

Semantic correlates of the DP/NP parameter

Željko Bošković and Jon Gajewski

University of Connecticut

The goal of the paper is to provide explanations for the so far unexplained generalizations in (1-2), which indicate there are significant interpretive differences between languages with and those without articles. Bošković (2008) gives a number of additional syntactic generalizations that also depend on the presence of articles in a language and argues based on them that article-less languages lack DP. We show the generalizations in (1-2) also receive an explanation under the DP/NP analysis.

Regarding (1), the relevant phenomenon is strict clause-mate NPI licensing across finite CPs. Examples like (3a-b) are allowed in, e.g. English, French, Portuguese, Romanian, Bulgarian and Spanish, which have articles, but disallowed in Serbo-Croatian (SC), Czech, Polish, Russian, Turkish, Korean, Japanese, and Chinese, which lack them. Significantly, even in the article-less languages negation is interpretable in the lower clause. Thus, these languages allow the atheist (non-agnostic) interpretation 'Ivan believes God doesn't exist' for (4). (1) should then be restated as (5), which yields a three-way split among verbs regarding NR (6). (6) is a departure from the standard assumptions, where only (a) and (c) are assumed to exist. It in fact raises a problem for all existing accounts of NR. The starting point of our account is Gajewski's (2005,2007) approach to NR, which imputes the EMP (7) to NR predicates (NRP). Gajewski observes the 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 can be observed by comparing (8) with (9). Sentence-embedding predicates are standardly treated as universal quantifiers over accessible worlds. Gajewski (2005) argues NRPs, having the EMP, should be treated as plural definite descriptions, which serve as arguments of the predicates provided by their propositional complements. We assume 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 NRP. Given this, we argue that if a language lacks the definite article, it will lack the necessary material to assemble a NRP. It follows NR is possible only in languages with definite articles. Strong evidence that what matters is definite articles, not simply articles, is provided by Slovenian, which has indefinite but not definite articles and patterns with NP languages regarding NR. Gajewski (2007) shows how the lack of predicates with the EMP predicts the impossibility of long distance licensing of strict NPIs. Recall, however, that even languages disallowing strict NPI licensing under NR allow NR interpretation. We argue this is a pragmatic effect, which can be captured in a pragmatic approach like Horn (1989), where the lower clause negation understanding is a case of 'inference to the best interpretation.' Importantly, as Gajewski (2005) shows, this approach cannot explain strict NPI licensing under NR, which the above semantic account can do. We thus suggest combining the two.

Regarding (2), consider (10): (10b) has the majority reading (MR) where more than half the people drink beer. This is missing in (10a): (10a) has the plurality reading (PR) where more people drink beer than any other drink though it could be less than half the people. In many languages (e.g., German), the superlative form is associated with both readings. Hackl (2007) provides a novel analysis of *most* that derives both the MR and PR readings. We show (2) can be deduced given Hackl's claim that *most* should be analyzed as the superlative of *many* (*most* = *many-est*). Szabolcsi (1986) and Heim (1999) argue *-est* can move independently to take scope. Hackl shows that if we allow movement of the *-est* in *most* we can derive both MR and PR. PR is straightforward: it corresponds to the comparative superlative reading discussed by Szabolcsi and Heim and analyzed as *-est* taking clausal scope. Hackl shows the MR reading can be derived if the *-est* of *most* stays inside the noun phrase, taking scope below the article. We illustrate this in (11-12). German (11) has both readings. The PR reading derives from LF (12a); the MR reading from (12b). Importantly, Hackl shows that given the semantics of *-est* in (13) and the assumption about distinctness of pluralities in (14), the constituent [*-est_i d_i-many mountains*] denotes a predicate true of a plurality of mountains if and only if that plurality contains more than half the mountains (see (15)). Note that even in the structure for the MR reading the superlative morpheme must make a short movement. We propose this movement is adjunction to NP (16). In article-less languages, NP is an argumental category. In DP languages it is not, the argument being the DP. Chomsky (1986) proposes a ban on adjunction to arguments (see Bošković 2004 and McCloskey 1992 for evidence for it). This rules out local scoping of *-est* in NP languages. As a result, LFs for the majority reading of *most* (*many-est*) are unavailable. This captures (2). We will also discuss the prediction of this analysis that all superlatives in article-less languages should be comparative superlatives.

- (1) Article-less languages disallow negative raising (NR) and those with articles allow it (Bošković 2008)
- (2) Only languages with articles allow the majority superlative reading of MOST (Živanović 2007)
- (3) 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]]
 c. *John didn't claim [that Mary would leave [_{NPI} until tomorrow]]
 d. *John doesn't claim [that Mary has visited her [_{NPI} in at least two years]]
- (4) Ivan ne vjeruje da bog postoji.
 Ivan neg believes that God exists (SC)
- (5) Languages without articles disallow strict clause-mate NPI licensing under NR verbs and those with articles allow it. Lower clause negation interpretation is universally allowed.
- (6) a. lower clause negation interpretation and strict NPIs licensed under NR: *believe* in article languages
 b. lower clause negation interpretation, but strict NPIs not licensed: *believe* in article-less languages
 c. no NR at all: *claim*
- (7) Excluded Middle Presupposition: *A believes that p* presupposes *A believes that p* or *A believes that not p*
- (8) *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 of them.
- (9) Negation of a universal quantifier: *Bill didn't see all the boys*.
- (10) a. Najviše ljudi pije pivo.
 b. Most people drink beer (SC)
- English, German, Macedonian, Dutch, Bulgarian, Hungarian, and Romanian, which have articles, allow MR. SC, Slovenian, Czech, Turkish, Polish, and Punjabi lack articles and disallow MR (what is relevant is examples with a superlative determiner, not examples where MR is expressed with a noun like *majority*)
- (11) Hans hat die meisten Berge bestiegen.
 Hans has the most mountains climbed (Hackl 2007)
- (12) a. "Hans has climbed more mountains than anyone else" (PR)
 LF: [Hans [-est_t[has climbed the d_i-many mountains]]]
 b. "Hans has climbed most mountains" (MR)
 LF: [Hans [has climbed [the -est_t d_i-many mountains]]]
- (13) Where x is type e, C type <e,t>, and D type <d,et>
 $[[\text{-est}]](C)(D)(x)$ is defined only if $\exists x,y[x \neq y \ \& \ x \in C \ \& \ y \in C]$
 if defined $[[\text{-est}]](C)(D)(x)=1$ iff $\exists d[D(d)(x) \ \& \ \forall y \in C[y \neq x \rightarrow \neg D(d)(y)]]$
- (14) For any two pluralities a,b: $a \neq b$ iff a and b share no atomic parts
- (15) $[[\text{-est } C \text{ many mountains}]]$
 $= \lambda x. \exists d[x \text{ contains } d\text{-many mountains} \ \& \ \forall y \in C[y \text{ does not overlap } x \rightarrow y \text{ does not contain } d\text{-many mountains}]]$
 $= \lambda x. x \text{ contains more than half of the mountains}$
- (16) $[[DP [_{NP} \text{-est} [_{NP} [_{AP} t_i \text{ many}_A] \text{ mountains}_N]]]]$

References

- Bošković, Ž. 2004. Be careful where you float your quantifiers. *Natural Language and Linguistic Theory* 22.
- Bošković, Ž. 2008. What will you have, DP or NP? Proceedings of NELS 37.
- Gajewski, J. 2005. Neg-raising: Polarity and presupposition. Doctoral dissertation, MIT.
- Gajewski, J. 2007. Neg-raising and polarity. *Linguistics and Philosophy* 30.
- Hackl, M. 2007. On the grammar and processing of proportional quantifiers. Ms. Pomona College.
- Horn, L. 1989. A natural history of negation. University of Chicago Press.
- McCloskey, J. 1992. Adjunction, selection, and embedded verb second. Santa Cruz Ling. Research Center.
- Živanović, S. 2007. The stowaway of the *the*: On different readings of superlative determiners. FDSL 6.5.