Stranded inflection in right node raising structures in German (and beyond)

An argument for Pruning

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Syntax Colloquium, Goethe-Universität Frankfurt, 8 June 2026

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In a nutshell

In German, an otherwise uninflected (*ein*-)determiner is obligatory inflected in ‘forward’ NP-ellipsis (1).

(1) a. *… D_{ein} NP & … D_{ein} ⟨NP⟩
b. … D_{ein} NP & … D_{ein}-INFL ⟨NP⟩

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This inflection becomes optional with nominal RNR in German (2).

(2) a. … D_{ein} ⟨NP⟩ & … D_{ein} NP
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b. … D_{ein}-INFL ⟨NP⟩ & … D_{ein} NP

- The inflection in (1) is a result of ellipsis, not a licensor for it (Murphy 2018, *pace* Lobeck 1993, 1995).
- While the pattern looks like evidence for the duality of RNR (Barros and Vicente 2011, Belk et al. 2023), it actually supports a duality of ellipsis as Pruning (Belk et al. 2023) or regular deletion (e.g. Merchant 2001).

Roadmap

Nominal inflection in German

Analysing exceptional inflection

Exceptional inflection in right node raising

- The pattern
- Approaches to right node raising
- Diagnosing the structure of RNR with/without EI

A Pruning analysis

Conclusion

Nominal inflection in German

Strong inflection

(3) *Strong inflection on determiner* dies- *'this'*

	MASC	FEM	NEUT
NOM	dies-**er**	dies-**e**	dies-**es**
ACC	dies-**en**	dies-**e**	dies-**es**
DAT	dies-**em**	dies-**er**	dies-**em**
GEN	dies-**es/en**	dies-**er**	dies-**es/en**

Strong inflection

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NOM	dies-**er**	dies-**e**	dies-**es**
ACC	dies-**en**	dies-**e**	dies-**es**
DAT	dies-**em**	dies-**er**	dies-**em**
GEN	dies-**es/en**	dies-**er**	dies-**es/en**

(4) *Strong inflection on adjective*

	MASC 'old wine'	FEM 'old broth'	NEUT 'old oil'
NOM	alt-**er** Wein	alt-**e** Brühe	alt-**es** Öl
ACC	alt-**en** Wein	alt-**e** Brühe	alt-**es** Öl
DAT	alt-**em** Wein	alt-**er** Brühe	alt-**em** Öl
GEN	alt-**en** Weins	alt-**er** Brühe	alt-**en** Öls

Weak inflection

(5) *Weak inflection on adjective with preceding determiner*

	MASC			FEM			NEUT		
	‘this old wine’			‘this old broth’			‘this old oil’		
NOM	dies-**er**	alt-e	Wein	dies-**e**	alt-e	Brühe	dies-**es**	alt-e	Öl
ACC	dies-**en**	alt-en	Wein	dies-**e**	alt-e	Brühe	dies-**es**	alt-e	Öl
DAT	dies-**em**	alt-en	Wein	dies-**er**	alt-en	Brühe	dies-**em**	alt-en	Öl
GEN	dies-**es**	alt-en	Weins	dies-**er**	alt-en	Brühe	dies-**es**	alt-en	Öls

ein-Determiners

Possessive determiners (*mein, dein, sein, etc.*) and other so-called *ein*-words, i.e. the indefinite determiner *ein* und the negative determiner *kein* deviate from this pattern in 3 case-gender combinations: masculine nominative, neuter nominative and neuter accusative.

(6) *Inflection of* ein*-word mein 'my'*

	MASC	FEM	NEUT
NOM	**mein**	mein-**e**	**mein**
ACC	mein-**en**	mein-**e**	**mein**
DAT	mein-**em**	mein-**er**	mein-**em**
GEN	mein-**es**	mein-**er**	mein-**es**

Their strong inflection seems displaced

(7) *Inflection of ein-Words and 'mixed' adjectival inflection*

	MASC 'my old wine'			FEM 'my old broth'			NEUT 'my old oil'		
NOM	**mein**	alt-**er**	Wein	mein-**e**	alt-e	Brühe	**mein**	alt-**es**	Öl
ACC	mein-**en**	alt-en	Wein	mein-**e**	alt-e	Brühe	**mein**	alt-**es**	Öl
DAT	mein-**em**	alt-en	Wein	mein-**er**	alt-en	Brühe	mein-**em**	alt-en	Öl
GEN	mein-**es**	alt-en	Weins	mein-**er**	alt-en	Brühe	mein-**es**	alt-en	Öls

ein-Pronouns: Exceptional inflection (EI)

(8) a. Dein Wein ist lecker, aber **mein***(**-er**) ⟨Wein⟩ nicht.
your wine(M) is tasty but my-NOM.SG.M.ST not
'Your wine is tasty but mine isn't.' [masc. nom.]

b. Dein Öl ist frisch, aber **mein***(**-es**) ⟨Öl⟩ nicht.
your oil(N) is fresh but my-NOM.SG.N.ST not
'Your oil is fresh but mine isn't.' [neut. nom.]

c. Der Koch verwendet dein Öl, aber **mein***(**-es**) ⟨Öl⟩ nicht.
the cook uses your oil(N) but my-ACC.SG.N.ST not
'The cook uses your oil but not mine.' [neut. acc.]

Two paradigms

(9) ein-*determiner paradigm*

	MASC	FEM	NEUT
NOM	**ein**	ein-**e**	**ein**
ACC	ein-**en**	ein-**e**	**ein**
DAT	ein-**em**	ein-**er**	ein-**em**
GEN	ein-**es**	ein-**er**	ein-**es**

(10) ein-*pronoun paradigm*

	MASC	FEM	NEUT
NOM	ein-**er**	ein-**e**	ein-**es**
ACC	ein-**en**	ein-**e**	ein-**es**
DAT	ein-**em**	ein-**er**	ein-**em**
GEN	ein-**es**	ein-**er**	ein-**es**

Analysing exceptional inflection

Unifying approaches

Pronoun = Determiner + NP-ellipsis

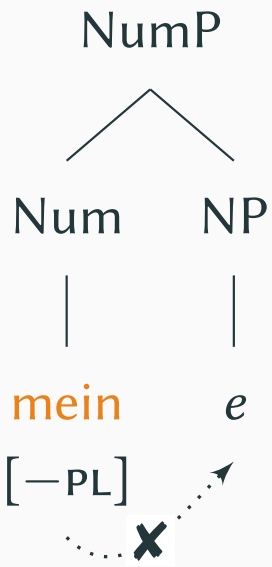
(Postal 1966, 1969, Perlmutter 1970, Elbourne 2005, Wiltschko 1998, Vater 2000, Zifonun 2005, for *ein*-pronouns cf. Lobeck 1995, Roehrs 2006, Lechner 2014, Leu 2015)

1. Lobeck (1993, 1995) (cf. Bernstein 1993, Kester 1996*a*,*b*):
   Strong exceptional inflection licenses NP-ellipsis (EI $\prec$ NPE)
2. Murphy (2018) (cf. Saab and Lipták 2016, Hein 2025):
   NP-ellipsis blocks the zero-spellout of inflection (NPE $\prec$ EI)

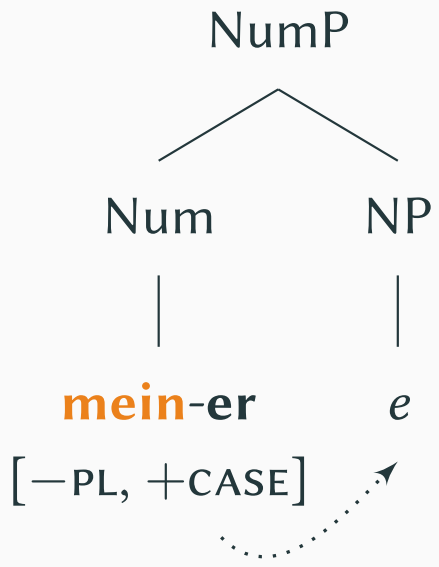
Inflection as a prerequisite for ellipsis

(11) *Licensing and identification of pro* (Lobeck 1995: 4)
An empty, non-arbitrary pronominal must be properly head-governed, and governed by an X^0 specified for strong agreement.

(12) a.



b.



(13) Dein Wein ist lecker, aber **mein-er** ⟨Wein⟩ nicht.
your wine is tasty but my-NOM.SG.M.ST not
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Inflection as a consequence of ellipsis

NP-ellipsis (NPE) interacts feeds morphology in some languages (cf. Kester 1996*a*,*b*, Saab and Lipták 2016, Corver and van Koppen 2009, 2011, Privizentseva 2023)

(14) *German*

*Ich fahre mein neu-**es** Auto und du fährst **dein** ⟨neu-es Auto⟩.
I drive my new-N.SG.ACC car and you drive your
'I'm driving my new car and you're dricing yours.'

(15) *Hungarian* (Saab and Lipták 2016)

*Mari a régi kis ház-**akat** látta. Én az **új** ⟨ház-akat⟩.
Mari the old small house-PL.ACC saw I the new
'Mari saw the old tiny houses. I saw the new ones.'

(16) *Moksha mordvin* (M. Privizentseva, p.c.)

*Mon andinʲə akšə katə-**tʲ** i ton anditʲ **ravžə** ⟨katə-tʲ⟩.
I fed white cat-DEF.SG.GEN and you fed black
'I fed the white cat and you fed the black one.'

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Do-support in English VP-ellipsis

- *Affix-Hopping* of T to V (Chomsky 1957) leads to inflected verb (17). (*Lowering*, Embick and Noyer 2001, 2007; *Amalgamation*, Harizanov and Gribanova 2019).

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- VP-ellipsis blocks this process. → Insertion of *do* repairs a violation of the *Stray Affix Filter* (Lasnik 1981).

(18) He always cite-d Chomsky, and
$[_{TP}$ you $[_{T}$ d$]$ $\langle[_{VP}$ always cite Chomsky $]\rangle$, too $]$.

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⇒ Exceptional inflection is just another repair for a stranded affix. (Saab and Lipták 2016)

Exceptional inflection in Hungarian (Saab and Lipták 2016)

(19) Én az **új-akat** ⟨ház-⟩.
I the new-PL.ACC house
'I saw the new ones.'

(20) *Inflection in Hungarian*

a. [$_{DP}$ az [$_{AP}$ új [$_{NumP}$ **-akat** [$_{nP}$ ház]]]]

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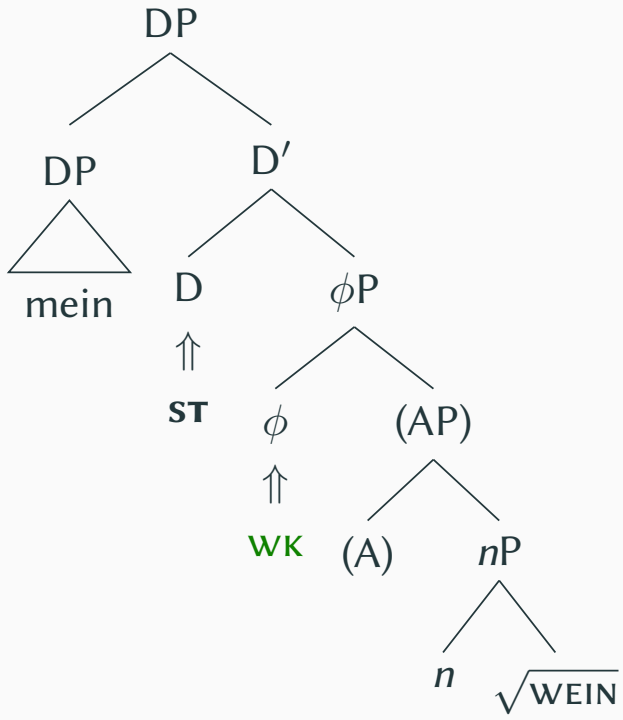
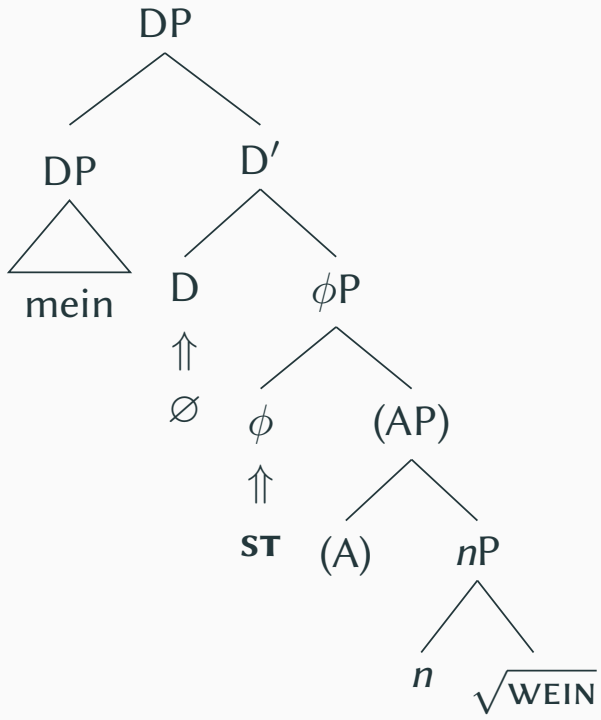
Exceptional inflection in German (Murphy 2018)

(21) *Structure of DP in German*

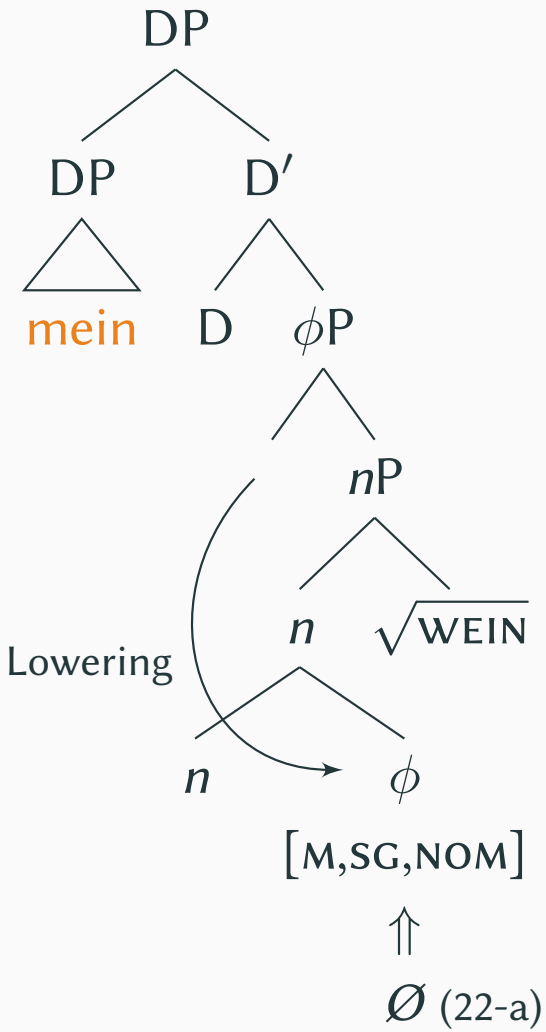




- Strong inflection is a realisation of D, weak inflection of lower ϕ.
- 3 peculiar cases: strong inflection realised on ϕ, D is empty.
- ϕ undergoes Lowering onto next-lower head (Embick and Noyer 2001)

EI: *ein*-determiner with noun

(22) *mein Wein* 'my wine'



a. /-Ø/ ↔ [ϕ, M, SG, NOM] / [$_n$ *n* __]

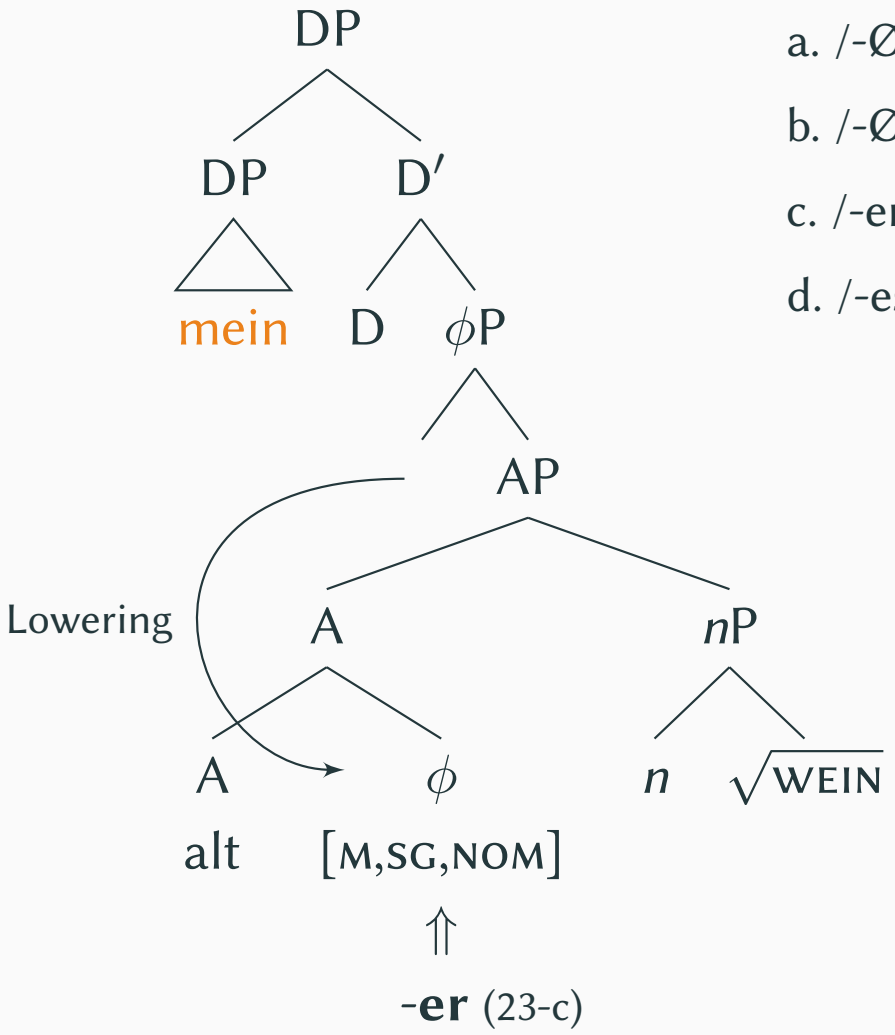
b. /-Ø/ ↔ [ϕ, N, SG, NOM/ACC] / [$_n$ *n* __]

c. /-er/ ↔ [ϕ, M, SG, NOM]

d. /-es/ ↔ [ϕ, N, SG, NOM/ACC]

EI: *ein*-determiner with adjective and noun

(23) *mein alt-**er** Wein* 'my old wine'



a. /-Ø/ ↔ [ϕ, M, SG, NOM] / [$_n$ *n* __]

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c. /-er/ ↔ [ϕ, M, SG, NOM]

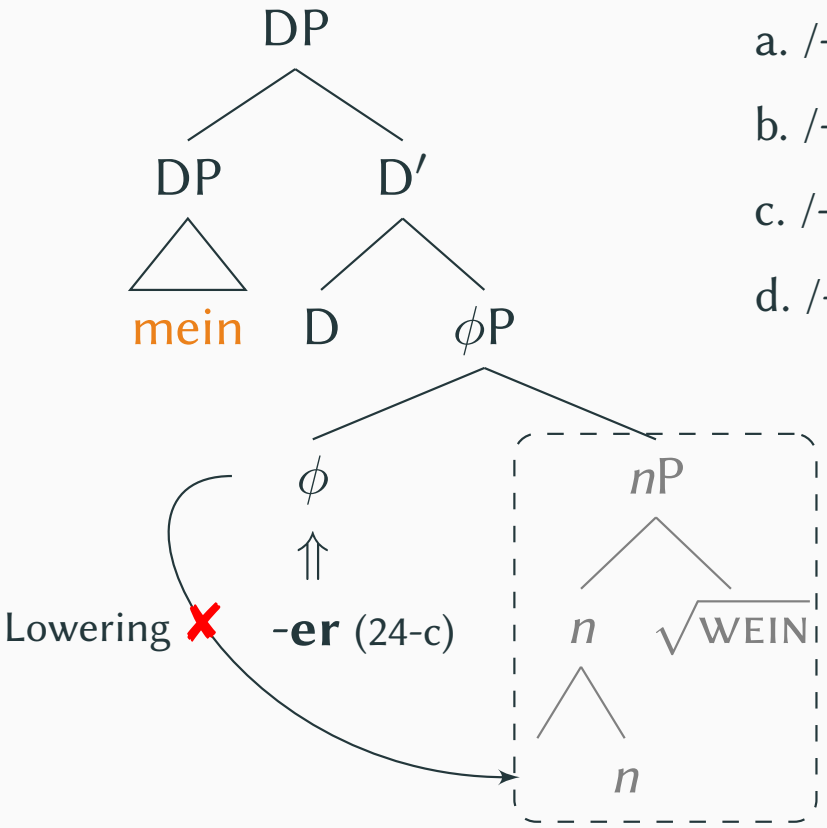
d. /-es/ ↔ [ϕ, N, SG, NOM/ACC]

EI: *ein*-determiner with NPE

Ellipsis-Morphology Generalization (Elmo, Saab and Lipták 2016: 77)

For every morphological operation MO that affects the domain of X, where X contains the target of MO, MO cannot apply in X if X is subject to ellipsis.

(24) *mein-**er*** ⟨*Wein*⟩ 'mine'



a. /-Ø/ ↔ [ϕ, M, SG, NOM] / [$_n$ *n* __]

b. /-Ø/ ↔ [ϕ, N, SG, NOM/ACC] / [$_n$ *n* __]

c. /-er/ ↔ [ϕ, M, SG, NOM]

d. /-es/ ↔ [ϕ, N, SG, NOM/ACC]

Exceptional inflection in right node raising

Exceptional inflection in right node raising

The pattern

Obligatory exceptional inflection with NP ellipsis

(25) a. Ich löse mein Problem und du löst **dein** Problem.
I solve my problem and you solve your problem
'I solve my problem and you solve your problem.'

b. Ich löse mein Problem und du löst **dein-s** ⟨Problem⟩.
I solve my problem and you solve your-EI
'I solve my problem and you solve yours.'

c. *Ich löse mein Problem und du löst **dein** ⟨Problem⟩.
I solve my problem and you solve your
'I solve my problem and you solve yours.'

‘NP ellipsis’ in the first conjunct: RNR

(26) Ich löse ein altes ⟨Problem⟩ und du löst ein neues Problem.
I solve an old and you solve a new problem
‘I solve an old and you solve a new problem.’

Optional exceptional inflection with nominal RNR

(27) a. Ich löse **mein** Problem und du löst dein Problem.
I solve my problem and you solve your problem
'I solve my problem and you solve your problem.'

Optional exceptional inflection with nominal RNR

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b. Ich löse **mein**-**s** ⟨Problem⟩ und du löst dein Problem.
I solve my-EI and you solve your problem
'I solve my and you solve your problem.'

Optional exceptional inflection with nominal RNR

(27) a. Ich löse **mein** Problem und du löst dein Problem.
I solve my problem and you solve your problem
'I solve my problem and you solve your problem.'

b. Ich löse **mein**-**s** ⟨Problem⟩ und du löst dein Problem.
I solve my-EI and you solve your problem
'I solve my and you solve your problem.'

c. Ich löse **mein** ⟨Problem⟩ und du löst dein Problem.
I solve my and you solve your problem
'I solve my and you solve your problem.'

The pattern

(28) *'Forward NPE'*

a. Ich löse mein Problem und du löst **dein-s** ⟨Problem⟩. ✓
I solve my problem and you solve your-EI
'I solve my problem and you solve yours.'

b. *Ich löse mein Problem und du löst **dein** ⟨Problem⟩. ✘
I solve my problem and you solve your
'I solve my problem and you solve yours.'

(29) *'Backward NPE' / Right node raising*

a. Ich löse **mein-s** ⟨Problem⟩ und du löst dein Problem. ✓
I solve my-EI and you solve your problem
'I solve my and you solve your problem.'

b. Ich löse **mein** ⟨Problem⟩ und du löst dein Problem. ✓
I solve my and you solve your problem
'I solve my and you solve your problem.'

Exceptional inflection in right node raising

Approaches to right node raising

Strange properties of RNR

"Right-node raising (RNR) is a construction that seems stranger the longer one considers its behaviour." (Belk et al. 2023: 685)

(30) Alice wrote, and Beatrix read [a book]$_{=\text{pivot}}$.

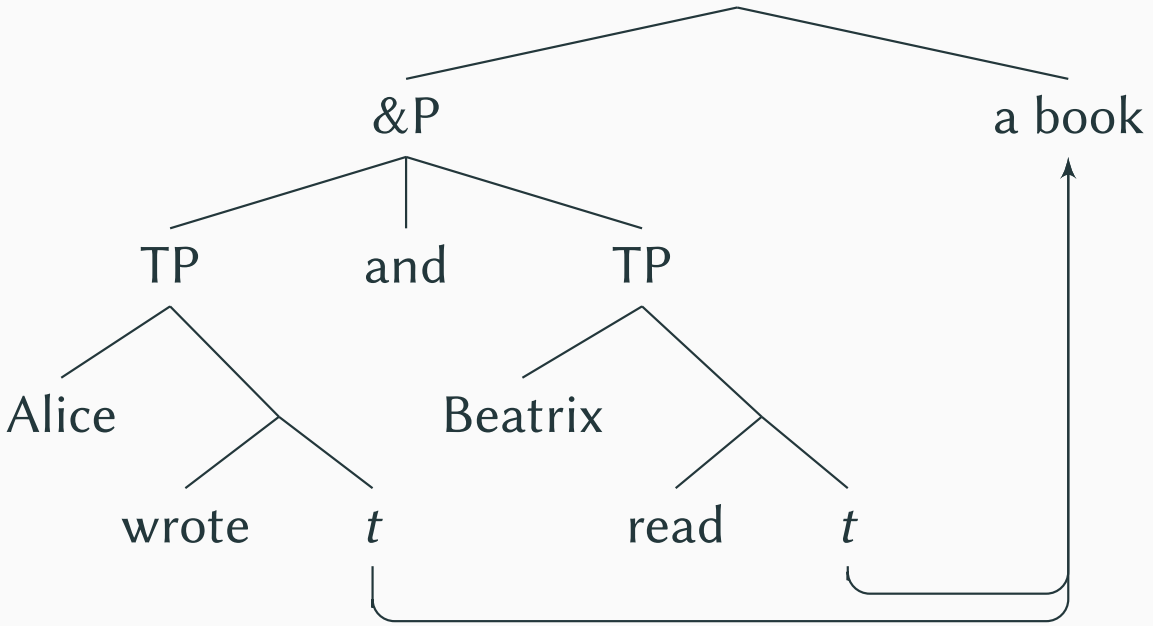
- Among the many oddities, RNR[1]:
  - does not respect (certain) islands (Wexler and Culicover 1980, Grosu 1981, McCawley 1982; though see Kimura 2022),
  - does not obey the *Right Roof Constraint*, unlike other rightwards extractions (Ross 1967),
  - can affect non-constituents (Abbott 1976),
  - can apply below the word-level (Booij 1985),
  - obeys a word order constraint, the *Right Edge Restriction*, that seems sui generis (e.g. Wilder 1999, Sabbagh 2007),
  - applies also in non-coordinate structures (Hudson 1976)

[1] But see Chaves 2014 who challenges a lot of previous judgements.

Unified approaches to RNR: movement

- **(ATB-)movement to the right**

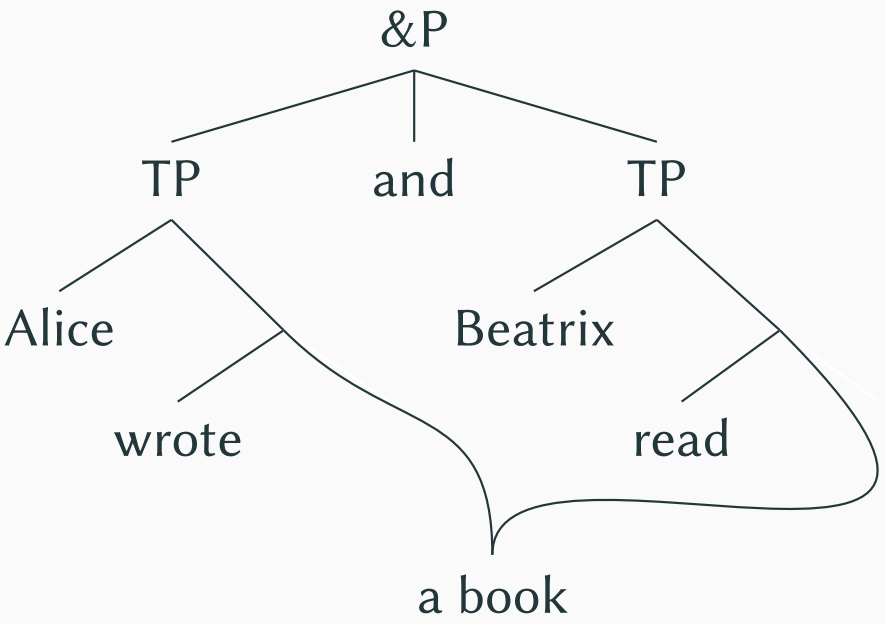
  (e.g. Ross 1967, Postal 1974, 1998, Abbott 1976, Grosu 1976, Sabbagh 2007, Clapp 2008)



Unified approaches to RNR: multidominance

- **multidominance**

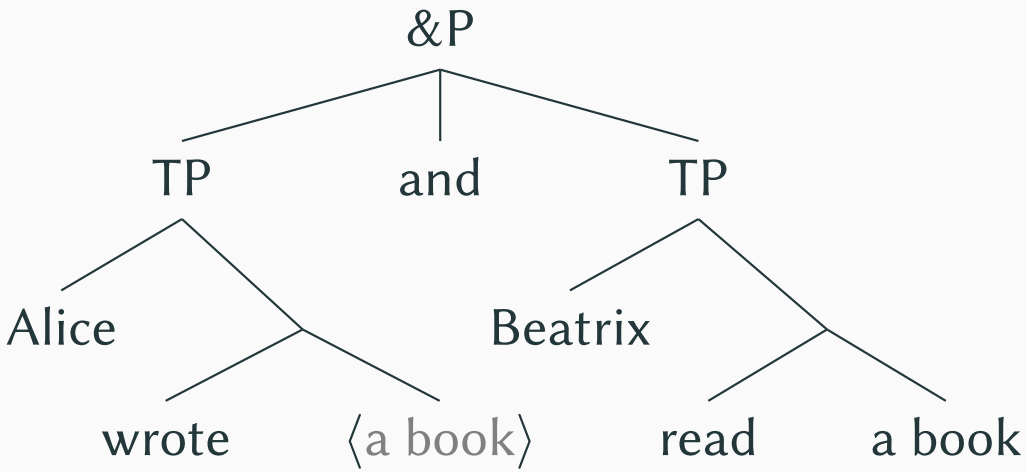
  (e.g. McCawley 1982, Radford 1988, Moltmann 1992, Wilder 1999, De Vos and Vicente 2005, Bachrach and Katzir 2009, Gračanin-Yuksek 2013)



Unified approaches to RNR: ellipsis

- **phonological deletion/ellipsis**

  (e.g. Wexler and Culicover 1980, Kayne 1994, Wilder 1997, Giannakidou and Merchant 1998, Hartmann 2000, Abels 2004, Željko Bošković 2004, Ha 2008*b*)

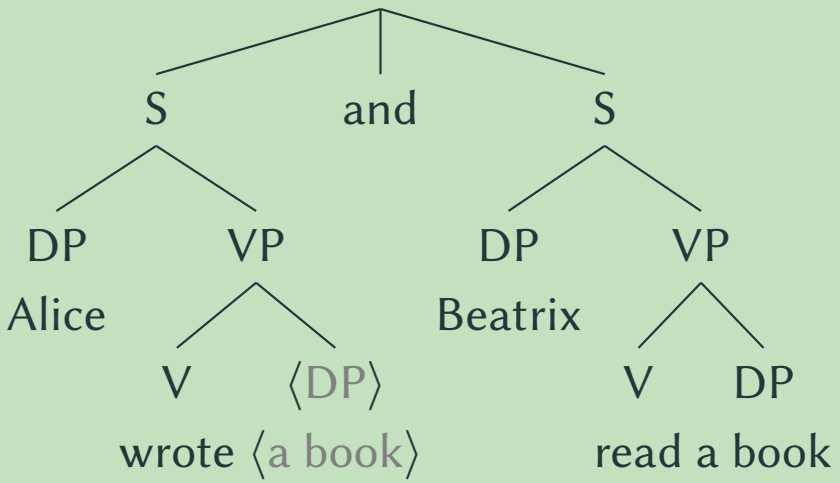


The duality of RNR

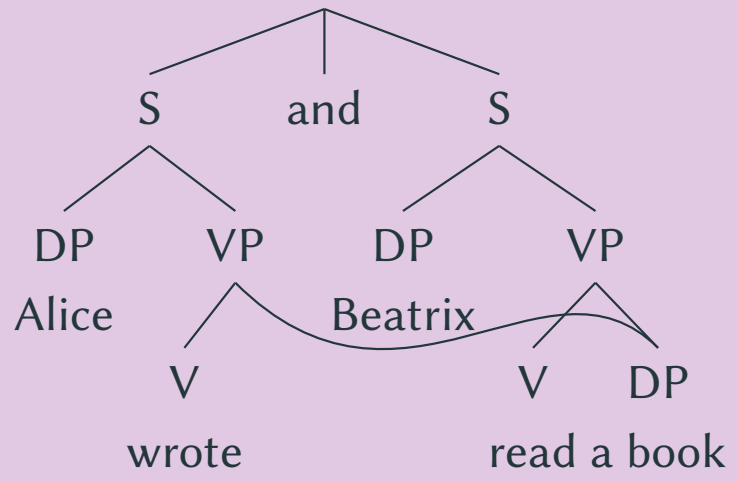
(31) Alice wrote, and Beatrix read [a book].

Barros and Vicente (2011) and Belk et al. (2023) have argued that RNR constructions like (31) can have two distinct underlying structures[2]:

ellipsis (RNR-E)



multidominance (RNR-MD)



[2] See Valmala (2013), Chaves (2014), Hirsch and Wagner (2015) for other mixed approaches to RNR, cf. Larson (2012) for some criticism.

RNR-E vs. RNR-MD: Morphological mismatches

(32) *Morphological mismatches in ellipsis* (Belk et al. 2023: 689)

a. Ava always succeeds in waking up early, but I usually fail to ⟨wake up early⟩.

b. I'm sure that Ava will pass her math exam, but I know that I didn't ⟨pass my math exam⟩.

(33) *Morphological mismatches in RNR* (Belk et al. 2023: 689)

a. I usually fail to ⟨wake up early⟩, but Ava succeeds in [waking up early].

b. I know that I didn't ⟨pass my math exam⟩, but I'm sure that Ava will [pass her math exam].

RNR-E vs. RNR-MD: Vehicle change

(34) *Vehicle change in ellipsis* (Belk et al. 2023: 690)
I fear that the boss will fire Ava$_1$, although she$_1$ hopes that he won't ⟨fire *Ava$_1$/her$_1$⟩.

(35) *Vehicle change in RNR* (Belk et al. 2023: 690)
She$_1$ hopes that he won't ⟨fire *Ava$_1$/her$_1$⟩, but I fear that the boss will [fire Ava$_1$].

RNR-E vs. RNR-MD: Cumulative agreement

(36) *No cumulative agreement in ellipsis* (Belk et al. 2023: 690)
John has/*have traveled to Cameroon, and Ryo ⟨has traveled to Cameroon⟩, too.

(37) *Cumulative agreement in RNR* (Belk et al. 2023: 690)
Mary is proud that John —, and Alma is glad that Ryo, [have traveled to Cameroon].

RNR-E vs. RNR-MD: Wide scope effects

(38) *No internal readings in ellipsis* (Belk et al. 2023: 690)
*Ava performed different$_{\text{INT}}$ songs, and Beatrix did ⟨perform different$_{\text{INT}}$ songs⟩, too.

(39) *Internal readings in RNR* (Belk et al. 2023: 690)
Ava composed —, and Beatrix performed, [different$_{\text{INT}}$ songs].

Non-coordinate RNR is always ellipsis (Belk et al. 2023)

(40) A man who likes, met a woman who dislikes [opera].

(41) *No internal reading in non-coordinate RNR*
*I gave a book about —, to a die-hard fan of, [the same_{INT} subject].

(42) *Morphological mismatches in non-coordinate RNR*
A man who is going to ⟨study Niuean grammar⟩,
married a woman who will soon be [studying Niuean grammar].

(43) *Vehicle change in non-coordinate RNR*
[Ava is worried that a critical response to her work is in preparation]
A man who she_1 said is going to ⟨study Ava_1's paper on Niuean word order⟩,
met a woman who will soon [study Ava_1's paper on Niuean word order].

RNR-E vs. RNR-MD: summary

(44) *Diagnostics for RNR-E vs. RNR-MD* (Barros and Vicente 2011, Belk et al. 2023)

	RNR-E	RNR-MD
morphological mismatches	✓	✘
non-coordinate RNR	✓	✘
vehicle change	✓	✘
cumulative agreement	✘	✓
internal readings	✘	✓

Exceptional inflection in right node raising

Diagnosing the structure of RNR with/without EI

Back to our pattern

If (46-b) cannot be RNR-E, perhaps it is RNR-MD (Adamson 2019: 167)

(45) *NP-ellipsis*

a. Ich löse mein Problem und du löst **dein-s**. ✓
I solve my problem and you solve your-EI

b. *Ich löse mein Problem und du löst **dein**. ✘
I löse my problem and you solve your
'I'm solving my problem and you're solving yours.'

(46) *Right node raising of NP*

a. Ich löse **mein-s** und du löst dein Problem. ✓
I solve my-EI and you solve your problem

b. Ich löse **mein** und du löst dein Problem. ✓
I solve my and you solve your problem
'I'm solving my, and solving your problem.'

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If (46-b) cannot be RNR-E, perhaps it is RNR-MD (Adamson 2019: 167)

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b. *Ich löse mein Problem und du löst **dein**. ✘
I löse my problem and you solve your
'I'm solving my problem and you're solving yours.'

(46) *Right node raising of NP*

a. Ich löse **mein-s** und du löst dein Problem. ✓ → RNR-E
I solve my-EI and you solve your problem

b. Ich löse **mein** und du löst dein Problem. ✓ → RNR-MD?
I solve my and you solve your problem
'I'm solving my, and solving your problem.'

The same pattern in Hungarian and Moksha

(47) *Optional EI in RNR in Hungarian* (T. Szarvas, p.c.)

a. Te **kicsi-t** ⟨autó-t⟩ és én nagy autó-**t** ve-tt-em.
you small-EI and I big car-ACC buy-PST-1SG

b. Te **kicsi** ⟨autó-t⟩ és én nagy autó-**t** ve-tt-em.
you small and I big car-ACC buy-PST-1SG
'You bought a small, and I bought a big car.'

(48) *Optional EI in RNR in Moksha* (M. Privizentseva, p.c.)

a. Mon andinʲə **akšə-tʲ** ⟨katə-tʲ⟩ i ton anditʲ ravžə katə-**tʲ**
I fed white-EI and you fed black cat-DEF.SG.GEN

b. Mon andinʲə **akšə** ⟨katə-tʲ⟩ i ton anditʲ ravžə katə-**tʲ**
I fed white and you fed black cat-DEF.SG.GEN
'I fed the white, and you fed the black cat.'

Diagnostics for the structure of RNR

(49) *Diagnostics for RNR-E vs. RNR-MD*

	RNR-E	RNR-MD
morphological mismatches	✓	✘
non-coordinate RNR	✓	✘
vehicle change	✓	✘
cumulative agreement	✘	✓
internal readings	✘	✓

Diagnostics for the structure of RNR

(49) *Diagnostics for RNR-E vs. RNR-MD and predicted inflections*

	RNR-E	RNR-MD	with EI	without EI
morphological mismatches	✓	✘	✓	✘
non-coordinate RNR	✓	✘	✓	✘
vehicle change	✓	✘	✓	✘
cumulative agreement	✘	✓	✘	✓
internal readings	✘	✓	✘	✓

Morphological mismatches

(50) *With exceptional inflection*

a. Ich höre auf **mein-s** ⟨Kind⟩ und du glaubst dein-**em** Kind.
I listen on my-ACC and you believe your-DAT child
'I listen to mine, and you believe your child.'

b. Peter verdrängt **sein-s** ⟨schlechtes Gewissen⟩ und du entledigst dich
Peter suppresses his-ACC and you rid yourself
dein-**es** schlechten Gewissens.
your-GEN bad.GEN conscience.GEN
'Peter suppresses his, and you rid yourself of your bad conscience.'

(51) *Without exceptional inflection*

a. Ich höre auf **mein** ⟨Kind⟩ und du glaubst dein-**em** [Kind].
I listen on my and you believe your-DAT child
'I listen to mine, and you believe your child.'

b. Peter verdrängt **sein** ⟨schlechtes Gewissen⟩ und du entledigst dich
Peter suppresses his and you rid yourself
dein-**es** [schlechten Gewissens].
your-GEN bad.GEN conscience.GEN
'Peter suppresses his, and you rid yourself of your bad conscience.'

RNR in non-coordinate structures

(52) *With exceptional inflection*

a. Wir ersetzen heute **dein-s** ⟨Namesschild⟩ durch mein [Namensschild].
we replace today your-EI through my name.tag
'We'll replace yours with my name tag today.'

b. Niemals wird **mein-er** ⟨Auftritt⟩ genauso wie ihr [Auftritt] gefeiert.
never is my-EI exactly like her performance celebrated.
'Never is mine celebrated in the same way as her performance.'

(53) *Without exceptional inflection*

a. Wir ersetzen heute **dein** ⟨Namensschild⟩ durch mein [Namensschild].
we replace today your through my name.tag
'We'll replace yours with my name tag today.'

b. Niemals wird **mein** ⟨Auftritt⟩ genauso wie ihr [Auftritt] gefeiert.
never is my exactly like her performance celebrated.
'Never is mine celebrated in the same way as her performance.'

Vehicle change

(54) *With exceptional inflection*

Er$_i$ glaubt, die Galerie kauft **mein-s** ⟨Porträt von Gabriel$_i$⟩, aber ich denke, sie
he believes the gallery buys my-EI but I think she
entscheidet sich für Idas [Portrait von Gabriel$_i$].
decides REFL for Ida's portrait of Gabriel
'He$_i$ believe the gallery will buy mine, but I think they'll settle on Ida's portrait of Gabriel$_i$.'

(55) *Without exceptional inflection*

Er$_i$ glaubt, die Galerie kauft **mein** ⟨Porträt von Gabriel$_i$⟩, aber ich denke, sie
he believes the gallery buys my but I think she
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'He$_i$ believe the gallery will buy mine, but I think they'll settle on Ida's portrait of Gabriel$_i$.'

Cumulative agreement (also summative agreement)

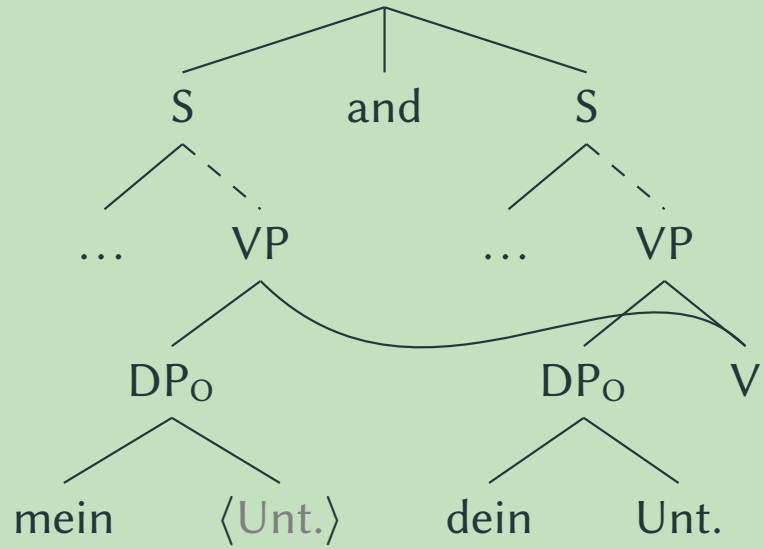
(56) Der Gustav ist stolz, dass die Tina — und der Otto ist froh, dass der Tom
the Gustav is proud that the Tina and the Otto is glad that the Tom
[nach Nigeria reisen werden/wird].
to Nigeria travel will.3PL/will3SG
'Gustav is proud that Tina, and Otto is glad that Tom, will travel to Nigeria.' (Grosz 2015: 9)

(57) ?Ich bin froh, dass Lara **mein(s)** —, und du bist erstaunt, dass Jasmin
I am glad that Lara my and you are surprised that Jasmin
dein [Unternehmen verlassen].
your company leave.3PL
'I am glad that Lara leaves my, and you are surprised that Jasmin leaves your company.'

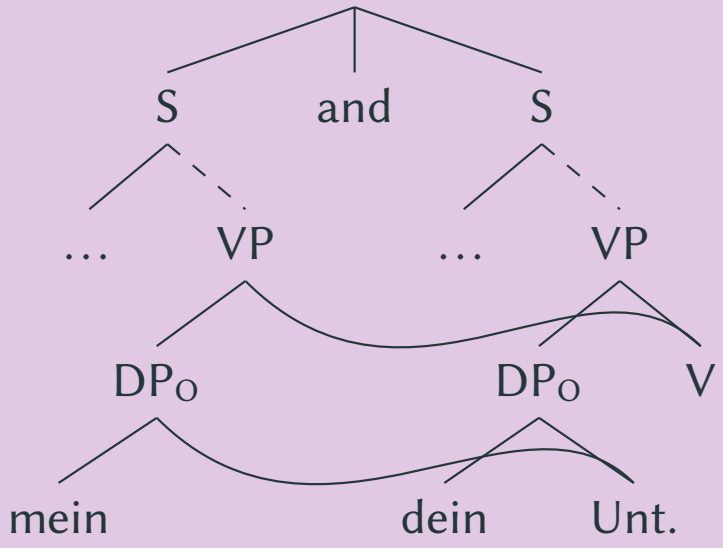
Cumulative agreement is uninformative in German

(58) ?Ich bin froh, dass Lara **mein(s)** —, und du bist erstaunt, dass Jasmin
I am glad that Lara my and you are surprised that Jasmin
dein [Unternehmen verlassen].
your company leave.3PL
'I am glad that Lara leaves my, and you are surprised that Jasmin leaves your company.'

ellipsis (RNR-E)



multidominance (RNR-MD)



Internal readings

- There are three words meaning ‘different’:
  verschieden, unterschiedlich, anders (Moltmann 1992, Beck 2000)
- EI only appears on singular possessive determiners in German.
- If at all, only *unterschiedlich* can be singular under an internal reading (59).

(59) Ida und Ava lesen ein *verschiedenes$_{int}$/?unterschiedliches$_{int}$/*anderes$_{int}$ Buch.
Ida and Ava read a different/different/other book
‘Ida and Ava are reading a different book (from each other).’

Internal readings

- There are three words meaning 'different':
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Ida and Ava read a different/different/other book
'Ida and Ava are reading a different book (from each other).'

- It seems that this internal reading doesn't persists in RNR (60-a) (Hartmann 2000), even less so when there's a stranded determiner (60-b)

(60) a. ??Ida liest — und Ava kauft [ein unterschiedliches$_{int}$ Buch].
Ida reads and Ava buys a different book
'Ida is reading, and Ava is buying a different book (from each other).'

b. *Ida liest mein — und Ava kauft dein [unterschiedliches$_{int}$ Buch].
Ida reads my and Ava buys your different book
'Ida reads my, and Ava is buying your different book (from each other).'

Internal readings

- *gleiches, selbes* 'same' requires a definite noun (61).
- EI only occurs with indefinite determiners.

(61) a. Ida und Ava mögen das gleiche Getränk.
Ida and Ava like the same beverage
'Ida and Ava like the same beverage.'

b. *Ida und Ava mögen ein gleiches Getränk.
Ida and Ava like a same beverage
'Ida and Ava like a same beverage.'

- Embedding the relational adjective could potentially resolve the problem.

(62) Ida und Ava mögen Bilder von der gleichen Künstlerin.
Ida and Ava like pictures of the same artist
'Ida and Ava like pictures of the same artist.'

Internal readings

(63) Ich mag mein(-s) — und du magst dein [$_{NP}$ Bild [$_{PP}$ von der gleichen
I like my-EI and you like your picture of the same
Künstlerin]].
artist
'I like mine, and you like your picture of the same artist.'

- Same problem as with cumulative agreement:
  The PP could be multidominated, but the NPs could involve ellipsis (cf. Belk et al. 2023 on the simultaneity of RNR-E and RNR-MD within the same structure)

Internal readings

- *Ähnlich* ‘similar’ allows an internal reading with an indefinite singular noun (64)

(64) Karl und Claudia bevorzugen einen ähnlichen$_{int}$ Wein.
Karl and Claudia prefer a similar Wine
‘Karl and Claudia prefer a similar wine (to each other).’

(Hartmann 2000: 86)

- The reading pertains in RNR(?)

(65) ?Karl liest — und Claudia begutachtet [ein ähnliches$_{int}$ Buch].
Karl reads and Claudia reviews a similar book
‘Karl reads — and Claudia reviews a similar book.’

- But it gets questionable when a determiner is stranded.

(66) ??Karl liest mein(-s) — und Claudia begutachtet dein [ähnliches$_{int}$ Buch].
Karl reads my-EI and Claudia reviews your similar book
‘Karl reads mine — and Claudia reviews your similar book.’

Summary of diagnostics

(67) *Summary of diagnostic tests in German*

	RNR-E	RNR-MD	with EI	without EI
morphological mismatches	✓	✘	✓	✓
non-coordinate RNR	✓	✘	✓	✓
vehicle change	✓	✘	✓	✓
cumulative agreement	✘	✓	n.a.	n.a.
internal readings	✘	✓	✘/??	✘/??

Summary

(68) a. Ich löse mein Problem und du löst **dein-s**. ✓ → Ellipsis
I solve my problem and you solve your-EI

b. *Ich löse mein Problem und du löst **dein**. ✘ → Ellipsis
I solve my problem and you solve your
'I'm solving my problem and you're solving yours.'

(69) a. Ich löse **mein-s** und du löst dein Problem. ✓ → RNR-E
I solve my-EI and you solve your problem

b. Ich löse **mein** und du löst dein Problem. ✓ → ~~RNR-MD~~
I solve my and you solve your problem RNR-E
'I'm solving mine, and you're solving your problem.'

A Pruning analysis

Analysis: desiderata

(70) a. Ich löse mein Problem und du löst **dein-s**. ✓
I solve my problem and you solve your-EI

b. *Ich löse mein Problem und du löst **dein**. ✘
I solve my problem and you solve your
'I'm solving my problem and you're solving yours.'

(71) a. Ich löse **mein-s** und du löst dein Problem. ✓
I solve my-EI and you solve your problem

b. Ich löse **mein** und du löst dein Problem. ✓
I solve my and you solve your problem
'I'm solving mine, and you're solving your problem.'

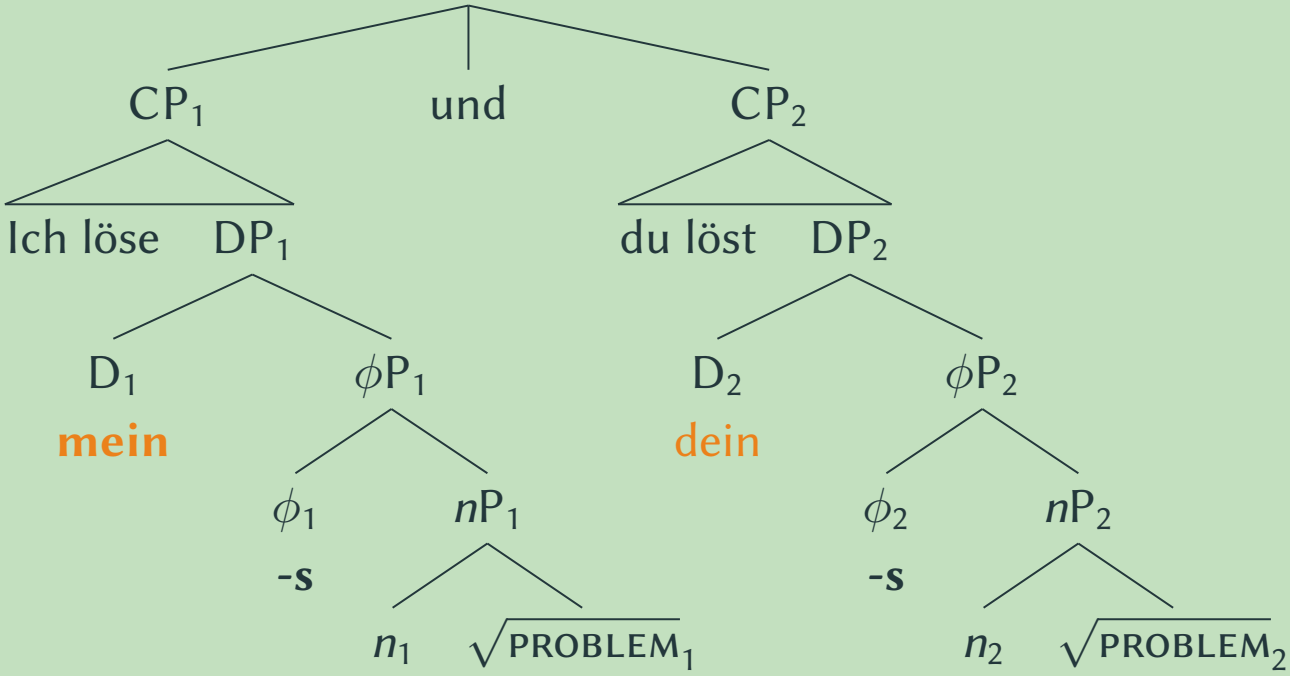
What does the analysis have to capture?

- NPE gives rise to EI, and does so obligatorily (70).
- RNR gives rise to EI, but only optionally (71).
- Both RNR with and without EI is sensitive to diagnostics of ellipsis.

The structural independence of EI

The occurrence of EI has nothing to say about the underlying structure. In both cases, the underlying structure seems to be that of RNR-Ellipsis.

(72) Ich löse **mein(-s)** ⟨Problem⟩ und du löst dein Problem.
I solve my-EI and you solve your problem
'I'm solving mine and you're solving your problem.'



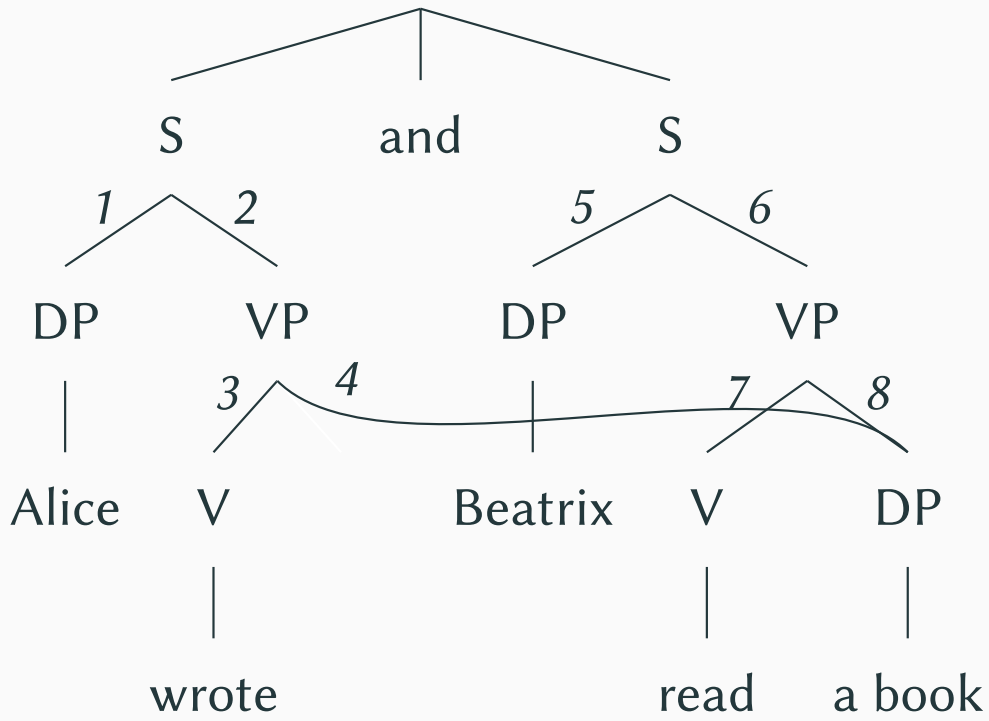
Two ellipses

It seems that there are two different ways of not pronouncing certain elements in this structure, that is, there are two different types of ellipsis.

1. **Regular 'forward' ellipsis** ([E]):
   bleeds morphological operations like *Lowering* and obligatorily leads to occurrence of EI
2. **Special 'backward' ellipsis**:
   does not bleed morphological operations like *Lowering* and optionally leads to occurrence of EI

Duality of structure, unity of process (Belk et al. 2023)

RNR-MD creates a linearization problem due to the *No-Tangling Condition* (Partee et al. 1993: 437).



Duality of structure, unity of process (Belk et al. 2023)

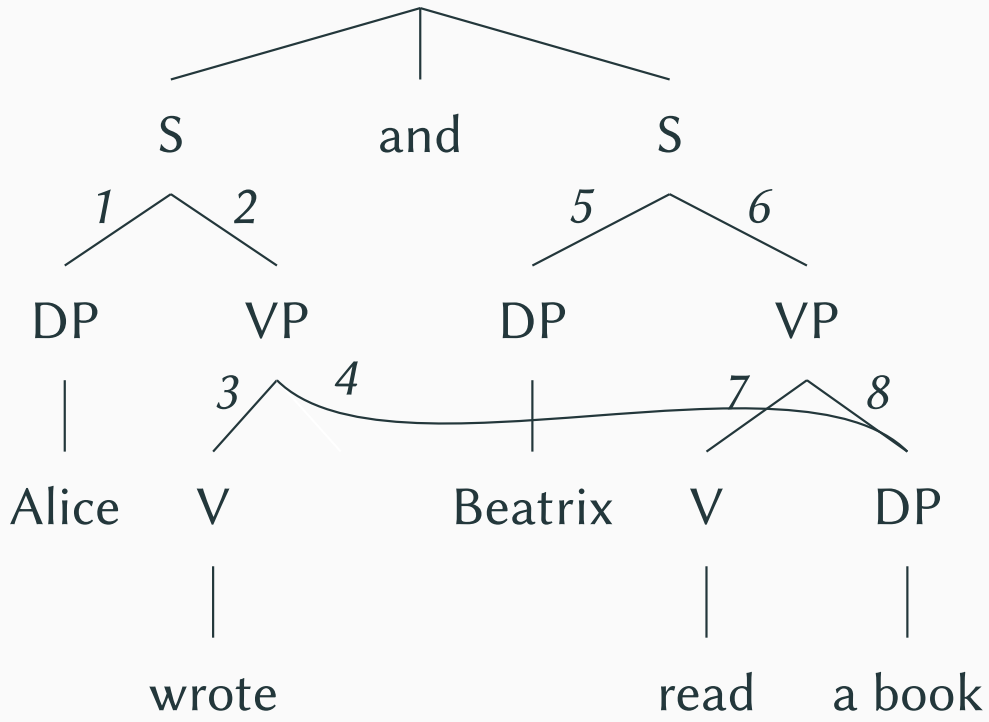
Belk et al. (2023) suggest that a very restricted pruning operation (73) at PF resolves this issue by pruning branch 4 in (75).

(73) *Pruning*
Let S_α and S_β be parallel structures. A branch α in S_α may be pruned if
a. S_α precedes S_β,
b. α corresponds to a branch β in S_β, and
c. β's yield satisfies the ordering statements that hold of α's yield in S_α.

(74) *Parallelism* (Hartmann 2000: 117)
A and B are parallel clauses iff $[\![A]\!]_o \in [\![B]\!]_f \wedge [\![B]\!]_o \in [\![A]\!]_f$.

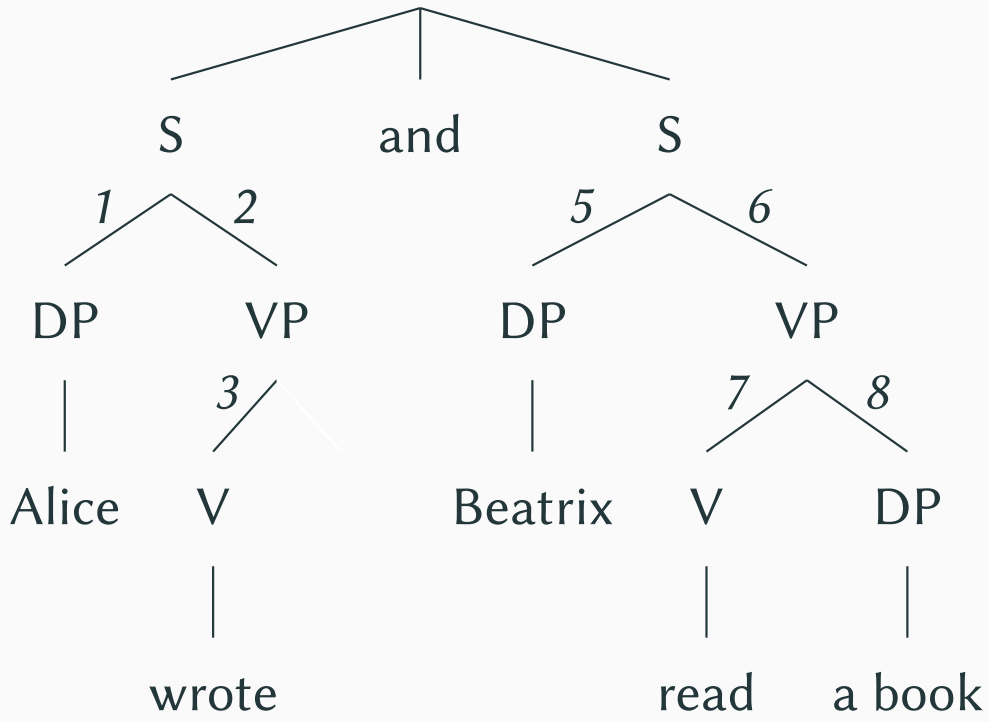
Deriving RNR-MD

(75) *RNR multidominance: Pruning of branch 4*



Deriving RNR-MD

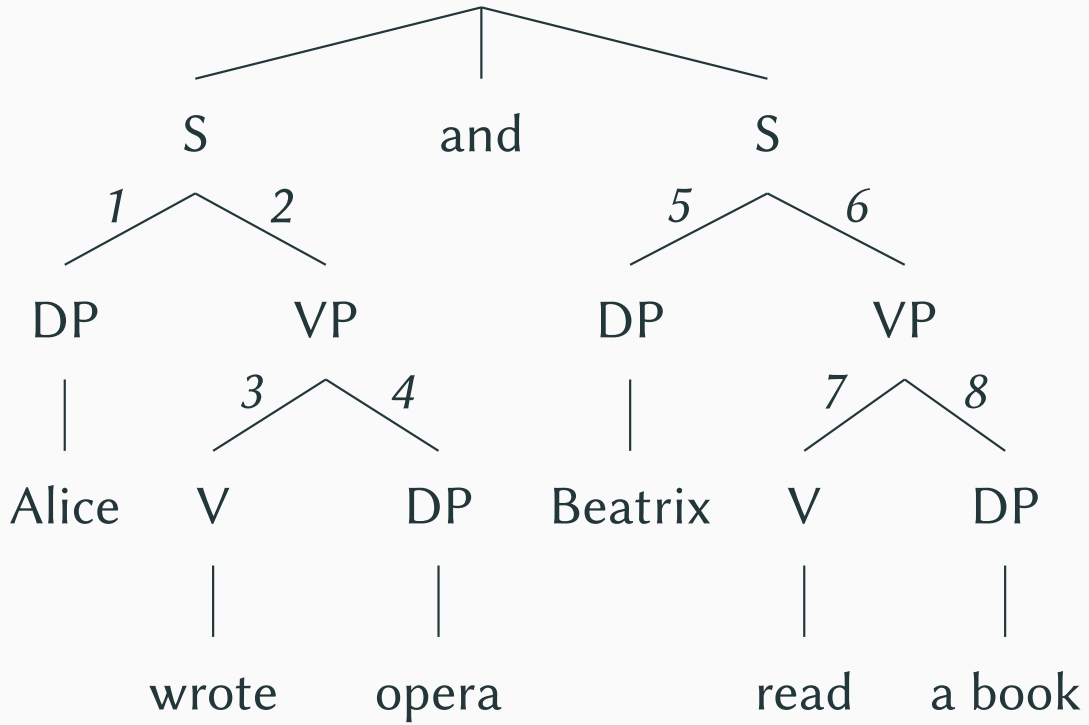
(75) *RNR multidominance: Pruning of branch 4*



Deriving RNR-E

Once adopted, Pruning permits a straightforward account of RNR-E.

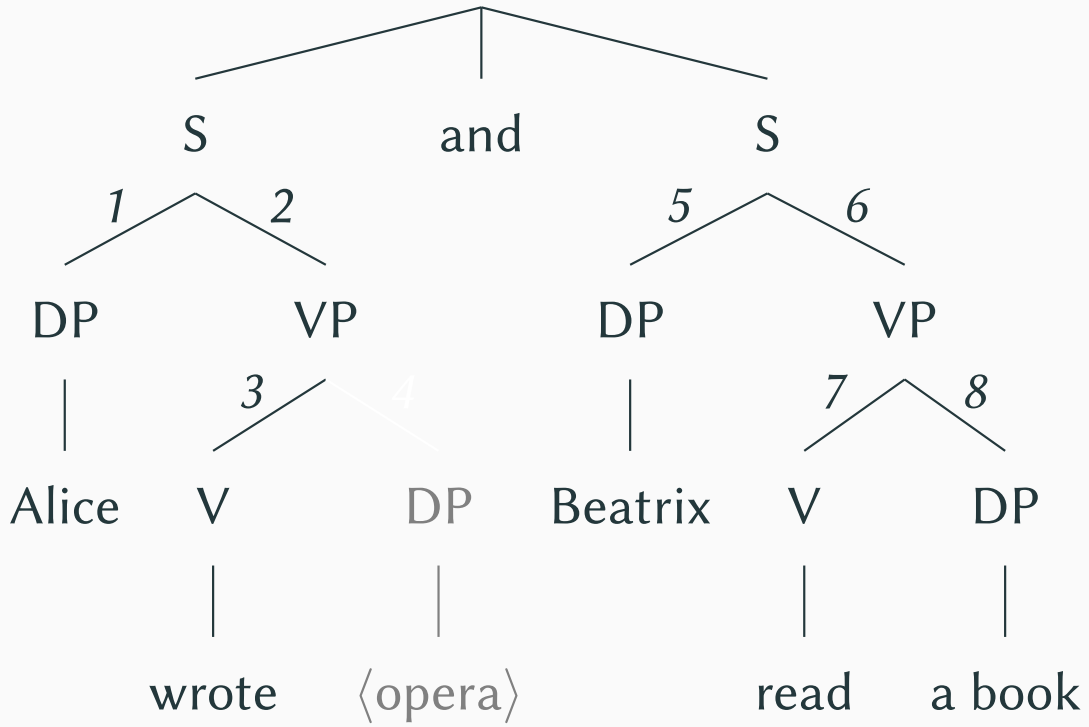
(76) *RNR ellipsis: Pruning of branch 4*



Deriving RNR-E

Once adopted, Pruning permits a straightforward account of RNR-E.

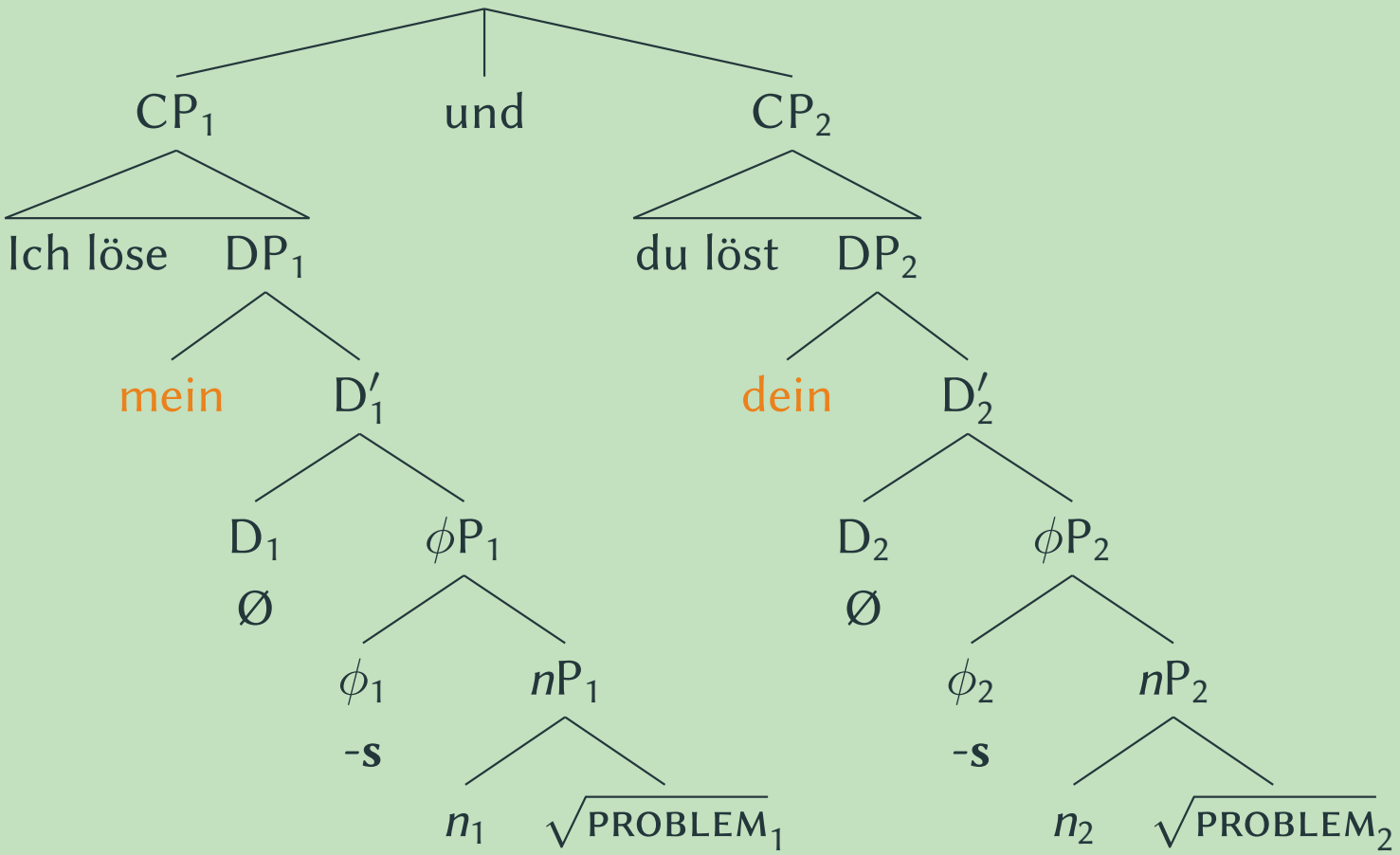
(76) *RNR ellipsis: Pruning of branch 4*



Pruning = Special ‘backwards’ ellipsis

German: Pruning of *n*P gives RNR with EI

(77) Ich löse **mein-s** ⟨Problem⟩ und du löst dein Problem.
I solve my-EI and you solve your problem
'I solve my and you solve your problem.'



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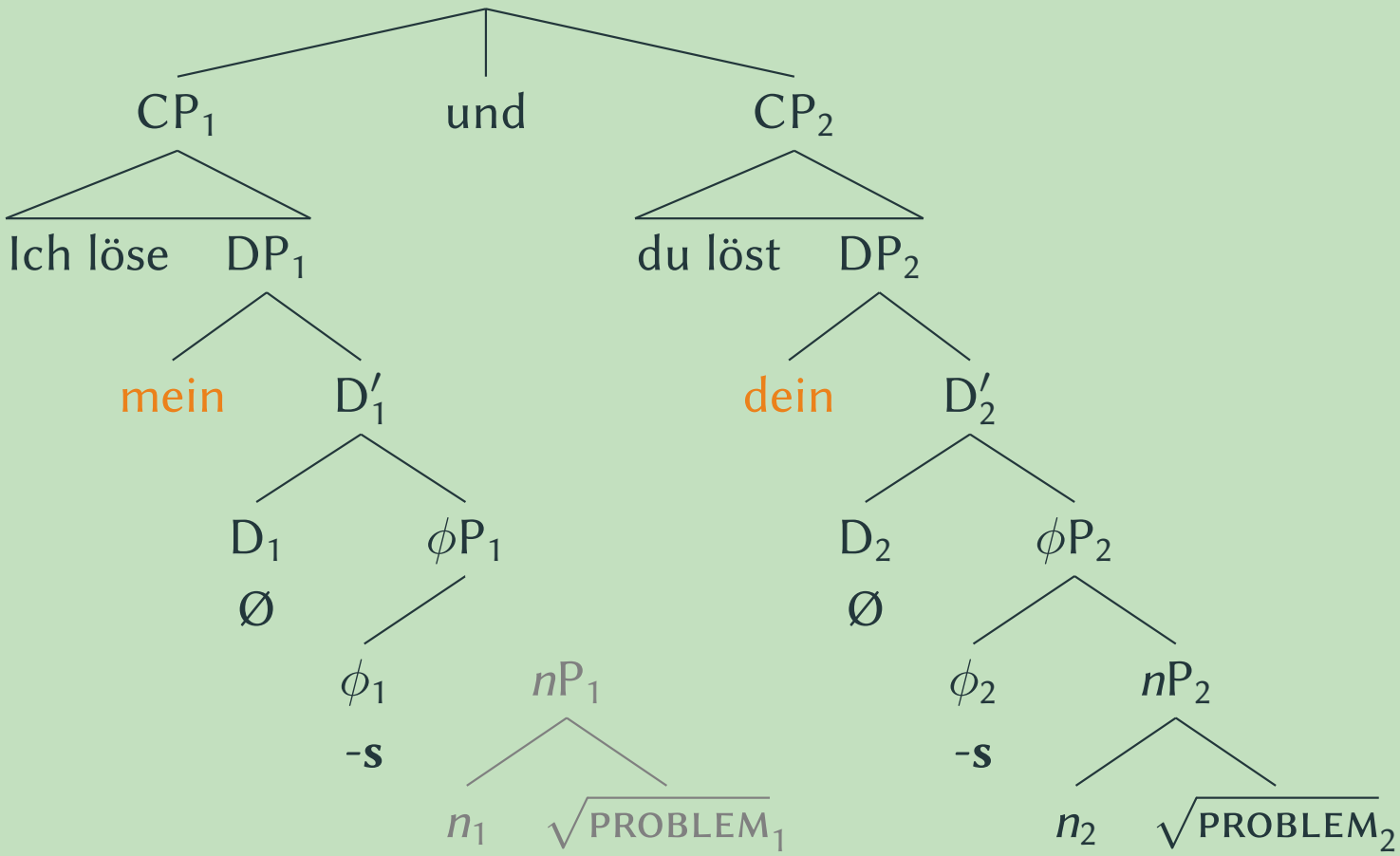

German: Pruning of *n*P gives RNR with EI

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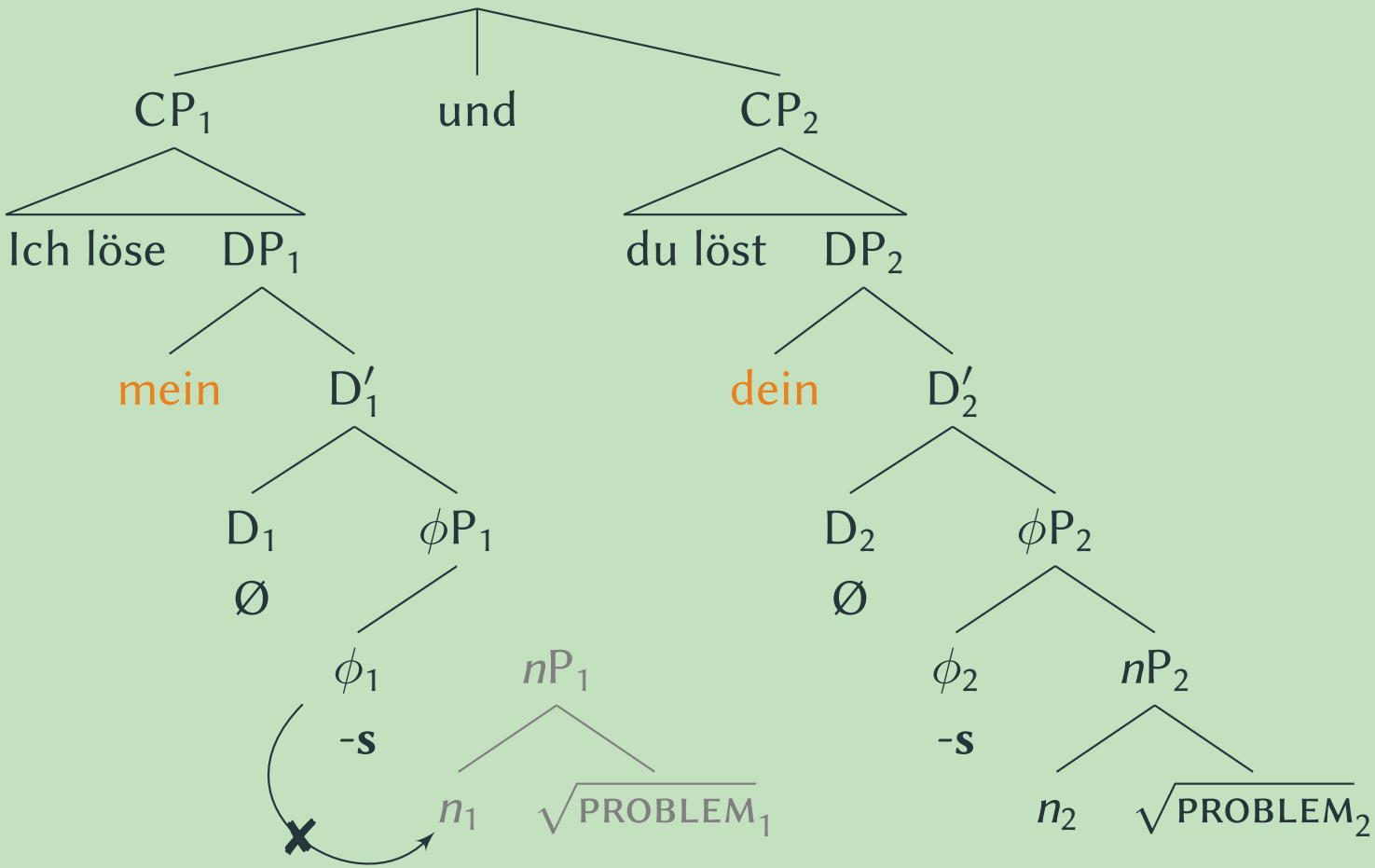

German: Pruning of *n*P gives RNR with EI

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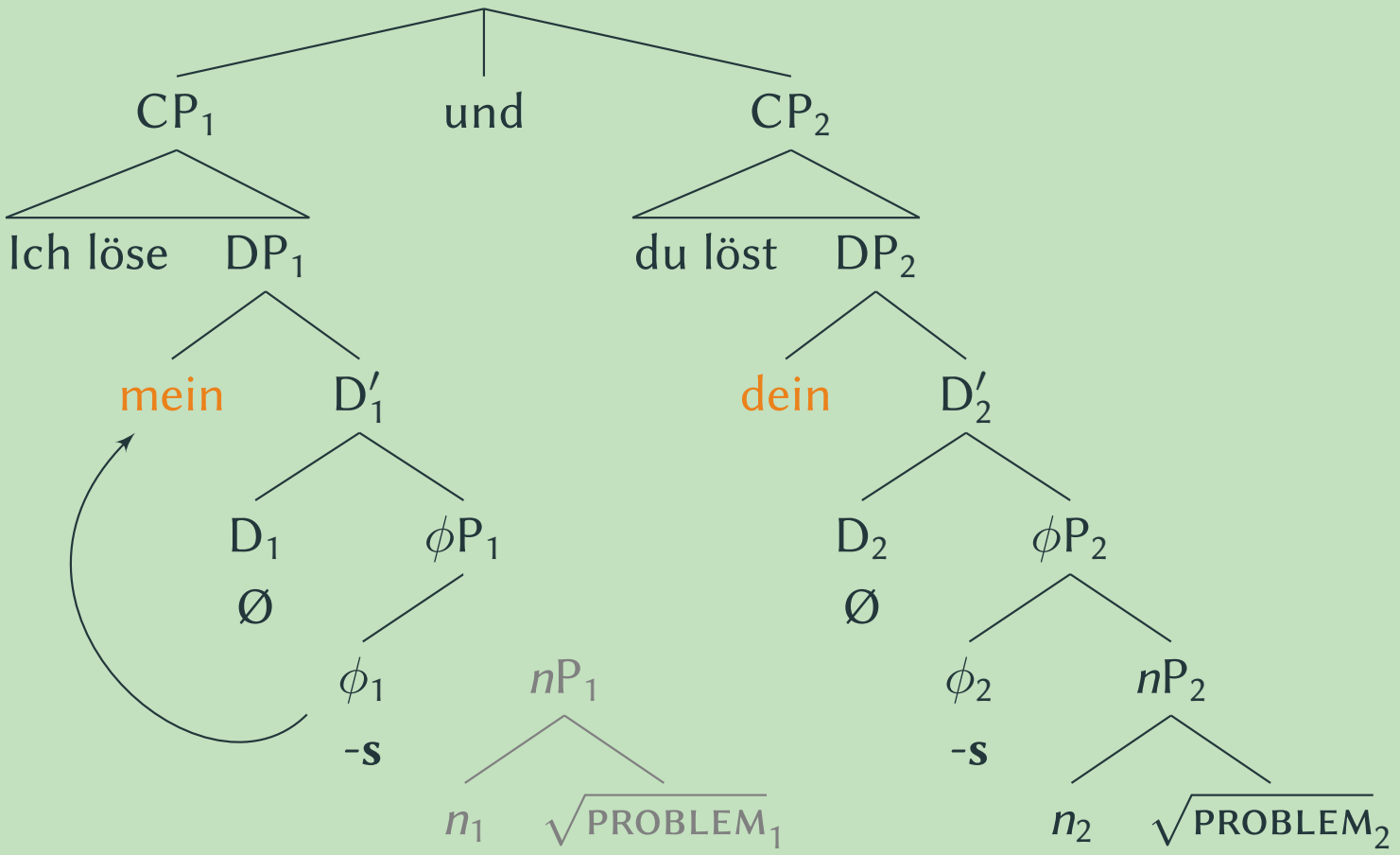
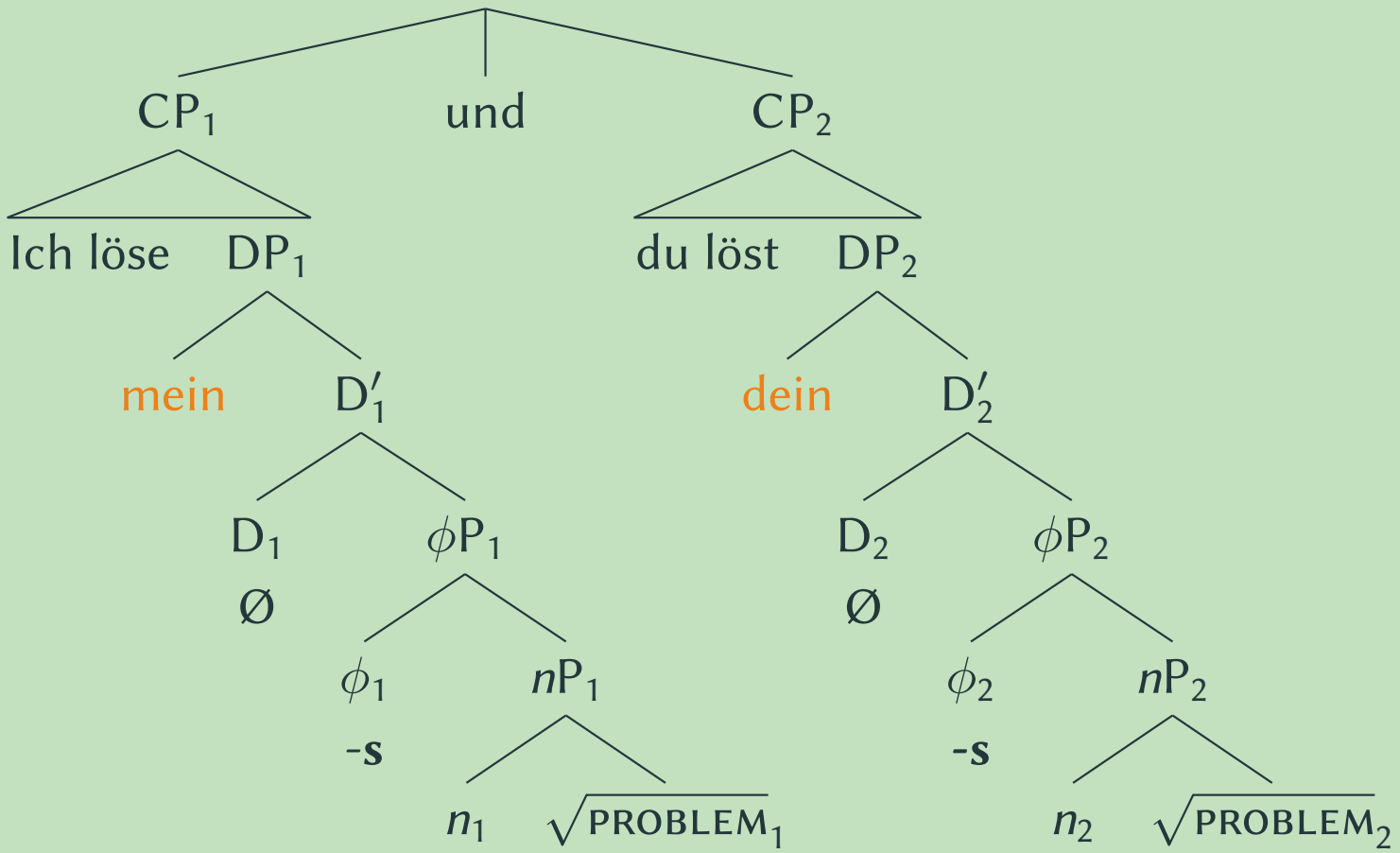


German: Pruning of ϕP gives RNR without EI

(78) Ich löse **mein** ⟨Problem⟩ und du löst dein Problem.
I solve my and you solve your problem
'I solve my and you solve your problem.'



German: Pruning of ϕP gives RNR without EI

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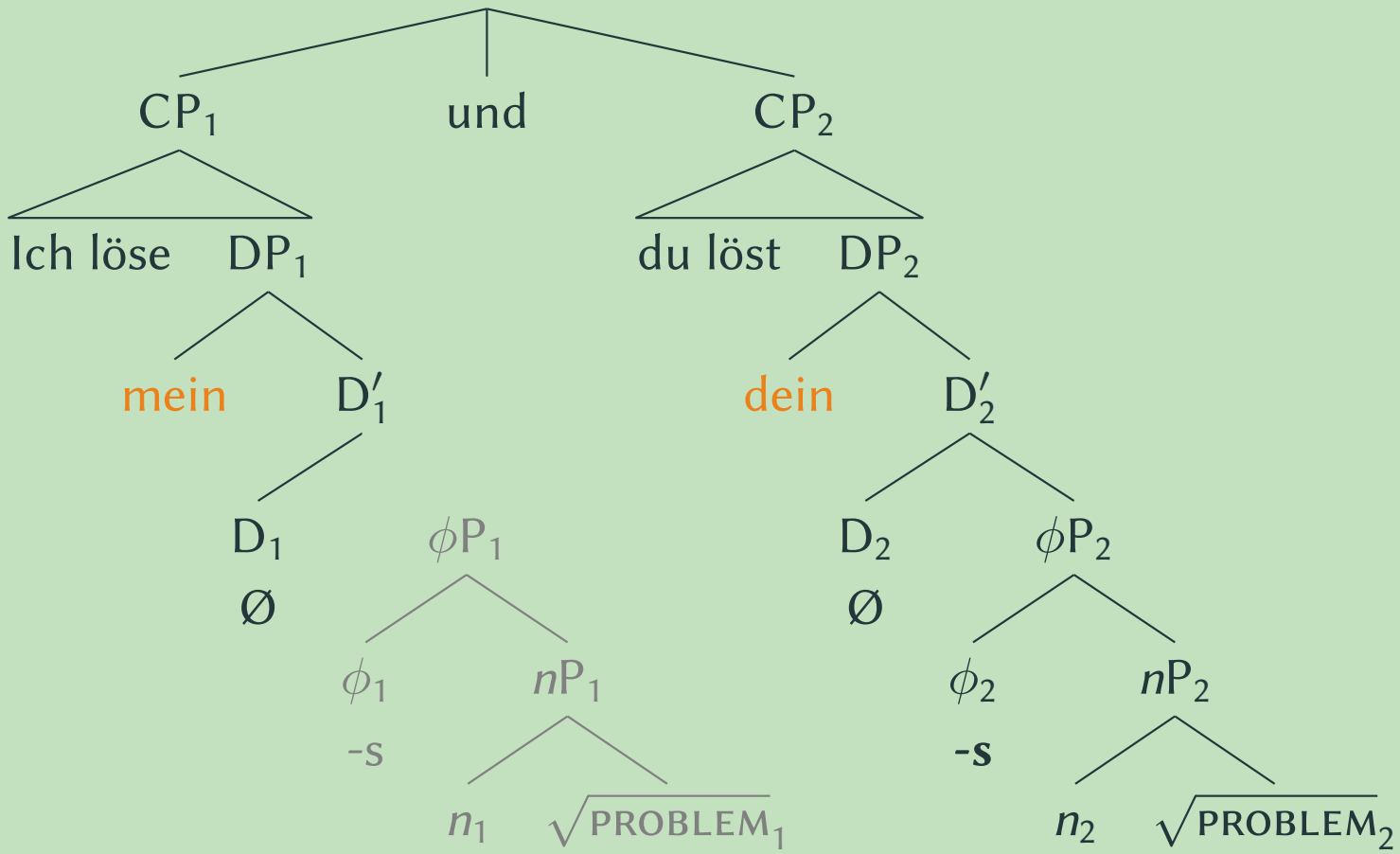
I solve my and you solve your problem
'I solve my and you solve your problem.'



Refining Pruning

(79) *Pruning*
Let S_α and S_β be parallel structures. A branch α in S_α may be pruned if

a. S_α precedes S_β,
b. α corresponds to a branch β in S_β, and
c. β's yield satisfies the ordering statements that hold of α's yield in S_α.

(80) *Parallelism* (Hartmann 2000: 117)
A and B are parallel clauses iff $[\![A]\!]_o \in [\![B]\!]_f \wedge [\![B]\!]_o \in [\![A]\!]_f$.

$\Rightarrow$ Pruning is free as to the size of the structure that it prunes, as long as (79) and (80) are met.

Analysis: Forward NPE

- We do not observe the same variability in forward NPE.

(81) *'Forward NPE'*

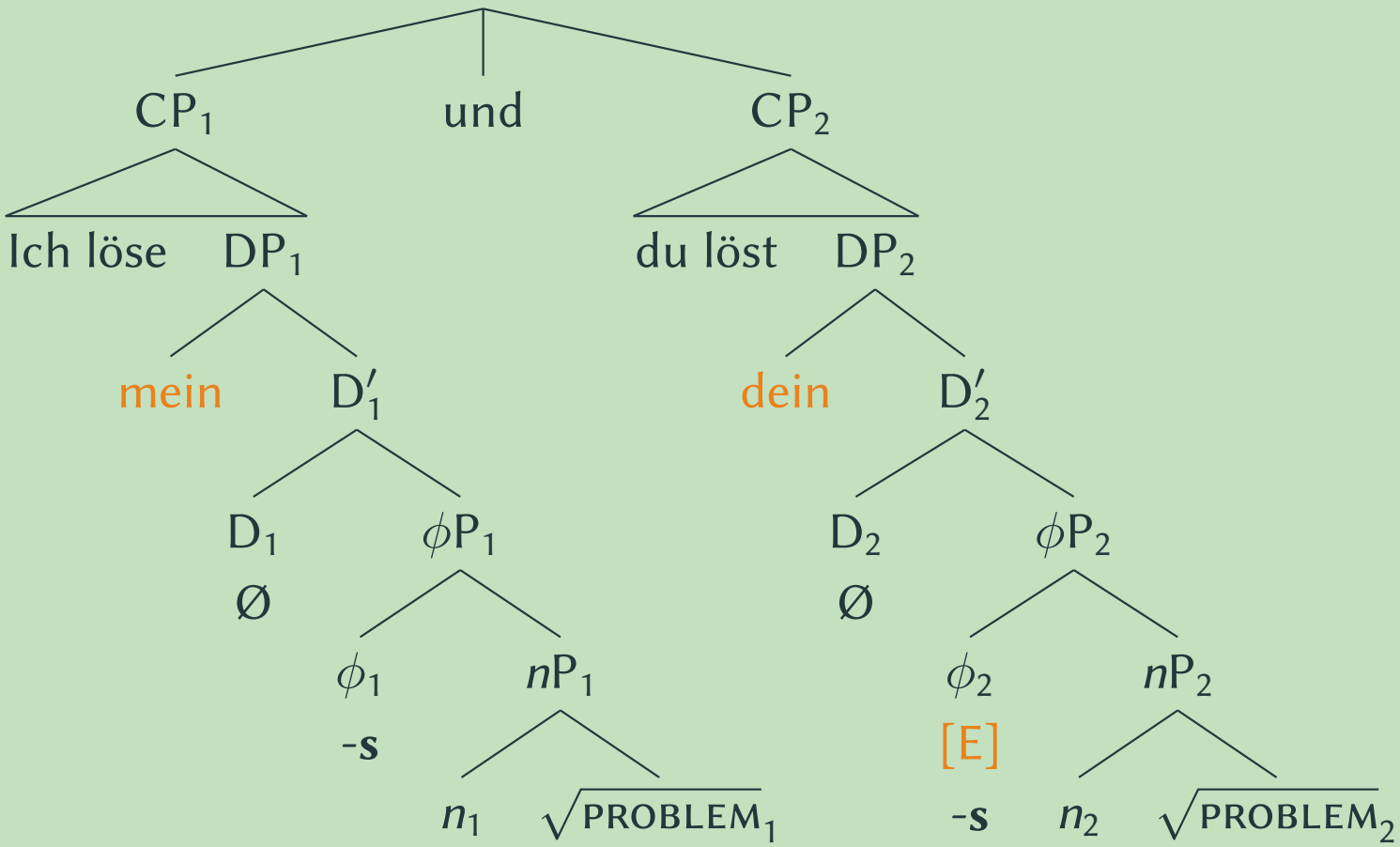
a. Ich löse mein Problem und du löst **dein-s** ⟨Problem⟩.
I solve my problem and you solve your-EI
'I solve my problem and you solve yours.'

b. *Ich löse mein Problem und du löst **dein** ⟨Problem⟩.
I solve my problem and you solve your
'I solve my problem and you solve yours.'

- Pruning by definition does not apply to the right conjunct.
- There must be a different kind of ellipsis for this.
- Forward NPE is triggered by an [E]-feature on ϕ_2 (Merchant 2001)

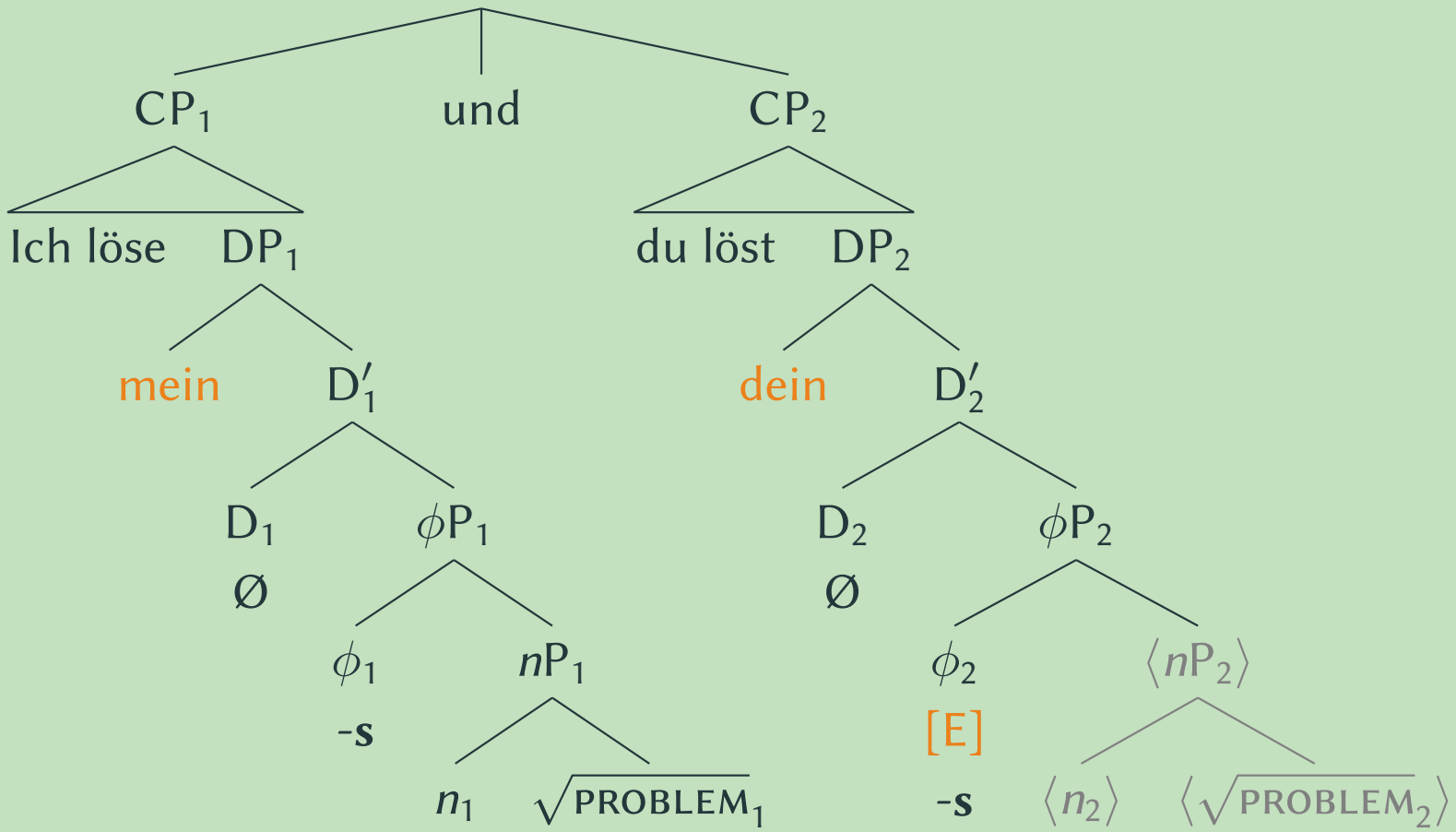
Analysis: Forward NPE

(82) Ich löse mein Problem und du löst **dein-s** ⟨Problem⟩.
I solve my problem and you solve your-EI problem
'I solve my and you solve yours.'



Analysis: Forward NPE

(82) Ich löse mein Problem und du löst **dein-s** ⟨Problem⟩.
I solve my problem and you solve your-EI problem
'I solve my and you solve yours.'



Analysis: Forward NPE

Why can the [E]-feature not appear on D?

- Ellipsis is restricted to phases (Holmberg 2001, Gengel 2007, 2008, Bošković 2014, Aelbrecht 2016).
- Little *n* is a phase head (Marantz 2001, Marvin 2002).
- ϕ is not a phase head.

Open issues: Adjectives

Adjectives never appear without inflection.

(83) Ich löse ein leicht*(-**es**) ⟨Problem⟩ und du löst ein schwierig-es
I solve a simple-S.INFL and you solve a hard-S.INFL
Problem.
problem
'I solve a simple and you solve a hard problem.'

Open issues: Adjectives

Adjectives never appear without inflection.

(83) Ich löse ein leicht*(-**es**) ⟨Problem⟩ und du löst ein schwierig-es
I solve a simple-S.INFL and you solve a hard-S.INFL
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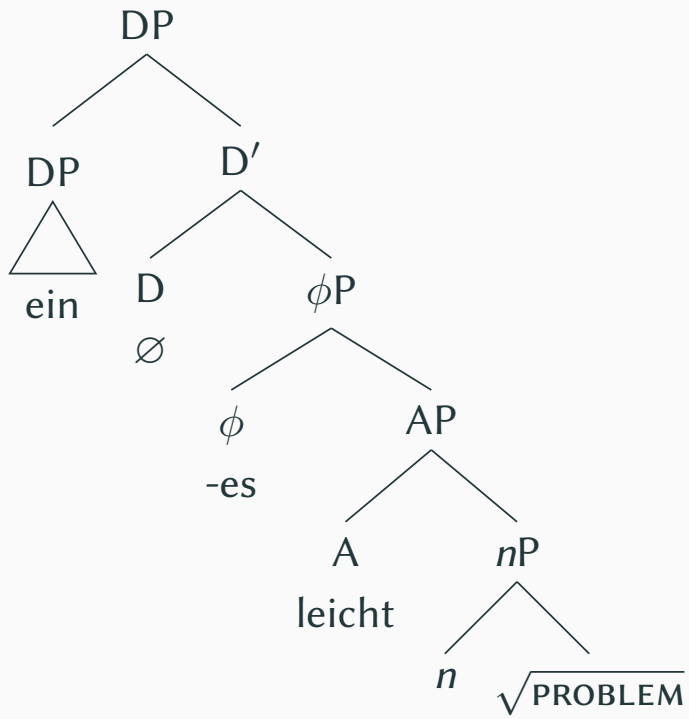
problem
'I solve a simple and you solve a hard problem.'

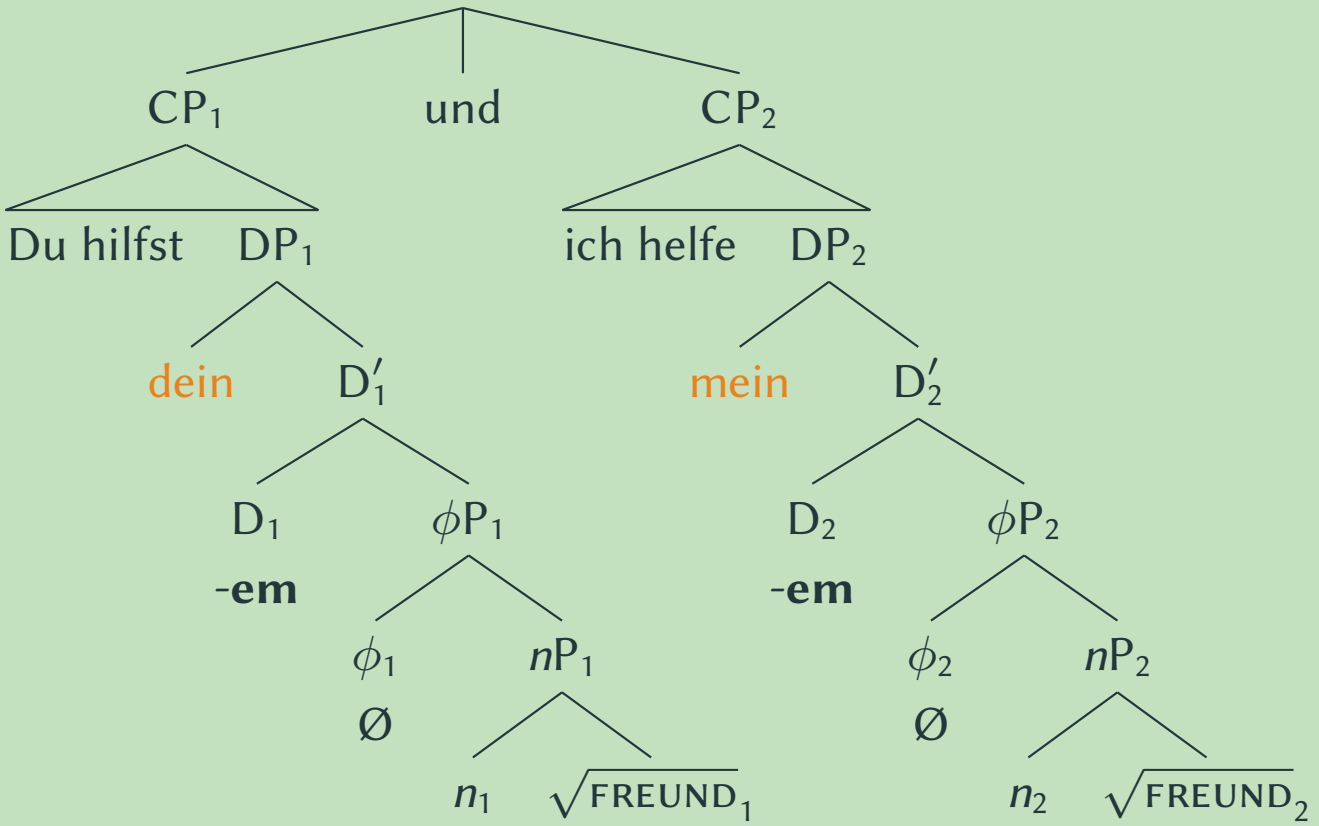
- ϕ sits above AP

⇒ Pruning ϕP entails pruning the adjective



Open issues: Other case-gender combinations

(84) Du hilfst dein-**em**/*dein ⟨Freund⟩ und ich helfe mein-**em** Freund.
you help your-S.INFL/your and I help my-S.INFL friend
You're helping your and I'm helping my friend.



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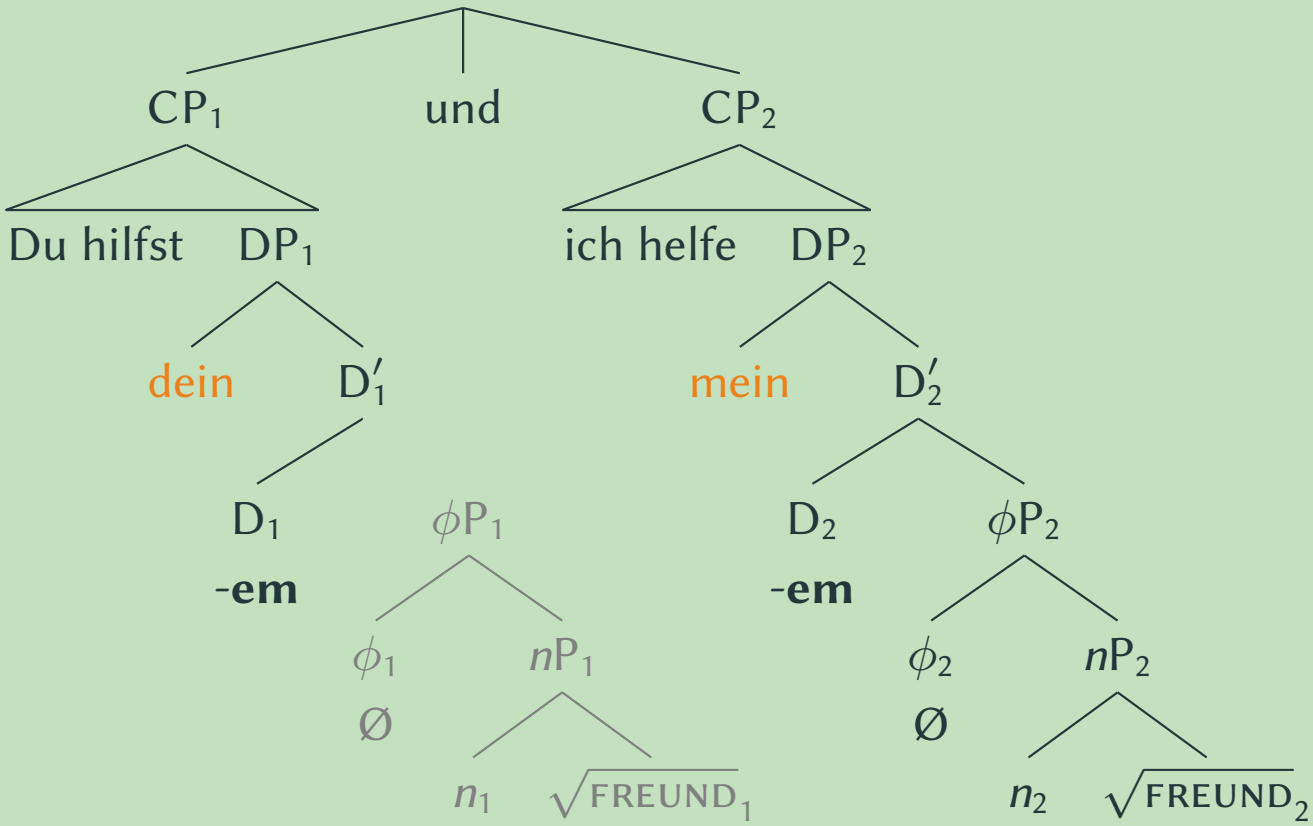

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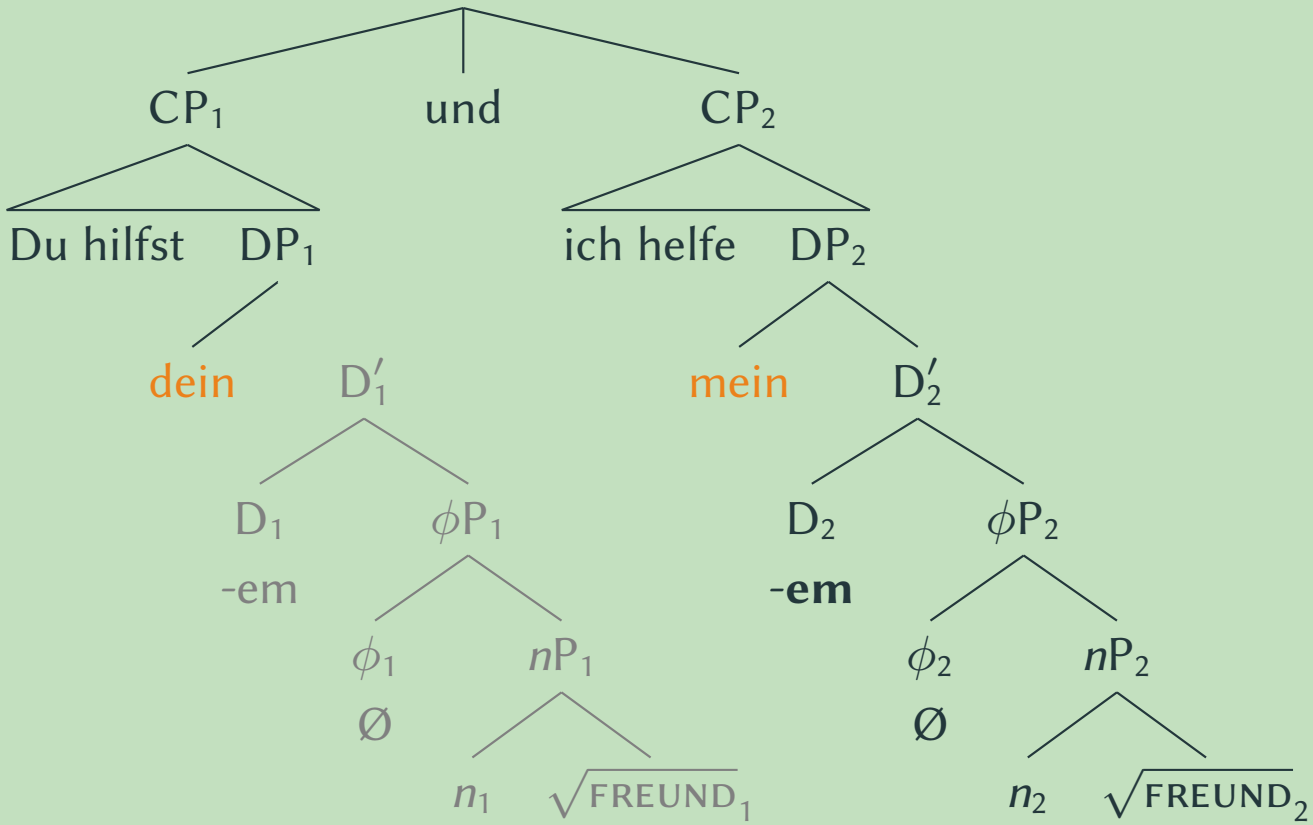

Open issues: Other case-gender combinations

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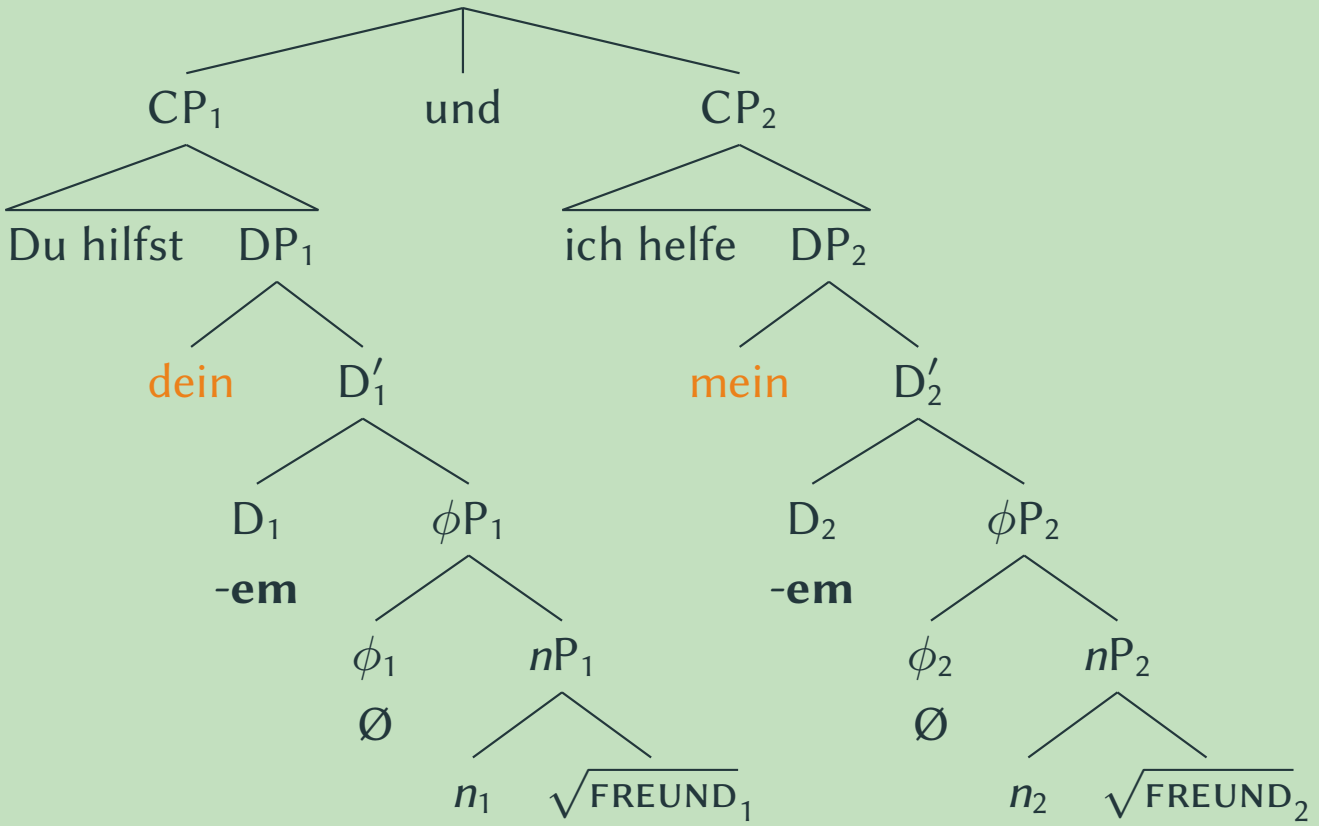
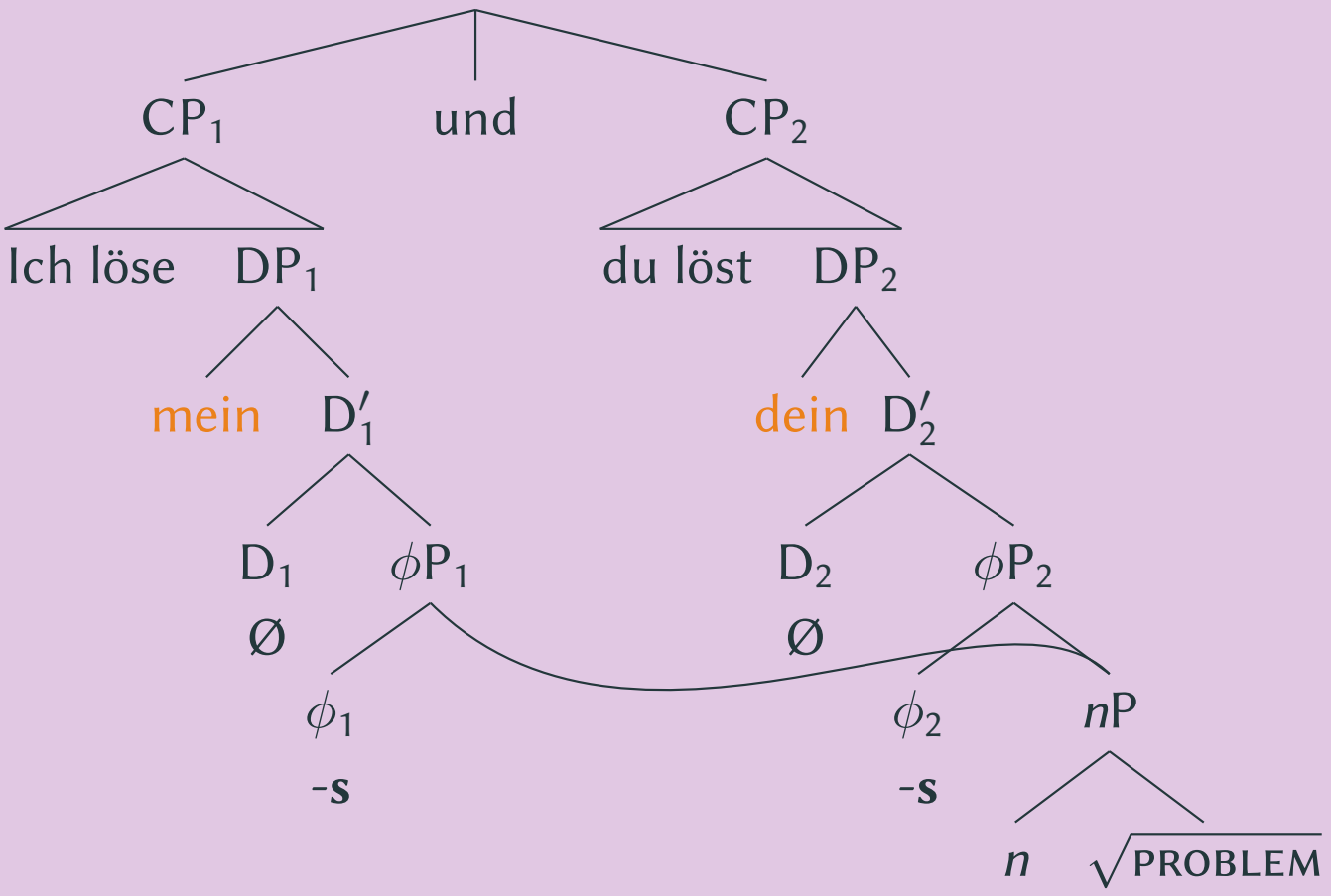


⇒ Pruning must be restricted to apply to full phrases only.

Addendum: Deriving RNR-MD with EI

(85) *RNR-MD: Pruning of nP → EI*



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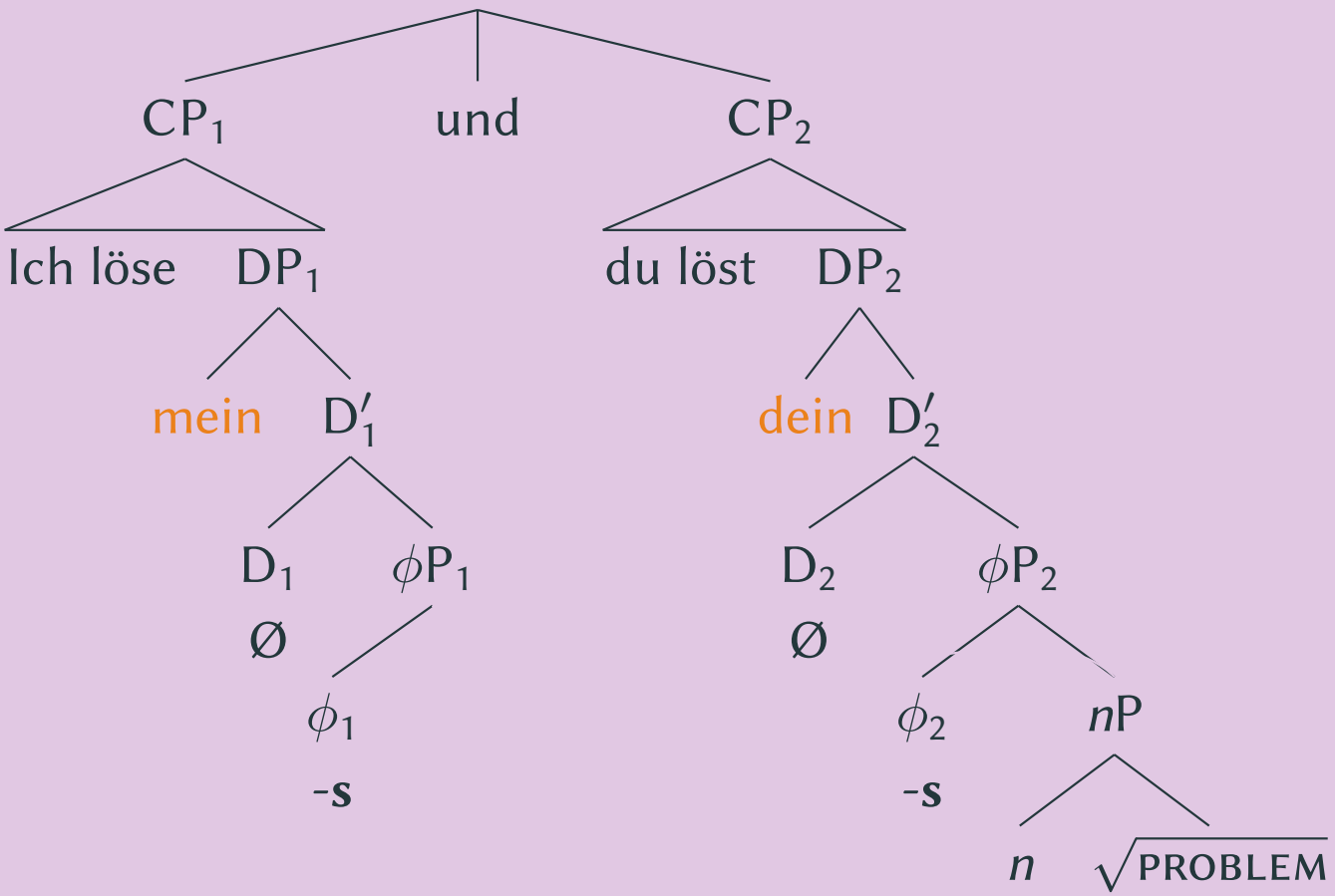

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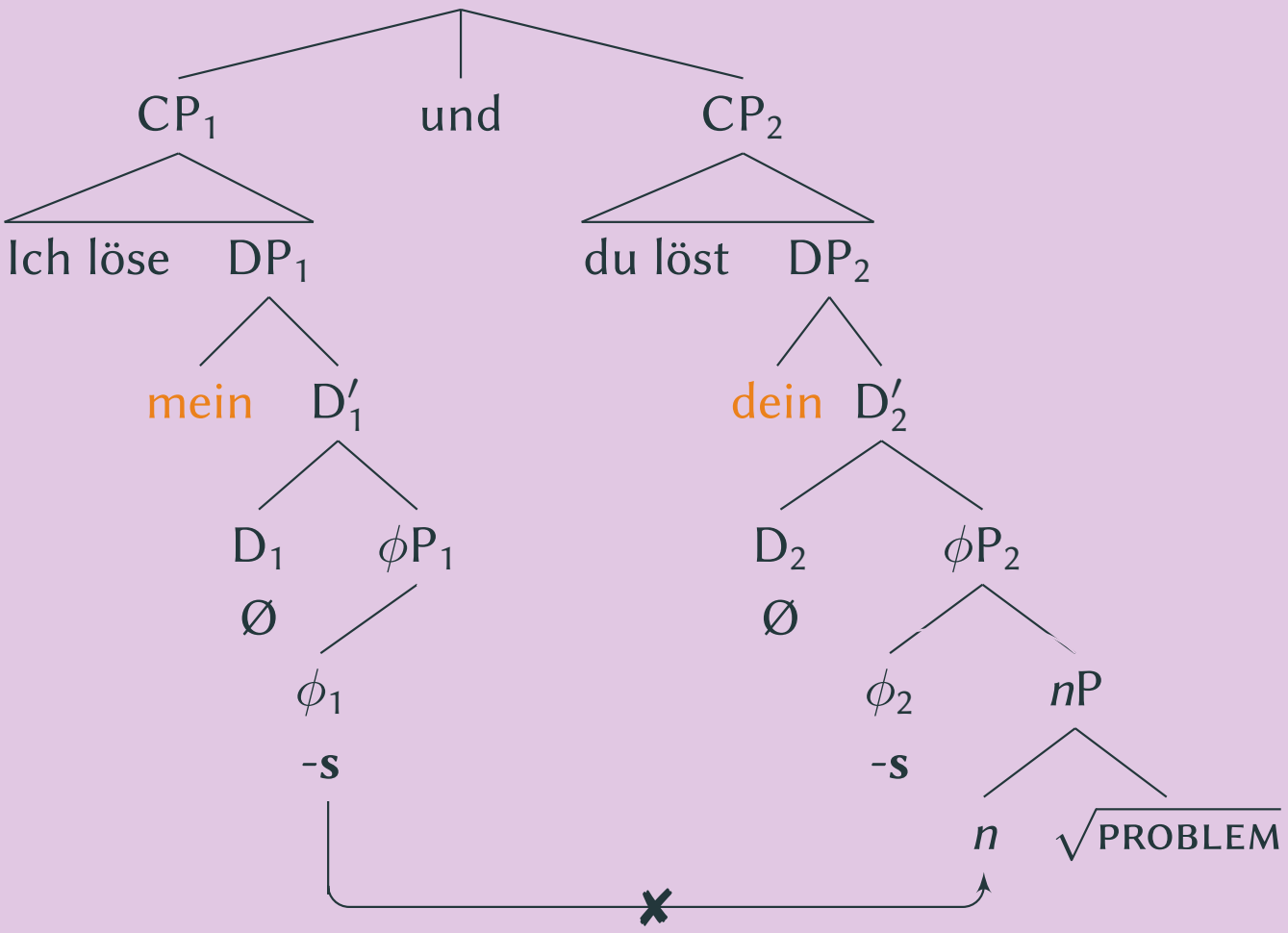

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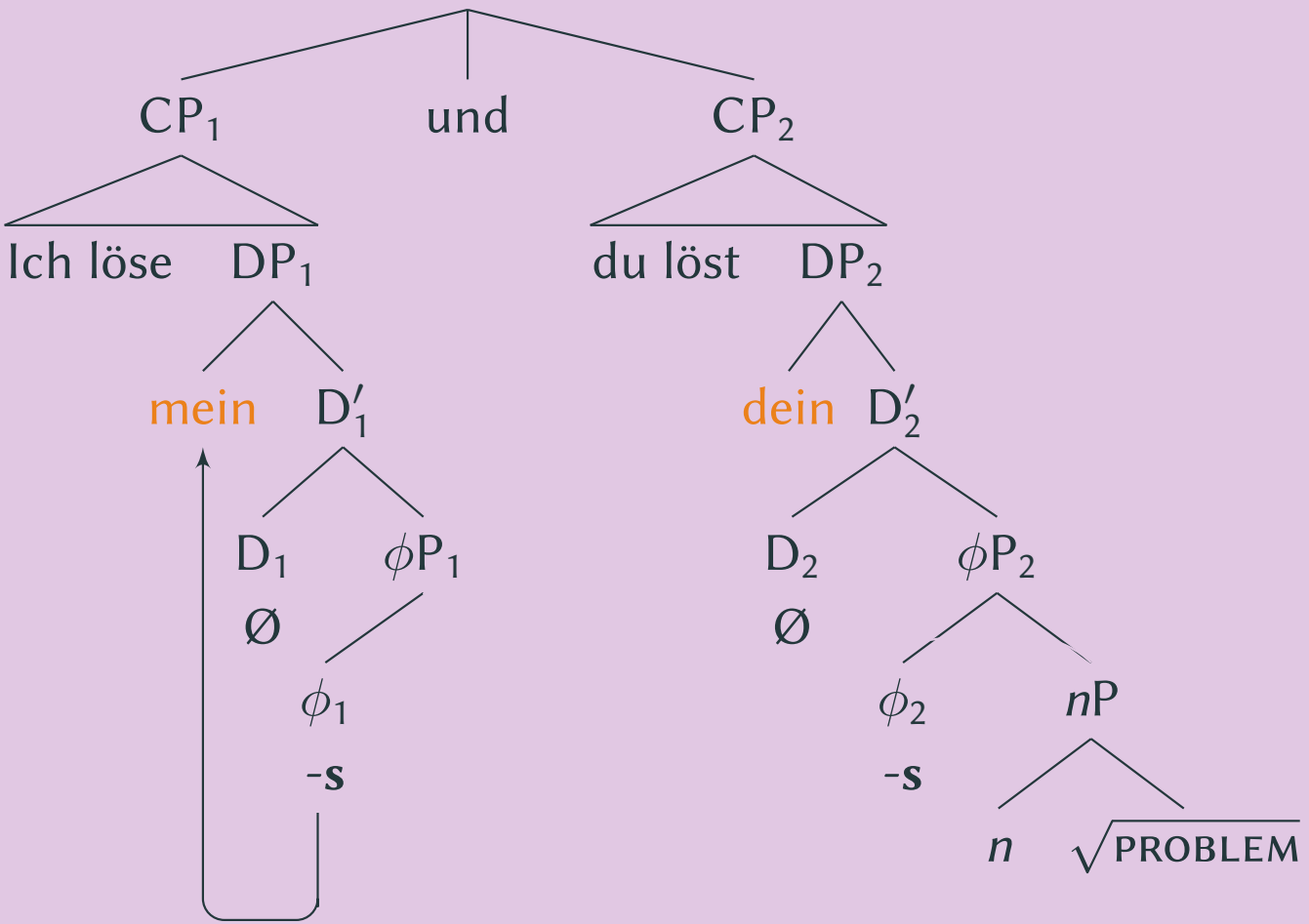
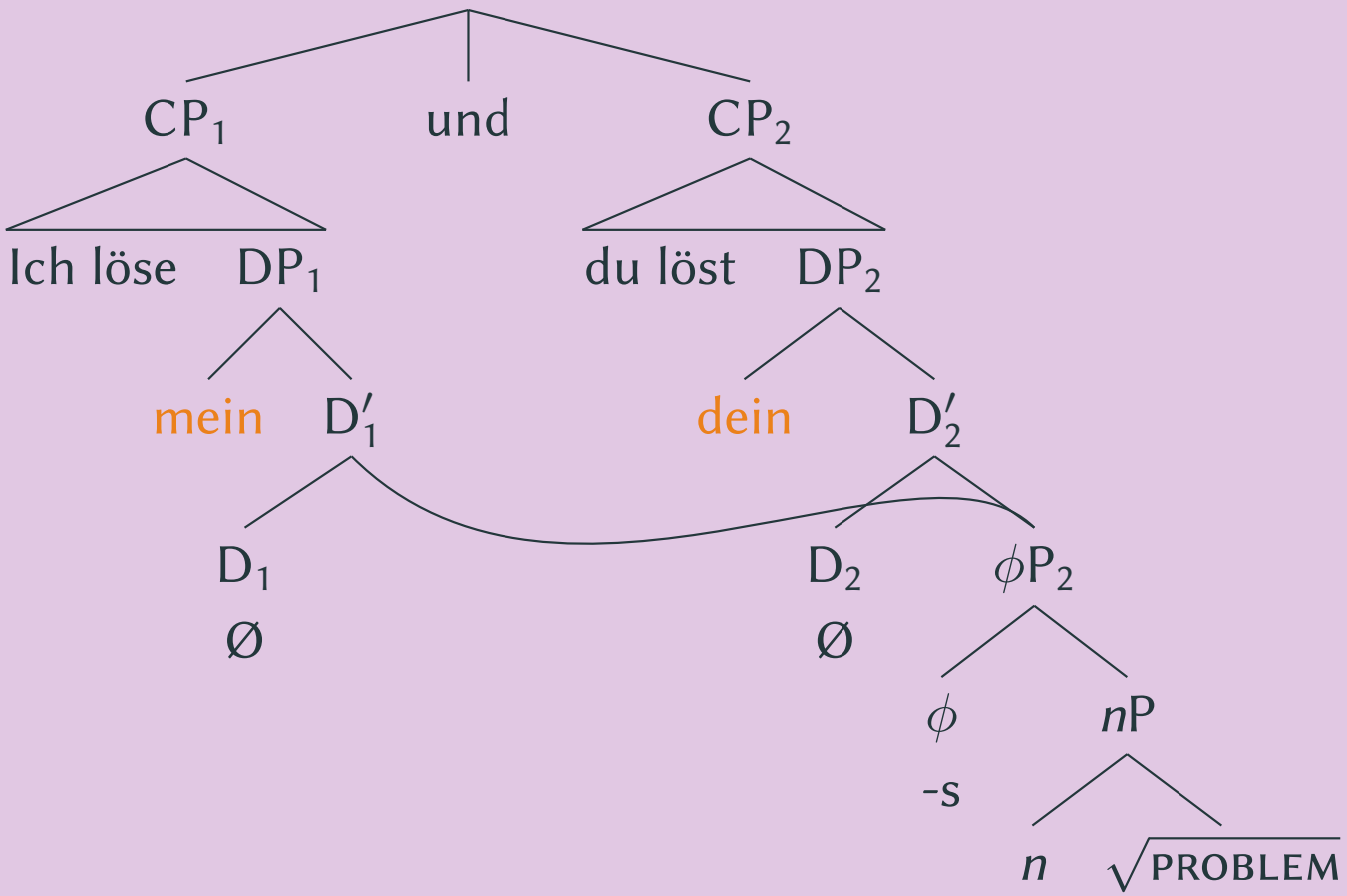


Addendum: Deriving RNR-MD without EI

(86) *RNR-MD: Pruning of $\phi P \rightarrow$ no EI*



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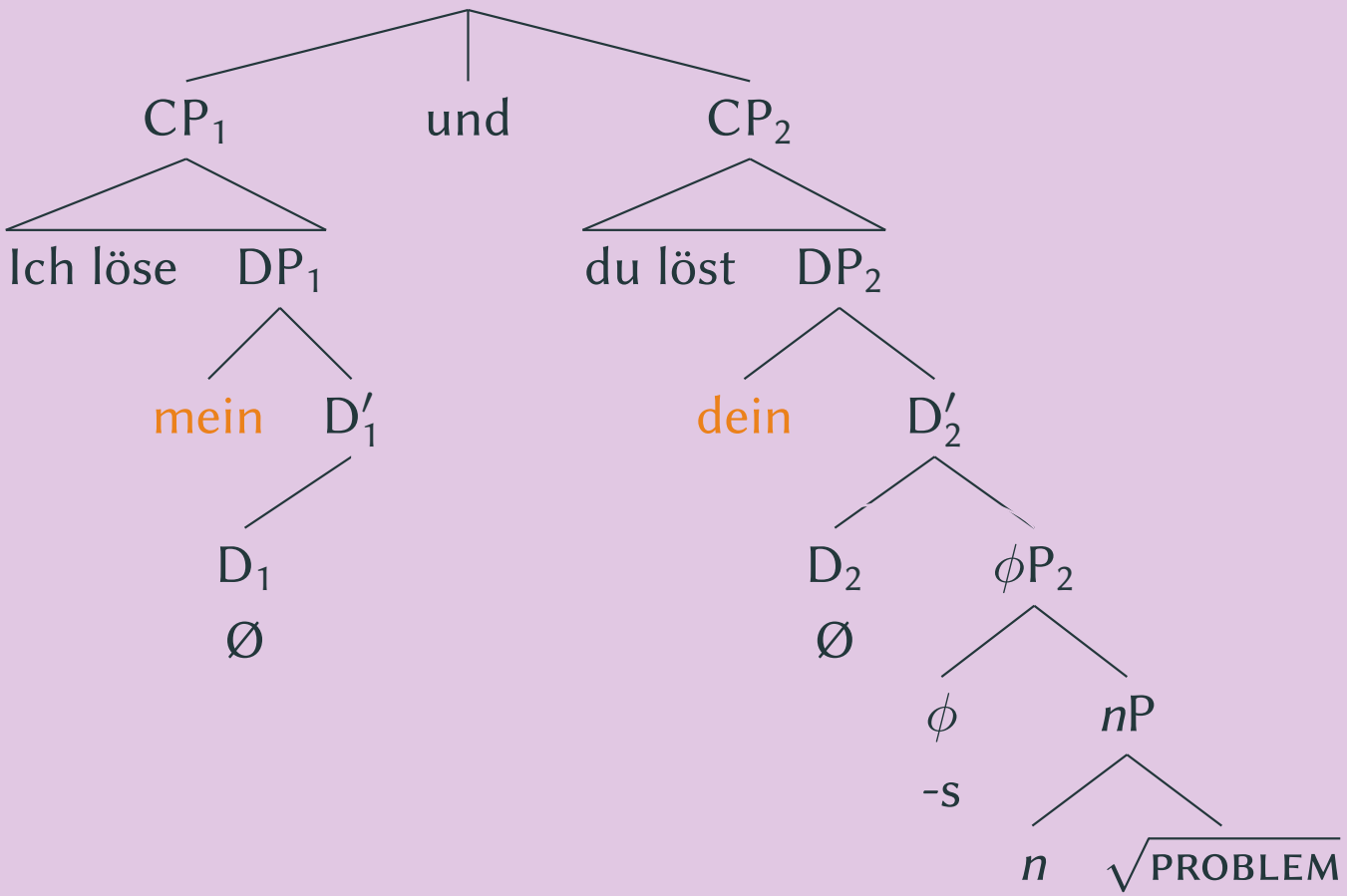

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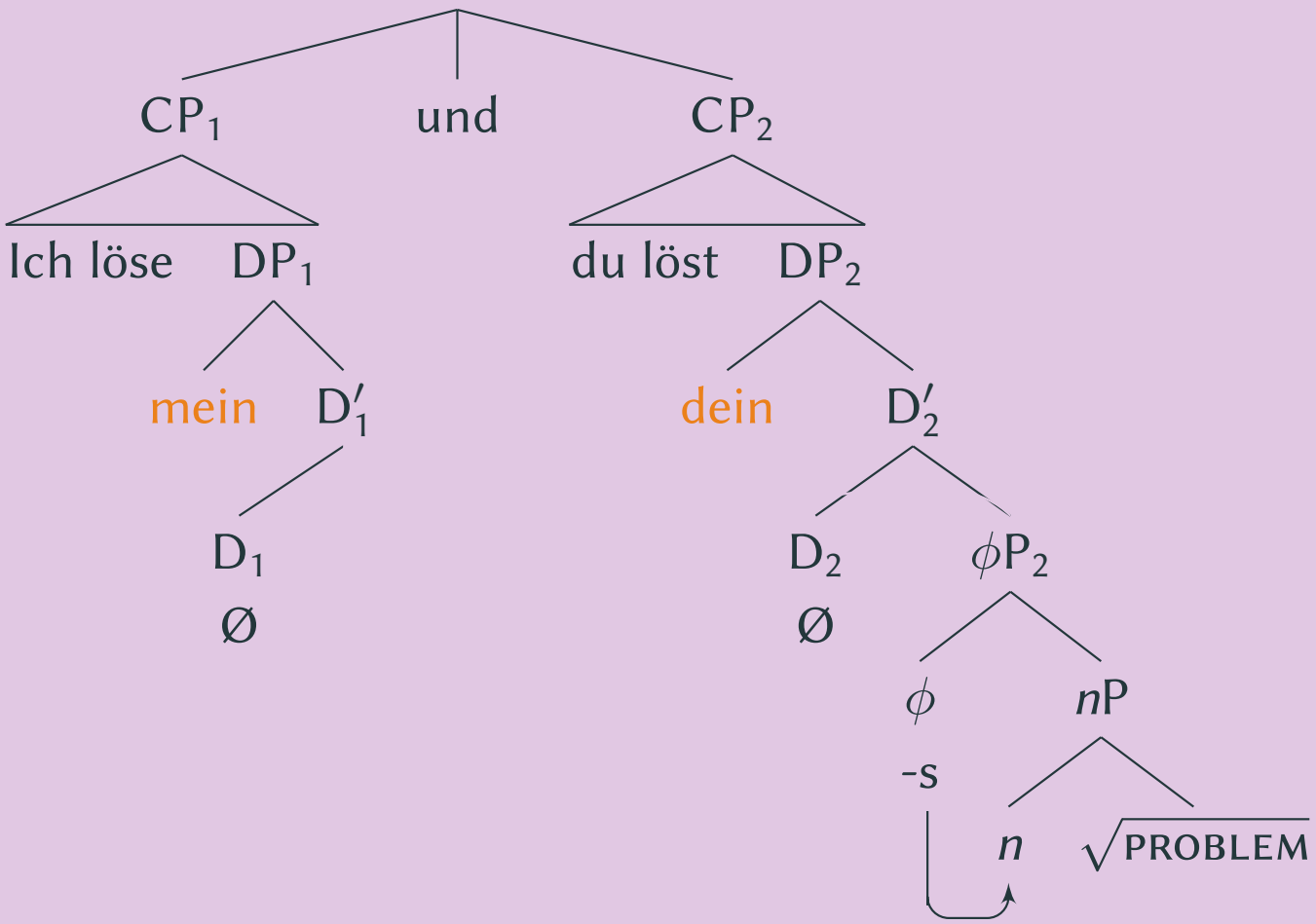


Conclusion

Conclusion

- Exceptional inflection and its absence cannot serve as diagnostics for the underlying structure(s) of RNR.
- Both can appear in RNR involving ellipsis; both might also be able to occur in RNR involving multidominance.
- Rather than supporting the structural duality of RNR the pattern of exceptional inflection supports the view that forwards and backwards ellipsis are properly distinct operations (Ha 2008*a*, Chaves 2014, Belk et al. 2023).

Avenues for future research

- How do Hungarian and Moksha fare wrt. the diagnostics for RNR-E vs. RNR-MD?
- Is there a link between optional EI and suspended affixation, i.e. the deletion of affixes in non-final conjuncts (Lewis 1967, Pounder 2006, Erschler 2018, Guseva and Weisser 2018, Yoon 2017)?
- Does optional EI interact with Gapping and if so, how? (Ross 1970, Jackendoff 1971, Kuno 1976, Hartmann 2000, Johnson 2009)
- What is the relation between Pruning and other non-pronunciation operations like e.g. *Remove* (Müller 2017, 2018), *Exfoliation* (Pesetsky 2019), *Obliteration* (Arregi and Nevins 2007, 2012), *Impoverishment* (Bonet 1991, Noyer 1997). How many distinct non-pronunciation operations are needed? Can some of them be unified (Saab 2022)?

Thanks

Thank you for your attention.

Thanks to Astrid van Alem, Imke Driemel, Paula Fenger, Thom van Hugte, Marie-Luise Schwarzer, Timea Szarvas, Philipp Weisser, and the audiences at HU Berlin, the University of Potsdam, the University of Leipzig, and NELS 55 for judgements and discussion.

This project has received funding from the European Research Council (ERC) under the European Union's Horizon 2020 research and innovation programme (LeibnizDream, grant agreement No 856421).

Arguments for an elided noun in pronouns

Arguments for elided noun: gender agreement

Sauerland (2007):

- pronouns (also in deictic use) inflect for gender
- gender is solely determined by lexical nouns

$\Rightarrow$ pronouns must agree with a silent lexical noun

(87) *A stands in front of a set of cutlery and points at the fork.*

A: Sie/*Er/*Es (=die Gabel) ist aus Gold.
she/he/it (=the fork.F) is from gold
'It is made out of gold.'

Weeber (2023):

Ein-pronouns also inflect for gender, so they, too, must contain a silent lexical noun.

(88) Tim hat zwei Löffel gestohlen. Einer/*Eine/*Eins war aus Gold.
Tim has two spoons.M stolen one.M/one.F/one.N was from gold
'Tim stole two spoons. One of them was made out of gold.'

Arguments for elided noun: relative pronoun choice

(89) *Relative pronoun with nominal antecedent:* das

a. das Werkzeug, [**das** ich gerade halte]
b. das Wissen, [**das** man braucht]

(90) *Relative pronoun w/o nominal antecedent:* was

a. [**Was**/*das ich nicht weiß], macht mich nicht heiß.
b. Alles, [**was**/*das man über Linguistik wissen muss]

(91) *Behaghel's Generalisation* (Behaghel 1928, Brandt and Fuß 2014)
Was replaces *das* in relatives that lack a proper nominal antecedent.

Arguments for elided noun: relative pronoun choice

(92) *Relative pronoun with ein-antecedent* (Brandt and Fuß 2014: 312f.)

antecedent	*das*	*was*	ratio
eines	1.500	50	30:1
ein NP	70.000	300	233:1
keines	117	4	29:1
kein NP	1845	60	30:1

(93) a. Dein Diorama gefällt mir — erinnert mich an **meins**, [**das** ich vor einiger Zeit mal gebaut hatte].[3]

b. Verwenden Sie Ihr eigenes Mikrofon oder kaufen Sie **meins**, [**das** Sie auf der Hauptseite finden].[4]

[3] https://www.stummiforum.de/t121314f171-Dioramen-Gebaeude-und-Eisenbahnen-in-diversen-Massstaeben.html, accessed 17.03.2025

[4] https://www.etsy.com/ch/listing/961401652/hovi-spitzen-mit-lautsprechern-shadow, accessed 17.03.2025

Exceptional inflection in acquisition: An argument for Murphy (2018)

Errors in language acquisition

During acquisition, children often produce non-target forms.

- Omission errors:
  Material expected in the adult language is omitted.
- Undercompression/commission errors (Slobin 1973, Snyder 2007, 2011, Guasti et al. 2023):
  Underlying material usually left unrealised in the adult language is pronounced.

(94) *Omission*

*Das ist mein ⟨Papa⟩.
this is my dad(M)
Lit.: 'This is my.'

(95) *Undercompression*

*Das ist mein-**er** Papa.
this is my-NOM.SG.M.ST dad(M)
Lit.: 'This is mine dad.'

Expectations for error rates

Traditional grammar:

- two elements with two complementary licensing conditions (use inflected form without noun and uninflected form with noun)
- **error rates should be equal or skewed towards comission** (because other determiners (*d-er, dies-er*) are inflected before nouns)

EI licensing NPE:

- inflected determiner necessary for NPE, uninflected determiner not necessary for licensing of noun
- **higher error rate for comission errors** than for omission errors (which should be 0)

EI emerging from NPE:

- different mechanisms involved: context-sensitive Ø-spellout generates uninflected determiner; blocked Lowering leads to inflected determiner
- **different error rates possible**

Corpus study

- 9 German-language corpora of TD children (*Caroline, Grimm, Koch, Leo, Miller, Rigol, Stuttgart, Szagun, Wagner*) through the ChiLDES database (MacWhinney 2000)
- Age 2;0 (onset 2-word stage & case-marking on articles, Clahsen 1984, Mills 1985) to 5;0
- Query for possessive determiners ending in *-(e)r* and *-(e)s* in all persons and genders in various orthographic variants and with ± 2 lines of surrounding discourse
- Hits ($N = 5779$) checked for M.NOM or N.NOM/ACC (based on inflection and/or context in cases of NPE) as opposed to F.DAT/GEN or M/N.GEN or others
- Annotated for NPE (1 vs. 0) and inflection (1 vs. 0)

Results

(96) *Error counts*

	inflection			
NPE	yes	no	total	error rate
yes	712	**133**	845	18.7%
no	**67**	2476	2543	2.7%
total	779	2609	3388	

- significantly more omission errors ($\chi^2(1) = 195.73$, $p < 2.2\text{e-}16$)

Some examples of comission errors

(97) CHI: das **mein-er** Kaffee is(t).
that my-ST.M.NOM coffee(M) is
'That's my coffee.'
MOT:dein Kaffee is(t) das.
your coffee is that
'That's your coffee.' (Falko 2;01, Szagun 2001)

(98) CHI: aber auch noch (eine)n Fisch mal(e)n in **unser-es** Wasser.
but also yet a fish draw in our-ST.N.ACC water(N)
'but also yet draw another fish in our water'
MOT:ein Fisch?
a fish
'A fish?' (Lisa 3;06, Szagun 2001)

(99) CHI: die wollen nach Hause in **ihr-es** Häus-chen.
they want to home in their-ST.N.ACC house-DIM
'They wanna get home into their little house.'
MEC:oh, die wollen in ihr Häuschen.
oh they want in their house-DIM
'Oh, they wanna get into their house.' (Leo, 2;07, Behrens 2006)

Some examples of undercompression errors

(100) TOM:will der **mein-(e)s** trinken.
wants he my-ST.N.ACC drink
'Does he want to drink mine?'
CHI: nee, der will mein.
no, he wants my
'No, he wants mine.' (Simone 3;07, Miller 1979)

(101) RIG: nein, is(t) ja nicht mein Papa
no is PRT not my dad(M)
'No, it isn't my dad.'
CHI: nee, unser
no our
'No, ours' (Cosima 3;09, Lieven and Stoll 2013)

(102) MOT:das war mein Tee.
that was my tea(M)
'That was my tea.'
CHI: nee, mein, nich(t) dein.
no my not your
'No, mine, not yours.' (Sören 3;04, Szagun 2001)

Error development

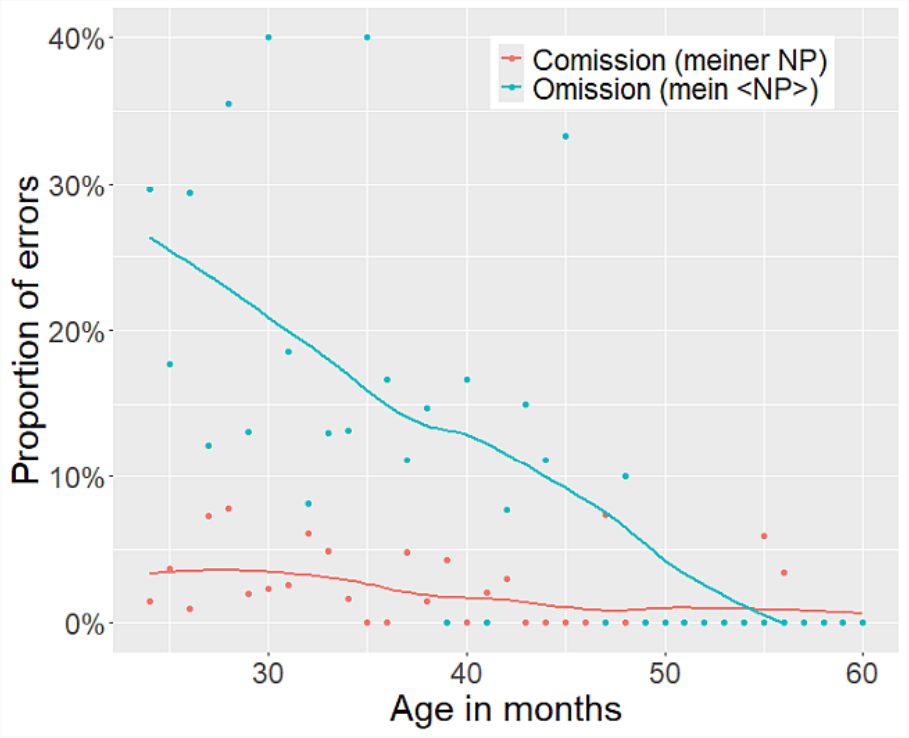


Figure 1: Error rates over age

Evaluating predictions

Traditional grammar:

- **error rates should be equal or skewed towards comission**

→ ✘

ESI licensing NPE:

- **higher error rate for comission errors** than for omission errors (which should be 0)

→ ✘

ESI emerging from NPE:

- **different error rates possible**

→ ✓

Strengthening the argument: Undercompression in English

Errors in English irregular past tense formation (Kuczaj II 1977, 1978, Stemberger 1982, Marcus et al. 1992, Maratsos 2000)

(103) Omission
last night (..) a man lift [* 0ed] me up (Thomas, 3;02 Lieven et al. 2009)

(104) Undercompression
the workers builted [: built] [* m] it (Stuart, 4;01 Henry 1995)

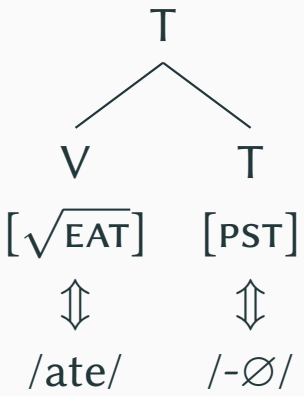
Error rate (2–5 y.o.): 2.7% (Hein et al. 2025)

(105) *Comparison between German and English commission errors*

	German_{2-5}	English_{2-5}
# of hits	2,542	74,458
# of errors	66	2,005
error rate	2.6%	2.7%

English irregular past tense is zero vs. non-zero allomorphy

(106) *Target irregular* (Hein et al. 2025: 160)



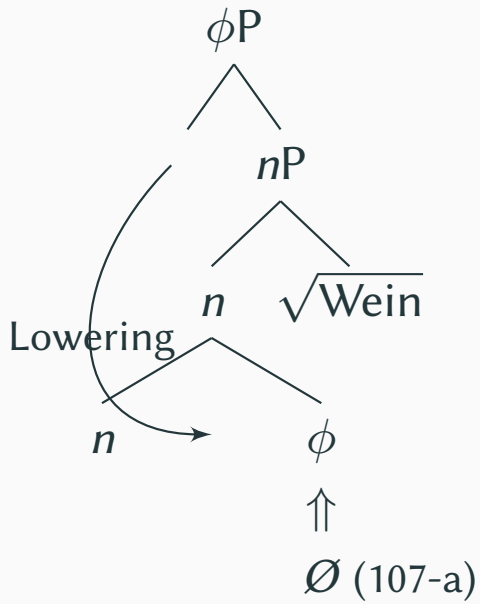
a. /eat/ ⇔ [$\sqrt{\text{EAT}}$]

b. /ate/ ⇔ [$\sqrt{\text{EAT}}$] / __[PST]

c. /-ed/ ⇔ [PST]

d. /-∅/ ⇔ [PST] / __[{$\sqrt{\text{EAT}}$, $\sqrt{\text{BRING}}$, …}]

(107) *ein-determiner with noun*



a. /-Ø/ ↔ [ϕ, M, SG, NOM] / [$_n$ *n* __]

b. /-Ø/ ↔ [ϕ, N, SG, NOM/ACC] / [$_n$ *n* __]

c. /-er/ ↔ [ϕ, M, SG, NOM]

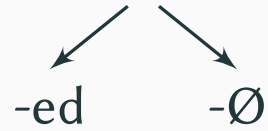
d. /-es/ ↔ [ϕ, N, SG, NOM/ACC]

Secondary Feature Negligence → undercompression error

(108) *Secondary feature negligence (SFN)* (Hein et al. 2025)
Children occasionally ignore secondary features during Vocabulary Insertion.

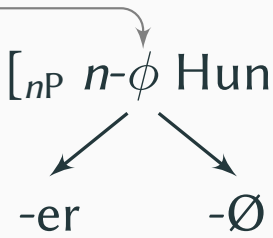
(109) a. /-∅/ ⇔ [PST] / __[{$\sqrt{\text{EAT}}$, $\sqrt{\text{BRING}}$, …}]
b. /-ed/ ⇔ [PST]

(110) [The workers [$_{VP}$ built-T it]]



(111) a. /-Ø/ ↔ [ϕ, M, SG, NOM] / [$_n$ *n* __]
b. /-er/ ↔ [ϕ, M, SG, NOM]

(112) [$_{DP}$ mein [$_{\phi P}$ [$_{nP}$ *n*-ϕ Hund]]]



Same mistake → same error rate

Assuming that the probability of making a mistake of Secondary Feature Negligence is independent of the language and the domain, but only dependent on age, this explains the near-identical error rates in German exceptional inflection and English irregular past tense.

This unification is only possible in Murphy's (2018) approach since it employs a zero vs. non-zero allomorphic alternation to derive the absence vs. presence of inflection.

⇒ Exceptional inflection in *ein*-pronouns is stranded inflection!

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