

Pinning Down Articles in American Sign Language

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Abstract

Describing the nominal domain of American Sign Language (ASL) is no small order. Adjectives appear to have the freedom to precede and follow the noun, and articles might appear to be absent. This paper will show, however, that there are indeed articles in this language. Both language-internal tests as well as cross-linguistic correlations will confirm the presence of articles in ASL. Adjectives will also be investigated, and their syntactic distribution described, following MacLaughlin 1997. Some previously unnoticed data will reveal that her analysis requires some adjustments, but ultimately the results of this investigation will be similar to her original analysis.

0. Introduction

Recently, Bošković (2008) has compiled numerous pieces of evidence for a fundamental syntactic and semantic split between languages that contain articles and those that lack articles. Bošković takes this as evidence for the presence of a D projection in languages that have English-like articles (DP-languages), but more importantly as evidence for a lack of such a projection in languages that do not have articles (NP-languages). Bošković points out that the widespread nature of his results across syntax and semantics cannot be reduced to the phonological presence of an overt vs. covert article. Importantly, when a DP-language like English uses a phonologically null article, the results of his diagnostics do not change.

This paper will explore the possibility of finding articles in ASL. It will begin with some descriptive evidence for elements of category D¹, and also examine the structural consequences of the presence of D, following Bošković (2008). First using ASL-internal tests, following MacLaughlin (1997), I will present some evidence for an article category in ASL. I will also consider carefully Bošković's definition of articles, and it will be shown that ASL does seem to have articles. In the second half of this paper I will examine some cross-linguistic facts that have been observed by Bošković (2008) and others, regarding the consequences of positing a D-head in some languages and not in others, and see how ASL fares with respect to these tests.

1. Finding Articles

Before the 1990s, the linguistics literature had found little evidence for articles as a category in ASL. It is certainly clear that there are no omnipresent or obligatory articles, such as the ones we find in the Germanic and modern Romance languages. However, many have noted that a particular sign, often referred to as "Index" or "IX," may be an article, as it is found within Noun Phrases, and also acts as a pronoun. Zimmer & Patschke (1990) looked at a phonological subset of IX signs, and they concluded that such signs were articles. They found that IX articles could be found at either edge of the NP, and although they did not find the article to be associated with definiteness, they did hint that specificity might play a role in

¹ I will be using a few different terms for things we expect to be associated with D⁰. In particular, I am using the term "article" in a very specific sense, that used by Bošković (2008); that is, a special, prolific element like English *the* and *a(n)*. Bošković's use will be considered carefully in §1.2. Otherwise, I will use the term "D-element" or "determiner" for other kinds of things we associated with D, such as demonstratives, as well as in cases that are ambiguous between true articles and other D-elements.

its distribution. However, we will see that a more fine-grained analysis from MacLaughlin and her colleagues was able to account for the data in a very systematic and detailed way.

1.1 Articles According to MacLaughlin

The most detailed work on articles in ASL has come from Dawn MacLaughlin and her colleagues (Bahan et al. 1995; MacLaughlin 1997; Neidle et al. 2000). MacLaughlin has investigated IX signs more closely, and also identified other D-elements. Most interestingly, MacLaughlin contradicted Zimmer & Patschke's claim that articles occur both pre- and post-nominally. In particular, MacLaughlin argues that post-nominal IX is an adverb, and only pre-nominal IX is a true article. Convincingly, she points out that pre-nominal IX obligatorily brings an interpretation of definiteness, while post-nominal, adverbial IX is compatible with both definite and indefinite interpretations. As shown in (1a)², an indefinite interpretation is incompatible with pre-nominal IX, but can co-occur with a post-nominal IX, as in (1b).

- (1) a. * JOHN LOOK-FOR [IX_{ART} MAN]_{DP} FIX GARAGE
Intended to mean, 'John is looking for a/some/any man to fix his garage.'
- b. ✓ JOHN LOOK-FOR [MAN IX_{ADV}]_{DP} FIX GARAGE
'John is looking for a/some/any man there to fix his garage.'
- (MacLaughlin. '97, 121)

Additionally, pre-nominal IX can inflect for number, as in (2a), but post-nominal IX cannot take this inflection, as in (2b). This suggests that pre-nominal IX has access to ϕ -features, which is consistent with pre-nominal IX (but not post-nominal IX) being located in D°. Finally, (3) shows that post-nominal IX can be modified for path length, while pre-nominal IX cannot. Path length modification is a property of ASL adverbials, where a longer path corresponds to a longer distance in space or time.

- (2) a. ✓ IX_{i,pl} MAN IX_i'"over there"' KNOW PRESIDENT
'Those men over there know the president.'
- b. * (IX_{i,pl}) MAN IX_{i,pl} KNOW PRESIDENT
(MacLaughlin 1997, p. 122)
- (3) a. ✓ [IX_{ART} WOMAN IX_{variable pathlength}]_{DP} BORROW VIDEOTAPE
'The woman (more or less far away) borrowed the videotape.'
- b. * [IX_{variable pathlength} WOMAN (IX_{variable pathlength})]_{DP} BORROW VIDEOTAPE
(MacLaughlin. 1997, p. 124)

Further evidence that pre-nominal IX is an article comes from the distribution of other elements that we expect to find in the D domain. Possessors and possessive pronouns also occur pre-nominally in ASL, and in fact these elements cannot co-occur with article-IX. Example (4) shows such a construction with a nominal possessor. Although languages with articles do not always have this kind of complementary distribution between articles and possessives, these facts still converge on the idea that article-IX and possessive pronouns are competing for the same unique position, such as D° or Spec-DP.

² Following conventions in the field, I will gloss ASL signs in all caps. I will use subscripts to indicate syntactic notions such as binding or part of speech (such as IX_{DET}), where relevant. I will use "fs-" to indicate a finger-spelled sign, and quotes ("") to indicate an interpretation where glosses are ambiguous (such as IX"over there").

- (4) a. * ME MEET [IX_{ART,j} JOHN_i POSS_i FRIEND_j]_{DP} YESTERDAY
 b. ✓ ME MEET [JOHN_i POSS_i FRIEND_j IX_{ADV,j}]_{DP} YESTERDAY
 I met [John's friend]_{DP} yesterday. (MacLaughlin 1997, p. 123)

MacLaughlin also argues that ONE_{ART} and SOMETHING act as indefinite articles, as they also occur pre-nominally, and in this case lack an adverbial foil that can occur post-nominally. She described ONE_{ART} as the specific indefinite (not to be confused with the numeral ONE, see fn. 3), while SOMETHING is the non-specific indefinite. Example (5) shows that ONE_{ART} and SOMETHING are both compatible with an indefinite interpretation, where IX_{ART} was not compatible with such an interpretation, as shown above in (1). However, unlike IX_{ART}, no plural form of either ONE_{ART} or SOMETHING has been attested.

- (5) a. JOHN LOOK-FOR [ONE_{ART} MAN]_{DP} FIX GARAGE
 'John is looking for a man to fix his garage.'
 b. JOHN LOOK-FOR [SOMETHING MAN]_{DP} FIX GARAGE
 'John is looking for some man to fix his garage.'

Appropriately, ONE and SOMETHING are incompatible with pre-nominal IX, with one another, and with possessors, as shown in (6)³. These data, especially (6g,h), bolster the idea that they are all competing for the same unique position.

- (6) a. * ME MEET [IX_{ART} SOMETHING MAN] YESTERDAY
 b. * ME MEET [SOMETHING IX_{ART} MAN] YESTERDAY
 c. * ME MEET [ONE_{ART} IX_{ART} MAN] YESTERDAY
 d. * ME MEET [IX_{ART} ONE_{ART} MAN] YESTERDAY
 e. * ME MEET [ONE_{ART} SOMETHING MAN] YESTERDAY
 f. * ME MEET [SOMETHING ONE_{ART} MAN] YESTERDAY
 g. * ME MEET [ONE_{ART} MY FRIEND] YESTERDAY
 h. * ME MEET [MY ONE_{ART} FRIEND] YESTERDAY

This interpretation of the facts is interesting from a typological standpoint, because articles are often described as encoding either definiteness or specificity (Lyons 1999). MacLaughlin has argued here that ASL articles can encode both, following Table 1. While this pattern does seem to be marked cross-linguistically, it is not wholly unattested; Bauer (1993) describes Māori as having a three-way article system, including definite, specific indefinite, and non-specific indefinite articles, the same kind of system described by MacLaughlin (1997) for ASL.

		Identifiability to Speaker	
		Specific	Non-Specific
Identifiability to Addressee	Indefinite	ONE	SOMETHING
	Definite	IX	**

Table 1. Distribution of interpretations of articles in ASL.

³ Of course, there is both a determiner ONE and a numeral ONE, which are phonologically similar, but distinct. The sentences in (6d, 6h) are grammatical with numeral ONE but not determiner ONE.

1.2 Articles According to Bošković

The data above appear to be converging on the idea that IX_{ART} , ONE_{ART} , and $SOMETHING$ are all articles, based on their behavior relative to one another. We can also examine the criteria used by Bošković (2005, 2007, 2008), as his work examined the behavior of articles across languages. His criteria are particularly important, because the second section of this paper is a study of cross-linguistic facts observed in Bošković’s work. So this section will examine ASL articles and see how compatible they are with Bošković’s approach to articles, and D-elements generally.

Unfortunately, Bošković does not seem to have any strict criteria for identifying elements as being articles across the world’s languages. There are several pieces of evidence he cites which indicate that determiner-like elements in Serbo-Croatian (SC), for example, are *not* proper articles (or even determiners). However no one piece of evidence, nor any combination thereof, is indicated by Bošković as being a definitive test that can show that an element, in ASL for example, *is indeed* an article.

Bošković finds that “there is a lot of evidence that [determiner-like elements] are adjectives in SC. First, they are morphologically adjectives, as the partial paradigm in [(7a,b)] shows” (2008, p. 6). If we were to search for a morphological contrast between ASL articles and other adjectives, we would find the plural marking, shown in (7c,d), to be unique to IX , and hence unique to articles⁴.

- | | | | | |
|-----|----|------------------|-------------------|-----------------------------------|
| (7) | a. | [<i>nekim</i> | <i>mladim</i> | <i>djevojkama</i>] _{NP} |
| | | some.FEM.PL.INST | young.FEM.PL.INST | girl.FEM.PL.INST |
| | b. | [<i>nekih</i> | <i>mladih</i> | <i>djevojaka</i>] _{NP} |
| | | some.FEM.PL.GEN | young.FEM.PL.GEN | girl.FEM.PL.GEN |
- (Bošković 2008)

c. [$IX_{DET,pl}$ TALL MAN]_{DP} KNOW PRESIDENT

‘Those tall men know the president.’

d. * [$IX_{DET,pl}$ TALL_{pl} MAN]_{DP} KNOW PRESIDENT

Bošković notes that, “in contrast to English, the SC elements in question can occur in typical adjectival positions. Thus, in [(8a)] a possessive occurs in the predicate position of a copula” (Bošković 2008). This is in contrast to the English examples in (8b), where the possessive cannot appear in predicate position. MacLaughlin (1997) has suggested that, in ASL, possessives can indeed be found in predicate position, as shown in (8c)⁵. It would be

⁴ There is also a morphological commonality between articles and adjectives in ASL; articles and adjectives can all inflect to agree with a spatial referent (Sandler & Lillo-Martin, 2006). In principle, this phenomenon is not unlike nominal inflection in Spanish, a language Bošković groups with article languages. In addition, the inflection on articles and adjectives is the same inflection that is used by nouns and some verbs. There does not seem to be an inflection paradigm that applies to only adjectives and articles (or article-like elements) in ASL, as there is in the SC case.

⁵ The keen observer will have noticed that the possessive in (8c) is glossed as “MY+”; the ‘+’ here indicates phrase-final lengthening, which is a common process in ASL and other sign languages (Nespor & Sandler 1999; Sandler & Lillo-Martin 2006). However, when MacLaughlin (1997) argued for possessives as predicates, all her examples included this phrase-final lengthening, because a predicative possessive will nearly always be at the end of some intonational phrase. That is, in each case when we had a sign that would have corresponded to the predicate “mine” in English, we see the sign “MY+” with phrase-final lengthening, while possessives in the article position never had such lengthening (not being phrase-final). This division means that it is possible that we are dealing with two separate signs here: “MY” corresponding to English

difficult to test other potential articles, because the elements ONE, SOMETHING, and IX have either nominal or adverbial foils. Example (8c) is evidence that possessives pattern with adjectives in ASL because they can occupy similar syntactic positions; this suggests that possessives may really be in a single class with adjectives in ASL (potentially all adjectives, as in SC).

- (8) a. Ova knjiga je moja.
 this book is my (Bošković 2008)
 b. This book is *my/mine.
 c. THAT BOOK MY+
 That book (is) mine.

“Third, unlike in English, [determiner-like elements] can stack up in SC, just like adjectives” (Bošković 2008). Here ASL falls in line with article languages, as we saw in (6); like English, there is a prohibition against multiple articles in one NP/DP. Finally, “a SC pre-nominal possessive (*susjedov* in [(9)]) can’t be modified by a possessive, or more generally, an adjective... Assuming adjectives cannot be modified by adjectives, [(9)] follows if SC possessives are adjectives” (Bošković 2008). That is, each adjective and determiner-like element in a single nominal domain must refer to the head noun in SC. Example (10) shows that possession in ASL can be nested, unlike possessive adjectives in SC. According to Bošković, this again indicates that the elements discussed are more likely to be true D-elements in ASL.

- (9) a. * moj susjedov konj
 my neighbor’s horse
 ‘my neighbor’s horse’
 b. * bogati susjedov konj
 rich neighbor’s horse
 ‘a/the rich neighbor’s horse’ (Bošković 2008)
- (10) ME MEET [[MY FRIEND_i]_{DP} POSS_i DOG]_{DP} YESTERDAY
 I met [[my friend]’s dog] yesterday.

So Bošković’s gauges seem to continue to point to the presence of articles in ASL, and more generally, the presence of D^o, with a single exception (but see note 4). In addition to the evidence found by MacLaughlin (1997), we can say that we have some reasonable evidence for the presence of articles, and hence D^o, in ASL.

2. The Consequences of D

This section of the paper will examine to what extent the idea that ASL has articles (and hence D^o) is compatible with the generalizations found by Bošković (2005, 2007, 2008). Bošković reports checking dozens of languages for the generalizations that follow, and they seem to have held up without clear exceptions. In each case, the presence or absence of a syntactic, semantic, or morphological phenomenon can be predicted based on whether a given language has articles. Particularly interesting are the hallmark cases within the Slavic

“my,” and the lengthened but distinct “MY+” corresponding to English “mine.” This would mean that ASL patterns more like English, an article-language, than like SC, a language without articles. More research is needed to pin down this subtle distinction.

and Romance languages. As a rule, Slavic languages lack articles, while modern Romance languages have them, and the families of course pattern as two separate but cohesive groups for the tests that follow. However, Bulgarian and Macedonian, which have articles, pattern like Romance languages for the tests we will discuss. Conversely, Latin lacked articles, and patterns apart from its descendants, looking more like the other Slavic languages in these tests (Bošković 2007).

We will see over this section of the paper that the presence of articles causes a myriad of syntactic, semantic and morphological consequences throughout any language. The hypothesis put forth in Bošković's work, which I will also assume, is that the consequences that come with having or lacking articles are the consequences that come with having or lacking a D projection. The sheer variety of facts across different modules of the grammar, which will be shown below, could not be accounted for if we were to suggest that the phonological realization of the article was the only difference between languages with and without articles.

Finally, before we continue, I would like to reiterate one point about the optionality of articles, in order to make a certain aspect of Bošković's theory clear. As example (11) shows, articles are optional in ASL, and the free deletion (or absence) of articles in ASL is available in most contexts⁶.

(11) HALEY WANT BUY BOOK

Haley wants to buy a/the book

(MacLaughlin 1997, p. 128)

That being said, Bošković (2005, 2007, 2008) has found that DP-NP generalizations hold across languages, but not across sentences. That is, the presence or absence of articles in a language *in general* is what decides the outcomes of Bošković's tests, not whether an individual test sentence has an article or not⁷. This will be illustrated clearly in our first example.

2.1 Left-Branch Extraction

DP-languages like English or Bulgarian disallow left-branch extraction, in this case adjective extraction, in examples like (12). As noted above, even when an article is not overtly present, as in the English example (12a), the rule still holds. Thus we have here a condition that is dependent on the structural presence of D in a language, and not D's overt realization in a given sentence. Following Corver (1992) and Uraigereka (1988), Bošković (2008) has noted that no language with articles allows left-branch extraction; so because English and Bulgarian have articles generally, sentences (12a-b) are expected to be

⁶ This is a rare, but not unattested pattern for articles. Lyons (1999) indicates that we should expect markers of definiteness like articles "to be obligatory (except perhaps under certain generally specifiable conditions)" (p. 47). However, Lyons himself refers to Jaggar's (1985) work, which describes an optionality of articles in Hausa. Jaggar found that the definite determiner in Hausa was freely deletable (or freely absent) in several contexts. Jaggar found a pattern in the appearance of these articles, that they were more likely to occur when the referent was less accessible to the hearer. That is, he found that the determiner was more likely to occur if its corresponding noun's last mention was further back in the discourse, and less likely to occur when the referent had just been mentioned. The key point here is that the presence of articles could not be fully predicted, but is determined by discourse considerations in Hausa. At no point is it indicated that the presence or absence of an article makes a sentence ungrammatical. Examining the conditions under which ASL articles are likely to be absent would be an excellent area for future research.

⁷ Given the uncommon optionality of articles just mentioned, it might be tempting to suggest that ASL sometimes has a D projection above NP, and sometimes does not. However, all tests used in this section of the paper will use sentences without articles (where relevant), and they will be the most restrictive set examined in this paper. If such sentences pattern with languages that have articles, then we must conclude that those sentences have a D projection, and that a D projection is obligatory in ASL whether or not it is realized overtly.

ungrammatical. Example (12c) shows that ASL follows this pattern; left-branch extraction is disallowed in ASL, even when an article is not overtly present as in (12c). In contrast, example (12d) shows that Serbo-Croatian, a language which lacks articles, allows adjective extraction.

- (12) a. * Expensive, John likes cars. English
 b. * Novata_i prodade Petko [t_i kola] Bulgarian
 new.the sold Petko car
 (The new car, Petko sold.) (Bošković 2008)
 c. * EXPENSIVE, JOHN BUY CAR ASL
 d. ✓ Skupa_i je vidio [t_i kola] Serbo-Croatian
 expensive is seen car
 ‘The/an expensive car is seen.’ (Bošković 2008)

Importantly, this generalization only holds in one direction. Specifically, Bošković (2008) states that “Only languages without articles may allow [left-branch extraction]” (p. 2), suggesting that left-branch extraction may or may not be otherwise blocked in languages without articles. So for this case, we can say that ASL conforms to the generalization, but the data would also be compatible with a hypothesis that ASL lacked articles.

The explanation for this phenomenon has some interesting consequences. Bošković (2008) proposes a pair of possible explanations, which hinge on the structural location of adjectives in relation to DP and NP. These two analyses will be discussed in detail in Bernath 2009. For now we need not go into the details; I will only say that Bošković strategically places the adjectival phrase in such a way that it cannot escape a D projection, and this projection’s absence predicts the possibility of extraction. If his syntactic configuration is correct, then the availability of left-branch extraction in languages without DP is unsurprising; DP is simply not there to get in the way of this type of operation in languages like Serbo-Croatian.

2.2 Adjunct Extraction

Similar to the examples above, Bošković (2008) found that languages with articles do not allow the extraction of adjuncts from the nominal domain. Again, this is a one-way generalization, that “only languages without articles may allow adjunct extraction” (p. 3). This again holds for ASL (13a-b), patterning like English (13c) and unlike Serbo-Croatian (13d). The explanation for this phenomenon can be linked to the explanation for left-branch extraction; placing the adjunct strategically in the DP will disallow its extraction, and a lack of a DP projection will make extraction possible.

- (13) a. * [fs-BY KING]_i, JOHN READ [BOOK t_i]
 ‘John read a book by Stephen King.’
 (cf. ✓ JOHN READ [BOOK fs-BY KING])
 b. * [FROM NEW-YORK]_i, PETER MEET [GIRL t_i]
 c. * From New York, Peter met [girls t_i].
 d. ✓ [Iz Njujorka]_i je Ivan sreo [djevojke t_i] Serbo-Croatian
 from New York is Ivan meet girls
 ‘Ivan met girls from New York.’ (Bošković 2008)

2.3 Superlatives

Bošković (2008) has also found a connection between superlatives and articles, building off of work from Živanović (2006). Živanović noted that languages with articles have a majority reading in sentences like “*Most people like beer,*” while corresponding sentences in languages without articles do not have the same interpretation. In languages without articles, such a sentence only has a plurality reading, meaning that more people like beer than any other drink, while the interpretation in languages with articles is that more than half of the people like beer. In the case of languages without articles, like Serbo-Croatian, a plurality of people liking beer makes the sentence true, but in languages with articles, like English, a majority of the people must have this quality. Bošković & Gajewski (2008) find this to be a strong, two-way correlation; all languages with articles allow a majority reading of superlatives like *most*, and all languages with a majority reading have articles. Here, ASL patterns with article-languages; it has a majority interpretation for the sentence in (14b). Because this reading should only be available if ASL has articles, we have strong evidence for their presence in ASL.

- (14) a. Context: There exist ten movies featuring Superman. André owns four of these movies, while Jeff owns only two, and Diane just one.
- ✓ ANDRE OWN MOST SUPERMAN MOVIE
 ‘André owns the most Superman movies.’ (André owns a plurality, but not a majority, of Superman movies.)
- b. Context: There exist ten movies featuring Superman. Jeff owns copies of all 10, while André owns eight of them and Diane owns just four.
- ✓ ANDRE OWN MOST SUPERMAN MOVIE
 ‘André owns most Superman movies.’ (André owns a majority, but not a plurality, of Superman movies.)

According to Bošković & Gajewski, it is a particular analysis of superlatives that allows us to unite the judgments in (14), and the judgments found by Živanović, with the presence of articles and D°. First, they follow Hackl’s 2007 analysis of *most* as the superlative form of *many*. This allows us to describe the two readings available in (14) in terms of the scope of the superlative morpheme in reference to the noun phrase. For the plurality reading, the superlative morpheme moves up and out, and adjoins to TP or some other functional projection; there the superlative morpheme has scope over the verb, in a structure like [SUPERL [own degree-many movies]. This is why the relevant interpretation is “...the most movies that are owned.” In the case of the majority reading, the superlative morpheme remains inside the NP, and thus the number of movies available is the relevant factor. (See Bošković & Gajewski for a detailed discussion of the semantics at work here.)

Finally, in languages without articles, only the plurality reading is available, because the superlative morpheme cannot stay within the nominal domain in these languages. In languages without articles, the NP is crucially an argument, and thus the superlative cannot adjoin to it (following Chomsky 1986, banning adjunction to arguments), so it follows that the only available interpretation is the one with the raised superlative. Languages with articles, however, have “room” for the superlative to stay within the nominal domain, because NP is not the argument in these languages, DP is. For this reason the majority reading, with the superlative morpheme within the nominal domain, is available in languages with articles.

2.4 Summary and Conclusion

These generalizations should be illustrative of the kinds of consequences that having articles seems to have on a language in general. Bošković has compiled over a dozen such correlations, some semantic, some syntactic, and some morphological. These cannot all be explored here because of space constraints, but see Bernath (2009) for a more extensive discussion of this issue.

The data that have been examined here, summarized in table 2, support the hypothesis that ASL has articles in the relevant sense. Sections 2.1 and 2.2 showed results that were expected if ASL has articles, because ASL lacks the types of extractions that are only available in languages without articles. But remember that these data are also compatible with the opposing hypothesis, that ASL lacks articles. The configurations that allow left-branch and adjunct extraction are limited to languages without articles, but they are not guaranteed to be present; Bošković has found a number of languages that lack articles, but where these constructions seem to be blocked for other reasons.

On the other hand, the majority reading explored in §2.3 *is* limited to languages with articles, and that finding is not compatible with the hypothesis that ASL lacks articles. This phenomenon is strong evidence that ASL has articles and is a DP language. This is contrary to some previous research and indeed many signers' conceptions of the language, likely due to the optional nature of articles in ASL. Now that articles can be understood as a category in ASL, a logical next step would be to understand this optionality and find out what regulates the overt occurrence of ASL articles.

	ASL has...	ASL lacks...
Only DP-languages have...	§2.3. Majority reading	
Only NP-languages have...		§2.1. Left-branch extraction §2.2. Adjunct extraction

Table 2. Summary of Bošković's tests.

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