

More on the DP/NP analysis of languages with and without articles

Based on the generalizations in (1) Bošković (2008) argues there is a fundamental syntactic and semantic difference in the traditional Noun Phrase (TNP) of article languages like English and article-less languages like Serbo-Croatian (SC), which he argues can be captured if DP is not present in the TNPs of article-less languages

- (1)a. Only article-less languages may allow left-branch extraction (more precisely, AP extraction).
- b. Only article-less languages may allow adjunct extraction out of TNPs.
- c. Only article-less languages may allow scrambling (i.e. long-distance scrambling out of finite clauses)
- d. Negative raising (i.e. licensing of strict NPIs under negative raising) is disallowed in article-less languages.
- e. Multiple wh-fronting languages without articles do not display superiority effects
- f. Only languages with articles may allow clitic doubling.
- g. Only languages with articles allow the majority superlative reading.
- h. Head-internal relatives display island-sensitivity in article-less languages, but not in languages with articles
- j. Polysynthetic languages do not have articles.

In this paper I will provide additional evidence for the DP/NP analysis based on additional generalizations along the lines of (1) and propose another point of variation between DP and NP languages which concerns syntactic locality. I will also discuss ordering restrictions on traditional D-items in SC.

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

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

In DP languages negative constituents may but do not have to be marked for focus, in NP languages they are focus marked. This holds for SC, Russian, Polish, Lithuanian, Hindi, Chinese, Japanese, Korean, Finnish, Yakut, Lezgian, Kannada, Quechua, Mansi, Latin, Persian, Turkish and Kazakh. ((Bošković (in press) argues that in languages that have both negative concord and NPI series, the two are derived from the same underlying items, which means it suffices for one of these to have a focus marker to meet (3).)

- (3) Negative constituents must be marked for focus in NP languages.

I now turn to radical pro-drop, which I define as productive argumental pro-drop of both subjects and objects in the absence of rich verbal agreement. This type of pro-drop differs from pro-drop in languages like Spanish, where pro-drop is licensed by rich verbal morphology. Radical pro-drop is allowed in Japanese, Chinese, Korean, Kokota, Turkish, Hindi, Wichita, Malayalam, Thai, Burmese, Khmer, and Indonesian, all NP languages, which leads to the generalization in (4) (see also Tomioka 2003).

- (4) Radical pro-drop is possible only in NP languages.

Gill (1987), who considers only a few languages, suggests a potential correlation between obligatory number morphology and the availability of articles. The phenomenon I am looking at here is the possibility of having examples like Japanese (5), where the N can be interpreted as plural in the absence of plural morphology. (6) divides languages into two groups, where one group has languages that at least optionally can lack number morphology with at least some Ns (i.e. where some or all countable Ns can receive plural interpretation without the presence of number morphology), and the other group contains languages that have obligatory plural morphology (on either D or N). Only NP languages are found in the first group.

- (5) Susumu-ga hon-o yonda.
 Susumu-nom book-acc bought
 ‘Susumu bought a/the book/books.’

- (6) *No obligatory number morphology*: Japanese, Korean, Chinese, Dyirbal, Warlpiri, Warrgamay, Kuku-Yalanji, Indonesian, Turkish. *Obligatory number morphology*: Russian, SC, Hebrew, Portuguese, German, Bulgarian, Polish, Hungarian, Spanish, Romanian, French, Slovenian, Finnish, Bulgarian, Swahili, Greek, Dutch, Italian, Latin, Ossetic, Kannada, Macedonian, Somali, Estonian

- (7) Number morphology may not be obligatory only in NP languages.

Bošković (2008) treats most traditional D-items as adjectives in SC, placing them in the same projection (they can be treated either as multiple adjuncts or multiple Specs). There are, however, some ordering restrictions on such items. Thus, while possessives and adjectives are in principle freely ordered, demonstratives must precede possessors and adjectives.

- (8) a. bivša Jovanova kuća b. Jovanova bivša kuća
 former Jovan’s house

- c. Marijina omiljena kola d. omiljena Marijina kola
 Mary's favorite car

- (9) a. ova skupa kola/?*skupa ova kola b. ova Jovanova slika/?*Jovanova ova slika
 this expensive car this Jovan's picture

I argue that these ordering restrictions are best captured in semantic terms. The most plausible semantics for possessives is modificational (Partee & Borschev 1998; Larson & Cho 1999). Given the standard assumptions that adjectives are also of type $\langle e, t \rangle$ and that there is a rule of intersective Predicate Modification, compositional semantics imposes no restrictions on the order in which possessives and adjectives may be composed. On the other hand, 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. In short, semantic composition allows possessives to be composed either before or after modifying adjectives, while demonstratives must be composed after both adjectives and possessives. This perfectly matches the actual facts regarding the ordering of the elements in question in SC.

The proponents of the DP analysis (Bašić (2004), Pereltsvaig (2007)) account for (9) by placing the demonstrative in a DP projection, which is located above the projection where possessives and adjectives are located. (αP is a projection where APs are generated, with multiple APs requiring multiple αP s.)

- (10) [_{DP} Demonstrative [_{POSSP} Possessive [_{αP} Adjective [_{NP} (Bašić 2004)

Despić (2008) argues against (10) based on the following SC/English contrasts.

- (11) a. His_i father considers John_i highly intelligent.
 b. John_i's father considers him_i highly intelligent.
 (12) a. *Njegov_i otac smatra Marka_i veoma pametnim.
 his father considers Marko very smart
 b. *Markov_i otac smatra njega_i veoma pametnim.
 Marko's father considers him very smart

(11) can be accounted for if, as in Kayne (1994), English possessives are located in the Spec of PossP, which is immediately dominated by DP, the DP preventing the possessive from c-commanding anything outside of the subject. The contrast between English and SC then follows if the DP is missing in SC. Crucially, Despić shows that the SC paradigm does not change in the presence of a demonstrative or an adjective, which provides strong evidence that demonstratives, possessives, and adjectives should all be treated as multiple adjuncts or multiple Specs of the same projection in SC. *Ovaj* and *brojni* then do not prevent the possessive from c-commanding the co-indexed elements in (13).

- (13) a. *Ovaj njegov_i prijatelj smatra Marka_i veoma pametnim.
 this_{NOM} his_{NOM} friend_{NOM} considers Marko very smart
 'This friend of his considers Marko very smart.'
 b. *Brojni Dejanov_i prijatelji su posjetili njega_i.
 numerous_{NOM} Dejan's_{NOM} friends_{NOM} are visited him
 'Numerous friends of Dejan visited him.'

I will also explore the consequences of the DP/NP parameter for syntactic locality. Bošković (2005) gives an account of (1a) where DP blocks AP left-branch extraction in (14b). The problem does not arise in SC (14a) due to the lack of DP. However, it turns out that a higher NP has the same kind of blocking effect on AP left-branch extraction in SC as DP does in English (so, NP1 in (14c) blocks AP left-branch extraction, just like DP does in (14b)). I will propose an account of this in terms of the phase theory, where DP is a phase in English, and NP is a phase in SC (what will be important is that t is at the edge of NP1 in (14a), but not in (14c)).

- (14) a. Pametne on cijeni [_{NP1} t [_{NP1} studente]
 b. *Smart he appreciates [_{DP} [_{NP} t [_{NP} students]
 c. ?*Pametnih on cijeni [_{NP1} prijatelje [_{NP2} t [_{NP2} studenata]]]
 smart he appreciates friends students
 'He appreciates friends of smart students.'

I will conclude by discussing some consequences of the above proposals for language acquisition.