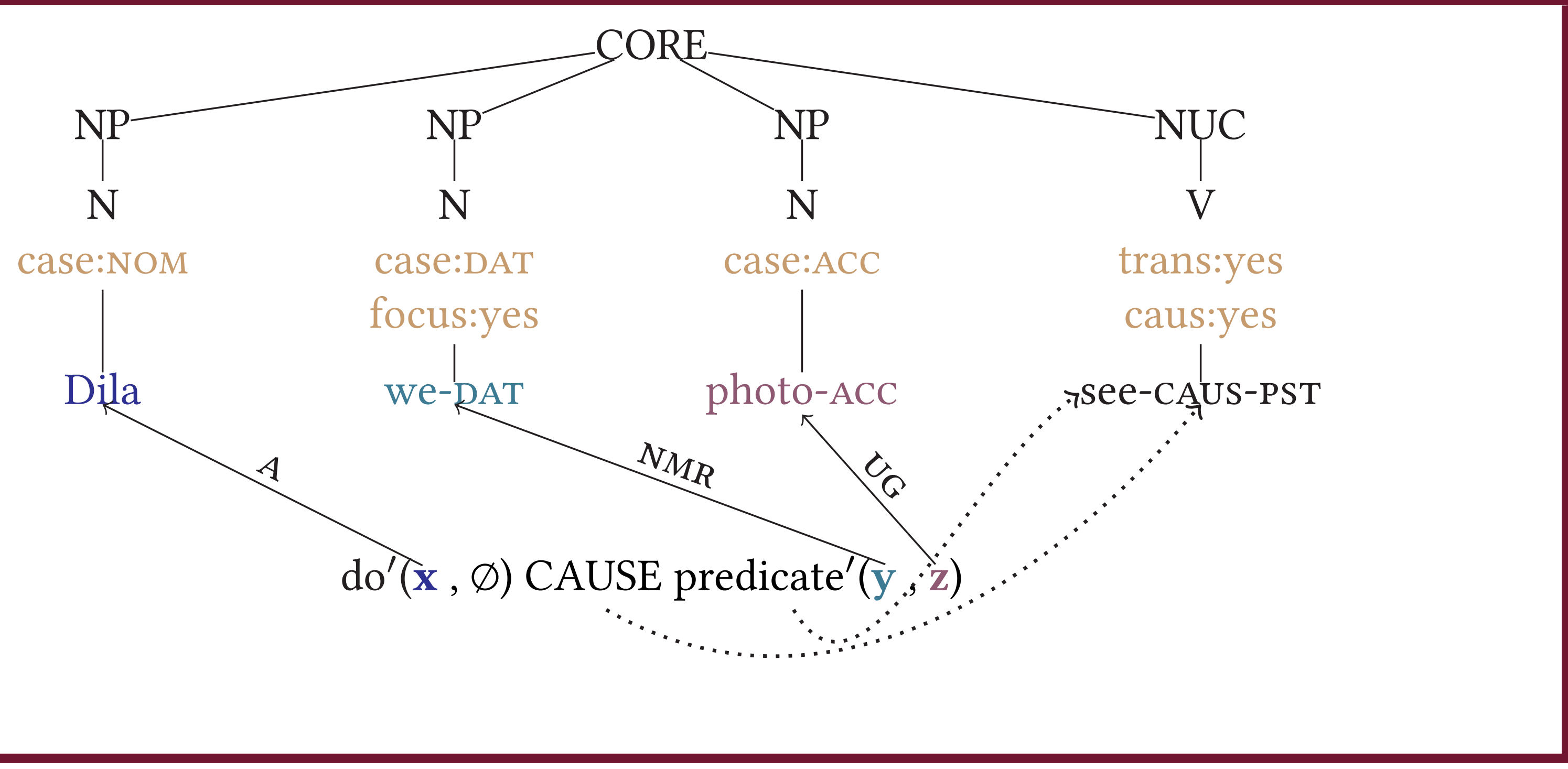
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Glossary: 3 = third person, A = actor, ABL = ablative, ACC = accusative, CAUS = causative, DAT = dative, GEN = genitive, IPFV = imperfective, NMR = non-macrorole participant, NOM = nominative, PL = plural, POSS = possessive, PST = past, UG = undergoer.