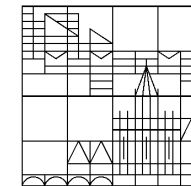




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A formal account of diachronic case and adposition change

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STARFISH

SOCIOLINGUISTIC TYPOLOGY
AND RESPONSIVE FEATURES
IN SYNTACTIC HISTORY

Roadmap

1. Case in the Balkan Sprachbund

- The Sprachbund and 'Balkanisms'
- Sociolinguistic factors
- Balkan Slavic in the middle of the prestige scale and the top of the Balkanisation scale

2. Theoretical background, diachronic predictions and the role of L2-difficulty

- Caha's (2009) exploded KP
- Diachronic predictions
- L2-difficulty


3. Case/adposition change in the historical record

- Methodology
- Data and analysis
- Locative and ablative?

4. Conclusion

1. Case in the Balkan Sprachbund

Slavic within the Balkan Sprachbund: a suitable case case study



	Greek	Albanian	Balkan Slavic	Balkan Romance	Balkan Romani
<i>Argument marking</i>					
ENCLITIC ARTICLES	(+)	+	+	+	(+)
OBJECT REDUPLICATION	+	+	+	+	+
PREPOSITIONS INSTEAD OF CASES	(+)	(+)	+	(+)	(+)
DATIVE / POSSESSIVE MERGER	+	+	+	+	-
GOAL / LOCATION MERGER	+	+	+	+	(+)
<i>RELATIVUM GENERALE</i>	+	+	+	+	+
<i>Verb system</i>					
AUX (+ COMP) + FINITE VERB	+	(+)	+	(+)	+
<i>VOLO</i> FUTURE	+	(+)	+	+	+
PAST FUTURE AS CONDITIONAL	+	+	+	(+)	(+)
<i>HABEO</i> PERFECT	+	+	(+)	(+)	-
EVIDENTIALS	-	+	+	(+)	(+)
<i>Other</i>					
ANALYTIC COMPARISON	(+)	+	+	+	+

Table 1: Shared grammatical innovations in the Balkans, Lindstedt (2000)

Slavic within the Balkan Sprachbund: a suitable case study

Case systems of the Balkan languages:

- **Greek-** has retained some case: nom, acc and gen (from a previous 5-way case system)
- **Albanian-** has retained a four-way case distinction (nom, acc, gen-dat and abl)
- **Romanian-** the only Romance language to have retained case
- **Romani-** is the least impoverished case-wise with nom, acc/oblique, voc, gen, dat, loc, abl and instr
- **Bulgarian and Macedonian-** nearly completely lost

The scale of Balkanisation (Lindstedt 2019)

Balkan Slavic → Albanian → Balkan Romance → Greek → Romani



- Greek was at the top of the prestige scale and had fewer L1 but many L2 speakers.
- At the other end of the scale, Romani had the fewest L2 speakers but a very multilingual L1 population.
- Balkan Slavic fell somewhere in the middle of the prestige scale with many L2 speakers AND a high level of multilingualism.

2. Theoretical background, diachronic predictions and the role of L2-difficulty

Blake's Hierarchy and the KP (Case phrase)

Blake's Hierarchy: NOM > ACC/ERG > GEN > DAT > LOC > ABL/INS > other

The cases are in containment relationships: e.g. the dative contains the genitive and all the cases lower than it.

The KP aims to capture case inventories and syncretisms cross-linguistically. Syncretism only occurs with adjacent segments in the tree.



Case Phrase KP- adpositions too!



(a) friend as companion

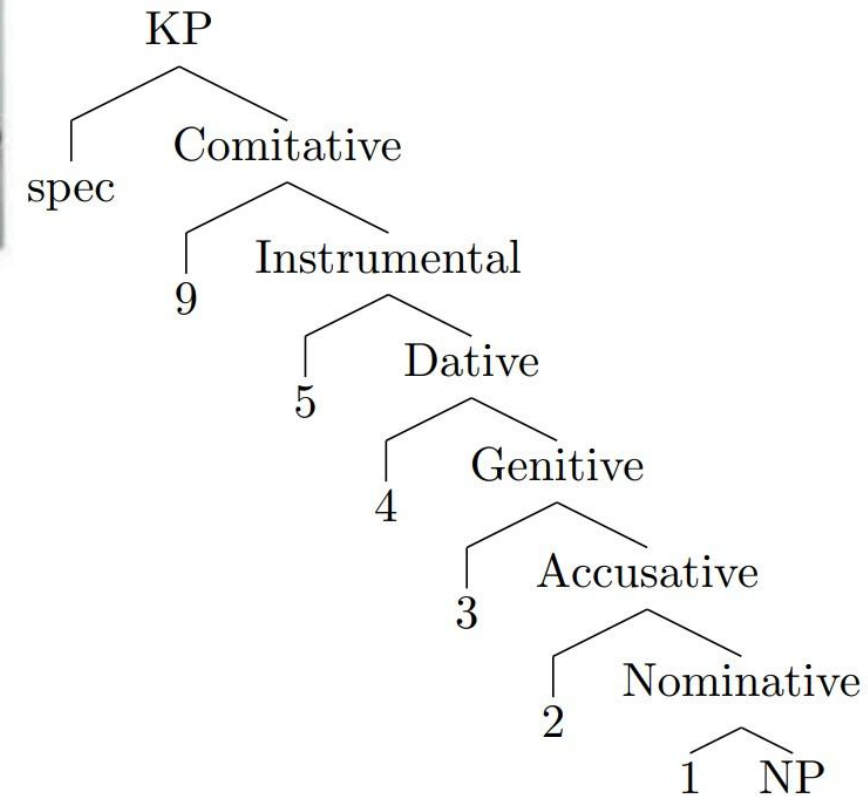


(b) friend as condiment

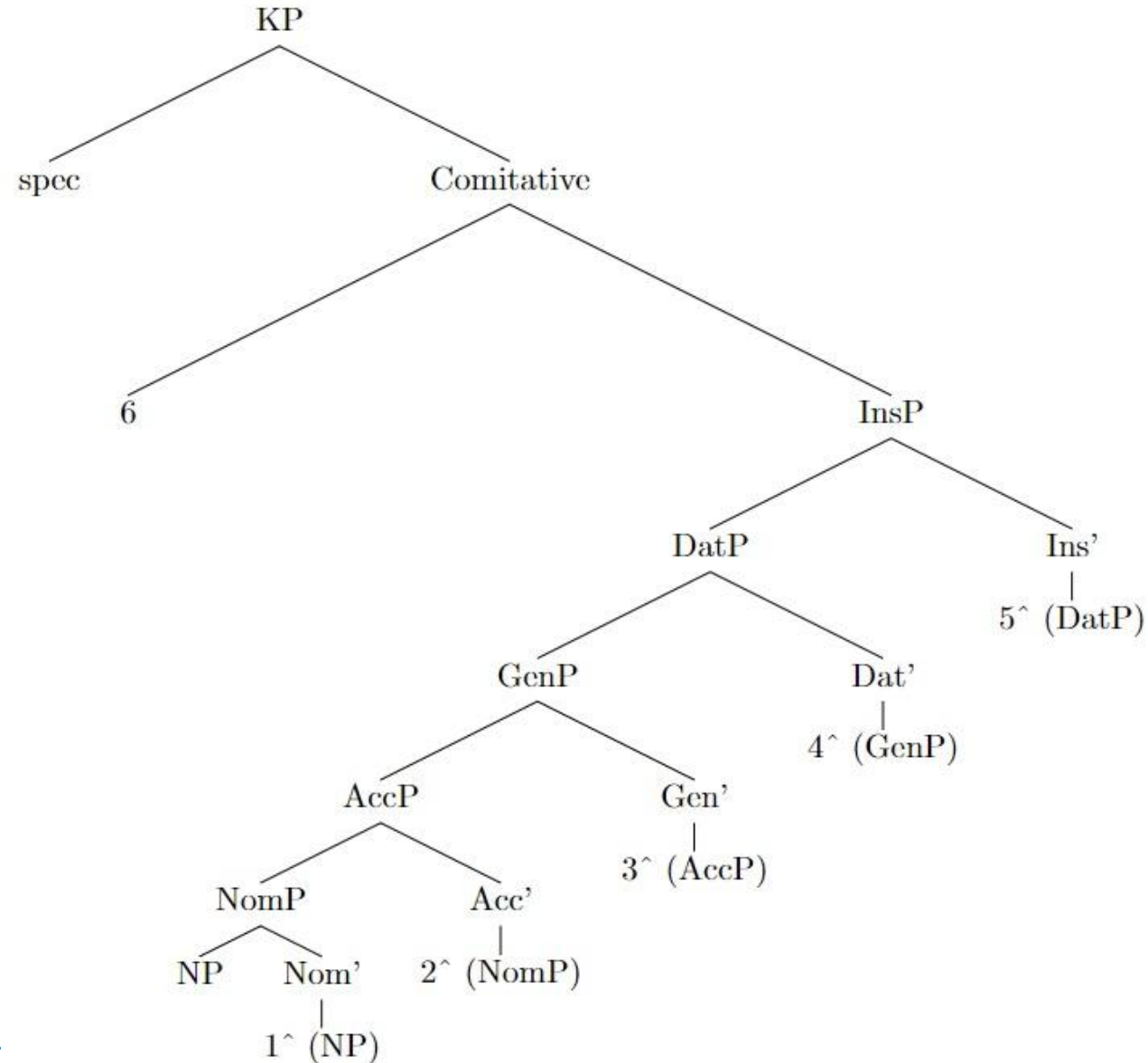
'I am eating pasta with my friend.'

In this approach, the difference between adpositions and case markers is which morphological processes do or do not apply (in a DM kind of approach).

Adpositions and case markers have the same narrow syntactic representation.



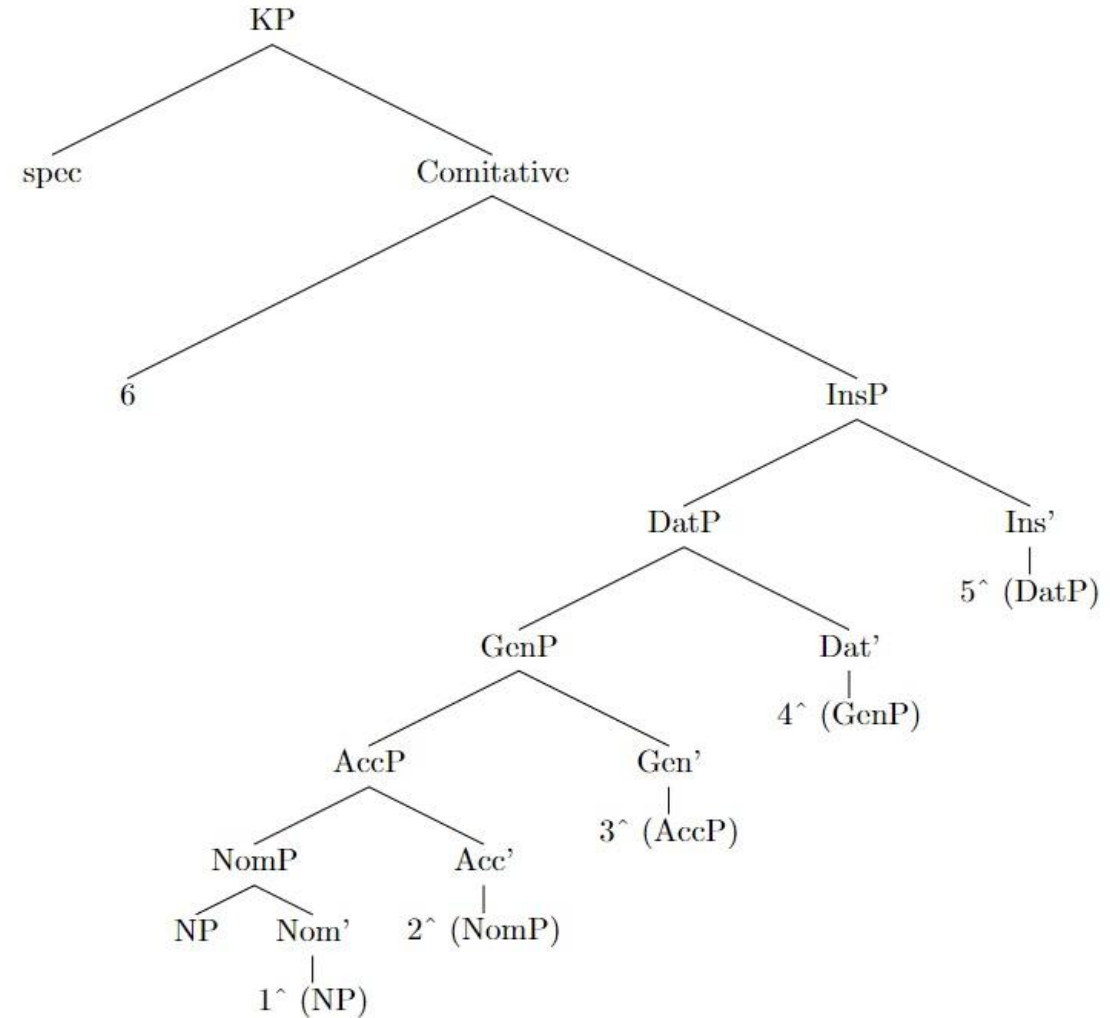
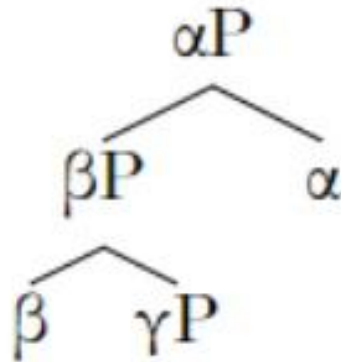
Case Phrase KP- head directionality



Case Phrase KP and The Final-Over-Final Condition

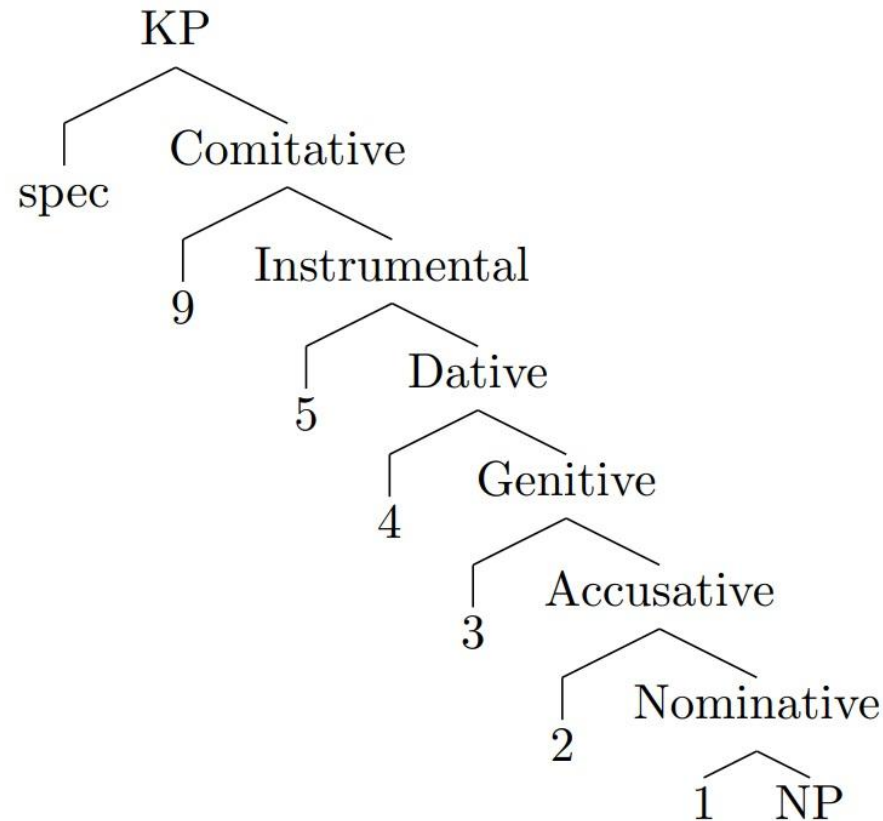
FOFC: A head-final phrase αP cannot dominate a head-initial phrase βP , where α and β are heads in the same extended projection.

(Biberauer, Holmberg and Roberts, 2014).



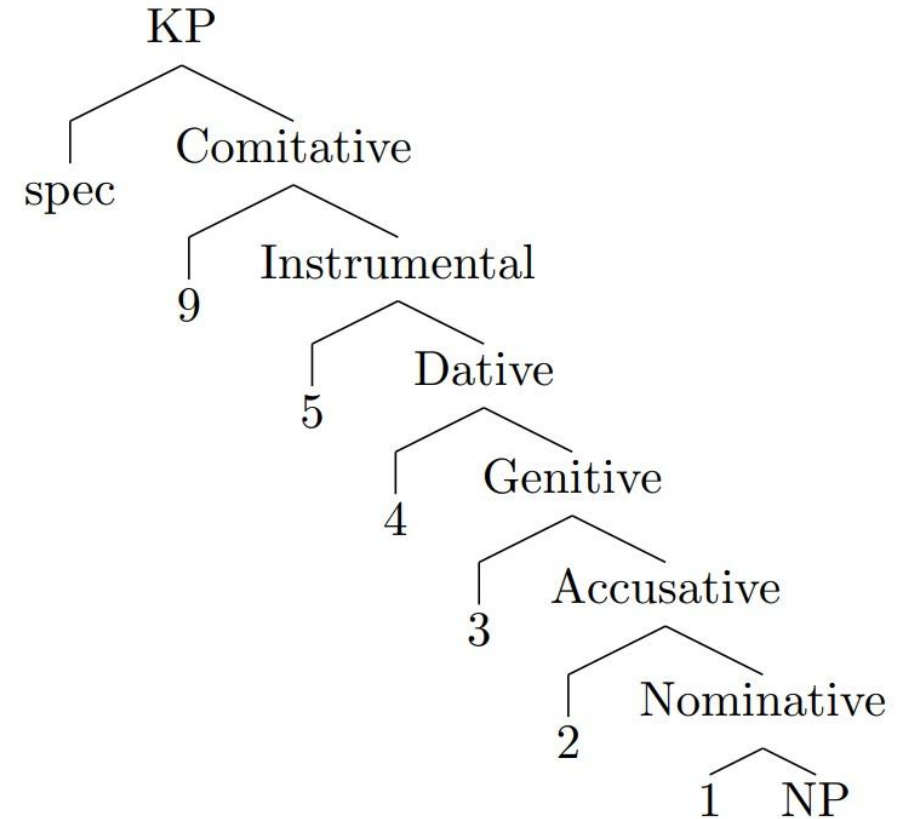
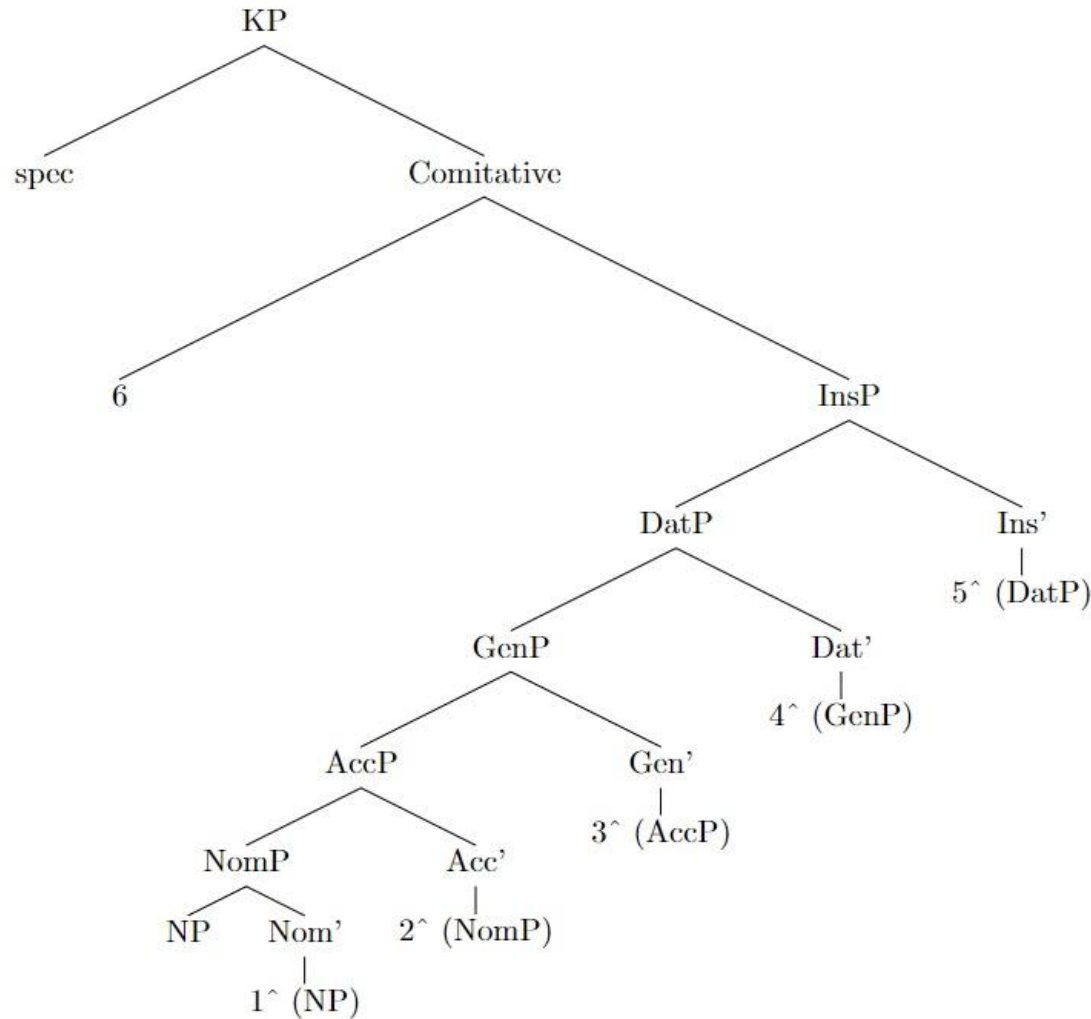
Diachronic predictions of FOFC

- FOFC also makes diachronic predictions: diachronic change from a harmonically head-final to head-initial must occur 'top down' to avoid FOFC violations. A change from head-initial to final must occur 'bottom up'.

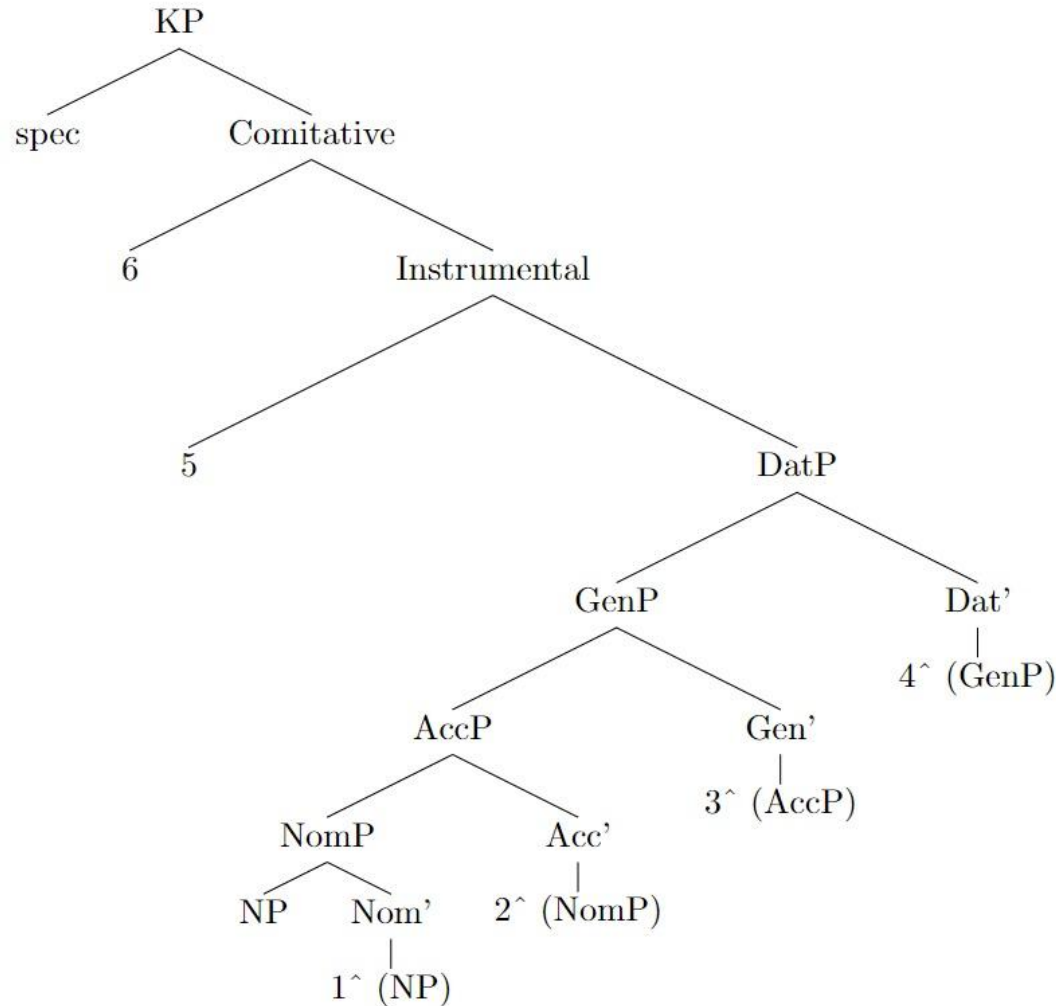


- These predictions can be directly applied to the KP. Change from head-final to head-initial in the KP must be top down, and from head-initial to head-final must be bottom up.

Diachronic predictions of the functional load shift



L2-difficulty and non-harmonious, 'mixed' systems



- Harmonic head-initial or head-final grammars are easier in L1 acquisition, as the learner must only postulate one rule and then extend it fully to cover the whole KP: either all the functional heads along the KP spine have \wedge , or none of them do (Roberts, 2019).
- I extend this to second language adult difficulty: I attribute the notion of L2-difficulty (Walkden and Breitbarth 2019) to such non-harmonious systems.

L2 difficulty and non-harmonious, 'mixed' systems

2 scenarios for 2 types of mixed system: one with more head-final than initial heads, and the one with the opposite.

- Scenario 1: L2 adults apply the roll-up feature to more heads
- Scenario 2: The L2 adults apply the roll-up feature to fewer heads

Scenario 1



**L2 adults postulate even
MORE roll-up heads**

Scenario 2



**L2 adults postulate even
FEWER roll-up heads**

This is in line with Trudgill's (2012) simplification type of sociolinguistic change.

See project STARFISH website for further work into the role of L2 difficulty on diachronic change.

Typology of the KP

Logically possible KP systems by directionality and exponent type:

Exponent type	Harmonic		Disharmonic	
	Head-Initial	Head-final	Inverse FOFC	FOFC Violating
Adpo + Case morph	1. Prep + Prefix	2. Post + Suffix	3. Prep + Suffix	4. Post + Prefix
Case morph + Adpo	5. Prefix + Prep	6. Suffix + Post	7. Prefix + Post	8. Suffix + Prep
Case morph only	9. Prefix only	10. Suffix only	11. Prefix + Suffix	12. Suffix + Prefix
Adpo only	13. Prep only	14. Post only	15. Prep + Post	16. Post + Prep

Factors influencing KP system attestation:

- FOFC
- Harmony (in the rest of the systems)
- Apparent ease of adposition acquisition
- Suffixing preference
- Relative ordering of exponent type
- Marginal acquisitional difficulty of the roll-up feature (head-finality)

KP systems diachronically

Harmonic head-final	→	Harmonic head-final	→	Disharmonic	→	Harmonic head-initial
14. Post only	→	10. Suffix only	→	3. Prep and suffix	→	13. Prep only
Harmonic head-initial	→	Harmonic head-initial	→	Disharmonic	→	Harmonic head-final
13. Prep only	→	9. Prefix only	→	7. Prefix and post	→	14. Post only

3. Case/adposition change in the historical record

Annotated Corpus of Pre-Standardised Balkan Slavic Literature

The corpus used includes texts from the 1300s to the early 1900s from areas in which Balkan Slavic was spoken (mostly in the modern Bulgarian area).

- As mentioned previously, Wahlström dates the bulk of the change to be complete by the 16th century.
- For the later texts in the corpus therefore, the bulk of the change is predicted to have taken place.
- We can use corpus data to track if this is true i.e. how many of the functions have switched to prepositional realisation in the texts from the end of the 16th century?

Methodology- examining function realisation

- Pos tags for nouns, adjectives, pronouns and adpositions including case: n, a, g, g/a, d, l, and i
- Universal Dependency tags: Subj, obj, iobj, voc, loc, abl

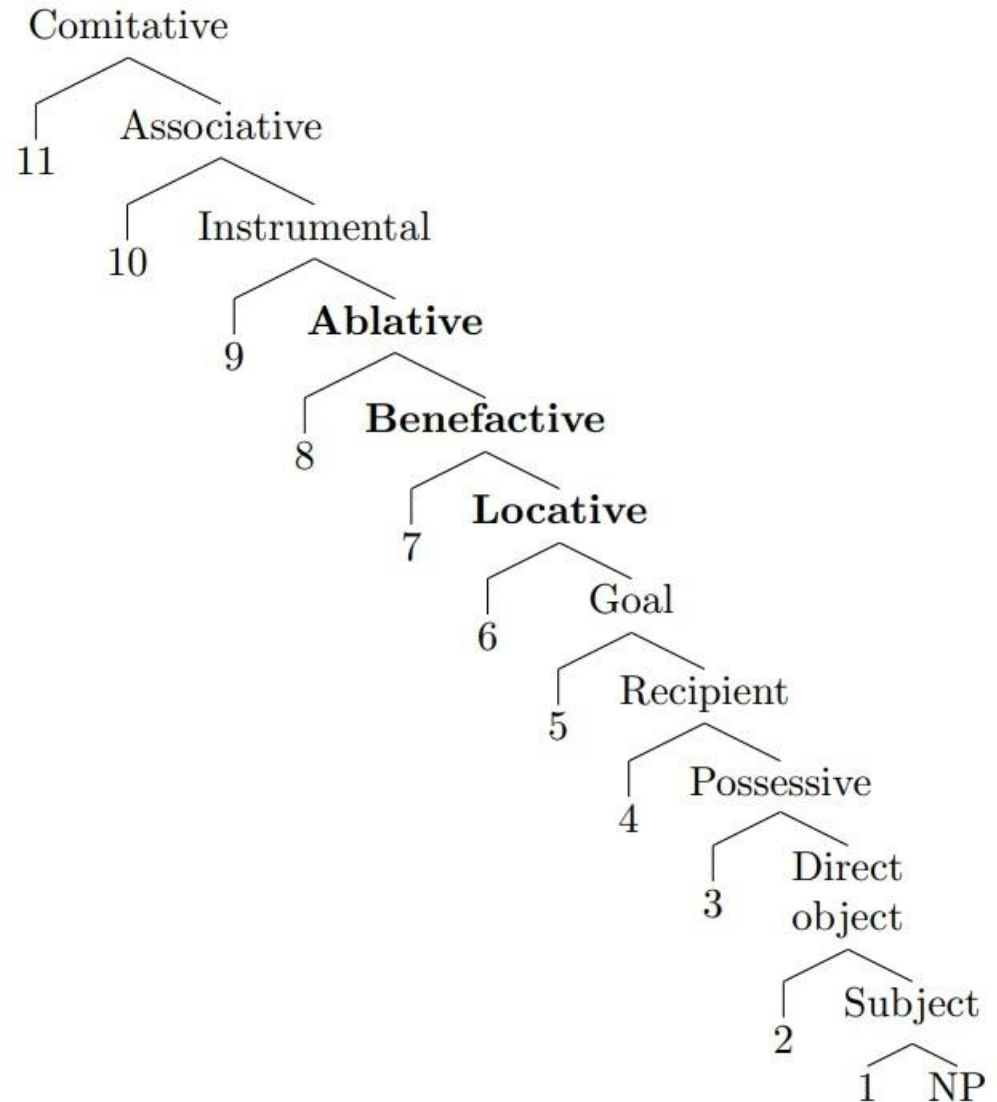
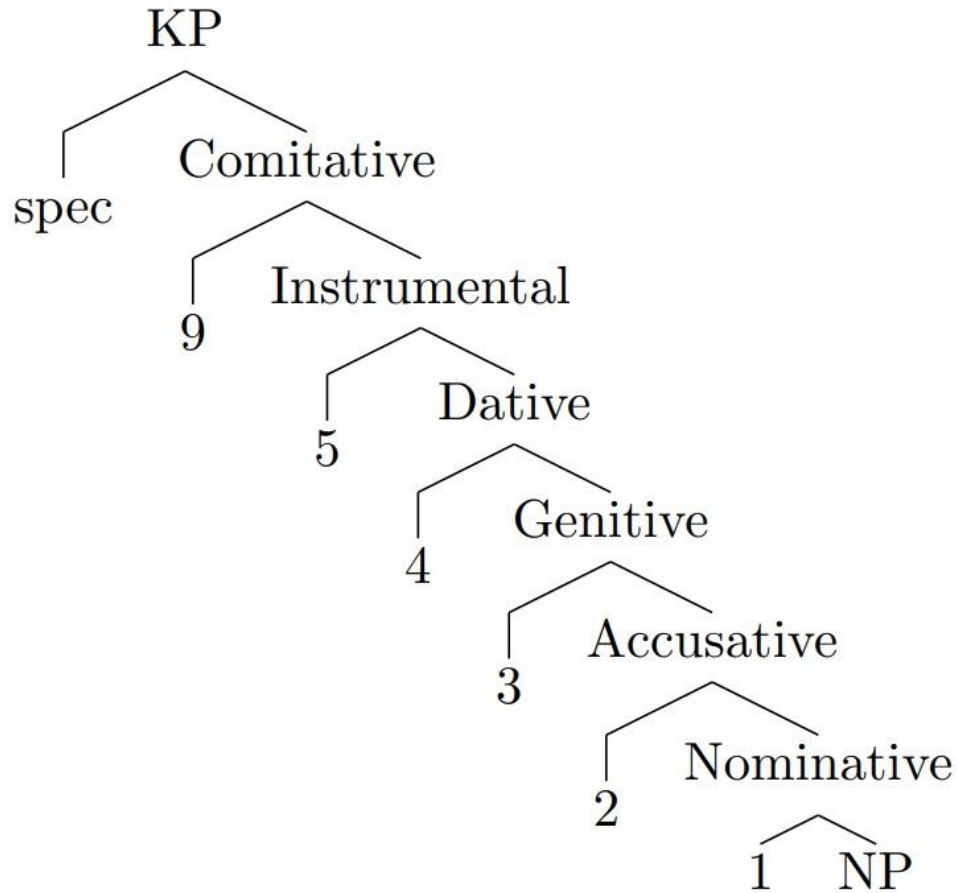
KP case terms:

Comitative
Instrumental
Dative
Genitive
Accusative
Nominative

New function tags:

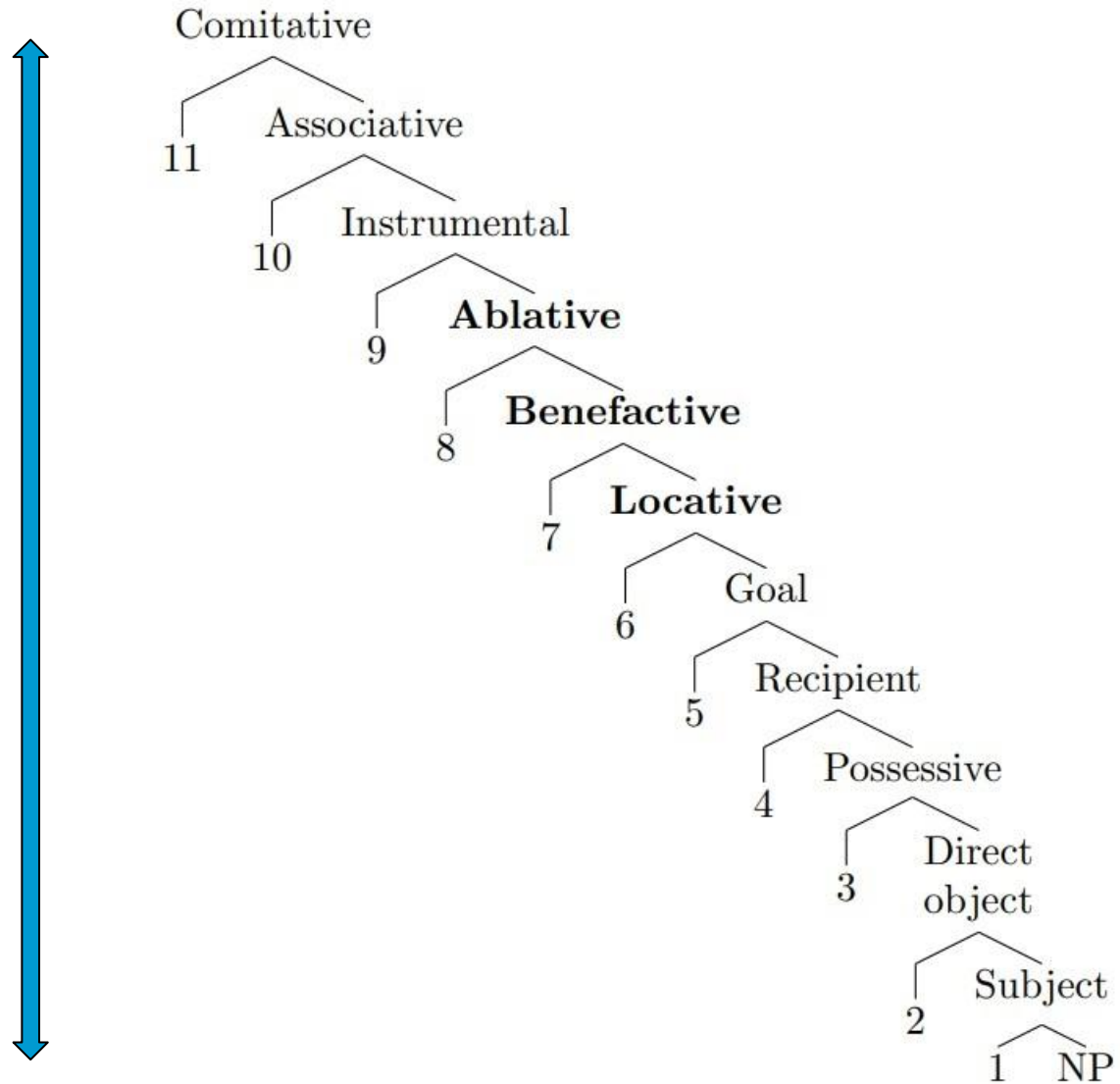
Comitative
Associative
Instrumental
Ablative
Benefactive
Locative
Recipient
Possessive
Direct object
Subject

Function realisation predictions revisited



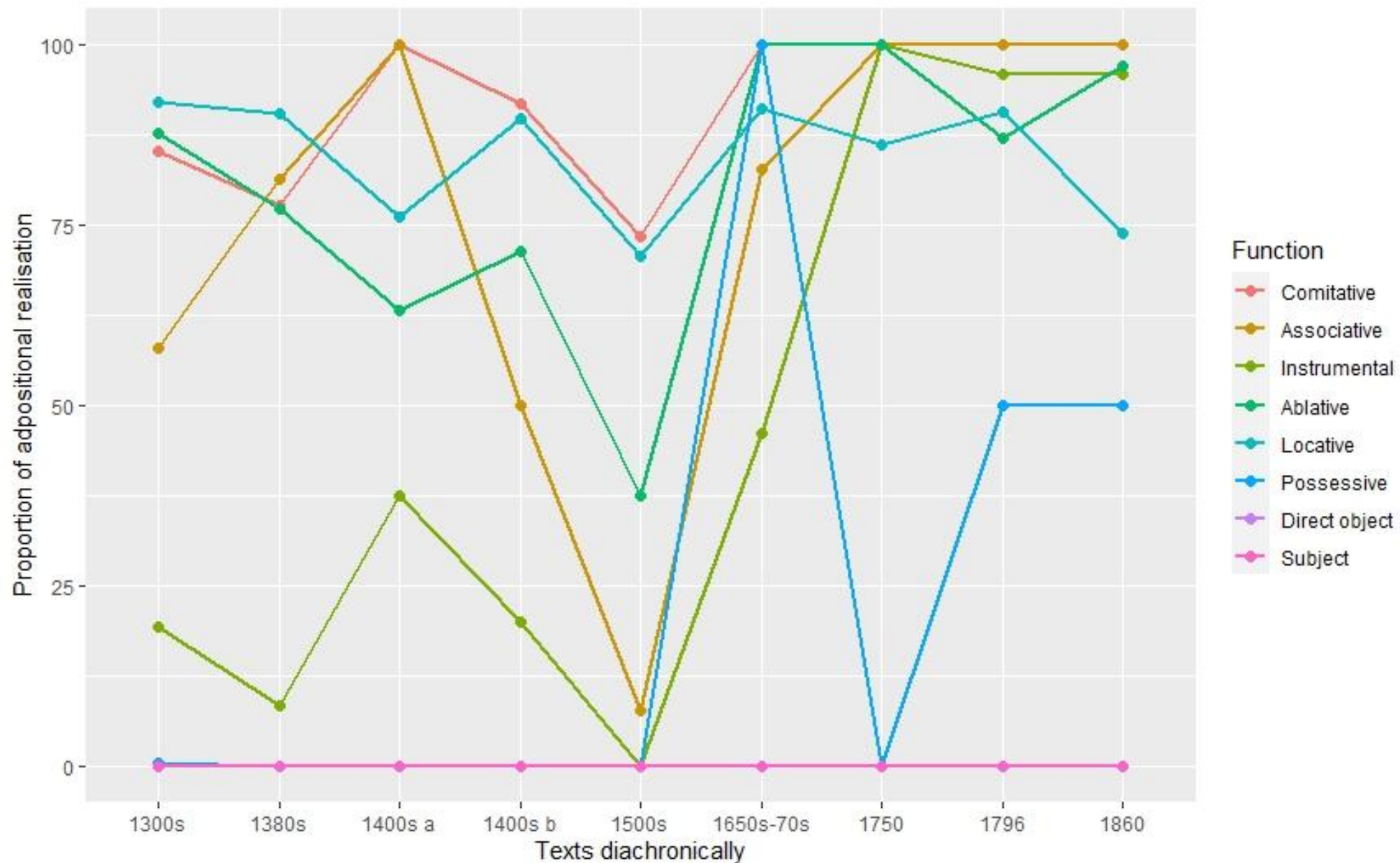
Function realisation predictions revisited

Highest proportion of prepositional realisation



Lowest proportion of prepositional realisation

Preliminary data

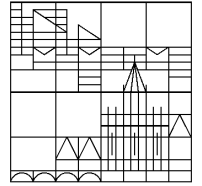


4. Conclusion

Conclusion

- **Case loss in Balkan Slavic within the Balkan Sprachbund makes for a good case study in exploring sociolinguistic factors involved in diachronic simplification.**
- **The exploded KP and FOFC yield the same synchronic predictions concerning adposition and case marker inventories.**
- **The diachronic predictions of FOFC can be straightforwardly applied to the KP.**
- **I argued that high proportions of adult L2 speakers of a language can accelerate change in the KP.**
- **We can use diachronic corpus data to track realisation of the functional load between adpositions and case markers to test these claims.**
- **For a KP with the order of the original KP cases, the preliminary corpus data seems to support the predictions made concerning inventory and syncretisms.**

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**Thank you
for listening!**



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<https://www.ling.uni-konstanz.de/en/walkden/starfish/>

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Corpus metadata

- Corpus used is *Annotated Corpus of Pre-Standardized Balkan Slavic Literature*
- Existing tagging: PoS tags (including case on nouns, adjectives and pronouns), Universal Dependency tags (e.g. subj, obj, iobj, loc)
- ‘Case’ tags on adpositions which reflect cases taken historically by the adpositions, rather than the cases taken by each instance of the adposition.
- These existing tagsets could be used to an extent, but function tags were added to more closely track adposition and case function.
- Preliminary data consists of 7 tagged and analysed texts from 1300s, 1380s, 1400s (x2), 1750, 1796, 1860
- From the modern Bulgarian area, one from Slovenia/Bosnia and one from N. Macedonia
- Rough token counts: 7600, 4550, 800, 1336, 896, 3725, 2329
- Vocative, idiosyncratic, unmarked and unknown categories taken out

Text 24: 1300s, Legend of Troy

Function	No. of adpositional realisation instances	No. of non-adpositional realisation instances	Proportion of adpositional instances	Proportion of non-adpositional instances
Subject	0	549	0	100
Direct object	4	489	0.8	99.2
Possessive	1	251	0.4	99.6
Recipient	0	40	0	100
Goal	16	142	10.1	89.9
Path	1	0	100	0
Path:goal	88	13	87.1	12.9
Pathplace	27	0	100	0
Temporal	48	7	87.3	12.7
Locative	132	6	95.7	4.3
Benefactive	20	8	71.4	28.6
Causative	19	0	100	0
Agentive	7	3	70	30
Path:source	10	0	100	0
Ablative	35	7	83.3	16.7
Instrumental	10	42	19.2	80.8
Associative	15	11	58	42.3
Comitative	29	5	85.3	14.7

Text 31: 1380s, Life of St. Parascheva

Function	No. of adpositional realisation instances	No. of non-adpositional realisation instances	Proportion of adpositional instances	Proportion of non-adpositional instances
Subject	1	233	0.4	99.6
Direct object	2	394	0.5	99.5
Possessive	0	247	0	100
Recipient	0	11	0	100
Goal	22	50	30.6	69.4
Path	5	0	100	0
Path:goal	42	5	89.4	10.6
Pathplace	11	1	91.7	8.3
Temporal	11	3	78.6	21.4
Locative	83	7	92.2	7.8
Benefactive	19	9	67.9	32.1
Causative	16	1	94.1	5.9
Agentive	6	8	42.9	57.1
Path:source	9	0	100	0
Ablative	20	8	71.4	28.6
Instrumental	6	65	8.5	91.5
Associative	35	8	81.4	18.6
Comitative	14	4	77.8	22.2

Text 25: 1400s, Wallachian letters

Function	No. of adpositional realisation instances	No. of non-adpositional realisation instances	Proportion of adpositional instances	Proportion of non-adpositional instances
Subject	0	43	0	100
Direct object	0	49	0	100
Possessive	0	57	0	100
Recipient	0	8	0	100
Goal	4	8	33.3	66.7
Path	1	0	100	0
Path:goal	6	6	50	50
Pathplace	0	0	0	0
Temporal	2	0	100	0
Locative	10	0	100	0
Benefactive	3	0	100	0
Causative	3	0	100	0
Agentive	0	3	0	100
Path:source	0	0	0	0
Ablative	9	4	69.2	30.8
Instrumental	3	5	37.5	62.5
Associative	6	0	100	0
Comitative	2	0	100	0

Text 37: 1400s, Tale of Alexander the Elder (N. Macedonia)

Function	No. of adpositional realisation instances	No. of non-adpositional realisation instances	Proportion of adpositional instances	Proportion of non-adpositional instances
Subject	1	90	1.1	98.9
Direct object	0	95	0	100
Possessive	0	55	0	100
Recipient	0	4	0	100
Goal	12	15	44.4	55.6
Path	0	0	0	0
Path:goal	9	1	90	10
Pathplace	7	1	87.5	12.5
Temporal	5	3	62.5	37.5
Locative	49	3	94.2	5.8
Benefactive	1	1	50	50
Causative	3	0	100	0
Agentive	1	0	100	0
Path:source	2	0	100	0
Ablative	4	4	50	50
Instrumental	1	4	20	80
Associative	2	2	50	50
Comitative	11	1	91.7	8.3

Text 39: 1500s, Homily on Saint Alexander (Western Bulgaria)

Function	No. of adpositional realisation instances	No. of non-adpositional realisation instances	Proportion of adpositional instances	Proportion of non-adpositional instances
Subject	0	581	0	100
Direct object	0	404	0	100
Possessive	0	6	0	100
Recipient	0	17	0	100
Goal	4	63	6	94
Path	0	0	0	0
Path:goal	10	16	38.5	61.5
Pathplace	4	1	80	20
Temporal	5	6	45.5	54.5
Locative	46	4	92	8
Benefactive	1	1	50	50
Causative	1	0	100	0
Agentive	0	2	0	100
Path:source	4	0	100	0
Ablative	3	5	37.5	62.5
Instrumental	0	42	0	100
Associative	1	12	7.7	92.3
Comitative	11	4	73.3	26.7

Text 20: 1650-70s, Life of St. Petka

Function	No. of adpositional realisation instances	No. of non-adpositional realisation instances	Proportion of adpositional instances	Proportion of non-adpositional instances
Subject	0	95	0	100
Direct object	0	159	0	100
Possessive	6	0	100	0
Recipient	0	1	0	100
Goal	9	7	56.3	43.8
Path	0	0	0	0
Path:goal	19	1	95	5
Pathplace	7	0	100	0
Temporal	9	5	64.3	35.7
Locative	58	3		
Benefactive	0	0	0	0
Causative	5	0	100	0
Agentive	4	3	57.1	42.9
Path:source	9	1		
Ablative	19	0	100	0
Instrumental	6	9	46.2	69.2
Associative	19	4	82.6	17.4
Comitative	4	0	100	0

Text 8: 1750, Legend of Thaïs the Harlot

Function	No. of adpositional realisation instances	No. of non-adpositional realisation instances	Proportion of adpositional instances	Proportion of non-adpositional instances
Subject	0	73	0	100
Direct object	0	88	0	100
Possessive	0	249	0	100
Recipient	2	3	40	60
Goal	3	21	12.5	87.5
Path	1	0	100	0
Path:goal	8	0	100	0
Pathplace	3	0	100	0
Temporal	5	4	55.6	44.4
Locative	8	0	100	0
Benefactive	1	3	25	75
Causative	3	0	100	0
Agentive	0	0	0	0
Path:source	0	0	0	0
Ablative	10	0	100	0
Instrumental	8	0	100	0
Associative	2	0	100	0
Comitative	3	0	100	0

Text 16: 1796, Life of Parascheva and Story of Joseph

Function	No. of adpositional realisation instances	No. of non-adpositional realisation instances	Proportion of adpositional instances	Proportion of non-adpositional instances
Subject	0	293	0	100
Direct object	2	297	0.7	99.3
Possessive	5	5	50	50
Recipient	1	20	4.8	95.2
Goal	21	51	29.2	70.8
Path	1	0	100	0
Path:goal	54	2	96.4	10.7
Pathplace	9	0	100	0
Temporal	7	11	38.9	61.1
Locative	84	3	96.6	3.4
Benefactive	6	5	54.5	45.5
Causative	9	0	100	0
Agentive	1	0	100	0
Path:source	7	0	100	0
Ablative	23	6	79.3	20.7
Instrumental	23	1	95.8	4.2
Associative	5	0	100	0
Comitative	5	0	100	0

Text 17: 1860, Homily of saint prophet Daniel about Lord's Judgement

Function	No. of adpositional realisation instances	No. of non-adpositional realisation instances	Proportion of adpositional instances	Proportion of non-adpositional instances
Subject	0	209	0	100
Direct object	0	142	0	100
Possessive	0	78	0	100
Recipient	6	3	66.7	33.3
Goal	24	12	66.7	33.3
Path	4	0	100	0
Path:goal	13	0	100	0
Pathplace	10	0	100	0
Temporal	5	22	18.5	81.5
Locative	36	2	94.7	5.3
Benefactive	7	3	70	30
Causative	7	0	100	0
Agentive	1	0	100	0
Path:source	2	0	100	0
Ablative	23	1	95.8	4.2
Instrumental	6	1	85.7	14.3
Associative	4	0	100	0
Comitative	8	0	100	0