

Nanosyntax

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Outline

Introduction

Case competition

The strength scale is the syncretism scale

Equipolent features don't work

Deriving the syncretism scale

Double case

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- ▶ Late Insertion model of morphosyntax

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- ▶ The only structure building operation is Merge.

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 - ⇒ the atoms of structure building are not language specific

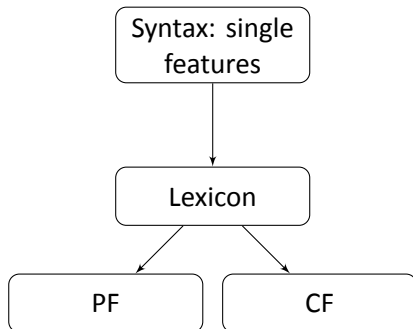
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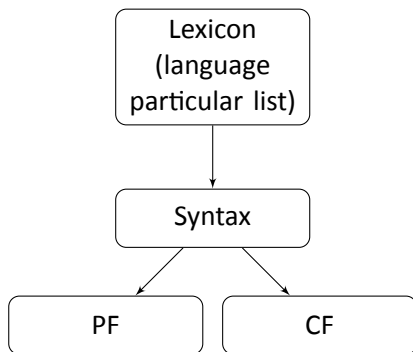
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 - ⇒ ??? Language Variation ???

Nanosyntax



Standard model

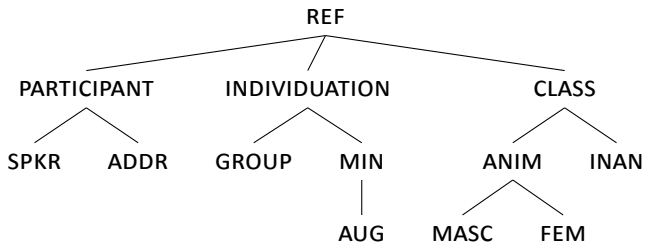


(1) we = [1st, PL, NOM]

(2) we = D^0

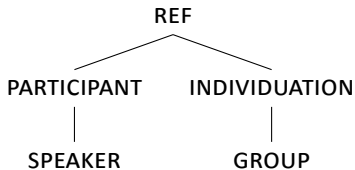
```
graph TD; D0[D^0] --- 1ST[1ST]; D0 --- PL[PL]; D0 --- NOM[NOM];
```

(3)



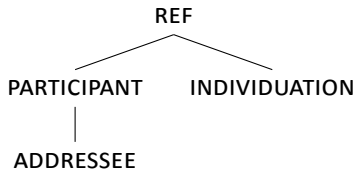
(4)

1.st.pl =

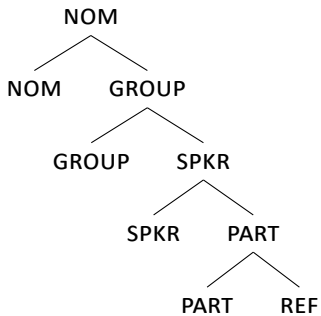


(5)

2.sg =



(6)



Phrasal spellout

(7) a. In god we trust

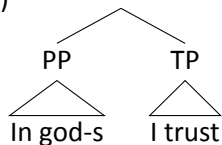
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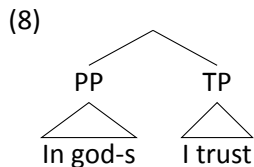
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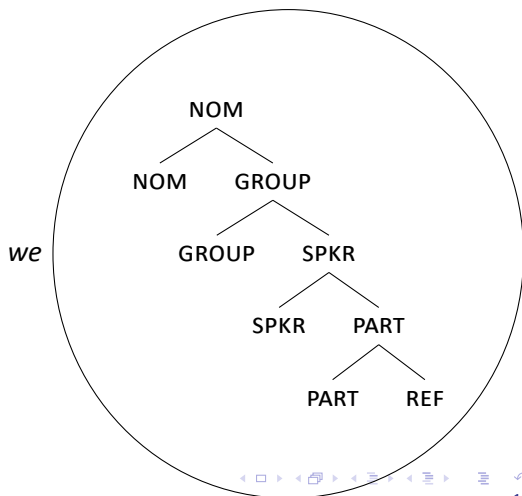


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Case competition

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which.DAT COMPL above are think on
'Set your mind on (those) which are above' (Gothic, Harbert
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(14) The strength scale in Gothic
NOM < ACC < {GEN, DAT}

Case Competition in numerical phrases?

(15) Russian, Franks (1994: 600-13)

- a. Pjať krasivyx devušek prišli.
five.NOM beautiful-GEN.PL girls-GEN.PL arrived-PL
'Five beautiful girls arrived.' (nominative)

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Ivan.NOM bought five-ACC cars-GEN.PL
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Ivan.NOM owns five-INS factories-INS.PL
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about five-LOC books-LOC.PL
'about five books' (locative)

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(16) a. Two cases are assigned

- b. The case which we find is determined by the scale of case strength

{NOM, ACC} < GEN < {LOC, DAT, INS}

(17) Iron Ossetic (Abaev 1964: p.22)

- a. dæs bon-y
ten day-GEN.SG
'ten days' (nominative/accusative)
- b. dæs bon-æn
ten day-DAT.SG
'to ten days' (dative)
- c. dæs bon-æj
ten day-INS.SG
'with ten days' (instrumental)

- (18)
- a. Two cases are assigned
 - b. The case which we find is determined by the scale of case strength
 $\{\text{NOM, ACC}\} < \text{GEN} < \{\text{LOC, DAT, INS, ...}\}$

Ossetic declension

Table: Iron Ossetic declension, fragment (Abaev 1964: 19-20)

	head, SG.	head, PL.
NOM	cær-∅	cær-tæ-∅
ACC	cær-∅	cær-tæ-∅
GEN	cær-y	cær-t -y
LOC (INE)	cær-y	cær-t -y
DAT	cær-æn	cær-t -æn
INS (ABL)	cær-æj	cær-t -æj
ALL	cær-mæ	cær-tæ-m
ADE	cær-yl	cær-t -yl
EQU	cær-au	cær-t -au
COM	cær-imæ	cær-t -imæ

Suspended affixation

- (19) Iron Ossetic (Erschler 2012: 165)
- a. bæx-t-imæ æmæ gæl-t-imæ
horse-PL-COM and ox-PL-COM

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- a. bæx-t-imæ æmæ gæl-t-imæ
horse-PL-COM and ox-PL-COM
 - b. bæx-tæ æmæ gæl-t-imæ
horse-PL and ox-PL-COM
'with horses and oxen'

Suspended affixation with numerals

- (20) Suspended affixation in Iron Ossetic numerals (Erschler 2018: 25)
- a. ærtæ læppu-jyl æmæ cyzg-yl
three boy-ADE and girl-ADE
'three boys and a girl' (adessive)

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- b. ærtæ læppu-jy æmæ cyzg-yl
three boy-GEN and girl-ADE
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 - b. ærtæ læppu-jy æmæ cyzg-yl
three boy-GEN and girl-ADE
three boys and a girl' (adessive)
- (21) Two cases visible under SA.

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- (22) The syncretism sequence (Chvany 1982)
NOM—ACC—GEN—LOC—DAT—INS

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Table: Syncretism in Russian (McCreight and Chvany 1991)

	window, SG.	teacher, PL.	both, M.IN.	book, SG.	this, FEM.SG
NOM	okn-o	učitel-ja	dv-a	knig-a	ét-o
ACC	okn-o	učitel-ej	dv-a	knig-u	ét-o
GEN	okn-a	učitel-ej	dv-ux	knig-y	ét-oj
LOC	okn-e	učitel-jax	dv-ux	knig-e	ét-oj
DAT	okn-u	učitel-am	dv-um	knig-e	ét-oj
INS	okn-om	učitel-ami	dv-umja	knig-oj	ét-oj

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LOC	okn-e	učitel-jax	dv-ux	knig-e	ét-oj
DAT	okn-u	učitel-am	dv-um	knig-e	ét-oj
INS	okn-om	učitel-ami	dv-umja	knig-oj	ét-oj

- (23) The scale of case strength in Russian
{NOM, ACC} < GEN < {LOC, DAT, INS}

Classical Armenian

- (24) *Syncretism sequence (Armenian):*
NOM – ACC – **LOC** – GEN/DAT – ABL – INS
- (25) *Syncretism sequence Russian (Chvany 1982)*
NOM—ACC—GEN—**LOC**—DAT—INS

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Table: Case syncretism in Classical Armenian (Caha 2013)

	word (SG.)	nation (PL.)	nation (SG.)	river (PL.)
NOM	bay-∅	azg-k'	azg-∅	get-k'
ACC	bay-∅	azg-s	azg-∅	get-s
LOC	bay-i	azg-s	azg-i	get-s
GEN/DAT	bay-i	azg-ac'	azg-i	get-oc'
ABL	bay-ê	azg-ac'	azg-ê	get-oc'
INS	bay-iw	azg-awk'	azg-aw	get-owk'

- (26) a. i knoŋ-ê t'agawor-i-n
by wife-ABL king-GEN.SG-DEF
- b. i knoŋ-ê t'agawor-ê-n
by wife-ABL king-ABL.SG-DEF
both: 'by the wife of the king' (Plank 1995: 20)

- (26) a. i kno^ʔ-ê t'agawor-i-n
 by wife-ABL king-GEN.SG-DEF
- b. i kno^ʔ-ê t'agawor-ê-n
 by wife-ABL king-ABL.SG-DEF
 both: 'by the wife of the king' (Plank 1995: 20)

The same can happen when the head noun is in the instrumental:

- (27) [bazmut'-eamb [zawr-**awk'**-n Hay-oc']]
 crowd-INS.SG force-INS.PL-DEF Armenian-GEN.PL
 'with a crowd of the Armenian forces' (Plank 1995: 43)

- (26) a. i kno[՞]-ê t'agawor-i-n
 by wife-ABL king-GEN.SG-DEF
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(28) *Strength sequence (Armenian):*
 { NOM – ACC – LOC } – GEN/DAT – { ABL – INS }

(29) *Syncretism sequence (Armenian):*
 NOM – ACC – LOC – GEN/DAT – ABL – INS

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Jakobson's decomposition

- ▶ the numeral 'two,' masc.

NOM	ACC	GEN
dv-a	dv-a	dv-ux
INS	DAT	LOC
dv-umja	dv-um	dv-ux

Jakobson's decomposition

- ▶ the numeral 'two,' masc.

NOM	ACC	GEN	$-\beta$
dv-a	dv-a	dv-ux	
INS	DAT	LOC	$+\beta$
dv-umja	dv-um	dv-ux	
$-\gamma$	$-\gamma$	$+\gamma$	

Jakobson's decomposition

- ▶ the numeral 'two,' masc.

$-\alpha$	$+\alpha$	$-\alpha$	
NOM dv-a	ACC dv-a	GEN dv-ux	$-\beta$
INS dv-umja	DAT dv-um	LOC dv-ux	$+\beta$
$-\gamma$	$-\gamma$	$+\gamma$	

Jakobson's decomposition

- ▶ the numeral 'two,' masc.

- directional	+ directional	- directional	
NOM dv-a	ACC dv-a	GEN dv-ux	$-\beta$
INS dv-umja	DAT dv-um	LOC dv-ux	$+\beta$
$-\gamma$	$-\gamma$	$+\gamma$	

Jakobson's decomposition

- ▶ the numeral 'two,' masc.

- directional	+ directional	- directional	
NOM dv-a	ACC dv-a	GEN dv-ux	- peripheral
INS dv-umja	DAT dv-um	LOC dv-ux	+ peripheral
- γ	- γ	+ γ	

Jakobson's decomposition

- ▶ the numeral 'two,' masc.

- directional	+ directional	- directional	
NOM dv-a	ACC dv-a	GEN dv-ux	- peripheral
INS dv-umja	DAT dv-um	LOC dv-ux	+ peripheral
- quantificational	- quantificational	+ quantificational	

Jakobson's decomposition

- ▶ the numeral 'two,' masc.

- directional	+ directional	- directional	
NOM dv-a	ACC dv-a	GEN dv-ux	- peripheral
INS dv-umja	DAT dv-um	LOC dv-ux	+ peripheral
- quantificational	- quantificational	+ quantificational	

- ▶ $-a \leftrightarrow [-\text{peripheral}, -\text{quantificational}, (-\text{fem})]$
- ▶ $-ux \leftrightarrow [+ \text{quantificational}, -\text{directional}]$
- ▶ $-um \leftrightarrow [-\text{quantificational}, +\text{peripheral}, +\text{directional}]$
- ▶ $-\check{e}ma \leftrightarrow [-\text{quantificational}, +\text{peripheral}, -\text{directional}]$

Marker competition

- directional	+ directional	- directional	
NOM žen-a	ACC žen-u	GEN žen-y	-peripheral
INS žen-oj	DAT žen-e	LOC žen-e	+peripheral
-quantificational	-quantificational	+quantificational	

Marker competition

- directional	+ directional	- directional	
NOM žen-a	ACC žen-u	GEN žen-y	-peripheral
INS žen-oj	DAT žen-e	LOC žen-e	+peripheral
-quantificational	-quantificational	+quantificational	

- (30) a. -e ↔ [+peripheral] (INS, DAT, LOC)
b. -oj ↔ [+peripheral, -quantificational, -directional] (INS)

Marker competition

- directional	+ directional	- directional	
NOM tetrad'	ACC tetrad'	GEN tetrad-i	-peripheral
INS tetrad'-ju	DAT tetrad-i	LOC tetrad-i	+peripheral
-quantificational	-quantificational	+quantificational	

Marker competition

- directional	+ directional	- directional	
NOM tetrad'	ACC tetrad'	GEN tetrad-i	-peripheral
INS tetrad'-ju	DAT tetrad-i	LOC tetrad-i	+peripheral
-quantificational	-quantificational	+quantificational	

- (31)
- $-i \leftrightarrow [\emptyset]$ (NOM, ACC, GEN, INS, DAT, LOC)
 - $-ju \leftrightarrow [+peripheral, -quantificational, -directional]$ (INS)
 - $-\emptyset \leftrightarrow [-peripheral, -quantificational]$ (NOM, ACC)

A system gone wild

- (32) a. -e ↔ [+peripheral] (INS, DAT, LOC)
b. -oj ↔ [+peripheral, -quantificational, -directional] (INS)

- directional	+ directional	- directional	
NOM	ACC	GEN	-peripheral
žen-a	žen-u	žen-y	
INS	DAT	LOC	+peripheral
žen-oj	žen-e	žen-e	
-quantificational	-quantificational	+quantificational	

A system gone wild

- (32) a. -e ↔ [+peripheral] (INS, DAT, LOC)
b. -oj ↔ [+peripheral,-quantificational,+directional] (DAT)

- directional	+ directional	- directional	
NOM	ACC	GEN	-peripheral
žen-a	žen-u	žen-y	
INS	DAT	LOC	+peripheral
žen-oj	žen-e	žen-e	
-quantificational	-quantificational	+quantificational	

A system gone wild

- (32) a. -e ↔ [+peripheral] (INS, DAT, LOC)
b. -oj ↔ [+peripheral,-quantificational,+directional] (DAT)

- directional	+ directional	- directional	
NOM žen-a	ACC žen-u	GEN žen-y	-peripheral
INS žen-e	DAT žen-oj	LOC žen-e	+peripheral
-quantificational	-quantificational	+quantificational	

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Table: Cumulative feature decomposition

CASE	FEATURES
NOM	F1
ACC	F1, F2
GEN	F1, F2, F3
LOC	F1, F2, F3, F4
DAT	F1, F2, F3, F4, F5
INS	F1, F2, F3, F4, F5, F6

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- (33) Ngunha yana-nyja nganaju-rla marnti-yu-rla ngurra-rla
that.NOM go I.DAT-ALL father-DAT-ALL camp-ALL
'He went to my father's camp.' (Jiwarli, Austin 2015: 61)

- (33) Ngunha yana-nyja nganaju-rla marnti-yu-rla ngurra-rla
that.NOM go I.DAT-ALL father-DAT-ALL camp-ALL
'He went to my father's camp.' (Jiwarli, Austin 2015: 61)
- (34) warn nganaju-nha ngurra panyi-ma
not I.DAT-ACC camp.ACC disturb-IMP
'Don't disturb my camp!' (Jiwarli, Austin 1995: 372)

- (33) Ngunha yana-nyja nganaju-rla marnti-yu-rla ngurra-rla
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 'Don't disturb my camp!' (Jiwarli, Austin 1995: 372)
- (35) thuthu-wu purrarti-yi(*-yi)
 dog-DAT woman-DAT(*-DAT)
 '(of/to) the woman's dog' (Jiwarli, Plank 1995: 68)

- (33) Ngunha yana-nyja nganaju-rla marnti-yu-rla ngurra-rla
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 not I.DAT-ACC camp.ACC disturb-IMP
 'Don't disturb my camp!' (Jiwarli, Austin 1995: 372)
- (35) thuthu-wu purrarti-yi(*-yi)
 dog-DAT woman-DAT(*-DAT)
 '(of/to) the woman's dog' (Jiwarli, Plank 1995: 68)
- (36) juma jirrilarri-a thuthu-wu nganaju-wu yakan-ku-wu
 child.ABS be.afraid dog-DAT I.DAT-DAT spouse-DAT-DAT
 'The child is afraid of my wife's dog' (Jiwarli Austin 1995: 373)

- (33) Ngunha yana-nyja nganaju-rla marnti-yu-rla ngurra-rla
 that.NOM go I.DAT-ALL father-DAT-ALL camp-ALL
 'He went to my father's camp.' (Jiwarli, Austin 2015: 61)
- (34) warn nganaju-nha ngurra panyi-ma
 not I.DAT-ACC camp.ACC disturb-IMP
 'Don't disturb my camp!' (Jiwarli, Austin 1995: 372)
- (35) thuthu-wu purrarti-yi(*-yi)
 dog-DAT woman-DAT(*-DAT)
 '(of/to) the woman's dog' (Jiwarli, Plank 1995: 68)
- (36) juma jirrilarri-a thuthu-wu nganaju-wu yakan-ku-wu
 child.ABS be.afraid dog-DAT I.DAT-DAT spouse-DAT-DAT
 'The child is afraid of my wife's dog' (Jiwarli Austin 1995: 373)
- (37) Deletion under identity: NOUN- α - α \rightarrow NOUN- α

(38) lok ngirrupa(*-kini)-wu
place 1.SG(*-DAT)-LOC
'to my place' (Kungarakany, Plank 1995: 69)

(39) Deletion under non-identity: NOUN- α - β \rightarrow NOUN- β

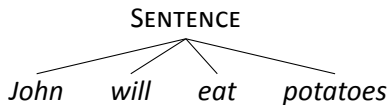
Table: Cummulative feature decomposition

CASE	FEATURES
NOM	F1
ACC	F1, F2
GEN	F1, F2, F3
LOC	F1, F2, F3, F4
DAT	F1, F2, F3, F4, F5
INS	F1, F2, F3, F4, F5, F6

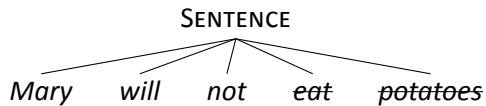
(40) NOUN - [F1, F2, F3] - [F1, F2, F3, F4]
→ NOUN - [F1, F2, F3, F4]

(41)

a.

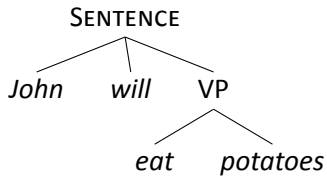


b.

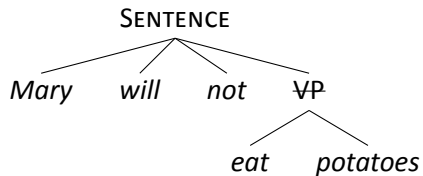


(42)

a.

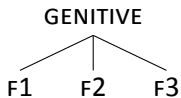


b.

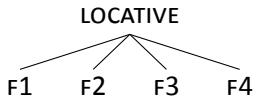


(43)

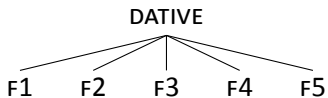
a.



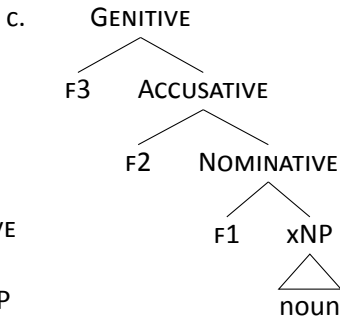
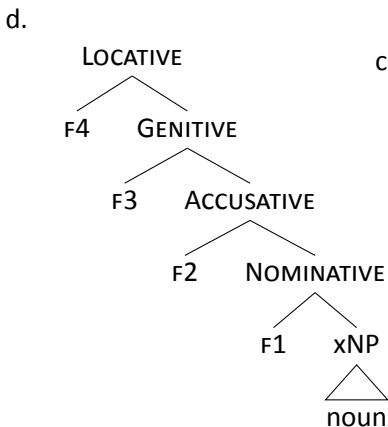
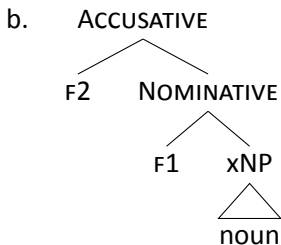
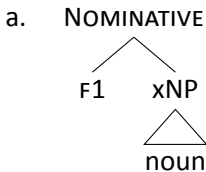
b.



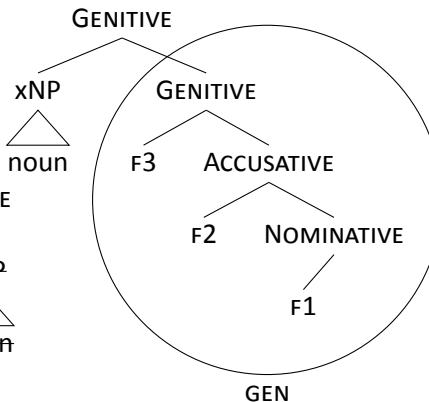
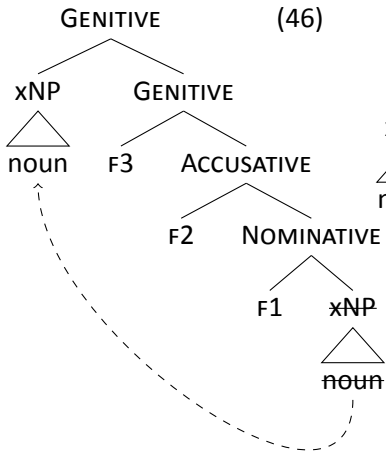
c.



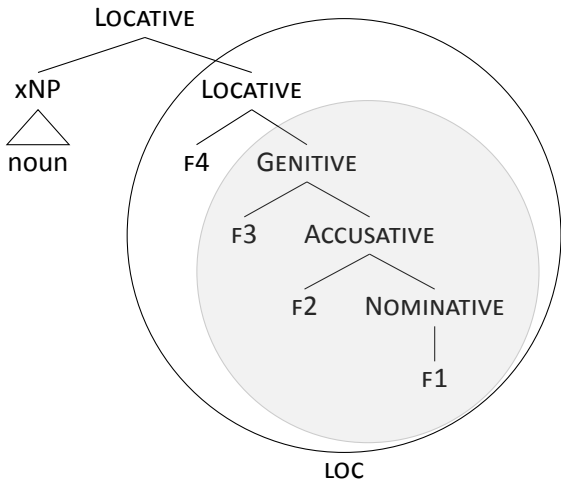
(44)



(45)



(47)



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