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## Deriving Superiority Effects in Multiple WH-Fronting without Determiners.

Matthew Schuurman

Concordia University, Montreal, Quebec, Canada, matthew.schuurman46@gmail.com

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# DERIVING SUPERIORITY EFFECTS IN MULTIPLE WH-FRONTING WITHOUT DETERMINERS\*

*Matthew Schuurman  
Concordia University*

## 1. Introduction

In this paper I analyze multiple wh-fronting with superiority effects in Mi'gmaq as it pertains to Bošković's (2008, 2012) generalizations between languages with and those without the presence of overt articles, either definites or indefinites. Bošković (2008, 2012) proposes that those languages that do not have overt articles do not have a determiner phrase (DP) but rather only a nominal phrase (NP). As Mi'gmaq does not have definite or indefinite articles, shown in (1), and has been understudied in the literature, it is an ideal case for testing how Bošković's generalizations pattern in other article-less languages.

- (1) a. mui'n        maqumapn        nme'j  
      bear        eat.3>3'sg.pst.an    fish  
      '“(a/the) bear ate (a/the) fish.”
- b. 'lpatuj    nemiapn        e'pite'-jj  
      boy        see.3>3'sg.pst.an    girl-young  
      '“(a/the) boy saw (a/the) young girl.”

However, when the data from Mi'gmaq is compared to generalizations on scrambling, quantifier scope, and multiple wh-fronting with superiority effects, problematic contradictions arise, specifically with the latter generalization. According to Bošković predictions from the generalizations, Mi'gmaq should be both an NP-only language based on scrambling, numeral classifiers, and quantifier scope, and a DP language based on multiple wh-fronting with superiority effects. As this is not theoretically possible, I propose the following: there is no relationship between the presence of articles, the D feature, and appearance of superiority effects in obligatory multiple wh-fronting languages.

I consider data from the Listuguj dialect of Mi'gmaq, an Eastern Algonquian language spoken in Maritime Canada and Easter Quebec. The data is from my own fieldwork and from Hamilton (2015), both using speakers from the Listuguj community.

In Section 2, I outline the generalizations from Bošković (2008, 2012) on scrambling and quantifier scope and compares the generalizations to the Mi'gmaq data. Section 3 presents the generalization on multiple wh-fronting with superiority effects and the complications that arise with the Mi'gmaq data. In Section 4 I outline my proposal and discuss the theoretical implications that arise. Finally, section 5 concludes the paper.

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\* Also spelled Mi'gmaw, Mi'kmaq, Mi'kmaw, Micmac. Many thanks to Janine Metallic, MaryAnn Metallic, and Janice Vicaire for sharing their knowledge of Mi'gmaq. Also thanks to the McGill Mi'gmaq Research Group for their invaluable feedback. All Mi'gmaq data comes from speakers of the Listuguj dialect and uses the Listuguj orthography. All unreferenced data is from personal elicitation sessions.

## 2. Bošković (2008, 2012)

Bošković (2008) argues that languages without articles do not have a null DP—as has been standardly assumed—but rather are structurally different by having only an NP. Bošković contrasts languages that have articles with languages that do not have articles, producing ten generalizations where the presence (or lack thereof) of an article is claimed to play a crucial role. Bošković (2012) continues in the same vein producing another nine generalizations, for a total of nineteen generalizations. These generalizations are mostly one-way correlations focusing on various syntactic and semantic phenomena. This paper will focus on three generalizations, namely:<sup>1</sup>

- (I) *Only languages without articles may allow scrambling.*
- (II) *Inverse [quantifier] scope is unavailable in NP languages.*
- (III) *Multiple wh-fronting languages without articles don't show superiority effects.*

These generalizations will be compared to the Mi'gmaq data to determine how this article-less language patterns in respects to the article-less languages used by Bošković (2008).

### 2.1. Scrambling

Bošković (2008) claims there is a correlation between the lack of an article and the potential presence of scrambling. Scrambling for Bošković refers to the type of movement seen in Japanese not German.<sup>2</sup> Scrambling in Japanese refers to long-distance scrambling, where the scrambled element moves from within a finite clause to a higher position. In (2), *sono hono* has been scrambled from the embedded clause VP-internal position, to a higher IP position, crossing over to a matrix clause position.

- (2) [<sub>IP</sub> Sono hon-o<sub>i</sub> [<sub>IP</sub> John-ga [<sub>CP</sub>[<sub>IP</sub> Mary-ga [<sub>VP</sub> *t<sub>i</sub>* katta]]] to] omotteiru]].  
that book-acc John-nom Mary-nom bought that thinks  
'That book, John thinks that Mary bought.'  
(Bošković 2004)

Unlike Japanese, German only has clause internal scrambling, it does not permit scrambling out of a finite CP. This is seen in (3) where *einander* has scrambled to the top of an IP projection, but has remained within the CP clause.

- (3) dass [<sub>IP</sub> einander<sub>i</sub> [<sub>IP</sub> die beiden immer noch *t<sub>i</sub>* lieben]].  
that each-other.acc the both.nom still love  
'the two still love each other.'  
(Grewendorf & Sabel 1999)

In languages that have long-distance scrambling, such as Serbo-Croatian, Latin, Japanese, Turkish, and Chukchi, there is also a lack of articles. This leads Bošković (2008) to posit a generalization that:

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<sup>1</sup> These three generalizations are the only generalizations used due to several reasons, the main one being that as there has been little study done on Mi'gmaq, it is unclear if Mi'gmaq even contains many of the syntactic properties used by Bošković for a large number of the generalizations.

<sup>2</sup> Scrambling has traditionally been used to refer to any type of unexpected or unexplained movement seen in a language, Bošković uses a very specific definition of scrambling for his generalization.

(I) *Only languages without articles may allow scrambling.*

This generalization is also put more strongly, that: *only NP languages may allow scrambling.* Bošković claims there is a correlation between a DP and scrambling, that if a language has scrambling, then it cannot have a D, therefore it must have an NP only.

Mi'gmaq has long-distance scrambling of the same type that Japanese has, seen in (4a), where *mui'naq* moves from a position within the finite clause, to a phrase initial position within the matrix clause, seen in (4b).

- (4) a. welta'si            mui'n-aq    maqguma'tipni    nme'-jij-g  
       be.happy.1>3pl    bear-pl        eat.3>3'pl.pst    fish-small-pl  
       'I am happy that (the) bears ate (the) small fish.'
- b. mui'n-aq    welta'si            maqguma'tipni    nme'-jij-g  
       bear-pl     be.happy.1>3pl    eat.3>3'pl.pst    fish-small-pl  
       '(the) bears I am happy that they ate (the) small fish.'

The conclusion drawn from scrambling show that Mi'gmaq patterns like other languages that have been posited to not have DP arguments. Therefore it should not have DP arguments as per Bošković (2008).

## 2.2. Quantifier Scope

Bošković (2012) also posits a correlation between quantifier scope and a DP layer. In languages such as English, (5) is ambiguous with both a surface and an inverse scope interpretation available.

(5) Someone loves everyone.

*Surface Scope:* A particular person loves everyone.  $\exists > \forall$

*Inverse Scope:* Everyone is loved by someone, but not necessarily the same person.  $\forall > \exists$

Based on a cross-linguistic study, Bošković (2012) states that inverse scope is impossible in languages without articles such as Japanese, Chinese, Russian, Slovenian, and Serbo-Croatian. This leads to the following generalization:

(II) *Inverse scope is unavailable in NP languages in examples like (5).*

Mi'gmaq patterns like the other article-less languages in that inverse scope is unavailable in a similar example.

- (6) 'ms't 'lpatuj-g    nemia'tipni    te's    nme'j-l  
       all    boy-pl     see.3>3'.pst    every fish-obv  
       'All the boys saw every fish.'

*Surface Scope:* All the boys saw the same group of fish.  $\exists > \forall$

*Inverse Scope:* All the boys saw a fish, such that every fish in the group was seen by a boy, but not every boy saw the same fish.  $*\forall > \exists$

The conclusion from quantifier scope is that as with scrambling, since Mi'gmaq patterns like other languages that have been posited to not have DP arguments, it should not have DP arguments. As such, Mi'gmaq must have an NP not a DP, as it does not have any instances of overt articles and patterns in the same manner as NP-only languages. So far the generalizations from Bošković (2008, 2012) appear to apply to Mi'gmaq as well. However, there is a problematic generalization, namely the generalization on multiple wh-fronting with superiority effects, discussed in the following section.

### 3. Multiple wh-fronting

In languages with obligatory multiple wh-fronting, the languages with articles (Romanian, Bulgarian, Macedonian, Basque, Yiddish) show superiority effects, while those languages without articles (Serbo-Croatian, Mohawk, Polish, Czech, Russian, Slovenian) do not, illustrated in (7).<sup>3</sup>

- (7) a. Koj kogo viz'da/\*Kogo koi viz'da?  
       who whom sees  
       'Who sees whom?' +Article  
       (Bulgarian)
- b. Ko koga vidi / Koga ko vidi?  
       who whom sees  
       'Who sees whom?' -Article (Serbo-Croatian)

In Bulgarian, (7a), the subject wh-argument must appear phrase initially, if the object wh-argument is initial, the phrase is considered ungrammatical. However, in Serbo-Croatian, either the subject or the object wh-argument can appear phrase initially, and the phrase is still considered grammatical, seen in (7b). As, Bulgarian has articles and Serbo-Croatian does not, Bošković posits the generalization that:

(III) *Multiple wh-fronting languages without articles don't show superiority effects in cases like (7).*

The previous data leads Bošković to posit a correlation between multiple wh-fronting, the presence of articles, and superiority effects.

#### 3.1. Bošković's Analysis

Based on proposals from Bošković (2002), Bošković (2008) claims that superiority effects arise in multiple wh-fronting from movement to spec-CP (wh-movement). When multiple wh-fronting does not occur, this is due to the wh-arguments fronting not to spec-CP, but rather to a lower syntactic position. The arguments put forth in Bošković (2002) are as follows. First, multiple wh-fronting languages must front all wh-phrases, the wh-phrases in (7) cannot stay *in situ*. Second, multiple wh-fronting languages without superiority effects use focus driven movement, not wh-movement to front wh-phrases. Finally, languages that have wh-movement disallow single-pair responses These facts allow for a restating of (III).

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<sup>3</sup> Superiority effects refer to situations where there is a phrase containing two wh-arguments. In languages that front both or one of the wh-arguments, if there are superiority effects, then the argument that will move to the highest position is the one that is initially the structurally highest argument. When fronted, the initial order of the wh-arguments is maintained.

(III)<sup>b</sup> *Article-less multiple wh-fronting languages move wh-phrases to a position below spec-CP.*

Bošković (2008) also assumes the D feature is crucially involved in movement to spec-CP. The lack of a DP then prevents NP multiple wh-fronting languages from having wh-movement, therefore the wh-phrases must move to a lower syntactic position. As superiority effects only arise with multiple wh-fronting to spec-CP, it follows that multiple wh-fronting languages with an NP will not show superiority effects. Since languages without articles do not have superiority effects and move to lower position, they must not have the D feature; therefore, they do not have a DP, but rather an NP.

### 3.2. Mi'gmaq data (Hamilton 2015)

Hamilton (2015) demonstrates that Mi'gmaq has obligatory multiple wh-fronting showing superiority effects, in an identical context to the Bulgarian example in (7). In (8), the only grammatical reading with multiple wh-fronting, is one where the subject wh-argument is phrase initial; where superiority effects arise. This is shown in (8a). When the object is phrase initial, as in (8b), the phrase is ungrammatical. This fact is unexpected given that Mi'gmaq does not have articles, based on Bošković's generalization; there should be no superiority effects. Furthermore, when the object wh-argument remains *in-situ*, as in (8c), the phrase loses its interpretation of 'who brought what'.

(8) *Context: I tell you that I went to a pot-luck yesterday. You ask me:*

- a. wen goqwei pegis-it-oq-s'p?  
who what bring-dflt-3-pst  
'Who bought what?' [triggers multiple pair-list response]
- b. \*goqwei wen pegis-it-oq-s'p?  
what who bring-dflt-3-pst  
(intended.) 'Who brought what?'
- c. wen pegis-it-oq-s'p goqwei?  
who bring-dflt-3-pst what  
'Who brought anything?; \*Who brought what?' (Hamilton 2015)

Hamilton (2015) proposes that fronted wh-phrases move to spec-CP not a lower XP, as the phrase in (10a) triggers a multiple pair-list response providing evidence that it is not a focus driven movement but standard wh-movement.<sup>4</sup> The following section outlines the standard process of multiple wh-fronting using wh-movement.

### 3.3. Standard multiple wh-fronting account

Hamilton (2015) uses the standard account, involving a two part process wherein movement is triggered by a wh-feature shared by the wh-phrases and the presence of a probe-goal AGREE relation- ship (Chomsky 2000, 2001).

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<sup>4</sup> Additionally, based on Dayal (2005), Hamilton proposes that the statement in (10a) also does not involve an echo question or a REF question, all of which would elicit a single pair-list response.

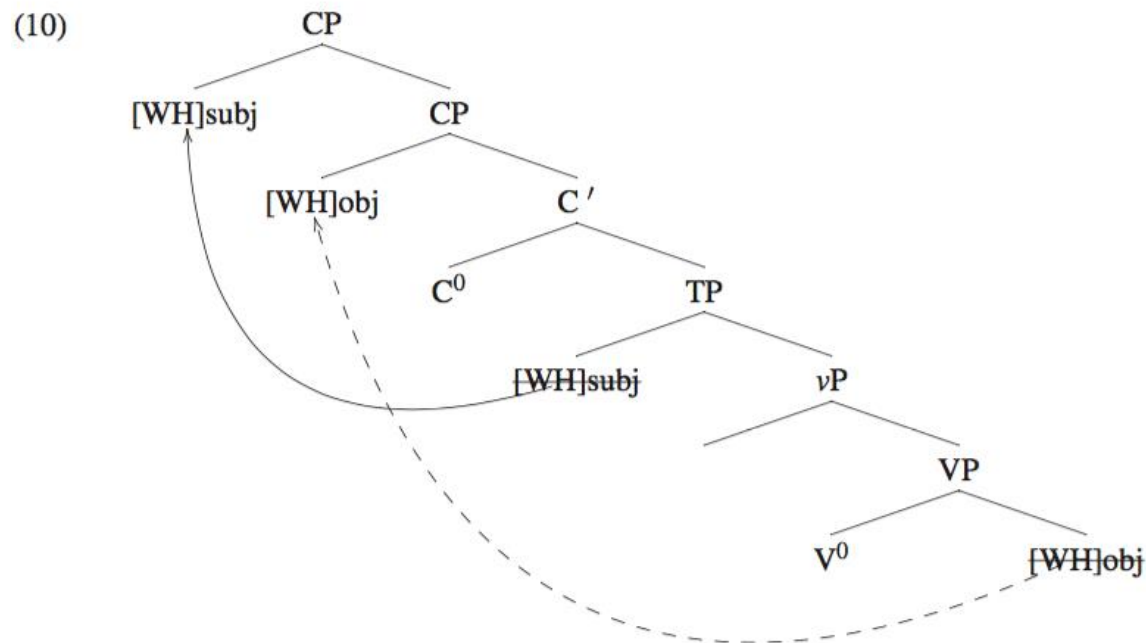
Part one:

- (i) A probe can only enter into an AGREE relation with, and raise one DP at a time, into the closest position relative to the probe.
- (ii) A probe will AGREE with the closest structural DP.
- (iii) C<sup>0</sup> has a wh-feature that probes and enters into an AGREE relationship with the closest wh-phrase, the subject.

Part two:

- (iv) C<sup>0</sup> probes a second time, enters into an AGREE relationship with the object wh-phrase and “tucks in” the wh-phrase in an inner specifier of CP. (Richards 1997)

This process, schematized below in (10), ensures that in the CP, the subject wh-argument will always be higher than the object wh-argument, causing superiority effects to occur.



The conclusion naturally following from the generalization on multiple wh-fronting is that: (i) since there are superiority effects shown and (ii) since wh-fronting is obligatory in Mi'gmaq, then both wh-arguments move via wh-movement to spec-CP as opposed to a focused driven movement to a lower position. According to Bošković (2008), Mi'gmaq should have a DP layer, not just an NP layer, despite not having any instances of overt definite/indefinite articles. However, there are now two conflicting conclusions in respects to whether Mi'gmaq should have an NP or a DP layer.

- (A) Mi'gmaq has no articles and since it has scrambling, an obligatory numeral classifier system, and a lack of inverse quantifier scope, it must therefore have an NP not a DP.
- (B) Mi'gmaq shows superiority effects with multiple wh-fronting, therefore it must have a DP.

## 4. Proposal

If one assumes that the proposal from Bošković (2008, 2012) is correct in that there is a structural difference between languages with articles and those without, then there cannot be a relationship between the presence of definites, the D feature, and superiority effects in multiple wh-fronting languages. The claim put forth in this paper is that the proposal that article-less languages do not have wh-movement does not and cannot apply to Mi'gmaq, as per Hamilton (2015). Mi'gmaq has wh-movement, which predicts the superiority effects seen in Mi'gmaq, regardless of whether or not the language has articles. There is no relationship between the presence of articles, the D feature, and appearance of superiority effects in obligatory multiple wh-fronting languages.

The decoupling of superiority effects from the presence of the D feature seems to raise the problem of how to explain the lack of superiority effects with multiple wh-fronting in other article-less languages. However, the proposals in Bošković (1998, 2002) that superiority effects do not occur with non-wh-movement, focus movement, are still able to apply. A stronger proposal for multiple wh-fronting is to eliminate any reference about articles in the generalization entirely, and rephrase it as:

*(IV) Multiple wh-fronting languages that do not show superiority effects do not involve wh-movement but rather focus driven movement.*

Crucially, in the discussion surrounding whether or not all languages have a structural DP layer, superiority effects with multiple wh-fronting should not be used as evidence for a NP-only layer for article-less languages.

## 5. Conclusion

If we assume an NP analysis for article-less languages, the only way to reconcile the data seen in Mi'gmaq, is by removing the presence of D feature as a causation of the presence of superiority effects. There cannot be a correlation between D and wh-movement with superiority effects in multiple wh-fronting.

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