

The difference between English (1) and Serbo-Croatian (SC) (2) is standardly assumed to be PF-based, the only difference between English and SC being that D is phonologically null in SC.

- (1) The stone broke the window.
(2) Kamen razbi prozor.
stone broke window (SC)

Bošković (2008, 2012): There is a fundamental syntactic difference in the traditional Noun Phrase (TNP) of English and languages like SC that lack articles which can be captured if DP is not even present in the TNPs in (2) (see also Fukui 1988, Corver 1992, Zlatić 1997, Chierchia 1998, Cheng & Sybesma 1999, Lyons 1999, Willim 2000, Baker 2003, Trenkić 2004, Despić 2011, 2013, Marelj 2011, Takahashi 2011, Jiang 2012, Talić 2013, in press, Cheng 2013, Runić 2014, in press, Kang 2014, Bošković & Šener 2014, Zanon 2015, Bošković & Hsieh 2013, 2015, among others for no-DP analyses).

Brief illustrations of the differences

Extraction out of the nominal domain

What is good in English is bad in SC, what is bad in SC is good in English

-Adjectival modifier of a noun: does not extract in English, extracts in SC

-Complement of N (*of*-genitive in English, genitive in SC): extracts in English, does not extract in SC

-PP-adjunct modifier (non-complement) of an NP: does not extract in English, extracts in SC

Locality of extraction out of the nominal domain is completely different in English and SC.

We have two things to work with here: (a) structural differences (b) the locality system itself—phases

I will argue for (a). Assuming uniform structure leads to positing parameterization with respect to phases.

Word order

Word order in the nominal domain is generally freer in languages without articles. E.g. demonstratives, possessives, and adjectives can all co-occur in Chinese, any order is in principle possible. Depending on the meaning, the demonstrative occurs in different positions in SC (see Bošković 2016 on the latter).

Richer structure imposes syntactic constraints on word order (e.g. No DP to impose syntactic constraints on word order in article-less languages; no DP to force demonstratives into a unique position)

Binding

The possessor in examples like *John's book* binds out of the TNP in SC, not in English. Binding of reflexive possessors and reflexives in general also works differently (see Despić 2011, 2015 on this)

Generalizations

Bošković (2008, 2012): there is a number of crosslinguistic generalizations where languages differ with respect to a number of syntactic and semantic phenomena depending on whether or not they have articles, which means that the presence or absence of articles cannot simply be a phonological (i.e. PF) effect. A selection of these generalizations is given in (3).

- (3) **NP/DP generalizations** (see Bošković 2008, 2012 and references therein)
1. Only languages without articles may allow left-branch extraction out of TNPs.
 2. Only languages without articles may allow adjunct extraction from TNPs.
 3. Only languages without articles may allow scrambling.
 4. Multiple-wh fronting languages without articles do not show superiority effects.
 5. Only languages with articles may allow clitic doubling.
 6. Head-internal relatives display island sensitivity in languages without articles, but not in languages with articles.
 7. Polysynthetic languages do not have articles.
 8. Only languages with articles allow the majority reading of MOST.

*This material is based upon work supported by the National Science Foundation under Grant BCS-0920888.

9. Languages without articles disallow negative raising (i.e. strict clause-mate NPI licensing under negative raising); those with articles allow it.
10. Negative constituents must be marked for focus in article-less languages.
11. The negative concord reading may be absent with multiple complex negative constituents only in negative concord languages with articles.
12. Number morphology may not be obligatory only in TNPs of languages without articles.
13. Radical pro-drop may be possible only in languages without articles.
14. Elements undergoing focus movement are subject to a verb adjacency requirement only in languages with articles.
15. Inverse scope for S-O is unavailable in languages without articles.
16. Possessors may induce an exhaustivity presupposition only in languages with articles.
17. The sequence of Tense phenomenon is found only in languages with articles.
18. Second position clitic systems are found only in languages without articles.
19. Obligatory numeral classifier systems are found only in languages without articles.
20. Only languages without articles may allow subject reflexives.

Some illustrations: Left branch extraction of adjectival elements

- (4) *Expensive he saw [_{t_i} cars]
 (5) Doroguju on videl [_{t_i} mašinu] (Russian)
 expensive he saw car

Uriagereka (1988), Corver (1992), Bošković (2005, 2012) establish the following.

- (6) Only languages without articles may allow LB examples like (4).

One way correlation, there are other factors involved (agreement, Bošković 2013b)
Braon does not decline/agree, *smedja* does

- (7) *Braon_i je on kupio t_i kola
 brown is he bought car
 'He bought a brown/beige car.'
 (8) Smedja_i je on kupio t_i kola
 brown is he bought car

Bošković (2005, 2012): Bulgarian and Macedonian vs other Slavic languages

Latin vs Modern Romance

Mohawk, Southern Tiwa, Gunwinjguan languages (see Baker 1996), Hindi, Bangla, Angika, and Magahi also allow LB and lack articles.

Coll. Finnish has developed an article; LB allowed only in literary Finnish, no article there (Franks 2007)

- (9) a. Punaisen **ostin** auton. [literary Finnish, poetic style]
 red-acc buy-pst-1sg car-acc
 b. ?*Punaisen **ostin** (sen) auton. [spoken Finnish]
 red-acc buy-pst-1sg the car-acc

History of Greek (Bošković 2012 based on Taylor 1990)

Homeric Greek (8th century BC, Iliad and Odyssey) was an article-less language, Koine Greek (1st century AD, the New Testament corpus) was a full-blown article language

Homeric Greek productively allowed LBE, Koine Greek did not.

Adjunct extraction from TNP

- (10) a. Peter met [_{NP} girls from this city] b. *From which city_i did Peter meet [_{NP} girls t_i]?

Stjepanović (1998), Bošković (2012): SC and Russian, which have no articles and allow LB, allow extraction of adjuncts out of NP (the same holds for Czech, Polish, Ukrainian, Slovenian, Hindi, Bangla, Angika, and Magahi);

Bulgarian, which has articles and does not allow LB, does not (the same holds for Spanish, Icelandic, Dutch, German, Arabic, and Basque).

- (11) Iz kojeg grada_i je Petar sreo [djevojke t_i] (SC)
from which city is Peter met girls
- (12) *Ot koj grad_i Petko [sreštna momičeta t_i]? (Bg, Stjepanović 1998)
from which city Petko met girls
- (13) *Frá hvaða borg sérð þú stelpur? (Icelandic)
from which city see you girls
- (A factor to control: an adjunct in one language can be an argument in another language, see Ticio 2003)
- (14) Only languages without articles may allow adjunct extraction out of TNPs.

Scrambling

- (15) Only languages without articles may allow scrambling.

SC, Russian, Polish, Czech, Latin, Japanese, Korean, Turkish, Hindi, Chukchi, Chichewa, Mohawk, Warlpiri have scrambling and lack articles (what counts is long-distance scrambling from finite clauses).

German, Albanian, Greek Bulgarian vs SC
Latin vs Modern Romance Lakhota vs Mohawk and Wichita

Negative Raising (Negative raising (out of finite clauses) licensing strict clause-mate NPIs)

- (16) John does not believe that Mary is smart
- (17) a. *John left until yesterday. b. John didn't leave until yesterday.
c. *John has visited her in at least two years. d. John hasn't visited her in at least two years.
- (18) a. *John didn't claim [that Mary would leave [_{NPI} until tomorrow]]
b. *John doesn't claim [that Mary has visited her [_{NPI} in at least two years]]
- (19) a. John didn't believe [that Mary would leave [_{NPI} until tomorrow]]
b. John doesn't believe [that Mary has visited her [_{NPI} in at least two years]]
- (20) Negative raising (NR) is disallowed in languages without articles.

No articles, no NR: SC, Czech¹, Slovenian, Polish, Russian, Ukrainian, Turkish, Korean, Japanese, Chinese
NR and articles: English, German, Spanish, French, Portuguese, Romanian, Bulgarian
Two-way correlation?

- (21) Languages without articles disallow NR, and languages with articles allow it.

Superiority and multiple wh-fronting

- (22) a. Koj kogo vižda? b.*Kogo koj vižda?
who whom sees
'Who sees whom?' (Bulgarian)
- (23) a. Ko koga vidi? b. Koga ko vidi?
who whom sees (SC)

- (24) MWF languages without articles do not display superiority effects in examples like (22)-(23).

MWF languages without articles do not show Superiority effects: SC, Polish, Czech, Russian, Slovenian, Ukrainian, Mohawk

MWF languages that show Superiority effects all have articles: Romanian, Bulgarian, Macedonian, Basque, and Yiddish. Hungarian is an exception (articles and no superiority), which doesn't violate (24).

Superlatives

Živanović (2007):(25) doesn't have the reading where more than half the people drink beer. It only has the reading where more people drink beer than any other drink though it could be less than half the people.

¹ Dočekal and Dotlačil's (2015) data confirm the claim in Bošković (2008) regarding Czech (contrary to what they actually say)

- (25) Največ ljudi pije pivo. (Slovenian)
 most people drink beer.
 ‘More people drink beer than drink any other beverage.’ (Plurality reading, MR)
 ‘*More than half the people drink beer.’ (Majority reading, PR)

English *most* gives rise to both readings, though in different contexts. German MOST has both readings.

- (26) Die meisten Leute trinken Bier.
 the most people drink beer.
 ‘More than half the people drink beer’/‘More people drink beer than any other drink’ (with focus on *beer*.)

Živanovič notes English, German, Dutch, Hungarian, Romanian, Macedonian, and Bulgarian, which have articles, allow the majority reading (the same holds for Basque and Arabic). The reading is disallowed in Slovenian, Czech, Polish, SC, Chinese, Turkish, and Punjabi, which lack articles and allow only the plurality reading (the same holds for Hindi, Angika, and Magahi). We then have (27) (I set aside cases where the majority reading is expressed with a noun like *majority*).

- (27) Only languages with articles allow the majority superlative reading.

Polysynthetic languages (based on Baker 1996)

- (28) Polysynthetic languages do not have articles

Focus morphology

In some languages, negative constituents have overt focus morphology. Such morphology is often realized through the presence of focal elements like *even* (SC has two series of negative constituents, a negative concord series and an NPI series, both of which contain *even*), and sometimes through obligatory emphatic (focus) stress, as in Greek.

- (29) n+i+ko i+ko
 neg+even+who even+who ‘noone/anyone’ (SC)

In DP languages negative constituents may but don’t have to have a focus marker, in NP languages they have a focus marker. This holds for SC, Russian, Polish, Lithuanian, Hindi, Chinese, Japanese, Korean, Finnish, Yakut, Lezgian, Kannada, Quechua, Mansi, Latin, Persian, Turkish and Kazakh.

- (30) Negative constituents must be marked for focus in languages without articles.

Focus adjacency

Languages with focus movement differ regarding whether fronted focalized phrases must be V-adjacent.

- (31) a. *KARTINATA Ivan podari na Maria. (Lambova 2004:68)
 painting-the (foc) Ivan give-as-a-present-PT.3P.SG to Maria
 ‘Ivan gave Maria the painting as a present.’ (Bulgarian)
 b. KARTINATA podari Ivan na Maria.
 painting-the (foc) give-as-a-present-PT.3P.SG Ivan to Maria
 c. JOVANA (Petar) savjetuje. (Stjepanović 1999:179)
 J.-acc P-nom advises
 ‘Petar is advising Jovan.’ (SC)

Basque, Hungarian, Bulgarian, Armenian, Greek, Catalan, Romanian, Macedonian, Italian, Spanish, and Albanian are subject to the adjacency requirement. This is not the case with Slovenian, Russian, SC, Polish, Chinese, and Nupe.² Again, a DP/NP cut.

²Turkish is subject to V-adjacency. Sener (2006) shows Turkish doesn’t have focus movement; focalized elements in Turkish remain in the base position, where they are subject to a prosodic requirement that focalized elements be parsed into the same intonational phrase as the verb. The adjacency requirement here is phonological, not syntactic (it affects both contrastively focused elements and elements bearing new information focus; focus movement typically affects only the former with non-wh-phrases.) Sener (2010) shows all elements that are interpreted as old information (topics and discourse anaphoric elements) must move out of vP in Turkish, this being the only movement Turkish has, which leaves only focalized elements next to V.

(32) Phrases undergoing focus movement are subject to a V-adjacency requirement only in languages with articles.

Classifiers Cheng (2013)

(33) Obligatory nominal classifier systems are found only in languages without articles

Sequence of Tense

(34) a. John believed that Mary was ill

b. Jovan je vjerovao da je Marija bolesna

Jovan is believed that is Mary ill

c. SOT languages: English, Dutch, Modern Greek, Spanish, French, German, Italian

d. non-SOT languages: Russian, Polish, Czech, SC, Romanian, Hebrew, Japanese, Korean, Hindi, Turkish

(35) Languages without articles do not show Sequence of Tense.

Second position clitics (see Bošković 2015)

Slavic: while a number of Slavic languages have second-position clitic systems, Bulgarian and Macedonian, the only Slavic languages with articles, are glaring exceptions.

Romance: Latin had second-position clitics, while Modern Romance languages lack them.³

History of Greek: Taylor (1990) shows that 90% of enclitics in the Homeric period, when Greek did not have articles, were in the second position; this simple second position cliticization system broke down in the later stages (i.e. DP stages), like Koine Greek.

Ossetic: a Northeast Iranian language with two distinct main dialects (they are mutually barely intelligible, see Thordarson 1989), Iron (or East Ossetic or Tagauric) and Digor (or West Ossetic).

Abaev (1964): the two differ with respect to articles; Digor has definite article but Iron does not.

Erschler (2012): Iron is a strict second-position clitic language, Digor is not.

Illustration: both Iron and Digor are multiple wh-fronting languages, where non-D-linked wh-phrases cluster together in front of the verb. Importantly, clitics intervene even between fronted wh-phrases in Iron (but not in Digor) due to the second position requirement.

(36) čī=ma=šən sə žonə asə fešivad-ən?
who=also=DAT.3PL what know.PRS.3SG this youth-DAT

‘Who knows what about them, about this youth?’ (Ajlarty 2002:13, apud Erchler 2012:678)

Bošković (2015): fifty-three languages with second position clitics, all of which lack articles:

Serbo-Croatian, Czech, Slovak, Slovenian, Hucul Ukrainian, Sorbian (Slavic);

Latin, Ancient Greek, Old English, Hittite, Sanskrit, Tagalog;

Ossetic, Northern Talysh, Southern Tati, Pashto (Iranian);

Yingkartá, Wajarri, Ngiyamba, Warlpiri, Warumungu, Pitjantjatjara, Yir-Yoront, Nhanda, Gurindji, Djaru, Ngarinyman, Mudburra, Wembawemba, Wergaia, Madimadi, Wathawurrung, Woiwurrung, Bilinearra, Warnman (Pama-Nyungan languages)

Yukulta, Garrwa, Wambaya

Comanche, Chemehuevi, Southern Paiute/Ute (Numic languages); Cupeño, Luiseño, Serrano, Gabrielino Takic languages; Tubatulabal; Mayo, Tarahamara, Yakui (Taracahitic languages), Pima, Tepehuan, Tohono O’odham/Papago (Tepiman languages); and Cora (Corachol languages) (all Uto-Aztecan)

(37) Second position clitic systems are found only in languages without articles

Conclusion: The above generalizations, which are syntactic and semantic in nature, indicate there is a fundamental difference in the TNP of languages with and languages without articles that can’t be reduced to phonology (overt vs. null articles). The generalizations can be deduced if languages that lack articles lack DP. The NP/DP analysis provides a uniform account of these differences, where a single difference between the two types of languages is responsible for all of them.

Slovenian (Bošković 2009b): Slovenian has indefinite, but not definite articles. In all relevant respects it patterns with NP languages.

³ Old Spanish was not an exception, see Wanner (2001).

The no-DP analysis does not ban all functional structure in TNPs

Binding properties of possessors

Bošković (2012): due to the lack of DP, SC possessors and demonstratives are NP-adjuncts.

Despić (2011, 2013): English/SC binding contrasts; given that the possessor is an NP-adjunct and that SC lacks DP, the possessor c-commands out of the TNP, which results in Condition B/C violations in (39).

- (38) a. His_i latest movie really disappointed Tarantino_i.
b. Tarantino_i's latest movie really disappointed him_i.
- (39) a. *_{[NP Kusturicin_i [NP najnoviji film]]} ga_i je zaista razočarao.
Kusturica's latest movie him is really disappointed
'Kusturica_i's latest movie really disappointed him_i.'
b. *_{[NP Njegovi_i [NP najnoviji film]]} je zaista razočarao Kusturicu_i.
his latest movie is really disappointed Kusturica

Demonstratives and adjectives that precede a possessor do not confine the possessor's c-command domain, which follows if demonstratives and adjectives that precede a possessor are also NP-adjoined.

- (40) a. *_{[NP Brojni [NP Kusturicin_i [NP filmovi]]]} su ga_i razočarali
numerous Kusturica's movies are him disappointed
b. *_{[NP Brojni [NP njegov_i [NP filmovi]]]} su razočarali Kusturicu_i
numerous his movies are disappointed Kusturica
- (41) a. *_{[NP Ovaj [NP Kusturicin_i [NP najnoviji [N' film]]]]} ga_i je zaista razočarao.
this Kusturica's latest movie him is really disappointed
'This latest movie of Kusturica_i really disappointed him_i.'
b. *_{[NP Ovaj [NP njegov_i [NP najnoviji [N' film]]]]} je zaista razočarao Kusturicu_i.
this his latest movie is really disappointed Kusturica
'This latest movie of his_i really disappointed Kusturica_i.'

Alternative explanation: parameterizing c-command??

Bošković (2012), Despić (2013): A functional projection is present above NP in numeral constructions (and with certain quantifiers)

- (42) [_{QP} Pet [_{NP} njegovih_i [_{NP} filmova]]] je proslavilo Kusturicu_i.
5 his movies is made.famous Kusturica
'Five of his movies made Kusturica famous.'

Bošković (2012): Chinese and Japanese pattern with SC; the same holds for Turkish (Bošković and Şener 2014) (for Chinese and Japanese, see also Cheng 2013 and Takahashi 2011, Bošković and Hsieh 2015—the Chinese data below are taken from there).

- (43) *_{[NP Tā_i-dè [NP zuìxīndè diányǐng]]} cǐjī lè Lǐ-Ān_i
his newest movie provoke PERF Li-An
- (44) a. *_{[NP zǎoqídè [NP tā_i-dè [NP diányǐng]]]} cǐjī lè Lǐ-Ān_i
early-time his movie provoke PERF Li-An
'Early movies of his provoked Li-An.'
b. *_{[NP Zhè-bù [NP tā_i-dè [NP diányǐng]]]} cǐjī lè Lǐ-Ān_i.
this-CL his movie provoke PERF Li-An
'This movie of his provoked Li-An.'
- (45) You sān-bù tā_i-dè jìnrì-dè diányǐng cǐjī lè Lǐ-Ān_i
have 3-CL his recent-DE movie provoke PERF Li-An
'Three recent movies of his provoked Li-An.'

Chinese numerals do, and SC numerals do not, occur with a classifier.

Bošković & Hsieh (2013): the classifier in numeral and demonstrative constructions should be treated differently.

Some deductions of the NP/DP generalizations

Bošković (2012, 2013a, 2014): Back to left branch extraction (and adjunct extraction)

The Phase-Impenetrability Condition (PIC): only the head and the Spec of a phase are accessible for movement to a position outside of the phase.

DP is a phase. Given the PIC, you can move out of a DP only if you first move to SpecDP.

AP is adjoined to NP

Anti-locality: the ban on movement that is too short (see, e.g., Bošković 1994, 1997, Saito and Murasugi 1999, Ishii 1999, Abels 2003, Grohmann 2003, Ticio 2003). Like most other approaches, the version of anti-locality adopted in Bošković (2005) requires movement to cross at least one full phrasal boundary.

AP is too close to move to SpecDP (46). Given the PIC, which rules out (47), this prevents AP extraction out of DP, while still allowing *Who_i do you like [_{DP} t_i [_{NP} friends of t_i]]?*

(46) * $[_{DP} AP_i [_{D'} D [_{NP} t_i [_{NP} \dots]]]$

(47) * $AP_i [_{DP} [_{D'} D [_{NP} t_i [_{NP} \dots]]]$

The impossibility of adjunct extraction out of NP in English can be accounted for in the same way as the impossibility of AP LB, given that NP adjuncts are also adjoined to NP.

The PIC/anti-locality problem does not arise in SC/Russian, since DP is missing

Bošković (2013a, 2014): the highest projection in the extended domain of a lexical head is a phase

This means the highest projection in the TNP is a phase.

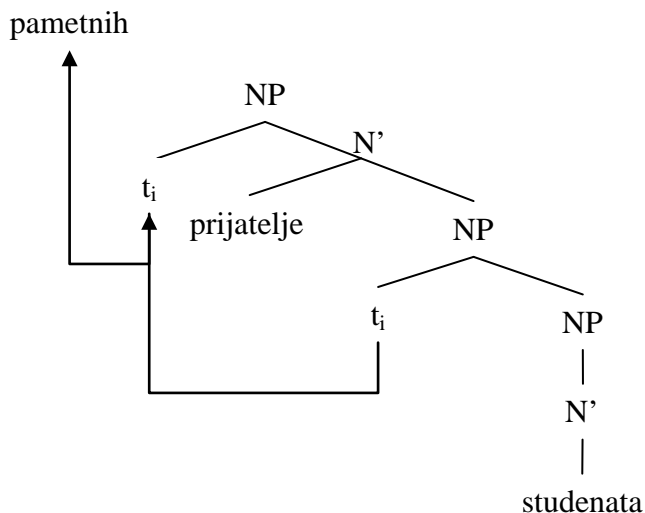
Bošković (2005): SC disallows deep LBE, i.e. LBE out of a complement of a noun

(48) a. On cijeni [_{NP} [_{N'} [prijatelje [_{NP} pametnih [_{NP} studenata]]]]
 he appreciates friends smart students
 'He appreciates friends of smart students.'

b. ?*Pametnih_i on cijeni [_{NP} [_{N'} [prijatelje [_{NP} t_i [_{NP} studenata]]]]

An NP above an LBE-ing NP has the same effect on LBE as a DP above an LBE-ing NP does in English; they both block LBE. This can be accounted for if NP is a phase in NP languages: (48) can then be accounted for in the same way as (4), with the higher NP blocking LBE for the same reason DP does in (4)

(49)



Deep adjunct extraction is also blocked.

(50) *Iz kojeg grada_i je Petar sreo prijatelje [djevojke t_i] (SC)
 from which city is Peter met friends girl
 'From which city did Peter meet friends of a girl?'

Abels (2003): the complement of a phase head is immobile. IP dominated by CP, a phase, cannot undergo movement (**His_i mother likes Mary, everyone_i believes that*). This follows from an interaction of the PIC and anti-locality, the PIC requiring IP movement through SpecCP, and anti-locality blocking it.

(51) * $[_{CP} IP_i [_{C'} C t_i]$

(52) * $IP_i [_{CP} [_{C'} D t_i]$

If NP is a phase in NP languages we would expect that an NP complement of a noun cannot undergo movement. Genitive complements of nouns indeed cannot be extracted in SC.

- (53) ?*Beograda sam pronašla [NP sliku t_i]
 Belgrade(gen)am found picture
 ‘Of Belgrade I found the/a picture.’

The impossibility of deep LBE, deep adjunct extraction, and the immobility of genitive complements of nouns fall into place if NP is a phase in article-less languages; they are all ruled out in the same way.

The reason why, in contrast to DP languages, NP languages allow LBE and adjunct extraction out of TNP is not a difference in the phase status of the TNP, where TNP would not be a phase in NP languages; the difference is that the relevant elements are generated at the TNP phase edge in NP languages, while they have to move there in DP languages, violating antilocality. When they are forced to move to the phase edge, as with deep LBE/deep adjunct extraction, the antilocality violation also resurfaces in NP languages

QP, additional structure: Nominal complement extraction improves in this context.

- (54) ?Ovog grada sam pronašla [mnogo/pet slika t_i]
 this city(gen) am found many/five books
 ‘Of this city I found many/five books.’

The highest phrase in a TNP domain counts as a phase

NP1 is a phase in (56) as the highest projection in the TNP; the complement of *books* then cannot move. However, QP, not NP1, is as a phase in (55), hence the complement of *books* can move.

- (55) [QP [NP1 N complement]
 (56) [NP1 N complement]

Evidence against the rigid, once a phase, always a phase approach (NP1 would always be a phase here)

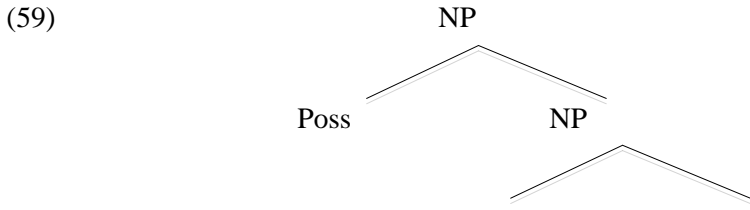
Ellipsis (Only phases and phasal complements can elide, Bošković 2014)

NP ellipsis in Japanese

- (57) [NP Taro-no [NP taido]]-wa yo-i ga, [NP Hanako-no [NP ~~taido~~]]-wa yoku-na-i
 Gen attitude-Top good-pres though Hanako-Gen attitude-Top good-not-Pres
 ‘Though Taro’s attitude is good, Hanako’s isn’t.’ (Saito, Lin, and Murasugi: 253)

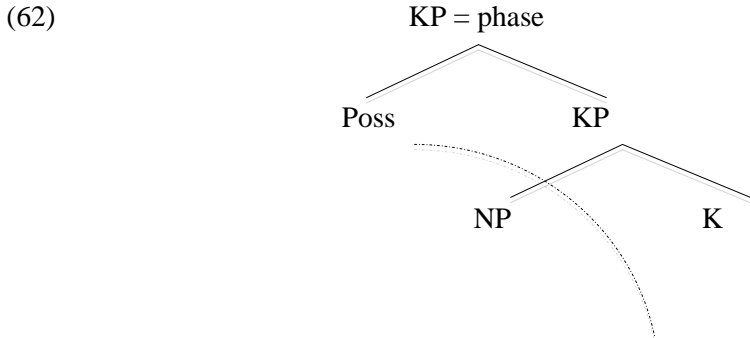
Numerals license ellipsis

- (58) Taro-wa [yon-satsu-no hon]-o kat-ta ga, sono-uti ni-satu-o sudeni yomi-oe-ta
 Taro-Top four-CL-Gen book-Acc buy-Past though that-out.of two-CL-Acc already read-finish-Past
 ‘Taro bought four books, but he already finished reading two (of them).’

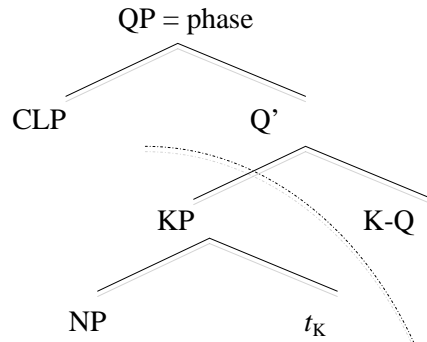


- (60) Naomi-mo moo tsuki-masi-ta ka? Naomi-Ga mada tsuki-mase-n
 Naomi-also already arrive-Pol-Past Q Naomi-Nom yet arrive-Pol-Neg
 ‘Has Naomi already arrived?’ ‘She has not arrived yet.’ (Otaki 2011)

(61) Case particles are located in K, Pos is KP adjoined (Takahashi 2011)



(63) Numerals

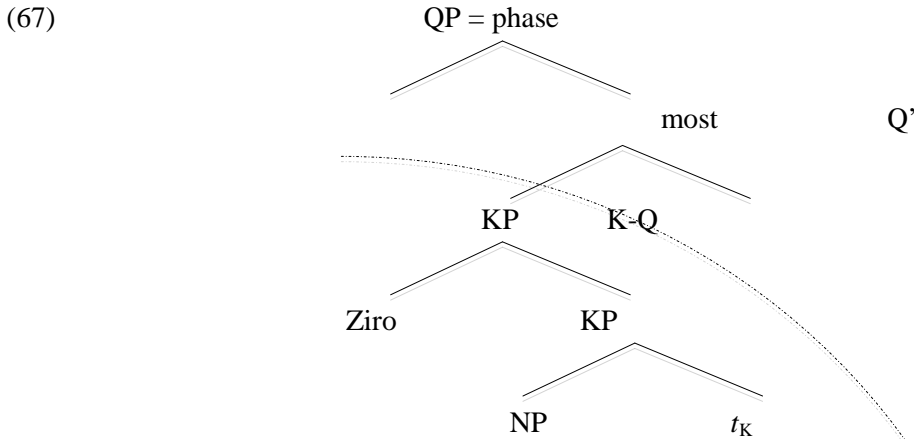


Additional data (Takahashi 2011)

(64) A sensei-wa subete-no Taroo-no tikoku-o yurusi-ta. (ANTECEDENT)
 Prof. A-Top all-Gen Taro-Gen tardiness-Acc forgive-Past
 'lit. Prof. A forgave all taro's tardiness.'

(65) *B sensei-wa hotondo-no Ziroo-no ~~tikoku~~-o yurus-anakat-ta.
 Prof. B-Top most-Gen Ziro-Gen tardiness-Acc forgive-Neg-Pat
 'lit. Prof. B didn't forgive most of Ziro's tardiness.'

(66) B sensei-wa hotondo ~~Ziroo-no tikoku~~-o yurus-anakat-ta.
 Prof. B-Top most Ziro-Gen tardiness-Acc forgive-Neg-Past



Converging evidence from different domains: Japanese ellipsis replicates the SC extraction paradigm: the same elements that change the possibilities for extraction in SC TNPs change the possibilities for ellipsis within Japanese TNPs, in the same way. The highest-projection-as-a-phase analysis unifies the two.

Japanese vs Turkish (cf. Bošković and Sener 2014 for Turkish)

(68) *[Pamuk-un kitab-ı-nı] oku-du-m, ama [Oe-nin ~~kitab-ı-nı~~] oku-ma-dı-m.
 P.-gen book-3sg.poss-acc read-past-1sg but O.-gen read-neg-past-1sg
 'I read Pamuk's book, but I didn't read Oe's.'

(69) a. Turkish: [NP POSS [NP N] b. English: [DP POSS [D' t_{NP} N]

When there is additional structure, as with numerals, ellipsis is possible in Turkish.

(70) ?Pelin [Chomsky-nin üç tane kitab-ı-nı] oku-muş,
 P.-nom C.-gen three CLL book-3s.poss-acc read-evidential.past
 ama [Foucault-nuniki tane ~~kitab-ı-nı~~] oku-muş.
 but F.-gen two CLL read-evidential.past
 'S/he read three books of Chomsky's, but s/he read 2 books of Foucault's.'

(71) [CLLP POSS [CLL Num [CLL' CLL⁰ t_{NP} t_N t_{books}]
 Foucault-nun iki tane kitab-ı-nı

The reduced NP requires a linguistic antecedent, which shows we are dealing with ellipsis here.

(72) A and B are in a bookstore. Pointing to Foucault's books, A says:
 *Pelin Foucault-nun iki tane oku-muş.
 P-nom F-gen two CLL read-evidential.past

Back to negative raising (Bošković and Gajewski 2011)

We explain (21) by highlighting a similarity in the interpretation of definite plurals and NR predicates.

Gajewski's (2005, 2007) approach to negative raising, which imputes to negative raising predicates an excluded middle presupposition (EMP, *A believes that p* presupposes *A believes that p* or *A believes that not p*. As a presupposition, the EMP survives negation. Then, in *A does not believe that p* the assertion and the EMP presupposition together entail *A believes that not p*.

Gajewski: EMP is the hallmark of constructions that can be semantically analyzed as distributive plural definite descriptions, rather than universal quantifiers. The EMP of definite plural NPs: *Bill saw the boys* implies Bill saw all the boys; *Bill didn't see the boys* implies he saw no boys—not merely not all, with a universal scoping over negation, which Gajewski attributes to the EMP and which is analogous to the lower clause negation reading with negative raising (compare *Bill didn't see the boys* with the negation of a universal quantifier: *Bill didn't see all the boys*).

Sentence-embedding predicates are standardly treated as universal quantifiers over accessible worlds.

Gajewski (2005): having the EMP, negative raising predicates should be treated as plural definite descriptions, which serve as arguments of the predicates contributed by their propositional complements.

Bošković and Gajewski (2011): sentence-embedding predicates combine a modal base (set of accessible worlds) with a quantificational element. The quantificational element may be either a universal quantifier or a definite article. If a modal base combines with the definite article, the result is a negative raising predicate. Given this, if a language lacks the definite article, it lacks the necessary material to assemble a negative raising predicate. It follows negative raising is possible only in DP languages.

Gajewski (2007): the lack of predicates with the EMP predicts the impossibility of long distance licensing of strict NPIs. Recall that even languages disallowing strict NPI licensing under negative raising allow negative raising interpretation. Suggestion: this is a pragmatic effect capturable in an approach like Horn (1989), who argues that the lower clause understanding is a case of 'inference to the best interpretation.' (Gajewski 2005 shows this approach cannot explain strict NPI licensing under negative raising, which his semantic account can do.)

Word order

Bošković (2009a, 2012): word order within TNP is freer in NP than in DP languages. The reason is that the richer structure of DP languages imposes restrictions on word order in DP languages that are not found in NP languages due to the lack of the syntactic structure in question. In English demonstratives and possessives must precede adjectives because they are located in DP, which is higher than the phrase where adjectives are located. In NP languages like SC, due to the lack of DP all these elements are treated as NP adjuncts. As a result, syntax doesn't impose any restrictions on their order.

Chinese, Japanese, Korean: free order of adjectives, demonstratives, and possessives, which follows if they are all NP adjoined.

(73) Zhangsan-de hongse de chenshan vs. Hongse de Zhangsan-de chenshan
Zhangsan-GEN red shirt red Zhangsan-poss shirt

(74) a. na-bu hongse de paoche vs. hongse de na-bu paoche
that-CL red sport-car red that-CL sport-car
b. na-bu Zhangsan-de che vs. Zhangsan-de na-bu che
that-CL Zhangsan-GEN car Zhangsan-GEN that-CL car

(Adjectives with *-de* cannot be analyzed as reduced relatives, see Paul 2005, Aoun and Li 2003, Cheung 2005, Sio 2006, del Gobbo 2004, Bošković and Hsieh 2015)

SC/Chinese difference: free order for poss and adjectives in SC, but demonstratives must come first.

(75) Jovanova skupa slika vs. Skupa Jovanova slika
John's expensive picture *expensive John's picture

(76) ova skupa kola/?*skupa ova kola
this expensive car expensive this car

(77) ova Jovanova slika /?*Jovanova ova slika
this Jovan's picture Jovan's this picture

Bošković (2009a): semantically, possessives and adjectives are expected to be freely ordered. The most plausible semantics for possessives is modificational

(78) Partee & Borschev (1998) (R_i is a free variable) $[[\text{Mary's}]] = \lambda x. [R_i(\text{Mary})(x)]$

(79) Larson & Cho (1999) $[[\text{to Mary}]] = \lambda x. [\text{POSS}(j,x)]$

Under the standard assumptions that adjectives are also of type $\langle e, t \rangle$ and that there is a rule of intersective predicate modification, semantics imposes no restrictions on the order in which possessives and adjectives are composed.

Kaplan (1977): demonstratives are markers of direct reference. I.e., demonstrative noun phrases pick out an individual of type e . The individual is picked out at least partially as a function of its predicate complement phrase. Thus, a demonstrative element like *that* is a function of type $\langle \langle e, t \rangle, e \rangle$.

Once a demonstrative has mapped a nominal element to an individual, further modification by predicates of type $\langle e, t \rangle$ is impossible. Hence, semantic composition requires both adjectives and possessives to be composed before demonstrative determiners.

- (80) a. adjectives $\langle e, t \rangle$ b. demonstratives $\langle \langle e, t \rangle, e \rangle$

Conclusion: semantic composition allows possessives to be composed either before or after modifying adjectives, while demonstratives must be composed after both adjectives and possessives.⁴ This perfectly matches the actual facts regarding the ordering of the elements in question in SC.

Chinese/SC difference

Bošković and Hsieh (2013): The pronominal variable analysis

Assuming that the adjective is of type $\langle e, t \rangle$ and *that car* of type e in “red that car”: there is a contextual pronominal variable of type $\langle e, t \rangle$ in the denotation of demonstratives in Chinese (see also Williams 2002) but not SC, this being the reason why “red” can be interpreted inside of the scope of the demonstrative in Chinese but not SC (see Bošković and Hsieh for details of semantic composition).

The classifier is the realization of the contextual variable, which led to a conjecture that this kind of construction is possible only in classifier languages (see also Martí 2003 for independent evidence for syntactically active contextual pronominal variables in Chinese)

Bošković and Hsieh (2015): the type-shift analysis

Heim & Kratzer’s (1998) Predicate Modification rule.

- (81) For any branching node α whose daughters are β and γ , if both β and γ are of type $\langle \sigma, t \rangle$, then
[[α]] = [λx_{σ} . [[β]](x) and [[γ]](x)], where σ is any type.

Chierchia (1998): in Chinese, a language with the parameter setting [+argumental, -predicative] for bare nouns, bare nouns are kind-denoting and of type e . In a numeral construction in Chinese, classifiers are required to turn the denotation of a bare noun, which denotes a kind individual, into a set that contains countable individuals. Various interpretations of Chinese bare nouns are derived via covert type-shifting operations without postulating a phonologically null article in the lexicon/syntax.

Although, like Chinese, SC does not have articles it has the setting [+argumental, +predicative]. As a result, bare nouns are of type $\langle e, t \rangle$ in SC. Since, like Chinese, SC lacks articles, in Chierchia’s system SC still has access to covert type-shifting operations to derive various interpretations of bare nouns.

Summary: although they both lack DP, Chinese and SC differ in the semantic type of bare nouns. Bare nouns are of type e in Chinese and of type $\langle e, t \rangle$ in SC.

Since Chinese bare nouns are of type e , Chinese needs to employ type shifting when nouns are used predicatively: a type shifting operation that type-shifts type e to type $\langle e, t \rangle$ is clearly required in Chinese, or nouns could not be used predicatively.

Proposal: the type shift in question is only allowed in Chinese-type languages, not in languages where bare nouns are of type $\langle e, t \rangle$.

Outline of the analysis: Since the demonstrative-NP sequence can be type-shifted to $\langle e, t \rangle$ in Chinese but not in SC, it can be composed with an adjective of type $\langle e, t \rangle$ only in Chinese.

- (82) ?*skupa ova kola
expensive this car

Nouns and adjectives in SC are of type $\langle e, t \rangle$. While the adjective is of type $\langle e, t \rangle$, the demonstrative-N sequence is of type e . The two cannot be composed by the Predicate Modification rule. Moreover, type shifting the demonstrative-N sequence is not an option in SC, in contrast to Chinese.

⁴This also holds for adjectives like “former” (type $\langle \langle e, t \rangle, \langle e, t \rangle \rangle$). This account can be extended to non-restrictive adjectives under Morzycki (2008), where non-restrictive adjectives are also required to be interpreted inside determiners.

The Chinese/SC word order difference follows from the Chinese/SC difference in the availability of e-to-<e,t> type shift, which is tied to the difference in the semantic type of bare nouns.

The interpretation of (88)-(89) (assuming Chierchia for Chinese nouns): in (88), the type-shifting operation \cup first shifts the type of the denotation of *xúeshēng* ‘student’ from e to <e,t>; the conjunction of the denotation of *cōngmíng* ‘smart’ and *xúeshēng* ‘student’ then gives us a set of individuals that are smart and students (see (83)a). The function (of type <<e,t>, e>) denoted by the demonstrative then applies to the denotation of the conjunction of *cōngmíng* ‘smart’ and *xúeshēng* ‘student’ (see (83)b-c).

- (83) a. $\llbracket \text{cōngmíng}(-\text{dè}) \text{ xúeshēng} \rrbracket = \lambda x_e. \llbracket \text{cōngmíng} \rrbracket(x) \text{ and } \cup \llbracket \text{xúeshēng} \rrbracket(x)$
 $= \llbracket \lambda x. x \text{ is smart and } x \text{ is a student} \rrbracket$
 b. $\llbracket \text{nà-gè} \rrbracket = \lambda P_{\langle e, t \rangle}. \text{ THAT } x \text{ such that } P(x)$
 c. $\llbracket [\text{NP nà-gè} [\text{NP cōngmíng}(-\text{dè}) \text{ xúeshēng}]] \rrbracket = \llbracket \text{nà-gè} \rrbracket(\llbracket \lambda x. x \text{ is smart and } x \text{ is a student} \rrbracket)$
 $= \text{THAT } x \text{ such that } x \text{ is smart and } x \text{ is a student}$

In (89), the demonstrative first combines with the noun; since the demonstrative takes a function of type <e,t> as its argument, the type-shifting operation \cup first applies on the denotation of *xúeshēng* ‘student’, turning it to a function of type <e,t>. As before, the function (of type <<e,t>, e>) denoted by the demonstrative then applies to the denotation of *xúeshēng*. Since Chinese allows type shift from type e to type <e,t>, the type-shifting operation ID ($\lambda x_e. \lambda y_e. y=x$) applies on the denotation of the demonstrative-N sequence. Conjoining the denotations of the adjective and the dem.-N sequence after type shifting results in a singleton set that contains one individual that is smart and is a student that is picked up by the denotation of the demonstrative in the discourse context. The iota-operator ι then applies on this singleton set and yields the unique individual that is smart and is a student picked up by the demonstrative.

- (84) a. $\llbracket [\text{NP nà-gè} [\text{NP xúeshēng}]] \rrbracket = \llbracket \text{nà-gè} \rrbracket(\cup \llbracket \text{xúeshēng} \rrbracket)$
 $= \llbracket \text{nà-gè} \rrbracket(\llbracket \lambda x. x \text{ is a student} \rrbracket)$
 $= \text{THAT } x \text{ s.t. } x \text{ is a student}$
 b. $\llbracket [\text{NP}_{\text{AP}} \text{cōngmíng-dè} [\text{NP nà-gè} [\text{NP xúeshēng}]]] \rrbracket$
 $= \iota(\llbracket \text{cōngmíng} \rrbracket \cap \text{ID}(\llbracket \text{nà-gè xúeshēng} \rrbracket))$
 $= \iota(\llbracket \lambda x. x \text{ is smart and } x = \text{THAT } y \text{ s.t. } y \text{ is a student} \rrbracket)$
 $= \text{the unique } x \text{ such that } x \text{ is smart and } x = \text{THAT } y \text{ s.t. } y \text{ is a student}$

-dè: following Kuo (2009), -dè as a contextual Case marker, like -no in Japanese (Saito et al 2008).

(85) A non-classifier marked element merged with a non-minimal projection of N must be *dè*-marked

(85) concerns only elements that are not classifier-marked (so demonstratives are not *dè*-marked).

- (86) zhè-gè-(*dè) xúeshēng
 this-CL-DE student

The contextual marker -dè is semantically vacuous (it can be inserted in PF or in the syntax)

-Dè is optional when N immediately follows the adj. ((87)-(88)); when they are separated it must be inserted (89).

- (87) cōngmíng(-dè) xúeshēng
 smart-DE student
 ‘smart students’

- (88) nà-gè cōmíng(-dè) xúeshēng
 that-CL smart-DE student
 ‘that smart student’

- (89) cōmíng*(-dè) nà-gè xúeshēng
 smart-DE that-CL student

Different structures (also Sadler & Arnold 1994, Paul 2005): the -dè-less adjective is an X^0 which adjoins to the noun it modifies. Since the adjective here merges with a minimal projection, N^0 , -dè is not inserted.

- (90) $[\text{NP}[\text{N}^0[\text{A}^0 \text{cōngmíng}]] [\text{N}^0 \text{xúeshēng}]]$
 smart student

- (101) boy boy-s
 (102) nanhai vs. nanhai-men
 'boy' boy-MEN 'the boys'

There is no DP-language that has the interaction of number and definiteness of the kind Mandarin has. When attached to common nouns *-men* semantically performs two functions; it introduces plurality AND definiteness (maximality): a noun suffixed with *-men* is interpreted as a definite plural.

In a DP-language, the labor that is done by *-men* in Mandarin is divided between D^0 and the head of the number projection Num^0 ; D^0 introduces definiteness and Num^0 introduces plurality. Since NP languages do not have a projection like DP that is dedicated to introducing definiteness, other functional elements such as Cl^0/Num^0 have to take over the function of introducing definiteness. As a result, NP languages can exhibit interactions between definiteness and other properties that are not found in DP languages.

Adjectives in SC

Bošković (2016): The contextuality of phasal edges

- (104) a. *Na tebe_i sam vidio [_{NP} Jovanovog [_{NP} [ponosnog t_i] [_{NP} oca]]]
 of you am seen Jovan's proud father
 b. *Na tebe_i sam vidio [_{NP} tog [_{NP} [ponosnog t_i] [_{NP} oca]]]
 of you am seen that proud father
 c. Na tebe_i sam vidio [_{NP} [ponosnog t_i] [_{NP} oca]]
 of you am seen proud father (SC)

The highest projection in a TNP is a phase in both SC and English; in SC this is NP, and in English DP.

(104a) and (104b) can be accounted for if only the highest edge is the edge, i.e. if only the outmost edge counts as the edge for the purpose of the PIC; the AP, which means the adjectival complement too, is then not located in the phasal edge in (104a-b), hence the extraction is not possible due to the PIC.

- (105) a. *Na tebe_i sam vidio [_{NP} Jovanovog [_{NP} [ponosnog t_i] [_{NP} oca]]]
 b. *Na tebe_i sam vidio [_{NP} tog [_{NP} [ponosnog t_i] [_{NP} oca]]]
 c. Na tebe_i sam vidio [_{NP} [ponosnog t_i] [_{NP} oca]]

The edge-of-the-edge account extends to the following contrast

- (106) a. *Ponosnog_i sam vidio [_{NP} tog [_{NP} t_i] [_{NP} oca]]]
 proud am seen that father
 b. Ponosnog_i sam vidio [_{NP} t_i] [_{NP} oca]].

Although both demonstratives and adjectives are NP-adjoined, adjectives adjoin below demonstratives for semantic reasons. Since only the highest edge is the edge, the adjective in (106a) is not located at the edge of the NP-phase, hence cannot LBE, in contrast to the adjective in (106b).

(104) improves if the adjective precedes the possessor. The AP is then the outmost edge.

- (107) ?Na tebe_i sam vidio [_{NP} [ponosnog t_i] [_{NP} Jovanovog [_{NP} oca]]]
 of you am seen proud Jovan's father

Adjectives and possessors can extract in each other's presence (either can be the highest edge)

- (108) a. Zastarjela_i je kupio [_{NP} t_i] [_{NP} Jovanova [_{NP} kola]]]
 outdated is bought Jovan's car
 b. Jovanova_i je kupio [_{NP} t_i] [_{NP} zastarjela [_{NP} kola]]]
 Jovan's is bought outdated car

Just like traces don't count as interveners (Chomsky 1995), they also don't count as an edge of a phase.

(110) Onu_i staru_i prodaje t_i t_j kuću
 that old sells house
 ‘He is selling that old house.’

(111) is better than (104a).

(111) ?Jovanovog_i na tebe_j sam vidio [_{NP} t_i [_{NP} [ponosnog t_j] [_{NP} oca]]]
 Jovan’s of you am seen proud father
 ‘I saw Jovan’s father who is proud of you.’

Binding

Zanon's (2015) observation regarding Russian, applied here to SC. While possessors can in principle either precede or follow adjectives, reflexive possessors must precede them.

(112) Marija je prodala svoju omiljenu knjigu.
 Marija is sold her-anaphor favorite book
 (113) *Marija je prodala omiljenu svoju knjigu.

Phasal approach to Condition A (see Despić 2011 and references therein): an anaphor can be bound outside of its own minimal phase XP only if it is located at the edge of the phase. Since only the outmost edge counts as the phasal edge, the anaphor is located at the phasal edge in (112) but not in (113).

Extensions in Zanon (2015a,b) with respect to Russian
 Quantifiers can precede anaphoric possessors (SC (114)).

Zanon: what makes this possible is QR; after QR, the anaphor is at the phasal edge in (114) given that traces do not count as phasal edges (Zanon also argues that indefinites in Russian can undergo QR but can also be interpreted in situ and shows that scopal properties of indefinites interact with anaphor binding exactly as predicted by the current proposals).

(114) Marija je prodala svaku svoju knjigu.
 Marija is sold each her-anaphor book

Sloppy-style readings with pronominal elements

Pronominal elements normally do not support sloppy-style readings.

Runić (2014, in press): Serbo-Croatian (SC) clitics do yield such readings.⁵

(115) Nikola je pozvao (svoju) djevojku na slavu, a pozvao **ju** je i Danilo. [SC]
 Nikola is invited his girlfriend on slava and invited her.CL.ACC is too Danilo
 ‘Nikola invited his girlfriend to the slava and Danilo invited his (Danilo’s/Nikola’s) girlfriend too.’

The sloppy reading is unavailable in English (116).

(116) Nikola invited his girlfriend, and Danilo invited **her** too.

It’s not clitics in general. Clitics in Macedonian don’t support such readings (Runić (2014, in press)).

(117) Nikola ja povika devojka si na slava, a Daniel **ja** povika isto [Mac]
 Nikola her.CL.ACC invited girl him.CL.DAT.REFL at slava and Daniel her.CL.ACC invited too
 ‘Nikola invited his girlfriend to the slava and Daniel invited Nikola’s/*Daniel girlfriend too.’

It is not available with SC pronominal elements in general. Non-clitic pronouns do not support sloppy readings even in SC.

⁵ A context for the sloppy reading: *Nikola and Danilo are brothers and their family celebrates St. Nicholas, the patron saint’s feast day in Orthodox tradition that is celebrated annually on December 19. It is a common practice among Serbs to invite a boyfriend/girlfriend to a family celebration. Both Nikola and Danilo have a girlfriend (thus, in this context, there are two girlfriends) and they invited their girlfriends to their family celebration.*

- (118) Nikola je pozvao (svoju) djevojku na slavu, a pozvao je **nju** i Danilo. [SC]
 Nikola is invited his girlfriend on slava and invited is her too Danilo
 ‘Nikola invited his girlfriend to the slava and Danilo invited his (Nikola's/*Danilo’s) girlfriend too.

Runić’s generalization (see her work for additional sloppy-style readings)

- (119) Clitics may have sloppy readings only in NP languages. (Runić 2014, in press)

Argument ellipsis (languages allowing it include Japanese, Korean, Turkish, Chinese, ASL, Malayalam, Mongolian, Javanese; see Oku 1998, Saito 2007, Şener & Takahashi 2010, D. Takahashi 2008, Koulidobrova 2012, Takita 2011, Simpson et al 2013, Cheng 2013, Sato 2015, Sakamoto in press). The defining characteristic of argument ellipsis is the possibility of sloppy-style readings. Japanese (120)b allows the reading on which Hanako respects different teachers from Taro, unlike the pronoun in (121)b.

- (120) a. Taro-wa sannin-no sensei-o sonkeisiteiru.
 Taro-Top three-Gen teacher-Acc respects
 ‘Taro respects three teachers.’
 b. Hanako-mo e sonkeisiteiru.
 Hanako-also respects
 ‘(Lit.) Hanako respects e, too.’ (Japanese, Şener and Takahashi 2010)
- (121) a. John respects three teachers.
 b. Mary respects them, too.
 c. Mary does, too.
 d. Mary respects three teachers.

Sloppy reading (Hanako’s child) is also possible in (122)b (it is not possible with a pronoun).

- (122) a. Taro-wa [zibun-no kodomo-ga eigo-o sitteiru to] itta
 Taro-top self-gen child-nom English-acc know that said
 ‘Taro said that his child knew English’
 b. Hanako-wa [e furansugo-o sitteiru to] itta
 Hanako-top French-acc know that said
 ‘Hanako said that e knew French’ (Şener and Takahashi 2010)

Kim 1999, Oku 1998, Saito 2007, Şener and Takahashi 2009, Sugawa 2008, Takahashi 2008, Takita 2011, Sakamoto 2015, in press, among many: on the sloppy readings in question, (120)b and (122)b do not involve *pro* (given that in these contexts a pronoun cannot yield such readings). They involve argument ellipsis, where ‘three teachers’ and ‘his child’ undergo ellipsis in (120)b and (122)b.⁶

Proposal: The possibility of sloppy readings indicates SC clitics co-occur with an elided NP; we are dealing here with a clitic+argument ellipsis combination (i.e. a clitic doubling construction, where the double is derived via argument ellipsis). The argument ellipsis NP is the source of the sloppy readings.

The analysis explains why non-clitic pronouns do not yield such readings: only clitic pronouns are involved in the clitic doubling construction, non-clitic pronouns are not.

Clitic and non-clitic pronouns in SC do not differ regarding sloppy-readings, they are unavailable with both. SC and Macedonian clitics also do not differ regarding sloppy readings—neither gives rise to such readings. The difference here lies in the availability of argument ellipsis.

The argument ellipsis derivation, where argument ellipsis co-occurs with a clitic, should not be available in DP languages, given Runić’s generalization.

Cheng’s (2013) generalization (see Bošković in preparation for a deduction of the generalization)

- (123) Only languages without articles may allow argument ellipsis.

⁶ The works in question also show that Otani and Whitman’s (1991) analysis on which elliptic null object constructions involve full VP ellipsis that is preceded by V-raising cannot account for the full paradigm pertaining to argument ellipsis (e.g. they show sloppy readings of the kind illustrated above are available in the contexts where VP ellipsis is simply not possible.)

Given that what licenses the possibility of sloppy readings in clitic constructions is argument ellipsis, and that argument ellipsis is not available in DP languages, we capture Runić's observation that sloppy readings are not available with clitics in DP languages.

(123) is a one-way correlation; does SC allow argument ellipsis?

Like Turkish (see Sener and Takahashi 2010), SC disallows it in subject position, but allows it in object position, which is what is relevant for our purposes.

Only the strict reading (Peter's child) is possible in (124)b.

(124) a. Petar je rekao da njegovu dijete zna engleski.

Petar is said that his child knows English
'Peter said that his child knew English'

b. Jovan je rekao da e zna francuski.

Jovan is said that knows French
'Jovan said that e knew French.'

Object argument ellipsis (controlling for that possibility of V-stranding VP ellipsis (see Stjepanović 1998, Todorović 2015)).

(125) a. Ona je poslala svoje predstavnike jedan drugome.

she is sent [her_{anaph} representatives_{acc}][each other_{dat}]
'She sent her representatives to each other.'

b.*Ona je poslala jedan drugome svoje predstavnike.

(126)?Ona je poslala svoje predstavnike jedan drugome, a on je predstavio jedan drugome.

she is sent [her_{anaphor} representatives_{acc}][each other_{dat}] and he is introduced [each other_{dat}]

(125): the construction in question allows only the DO-IO order-IO cannot undergo movement here.

This rules out the V-stranding VP ellipsis option for (126), where the V and the IO must move out of the VP, with the DO staying in the VP to be elided under VP ellipsis. (126) should be as bad as (125)b).

What about other NP languages Runić (2014) discussed and argument ellipsis? It does not matter

(127) Agreement blocks argument ellipsis

(Saito 2007)

Since Japanese in general lacks agreement, it has both subject and object argument ellipsis

SC (the same holds for Turkish) has subject but not object agreement, argument ellipsis is blocked by (127) only for the subject position in SC.

Under Saito's analysis, for subject/object argument ellipsis to be available T/v cannot undergo agreement with the argument ellipsis TNP. Languages like Japanese, which do not exhibit morphological agreement, also lack agreement in general. In such languages, T/v then do not undergo agreement (i.e. they are not subject to an agreement requirement), hence argument ellipsis is possible in such languages.

Unchecked Case features make TNPs visible for phi-feature agreement with functional heads (Chomsky 2000). Argument ellipsis TNPs undergo Case-licensing in their original position before LF copying. They are copied without unchecked Case features, which means they are inactive for agreement. The argument ellipsis derivation then fails when there is a functional head that must agree with a TNP.

How about languages that have overt morphological agreement, but only in certain positions?

Sener and Takahashi (2010): the overtness of morphological agreement for particular heads matters.

When agreement is morphologically manifested the relevant functional head must undergo agreement.

T in SC is subject to the agreement requirement, which means subjects cannot undergo argument ellipsis.

Regardless of whether v is subject to an agreement requirement, i.e. regardless of whether object argument ellipsis is available in the languages in question, the argument ellipsis derivation is not blocked in clitic constructions, since the clitic undergoes agreement with v. The argument ellipsis TNP that co-occurs with it does not undergo agreement with v, hence argument ellipsis is not blocked for this TNP.

Under the combined Cheng/Saito analysis, we get the right cut: argument ellipsis is always blocked in DP languages, including clitic cases like (117)b), but allowed in NP languages like SC in the clitic cases.

Both Cheng (2013) and Saito (2007) are right: both DP and agreement have the blocking effect on argument ellipsis.

Overt clitic doubling is disallowed in SC.

(128) *Ivan **ga** napisa **pismo**.
Ivan it wrote letter

Saito (2007), Sugawa (2007), and Sakamoto (2015b): argument ellipsis involves LF copying, not PF deletion (Sakamoto shows overt movement out of argument ellipsis is not possible, but covert movement is, which means argument ellipsis has internal structure only in LF. This follows under LF copying).

Sportiche (1996), Jaeggli (1986), Schmitt (1996): a Case problem in languages where clitic doubling is disallowed: since the clitic takes the Case the verb assigns, the doubling TNP cannot be Case-licensed.

SC (128) is then ruled out because the NP *pismo* cannot be Case-licensed.

The problem does not arise when the doubling element is an argument ellipsis NP. The NP in question undergoes Case-licensing in its own clause prior to LF copying.

That argument ellipsis NPs are Case-licensed in their original clause before LF copying is the crucial component of Saito's (2007) analysis of the agreement generalization.

Japanese (129): 1. *Sannin-no sensei-o* is Case-licensed in the first clause; 2. *Sanin-no sensei-o* is copied in LF into the second clause, where it is not involved in any Agree relation.

(129) a. Taro-wa sannin-no sensei-o sonkeisiteiru. b. Hanako-mo e sonkeisiteiru.
Taro-Top three-Gen teacher-Acc respects
'Taro respects three teachers.'

The varied behavior of various pronominal elements regarding the sloppy reading is captured without saying anything special about clitics vs non-clitics, or clitics in one language vs clitics in another language. All the pronominal elements in question, clitics in SC, clitics in Macedonian, non-clitic pronouns in SC and in English, are treated the same way: none of them supports it here; the differences regarding the availability of the sloppy reading here follow from other independently motivated factors.

Language acquisition

The NP/DP generalizations all involve potential triggers but most of them (even all of them) are not plausible candidates

How about the definite article?

Are there any DP languages with a null definite article? I.e. do all languages without an overt definite article lack DP?

This seems to be the case. So, definite article is in principle a perfect trigger.

Omission-driven research: In languages with articles, children do omit articles/D-elements early on; proposals that children go through the NP stage, which would then be a default (Guasti, Gavarro, de Lange and Caprin 2008; see also Mathewson, Bryant, and Roeper 2001; there are also alternative explanations that do not require an NP stage, see, e.g. Demuth, McCulloch, and Adamo 2007).

Koulidobrova (in press) on the emergence of D-items in the child's spontaneous speech (English).

D-items emerge as a set, and their emergence in child's speech is correlated with the emergence of the definite article, i.e. the definite article predicts the emergence of DP associated items. (Koulidobrova interprets the full range of her data as supporting the DP/NP analysis; see her work)

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