A number of cases of pronominal suppletion

Beata Moskal, Peter W. Smith, Ting Xu, Jungmin Kang, Jonathan D. Bobaljik

University of Connecticut
Washington University in St. Louis

GLOW 38, Paris, 2015

Roadmap

Suppletion

- Suppletion (Osthoff, 1888, 1899) is the phenomenon where a single lexical item is associated with two phonologically unrelated forms, the choice of form depending on the morphosyntactic context.

(1)

	POS	CMPR	
a. Comparative:	**long**	**long**-er	
	good	**bett**-er	*good-er
b. Past:	**walk**	**walk**-ed	
	go	**wen**-t	*go-ed
c. Plural:	**boy**	**boy**-s	
	person	**people**-Ø	
d. cf. Russian:	**lošad^{j}**	**lošad**-i	‘horse(s)’
	čelovek	**l^{j}ud**-i	‘person/PL’

Adjectival Suppletion

(2)

		POS	COMP	SPRL	Pattern
a.	English	**smart**	**smart**-er	**smart**-est	AAA
b.	English	**good**	**bett**-er	**be**-st	ABB
c.	Estonian	**hea**	**pare**-m	**par**-im	ABB
d.	Latin	**bon**-us	**mel**-ior	**opt**-imus	ABC
e.	Welsh	**da**	**gwell**	**gor**-au	ABC

- AAA: the positive, comparative and superlative all share the same base.
- ABB: the comparative and superlative share a suppletive base distinct from the positive.
- ABC: the comparative and superlative are both suppletive with respect to the positive and with respect to each other.

Adjectival Suppletion

- Strikingly, there are no clear ABA or AAB instances (see Bobaljik 2012 for qualifications).
  - ABA would hypothetically be *good – better – goodest*.
  - AAB would be *good – gooder – best*.
- Both ABA and AAB patterns are *a priori* conceivable, but the fact that they are never attested suggests that the grammar simply is unable to generate them.

Suppletion in Distributed Morphology

- We assume Distributed Morphology (DM) (Halle & Marantz, 1993).
- Suppletion in DM is treated as contextual allomorphy regulated by the Elsewhere Condition.

(3) Elsewhere Condition (after Kiparsky 1973)

If two or more (incompatible) rules R_1, R_2 may apply to a given structure, then the more specific rule takes precedence over the more general.

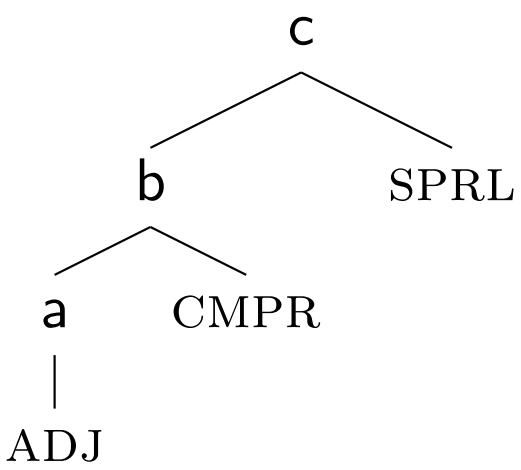
Bobaljik (2012)

- Crucial to understanding the attested patterns of suppletion in adjectives is the Containment Hypothesis.

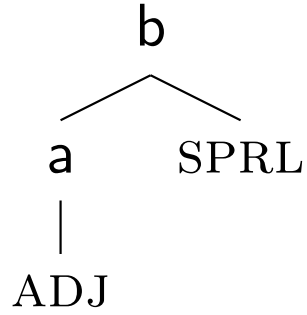
(4) The Containment Hypothesis

The representation of the superlative properly contains that of the comparative.

(5) Obligatory



(6) Not possible



Transparent Containment

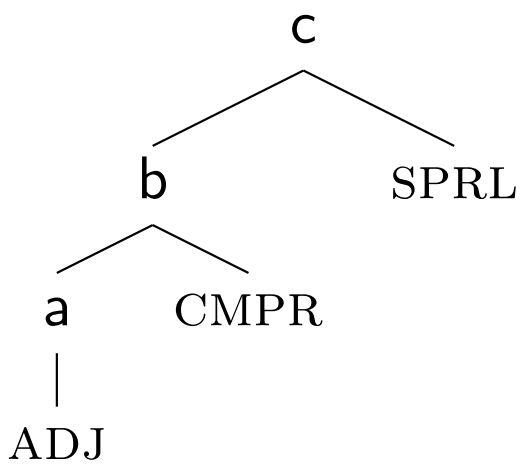
- The containment hypothesis is supported in morphology.

(7)

	CMPR	SPRL
a. Persian:	X-tær	X-tær-in
b. Lithuanian:	X-iau	X-iaus-ia
c. Cimbr. German:	X-ar	X-ar-ste
d. Batsbi:	X-vx	X-vx-č
e. Latvian:	X-âk	vis-X-âk
f. Czech:	X-ši	nej-X-ši
g. Hungarian:	X-bb	leg-X-bb
h. Chukchi:	X-əŋ	ənan-X-əŋ
i. Cherokee:	X-ka/ya/...	w-X-kʌ̃ʔi/yʌ̃ʔi/...
j. Ubykh:	ç'a-X	a-ç'a-X
k. Latin:	X-ior < -ios	X-issimus < -is-m.mo-s
l. P-IE:	*X-i̯os-, *X-is-	*X-is-to-s

Bobaljik (2012)

(8)



(9) a. $\sqrt{\text{GOOD}} \rightarrow$ be(tt)- / __] CMPR
b. $\sqrt{\text{GOOD}} \rightarrow$ good

- The elsewhere condition, coupled with the VI rule in (9a) serve to ensure that whenever the comparative is suppletive, then the superlative is also.
- This explains the absence of ABA patterns.

Interim Summary

- Suppletion can be used as a diagnostic of structure.
- The exclusion of ABA is derived through the superlative always properly containing the comparative, combined with the elsewhere principle.
- An additional assumption is needed to exclude AAB.
  - "If there is a context-sensitive rule of exponence involving a node α, then there is a context-free rule of exponence involving α (Bobaljik, 2012, 150)."

  ⇨ This additional assumption has the effect that suppletion must happen in the comparative for it to be possible in the superlative.

Cognate Triples

(10) The GOOD-BETT-BETT triple:

	POS	CMPR	SPRL
a. English	**good**	**bett**-er	**be**-st
b. German	**gut**	**bess**-er	**be**-st-...
c. Gothic	**go**þ-s	**bat**-iz-a	**bat**-is-t-s
d. Afrikaans	**goed**	**bet**-er	**be**-ste
e. Swedish	**god**	**bätt**-re	**bä**-st
f. Cimbrian	**guat**	**pez**-ar	**pez**-ar-ste

...

= 1 of 116 triples

Part II: Pronouns: Suppletion for Case

Roadmap

II: Case in Pronouns

- This project extends the theory of Bobaljik (2012) to account for case and number suppletion patterns in pronouns
- A good candidate to observe these effects is case and number in pronouns.
- Suppletion for case and number is frequently seen in pronouns (c.f. Moskal, to appear).

(11) Icelandic

	NOM	ACC	DAT	GEN	
1SG	ég	mig	mér	mín	ABBB
2SG	þú	þig	þér	þín	AAAA
1PL	við	okkur	okkur	okkar	ABBB
2PL	þið	ykkur	ykkur	ykkar	ABBB

II: Case in Pronouns

(12) Advantages:

- Data generally well described
- Can construct large sample (160 languages)
- Rich source of suppletion

(13) Disadvantages:

- Segmentation tricky
- 'Genitive' sometimes conflates case and possessive
- Genitive excluded in this survey

Why look at case?

- Similar statements can be made about case that can be made about adjectives.

(14) The synthetic superlative generalization:
"No language has morphological superlatives (X-est), but only periphrastic comparatives (more X) (Bobaljik, 2012)."

- Caha (2009):There is a universal case sequence, following Blake (1994)

(15) NOM >ACC >DAT >INSTR >COM

(16) Inventory of case suffixes:
"If a given case in the Case sequence is a suffix, all cases to its left (if present in the language) are also suffixed (Caha, 2009, 30)"

II: Case in Pronouns

- In superlatives, languages sometimes show the comparative morpheme transparently contained.
- This is also (sporadically) attested in case morphology (Caha, 2009):

(17) Colloquial Czech (Caha)

	'man'	'chicken'	'eye'
NOM	muž-i	kuřat-a	oč-i
ACC	muž-E	kuřat-A	oč-I
INST	muž-E-ma	kuřat-A-ma	oč-I-ma

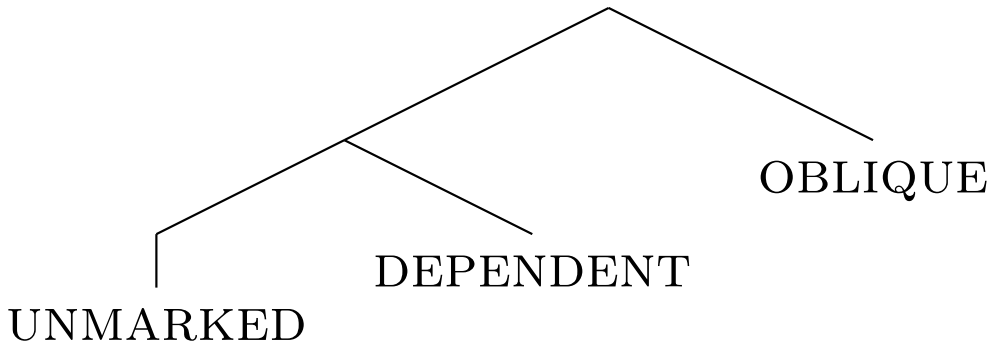
- Caucasian: oblique cases built on Ergative
- Complex internal structure of local cases (Radkevich, 2010)

(18) nir- i- q- in- ri
river ERG ON ALL VERSATIVE
'towards the bank of the river' (Tabasaran)

Case Containment

- Following Caha (2009), we can assume that cases are structured following the case hierarchy.
- We include ergative/absolutive systems also.
- $\underbrace{\text{NOM/ABS}}_{\text{unmarked}} > \underbrace{\text{ACC/ERG}}_{\text{dependent}} > \underbrace{\text{DAT} \ \ldots}_{\text{oblique}}$

(19)



- If cases are complex entities, then we should expect that this is reflected in the same suppletion patterns that are seen in comparative/superlative suppletion.
- That is, we make the following predictions:
  - AAA, ABB, ABC are all possible patterns of suppletion.
  - ABA should not be a possible pattern.
  - AAB *potentially* is a possible pattern depending on the type of complexity, as discussed below.

Case

(20)

Pattern	Prediction	Attested?	Representative Languages
AAA	✔	✔	Lezgian, W. Greenlandic
ABB	✔	✔	Indo-European, Evenki
ABC	✔	?	Murle? Khinalug ?
ABA	✘	✘	(Archi 2pl)
AAB	✔	✔	Krongo, Wardaman

- ABA is virtually unattested as expected. AAB *is* found.

Sample

- Original sample: 160 languages
  - 76 have no suppletion for case AA(A)
  - 19 have suppletion, but $<$ 3 cases (AB)

(21) Suppletive Cognate Triples

ABB	42
AAB	9
ABC	1?
ABA	1?

Cognate Triple

- Indo-European 1sg

(22)

Form	Nominative	Accusative	Dative	Other
Lithu	àš	manè	mán	man-
Russian	ja	menja	mnje	mn-
Germ	ich	mich	mir	
Latin	ego	mē	mihi	m-
Greek	egō	eme	emoi	
etc.				

As with Germanic good $\sim$ bett-, this is 1 cognate triple.

AAA patterns

- Lezgian

(23)

Form	Absolutive	Ergative	Dative	Adessive	Inessive
1sg	zun	za	zaz	zaw	za
2sg	wun	wuna	waz	waw	wa
1pl	čun	čna	čaz	čaw	ča

AAA patterns

- West Greenlandic

(24)

Form	Absolutive	Instrumental	Allative	Locative
1sg	uanga	uannik	uannut	uanni
1pl	uagut	uatsinnik	uatsinnut	uatsinni

ABB patterns

- Icelandic (Indo-European generally, Katz 1998)

(25)

	NOM	ACC	DAT	GEN	
1SG	ég	mig	mér	mín	ABBB
2SG	þú	þig	þér	þín	AAAA
1PL	við	okkur	okkur	okkar	ABBB
2PL	þið	ykkur	ykkur	ykkar	ABBB

ABB patterns

- Armenian

(26)

Form	Nominative	Dative	Ablative	Locative
1sg	es	inj	inj(a)nic	inj(a)num
2sg	du	k'ez	k'ez(a)nic	k'ez(a)num
2pl	duk'	jez	jez(a)nic	jez(a)num

ABC patterns?

- Murle

(27)

Form	Nomainative	Accusative	Dative
1sg	naana	aneeta	ŋaatan
2sg	niina	ineeta	ŋaatun
3sg	niini	nɔnnɔ	ŋaatin
1pl	naaga	ageeta	ŋaatinaaŋ
2pl	niiga	igeeta	ŋaatinooŋ
3pl	niigi	ŋɔɔgɔ	ŋaatineeŋ

ABC patterns?

- Murle

(28)

Form	Nomainative	Accusative	Dative
1sg	n aan a	an eeta	ŋaat an
2sg	n iin a	in eeta	ŋaat un
3sg	niini	nɔnnɔ	ŋaatin
1pl	n aag a	ag eeta	ŋaatin aaŋ
2pl	n iig a	ig eeta	ŋaatin ooŋ
3pl	niigi	ŋɔɔgɔ	ŋaatineeŋ

ABC patterns?

- Nakh-Daghestanian 1sg

(29)

	ABS	ERG	DAT
Khinalug	zɨ	jä	as(ɨr)
Rutul	zɨ	za-d	za-s
Tabassaran	izú	izu	izu-s
Chamalai	di:	de:	di-ɬa

An ABA pattern - Archi 2pl

- Archi

(30)

	ABS	ERG	DAT	OBL
'who'	k^{w}i	ɬɬi-	ɬɬa-	–
1SG	zon	za-ri	♦-ez	za-
1PL.EX	nen	nen	♦-el	la-
1PL.IN	nen	nen+♦	♦-el-a-♦-u	la-
2SG	un	un	wa-s	wa-
2PL	ž^{w}en	ž^{w}en	wiš	ž^{w}a-

- NB: Of all these weird things, only the 2pl is problematic.

  ♦ = class agreement marker

ABA?

- A possible solution arises if we assume that the pronouns are internally complex.
- We see a similar base emerging.

(31) 1ST SINGULAR

ABS		z	-on
ERG		za	-ri
GEN	♦-	is	
DAT	♦-	ez	
OBL		za-	

(32) 2ND PLURAL

ABS		žʷ	-en
ERG		žʷ	-en
GEN	wi-	š	
DAT	we-	ž	
OBL		žʷa-	

♦ = class agreement marker

Nakh Dagestanian 2pl

- Nakh-Daghestanian 2pl by and large is AAA

(33)

	ABS	ERG	DAT	
Avar	muž	muže-L	muže=b=e	
Tsez	meži	mež-a	mež-ur	
Hinukh	meži	meži	mežu-z	
Rutul	we	we-d	we-s	
Tsakhur	šu	šo-sse	šo-s	
Andi	bissil	bissi-di	bissi-j	
Archi	žʷen	žʷen	wiš	žʷa-

Two kinds of AAB

- Moving to AAB patterns, we see that they come in two types.
- The first involves syncretism between cases, where there is a complete neutralization of contrast.

(34) French

	NOM	ACC	DAT
1:	je	me	me
2:	tu	te	te

- In French, we see that the 1st and 2nd singular is syncretic for Acc - Dative.

Two kinds of AAB

- German shows full syncretism in $3.\text{SG.F}$ and $3.\text{PL}$.

(35)

	Nominative	Accusative	Dative
3.sg.m	er	ihn	ihm
3.sg.f	sie	sie	ihr
3.pl	sie	sie	ihnen

- Krongo shows full syncretism in the first three cases.

(36)

Form	Subject	Object	Dative	Ablative	Locative
1sg	àʔàŋ	àʔàŋ	àʔàŋ	nkàtí	kàtí
2sg	ùʔùŋ	ùʔùŋ	ùʔùŋ	nkòtú	kòtú
1ex	óow	óow	óow	nkòtíg	kòtíg

Two kinds of AAB

(37) Archi

	ABS	ERG	DAT	OBL
'who'	k^{w}i	ɬɬi-	ɬɬa-	–
1SG	zon	za-ri	♦-ez	za-
1PL.EX	nen	nen	♦-el	la-
1PL.IN	nen	nen+♦	♦-el-a-♦-u	la-
2SG	un	un	wa-s	wa-
2PL	ž^{w}en	ž^{w}en	wež	ž^{w}a-

- in 2nd person and 1pl.excl pronouns lack the Erg suffix and fail to mark an Abs-Erg contrast.

II: Case in Pronouns

Convergent evidence: Stem-alternations in nouns (case); (McFadden, 2014)

	Finnish	Icelandic	Tamil
	'person'	'man'	'tree'
NOM	ihmi-nen	mað-ur	maram
ACC	ihmi-se-n	mann-Ø	maratt-ai
PART/GEN	ihmi-s-tä	mann-s	maratt-Ø
INESS/DAT	ihmi-se-ssä	mann-i	maratt-ukku

NOM > ACC > OTHER : *ABA, all non-nominative cases are treated alike (they share the same stem).

Two kinds of AAB

- The other type of AAB is where the first two cases share a form, but there is overt case marking distinguishing the two.
- In these instances, it is not possible to analyze them as AB(B).
- These represent clear AAB patterns.
- Consider the following, from Wardaman:

(38)

Form	Absolutive	Ergative	Dative/oblique
3sg	narnaj	narnaj-**(j)i**	gunga
3pl	narnaj-bulu	narnaj-bulu-**yi**	wurrugu

Two kinds of AAB

(39) Jingulu

	NOMINATIVE	ERGATIVE	ACCUSATIVE/GEN ..
1SG	ngaya	ngaya-**rni**	ngarr-
2 SG	nyama	nyama-**rni**	nga(a)nk-

- NB. Jingulu distinguishes Erg from Acc, requiring a refinement to the Case hierarchy:

(40) NOM > ACC/ERG > DAT > OTHER

AAB

- Nakh-Daghestanian 2sg

(41)

	ABS	ERG	DAT	
Avar	mun	du-la	du-r	ABB
Andi	mín	min	du-j	AAB (tone)
Chamalal	mì:	mín	du-ɬa	AAB
Inxokvar	mó	me	dub-ul	AAB
Xinalug	viɬ	va	oX(iɬ)	AAB
Tsez	mi	mi	deb-er	A=AB
Hinukh	me	me	ded-ez	A=AB
Archi	un	un	wa-s	A=AB
Agul	wun	wun	was	A=AA

The theoretical importance of AAB

The Comparative Superlative Generalizations:

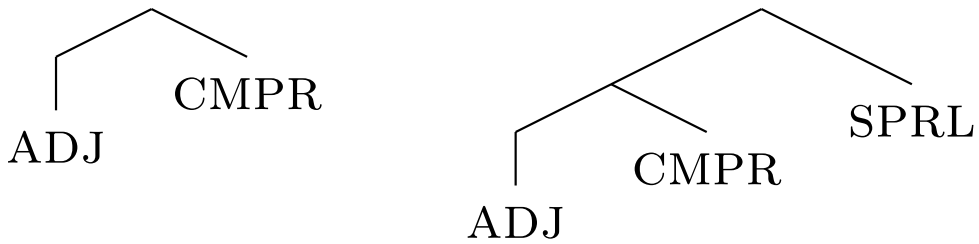
(42) *ABA: **good – better – goodest*

(43) *AAB: **good – gooder – best*

No apparent counterexamples to *AAB (maybe 1).

Locality II: *AAB

(44) *The Containment Hypothesis*



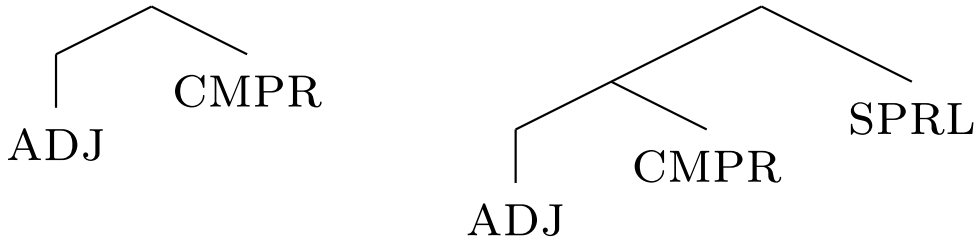
(45) **good – gooder – best*

a. GOOD → be(tt)- / __] ... SPRL]
b. GOOD → good

- Whilst it is possible to formulate a rule like (45a), it is ruled out by locality.

Locality II: *AAB

(44) *The Containment Hypothesis*



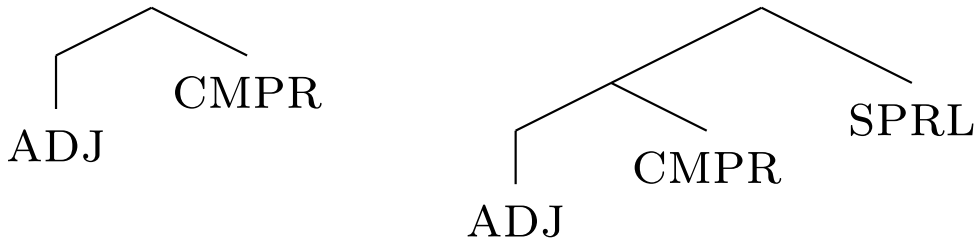
(46) Locality

a. Node α may be conditioned by node β iff α, β are local
b. α, β are local if no (cyclic) node intervenes

- see (with qualifications): Embick (2010), Moskal (2013).

Locality II: *AAB

(44) *The Containment Hypothesis*



(45) **good – gooder – best*

a. GOOD → be(tt)- / __] ... SPRL]
b. GOOD → good

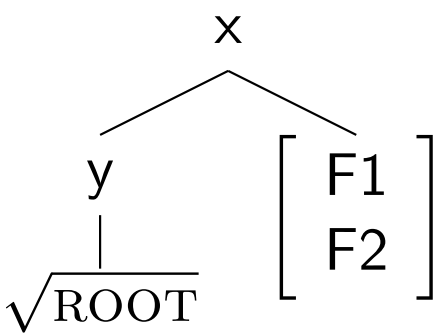
- CMPR is a cyclic node, and causes SPRL to be inaccessible to ADJ.

Permitting AAB

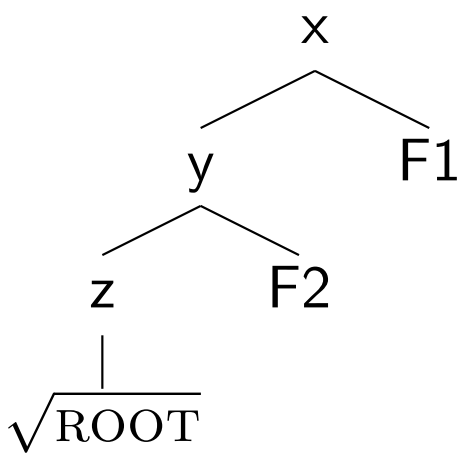
- If we enrich the structure a little, we can allow AAB.
- Taking case containment to be featural, rather than structural, bundles case features on the same node, and equidistant from the root.

(47) Bundling and Containment

a.



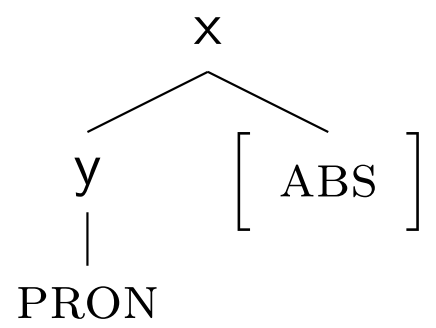
b.

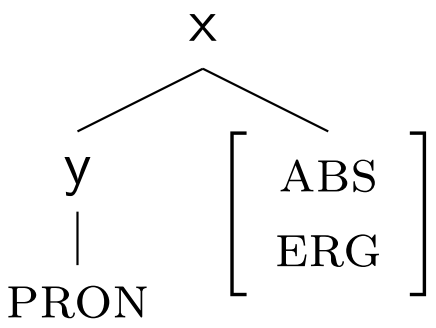


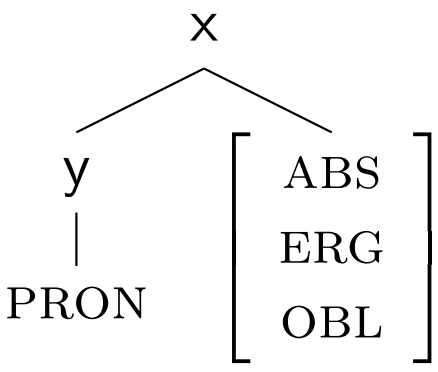
- Root Allomorphy conditioned by F1 ? a - yes, b - no.
- Note, only if F2 is cyclic (see Moskal in progress for discussion).

Permitting AAB

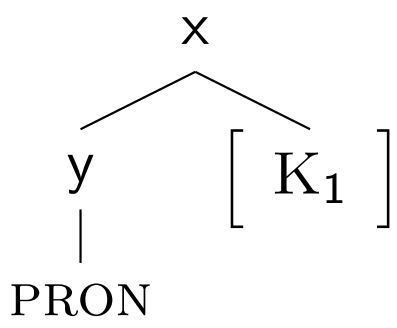
(48)

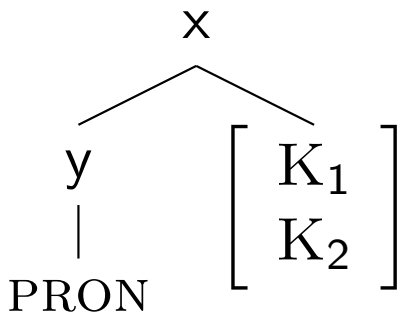


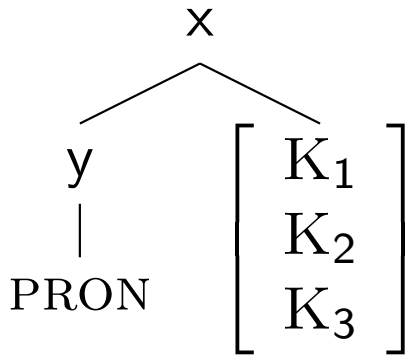




(49)







Aside: Locality

- Two views on locality:
  - STRUCTURAL - suppletion is not possible across a hierarchically intervening (cyclic) node (Bobaljik, 2012; Moskal, to appear).
  - LINEAR - suppletion is not possible across linearly intervening nodes (Embick, 2010).
- Pronouns provide some ambivalent evidence regarding a linearity condition, but the number of relevant examples is small

II: Case in Pronouns

- *In support of linear adjacency . . .*
- In Khakass, overt number marking (pl -*lar*) between the pronominal stem and case appears to block case-driven suppletion.

(50) Khakass

	NOM	ACC	DAT
3SG	ol	ani	agaa
3PL	o-lar	o-lar-ni	o-lar-ga

II: Case in Pronouns

- *Against linear adjacency . . .*
- But in Tamil, in a parallel configuration, overt number marking between the pronominal stem and case appears to be transparent to case-driven suppletion.

(51) Tamil pronouns

	DIRECT	GEN/OBL	DATIVE
1SG	naan	en	en-akku
1PL.EX	naan-ga(ḷ)	en-ga(ḷ)	en-gaḷ-ukku
2SG	nii	on	on-akku
2PL	niin-ga(ḷ)	on-ga(ḷ)	on-gaḷ-ukku

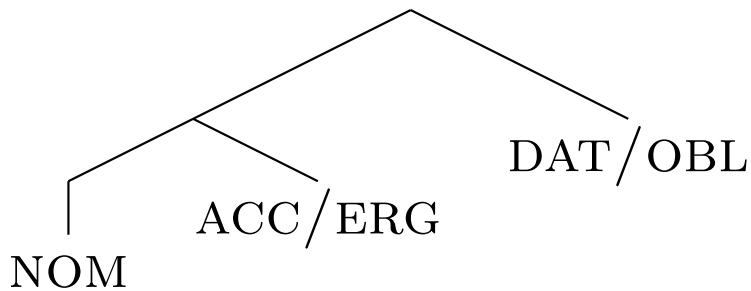
➪ Tentative conclusion: no strict linear adjacency condition on suppletion (contra Embick 2010).

- For further discussion on the role of linear adjacency in suppletion, see Moskal (in progress).

Case suppletion: Summary

- Parallels between comparatives/superlatives and morphological case suggest that cases show containment.
- Cases to the right of the case hierarchy contain those to the left (Caha, 2009).
- NOM > ACC/ERG > DAT/OBL

(52)



- Suppletion in pronouns shows clearly the AAA, ABB and ABC patterns we expect (and AAB).
- But not ABA (but cf. Archi 2pl)

Roadmap

Part III: Pronouns: Suppletion for Number

II: Number in Pronouns

- As well as case suppletion, number suppletion is frequently seen in pronouns.
- Icelandic:

(53)

	NOM	ACC	DAT	GEN
1SG	ég	mig	mér	mín
1PL	við	okkur	okkur	okkar
2SG	þú	þig	þér	þín
2PL	þið	ykkur	ykkur	ykkar

- To assess ABA etc, we need to look at languages which make a distinction beyond SG-PL, i.e. SG-PL-DU languages.

III: Number in Pronouns

- Number shows similar hallmarks of containment.
- The Number Hierarchy (Corbett, 2000)
- SINGULAR > PLURAL > DUAL
- No language has a trial number unless it has a dual. **No language has a dual unless it has a plural.** (Universal 34, Greenberg, 1963; Corbett, 2000)

Containment

- Number also shows containment relations in morphology.
- In Manam, PLURAL is transparently contained in the DUAL form.

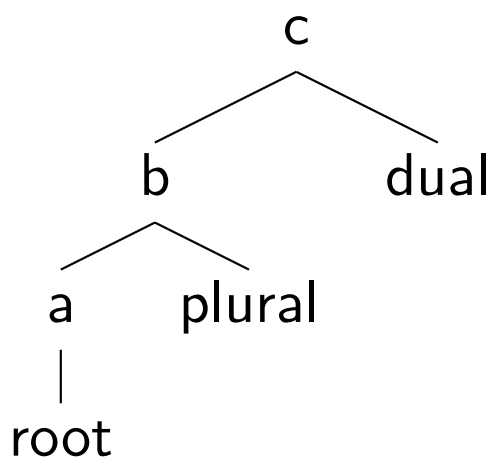
(54) áine ŋ**ára** — singular
woman that-SG
'that woman'

(55) áine ŋ**ára-di** — plural
woman that-PL
'those women'

(56) 'aine ŋ**ara-dí-a-ru** — dual
woman-that-PL-LINKER-DL
'those two women'

Containment

(57)



Were number to be contained in this way, we make the following predictions regarding number. In singular – plural – dual triples:

- AAA, ABB and ABC patterns are all allowed and should be seen.
- ABA patterns should not be attested.
- AAB is an open question, depending on how number is structured.

Number summary

70 languages, few with 3 number values and pronominal suppletion for number.

(58)

Pattern	Prediction	Attested?	Languages
AAA	✔	✔	Mapuche, Dumi
ABB	✔	✔	Kayardild, Jingulu
ABC	✔	✔	Yimas, Kham
ABA	✘	✘	n/a
AAB	✔	✘	n/a

AAA Patterns

- Mapuche

(59)

	SINGULAR	PLURAL	DUAL
1st	iñché	iñchiñ	iñchiu
2nd	eymi	eymün	eymu
3rd	fey	fey-engún	fey-engu

- Dumi

(60)

	SINGULAR	PLURAL	DUAL
1excl	aŋ	antsɨ	aŋkɨ
2nd	an	antsi	ani

ABB Patterns

- Kayardild

(61)

	SINGULAR	PLURAL	DUAL
2nd	nyinka	kilda	kirra
3rd	niya	bilda	birra

- Maori

(62)

	SG	PL	DU
1INCL	au	taa-tou	taa-ua
1EXCL		maa-tou	maa-ua
2	koe	kou-tou	koor-ua
3	ia	raa-tou	raa-ua

ABC Patterns

- Yimas

(63)

	SINGULAR	PLURAL	DUAL
1st	ama	ipa	kapa
2nd	mi	ipwa	kapwa

- Kham possessive, reflexive pronouns (Takale)

(64)

	SINGULAR	PLURAL	DUAL
3rd poss	o-/u-	ya-	ni-
3rd refl	ol	ya:	ni:

ABA: Unattested

- We do not find any instances of ABA patterns in number in pronouns.
- When the plural form is suppletive, so too is the dual form.

Lexical nouns

- We also looked at lexical nouns. In contrast to case, suppletion for number is well attested in lexical nouns.
- In the SG-PL-DL languages, we see little evidence; we found very few languages which make a SG-PL-DL distinction, and also show suppletion.
- Curiously, when we find it, the dual groups with singular, not plural.

(65)

Language	Singular	Plural	Dual	Gloss
Hopi	wùutit	momoyam	wùuti	'woman'
Lavukaleve	vo'vou	tulav	vo'voul	'boy'
Yimas	panmal	pay-um	panmalc-rm	'man'

- This looks like an ABA pattern!

ABA?

- However, if we assume that dual is contained within plurals in lexical nouns, these become an AAB pattern.

(66)

Language	Singular	Dual	Plural	Gloss
Hopi	wùuti	wùutit	momoyam	'woman'
Lavukaleve	vo'vou	vo'voul	tulav	'boy'
Yimas	panmal	panmalc-rm	pay-um	'man'

Number in Lexical Nouns: More than a trick

- In Hopi, containment supports the alternative embedding; the plural is built from the dual form.
- The dual is formed by suffixation of -m or -t.
- Plural is sometimes marked with the dual suffix and partial reduplication.

(67) Hopi (SG > DU > PL)

	SG	DU	PL
'person'	sino	sino-t	sino-m
'horse'	kawayo	kawayo-t	kawayo-m
'donkey'	mooro	mooro-t	**moo-moro-t**
'child'[1]	tsay	tsaayo-m	**tsaa-tsayo-m**
'woman'	wùuti	wùuti-t	**momoyam**

[1] = 'young.ANIMATE'

III: Number in Nouns

- Dual and plural patterning together in Slovenian.

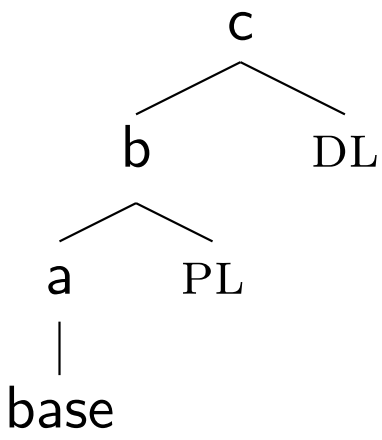
(68) Slovenian 'person' (Baerman et al., 2005)

	SG	DU	PL
NOM	človek	človek-a	ljudj-e
ACC	človek-a	človek-a	ljud-i
GEN	človek-a	**ljud-i**	**ljud-i**
DAT	človek-u	človek-oma	ljud-em
INST	človek-om	človek-oma	ljud-mi
LOC	človek-a	**ljud-eh**	**ljud-eh**

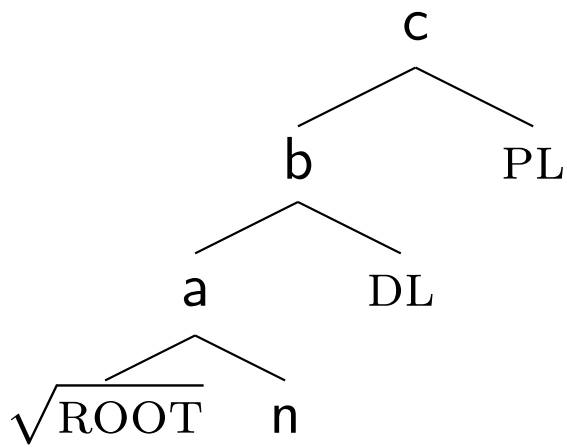
- Locative and genitive show complete syncretism for dual and plural (Corbett, 2007). They are simply plural.

Pronouns vs. Lexical nouns

(69) Pronouns



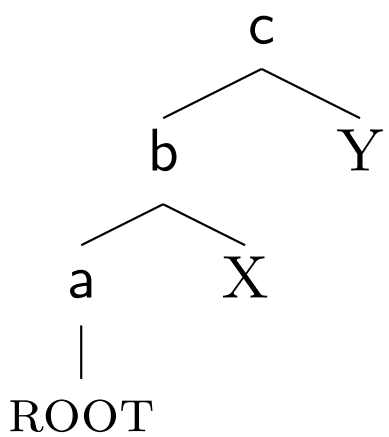
(70) Nouns



Predictions

- The core predictions remain the same.
- If Y contains X (contains unmarked), then *ABA.

(71)

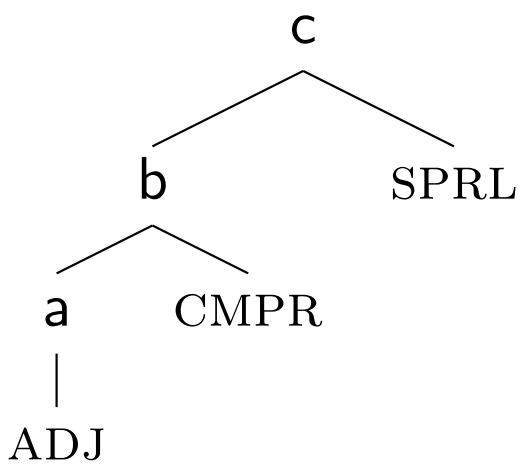


(72) a. $\sqrt{\text{ROOT}} \rightarrow \text{B} \quad / \_\_ \text{] X}$

b. $\sqrt{\text{ROOT}} \rightarrow \text{A}$

Comparatives (Bobaljik 2012)

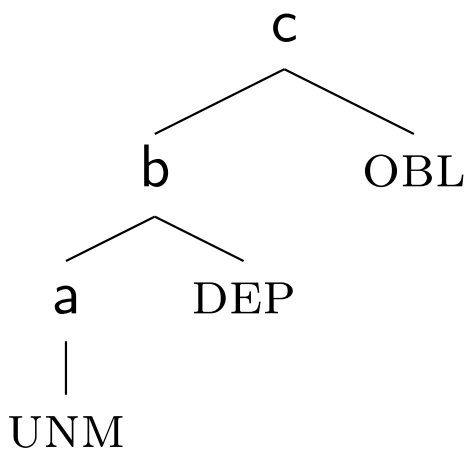
(73)



- Convergent evidence for structure:
  - markedess:
    $\text{POS} < \text{CMPR} < \text{SPRL}$
  - affix order
  - plausible semantics

Case (Caha 2009)

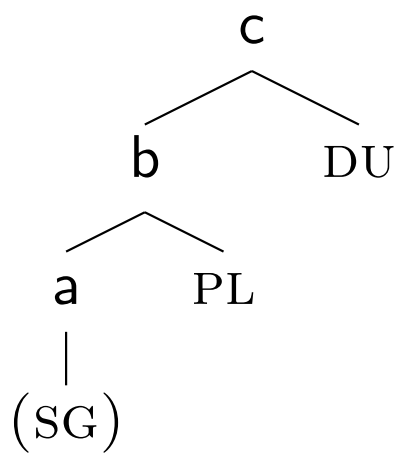
(74)



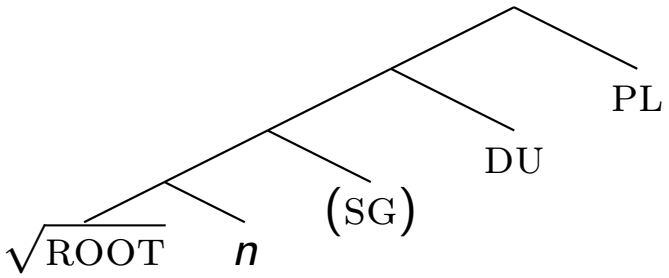
- weaker evidence for structure:
  - markedess:
    $\text{UNM} < \text{DEP} < \text{OBL}$
  - affix order (sporadic)
  - (but no semantics)

Number

(75)



(76)

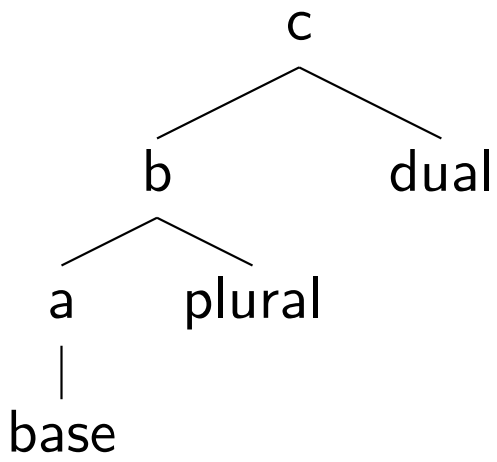


- conflicting evidence for structure:
  - markedess: $\text{SG} < \text{PL} < \text{DU}$
  - affix order (ambivalent)
  - (conflicts with semantics)

Containment

- If we take the suppletion facts as being a diagnostic for how the structure is, then we arrive at the following structures for nouns and pronouns.

(77) Pronouns



(78) Nouns

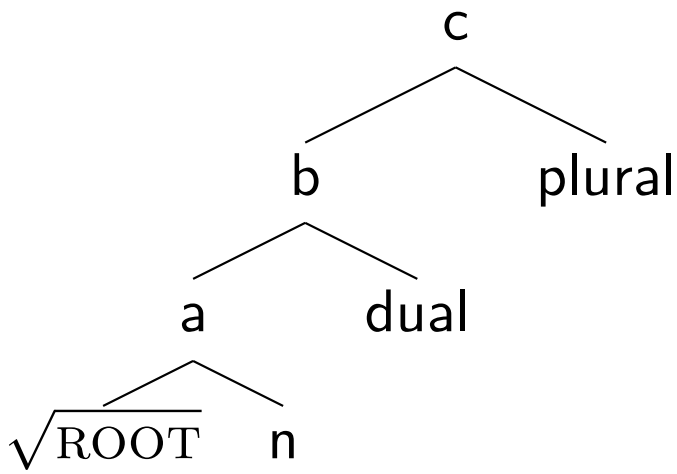


ABB + Containment: Pronouns

- In pronouns, the dual is built from the plural form.
- Consider again, Kham (Sino-Tibetan)

(79)

	SINGULAR	PLURAL	DUAL
1st	ŋa:	ge:	gi-n
2nd	n˜ɨ:	je:	ji-n
3rd	no:	no:-rə	no:-ni

- We see the dual is formed from the plural form, with the addition of *-n(i)*.

ABB + Containment

- This is also the case in Lavukaleve (du = pl + *l*)

(80)

	SG	PL	DU
1INCL		me	me-l
1EXCL	ngai	e	e-l
2	inu	imi	imi-l

- And Hua (du = pl + *a'a*)

(81)

	SG	PL	DU
1	d-gai	r-gai	r-a'a-gai
2	h-gai	p-gai	p-a'a-gai
3	Ø-gai	p-gai	p-a'a-gai

III: Number in Nouns

- Recall that in Hopi, the reverse was shown to be the case for lexical nouns.
- Du: -m or -t
- Pl: Dual + partial reduplication

(82) But: Hopi (SG > DU > PL)

	SG	DU	PL
'person'	sino	sino-t	sino-m
'horse'	kawayo	kawayo-t	kawayo-m
'donkey'	mooro	**mooro-t**	**moo-moro-t**
'child'[2]	tsay	**tsaayo-m**	**tsaa-tsayo-m**
'woman'	wùuti	wùuti-t	**momoyam**

- The dual suffix is retained when there is partial reduplication to build the plural.

[2] = 'young.ANIMATE'

Plural built from dual

- Koryak verbal inflection also supports an analysis where the plural is built on the dual.
- plural = dual + *la*

(83)

	'overtake' 1sg>2	2/3sg>1	'study' 1 intrans
SG	tə-johə-ge	ena-joh-e	tə-ejgučew'ŋə-k
DU	tə-johə- tək	na-johə- mək	məčč-ejgučew'ŋə- mək
PL	tə-johə- la-tək	na-johə- la-mək	məčč-ajgočaw'ŋə- la-mək

(Also in Mi'gmaq - A. Bale, p.c.)

Plural built on dual

- Tongan clitics also show the plural being built from the dual (B. Ahn p.c.).

(84) clitic

	SG	DU	PL
1ex	ku/ou/u	ma	mau
1in	te	ta	tau
2	ke	mo	mou
3	ne	na	nau

(85) strong

	SG	DU	PL
1ex	au	kimaua	kimautolu
1in	kita	kitaua	kitautolu
2	koe	kimoua	kimoutolu
3	ia	kinaua	kinautolu

Open question: Why?

- Why should nouns and pronouns differ in this way?
- Two ways in which nouns and pronouns differ:
  - Semantics of plural (but see Harbour, 2007)
  - Structural difference (lexical nouns have a category defining node (Moskal, to appear amongst others)
- Neither affords an obvious solution

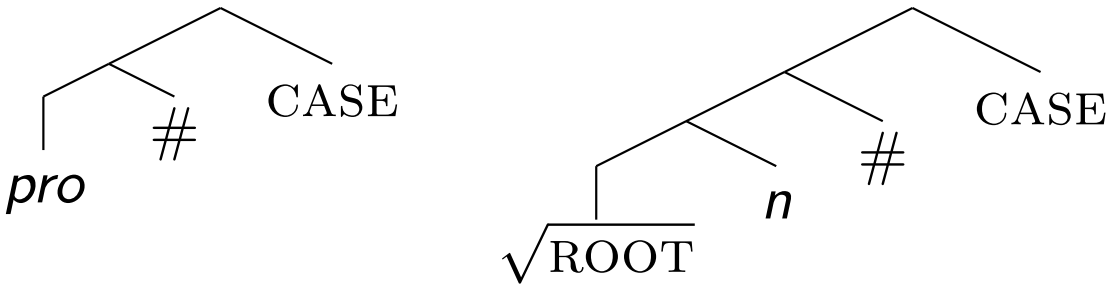
Plural participant

- dog:dogs The plural of a noun is a plurality of that noun.
- I: we The plural of [+speaker] is not a plurality of speakers.
- je : jullie The plural of [+hearer] is not (always) a plurality of hearers.

- In no language is 2_{PL} restricted to a plurality of hearers. It can always be used for a single hearer and others unspecified (Simon, Cysouw, Bobaljik)
- Not obvious how/why this would matter for the structures in (77)

Moskal (to appear,in prog)

(86) *Nominal Domains*

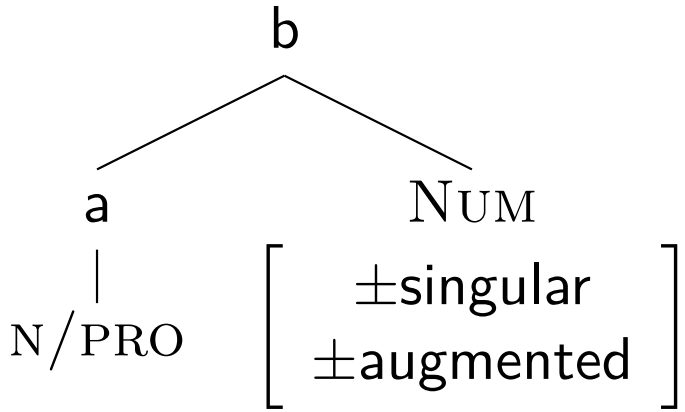


- The structures in (86) are supported by suppletion asymmetries between pronouns and lexical nouns.
  1. Pronouns show suppletion for both number and case.
  2. Lexical nouns show suppletion for number but *not* for case.

Semantically motivated number

- The semantics of number as argued for in work by Daniel Harbour (Harbour, 2007 et seq, see also Noyer, 1992) says that SG, PL, DL result from the combination of two number features:
- [±singular] and [±augmented].

(87)



(88)

	SG	AUG
singular	+	-
dual	-	-
plural	-	+

Semantically motivated number - Harbour

(89)

	SG	AUG
singular	+	-
dual	-	-
plural	-	+

Pro Dual may group with singular ([-augmented]) or with plural ([-singular])

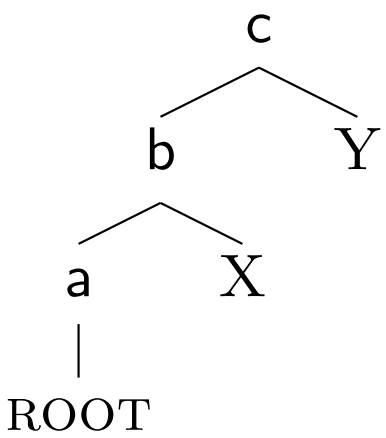
Pro Singular does not group with plural.

Con No obvious way to correlate this with affix order / containment

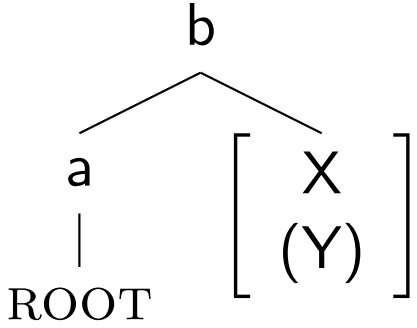
Roadmap

Suppletion is a structure detector

(90)



(91)



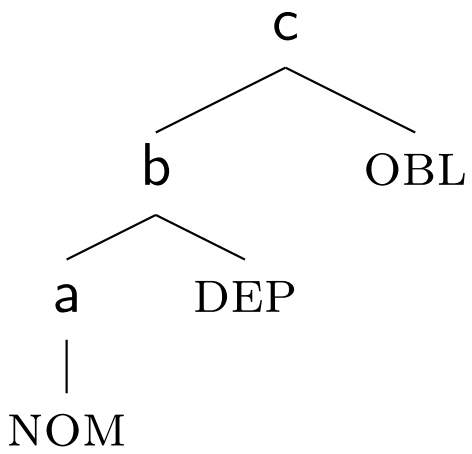
- If Y contains X (contains unmarked), then *ABA

Conclusions

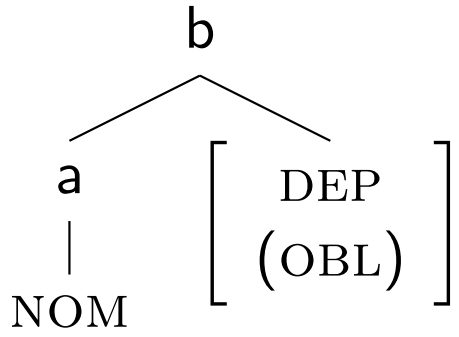
- The attested and unattested patterns seen in case suppletion show that pronouns have internal structure.
- Case is internally complex.
- Unmarked cases are contained within dependent cases.
- Oblique cases contain both unmarked and dependent cases.
- (AAB) feature-containment, not structural.
- There seems to be no (universal) condition on adjacency in suppletion.

Case is internally complex

(92)



(93)

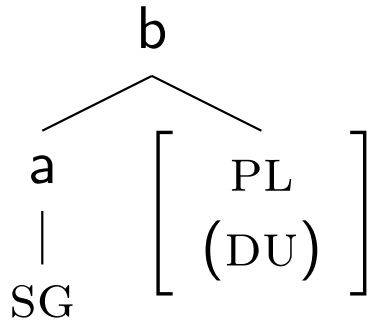


- AAB patterns: Either DEP is not cyclic, or cases are contained featurally (structure on right).
- Further worked required to establish the correct one.

Conclusions

- We also find clear patterns in number suppletion.
- With pronouns, once the plural form is suppletive, so to is the dual form.
- This seems to support a structure where DL is outside of PL.
- Containment morphology further supports this in pronouns (the dual form contains the plural, but not vice versa).

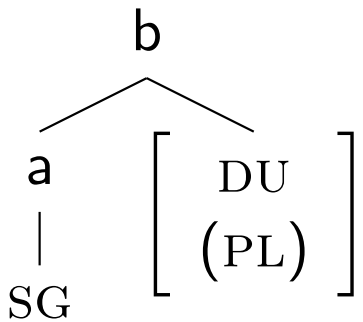
(94)



Conclusions

- In lexical nouns, the opposite patterns are found.
- The instances we have found show that if the plural is suppletive, the dual form is not.
- Rather than this being an ABA pattern, we argue that this ought to be seen as AAB.
- In lexical nouns, the plural contains the dual, not vice versa.
- Containment morphology supports this. The formation of lexical nouns (among others) sees plurals built on top of duals (c.f. Hopi).

(95)



Conclusions

- It is potentially possible to capture the attested suppletion patterns with a conventional feature representation for number (cf. Harbour, 2007).
- On such an approach, plural and dual are grouped together with [-singular].
- Dual and singular are grouped together with [-augemented].
- However, it is not clear why lexical nouns and pronouns pattern differently.

References I

Baerman, Matthew, Dunstan Brown, & Greville Corbett (2005) *The syntax-morphology interface: A study of synretism*. Cambridge Studies in Linguistics, Cambridge University Press.

Blake, Barry J. (1994) *Case*. Cambridge: Cambridge University Press.

Bobaljik, Jonathan D. (2012) *Universals in Comparative Morphology*. Cambridge, MA: MIT Press.

Caha, Pavel (2009) *The nanosyntax of case*. Ph.D. thesis, University of Tromsø.

Corbett, Greville (2000) *Number*. Cambridge: Cambridge University Press.

Corbett, Greville (2007) Canonical typology, suppletion and possible words. *Language* **83**(1): 8–42.

Embick, David (2010) *Localism versus Globalism in Morphology and Phonology*. Cambridge, MA: MIT Press.

Greenberg, Joseph H. (1963) Some universals of grammar with particular reference to the order of meaningful elements. In *Universals of language*, Joseph H. Greenberg, ed., Cambridge, MA: MIT Press, 73–113.

References II

Halle, Morris & Alec Marantz (1993) Distributed Morphology and the Pieces of Inflection. In *The View from Building 20*, Ken Hale & Samuel Jay Keyser, eds., Cambridge, MA: MIT Press, 111–176.

Harbour, Daniel (2007) *Morphosemantic number: From Kiowa noun classes to UG number features*. Springer.

McFadden, Thomas (2014) Why nominative is special: stem-allomorphy and case structures. Talk given at GLOW 37, Brussels.

Moskal, Beata (in progress) *Domains on the border: Between Morphology and Phonology*. Ph.D. thesis, University of Connecticut, Storrs, CT.

Moskal, Beata (to appear) Limits on allomorphy: A case-study in nominal suppletion. *Linguistic Inquiry* .

Noyer, Rolf (1992) *Features, positions and affixes in autonomous morphological strcuture*. Ph.D. thesis, MIT.

Osthoff, Hermann (1888) Etymologica I. *Beiträge zur Geschichte der deutschen Sprache und Literatur* **13**: 395–463.

Osthoff, Hermann (1899) *Vom Suppletivwesen der indogermanischen Sprache*. Heidelberg: J. Hörning.

Radkevich, Nina (2010) *On Location: The Structure of Case and Adpositions*. Ph.D. thesis, University of Connecticut, Storrs, CT.