

Reconstruction: Beyond C-Command

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□ ABSTRACT □

This paper criticises specific syntactic arguments about the phenomenon of reconstruction that have been widely endorsed, specifically those that involve c-command as a pre-requisite for any interpretation of the phenomenon. It also discusses some arguments that took semantics into consideration in interpreting reconstruction. The paper illuminates the fact that arguments based solely on syntax, specifically c-command are problematic, and that other fields: morphology and semantics are essential for a proper analysis of the phenomenon.

Keywords: reconstruction, c-command, movement, morphology, semantics

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إعادة البناء: ما بعد هيمنة المكون

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□ ملخص □

ينتقد هذا البحث بعض التحاليل النحوية التي كتبت حول ظاهرة إعادة البناء و بالتحديد تلك التي تستلزم هيمنة المكون كشرط أساسي لتفسير هذه الظاهرة. و يناقش البحث كذلك تحاليل أخرى أخذت المعنى الدلالي بالحسبان لتفسير إعادة البناء. كما و تظهر أن الجدل المعتمد حصراً على النحو و خاصةً على فكرة هيمنة المكون فيه مشاكل، و أن المورفولوجيا و المعنى الدلالي ضروريان لتحليل صحيح للظاهرة.

الكلمات المفتاحية: إعادة البناء، هيمنة المكون، الحركة، المورفولوجيا، المعنى الدلالي.

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Introduction

The literature concerning the phenomenon of reconstruction is both extensive and contentious and, consequently, a review of the various accounts of it is outside the scope of this paper. Instead, I limit discussion to a critical discussion of specific syntactic arguments about the phenomenon that have been widely endorsed. I also discuss some arguments that took semantics into consideration in interpreting the phenomenon; namely Heycock (2005) in her discussion of reconstruction and relative constructions, and Heller (2002) in her discussion of reconstruction and specificational pseudoclefts. The discussion will illuminate the fact that arguments based solely on syntax, specifically c-command¹ are problematic. Later discussion shows the primary goal of the paper which is that other fields: morphology and semantics² are essential for a proper analysis of the phenomenon.

The paper is organized as follows. The next section provides a definition for reconstruction. Section 3 criticizes arguments which involve c-command as a pre-requisite. It will be made clear that c-command fails to account for different kinds of reconstruction effects. Section 4 provides two examples of a mixed analysis (syntactic-semantic analyses). Section 5 considers integrating semantics and morphology as possible solutions for reconstruction.

Definition of reconstruction

In the literature, reconstruction is dealt with differently by different linguists; some use the term as a name for a class of phenomena. Here the phenomenon is used for a certain sort of interpretation whereby X is not c-commanded by Y but it is interpreted as if it were as in *The picture of himself that John painted* where *picture of himself* behaves as if it were in object of *painted*, others use it as a type of analysis. Here *picture of himself* originates in object position and then gets moved.

Different views are proposed to explain reconstruction³:

One view involves movement; 'reconstruction places the relevant element in a lower position' (Haegman (1994: 525)) (see also Aoun and Li (2003), Bianchi (2000) among others). This approach assumes that c-command is required and proposes that the requirement is met prior to movement (it is not met on the surface.) The relation between the crucial elements is explained in terms of a grammatical operation; movement. There is disagreement though as to the nature of the moved element; for example, for Aoun and Li (2003) that-relatives involve NP raising, whereas wh-relatives involve operator movement. Others proposed different analyses.

The second view assumes a mixed analysis where both semantics and syntax are involved (Heycock (2005) and Heller (2002)).

The third view maintains that semantics alone is able to explain the different types of connectivity effects. Sharvit (1999), for example, refuted any syntactic involvement and accounted for connectivity using a purely semantic theory.

Arguments which involve c-command as a pre-requisite.

The aim of this section is to show that the widely assumed analyses, to be precise movement analyses of reconstruction are inadequate. In particular, the arguments which

¹ A constituent X c-commands its sister constituent Y and any constituent Z which is contained within Y (Radford, 2010: 53)

² The word 'semantics' is used loosely to refer to the lexical meaning of words.

³ Sometimes connectivity is used interchangeably with reconstruction.

provide a syntactic account for the reconstruction phenomenon revolve around the idea that reconstruction involve some kind of movement and that c-command is crucial for a proper interpretation. This pattern of argument is based on some facts which apparently assume that some constituent is moved from a lower position to a higher position leaving behind a copy which can be interpreted appropriately at LF. For instance, [The [that John painted [picture of himself]]] could be the underlying structure in at least one case. The standard examples are assumed to involve movement in all transformational work and it looks as if the pre-movement may be crucial for certain phenomenon. However, if movement leaves a copy post-modern levels are just as relevant.

This section shows that the arguments for the interpretation of the crucial elements do not provide any robust evidence for movement and not for c-command at any level of syntax. This is not to deny the Standard Binding Theory proposed by Chomsky (1981 and 1986) where reflexives, pronouns and proper names are in c-command relation with a referent in a minimal syntactic domain.

Below is a summary of the main syntactic points against the standard movement approach to reconstruction taken from Shaheen (2013).

In their (2003) paper, Aoun and Li argue that examples such as *The picture of himself that John painted* and *The picture of his mother that every student painted* provide evidence for a raising analysis of that-relatives. The idea, of course, is that these pronouns must be c-commanded by their antecedents and that they will be if we assume a raising analysis; movement.

It is not clear the crucial phenomena really require c-command given examples like *The picture of himself in Newsweek made John's day* and *His X-box is every boy's favourite possession*. The first of these is from Pollard and Sag (1994). The point is that neither example has a plausible analysis in which the pronouns are c-commanded by their antecedents. A number of objections which refute Aoun and Li's proposal are summarised here. The objections are raised against the very idea of movement⁴ as a diagnostic for reconstruction.

Binding

A reflexive anaphor normally requires a local antecedent which c-commands it. In (1) the *portrait of himself* is apparently not c-commanded by *John*, however, for Aoun and Li the *portrait of himself* originated in object position of the verb *painted*.

1. The portrait of himself that John painted is extremely flattering (Schachter 1973 cited in A&L, 2003: 98).

The restrictive relative clause (RRC) in (1) would derive from the following structure:

2. [DP the [FP that John painted [DP portrait of himself]]]

A copy of *portrait of himself* is left behind in the RRC and from there can be bound by *John*, thus showing a reconstruction effect.

Exempt anaphors (Pollard and Sag, 1994), which do not have to be c-commanded by an antecedent, provide a counterargument that some reflexives do not have a c-commanding antecedent at any level of syntax. In (3) *John* is inside an RRC modifying *piece of mind*, but *picture of himself in Newsweek* does not start inside this RRC meaning on any plausible analysis that it is not c-commanded by *John*.

⁴ It might be worth noting that not everyone who assumes movement assumes that the antecedent of a relative clause is moved. The situation is different with *wh*-interrogatives where everyone who assumes movement assumes that the *wh*-phrase is moved.

3. The picture of himself in Newsweek shattered the peace of mind that John had spent the last six months trying to restore. (Pollard and Sag, 1994: 279)

Plenty of people assume that there is no movement in any examples, but even if one assumes movement it is not going to help in an example like this.

Bound Pronouns

A pronoun with a quantified antecedent must normally be c-commanded by that antecedent, for example *I saw everyone and he saw me*, which contrasts with *I saw Kim and he saw me*. In (4) *his* is not c-commanded by an antecedent, but it is plausible to assume that *picture of his mother* originates below *every student* and is c-commanded by it. Thus, *his* could be said to refer to *every student*.

4. The picture of his mother that every student liked best was an old black and white (A&L, 2003: 99)

For Aoun and Li, the RRC in (4) would derive from the structure (5):

5. [DP the [FP that every student liked [DP picture of his mother] best]]

However, there are examples which suggest that some pronouns have a quantified antecedent which does not c-command it at any level of syntax:

6. His X-box is every boy's favourite toy (Borsley, personal communication).

There is no plausible analysis here in which *his X-box* originates in a position c-commanded by *every boy*.

Scope Interpretation

Normally a quantifier has scope over another quantifier if it c-commands it, but (7) seems to be different. On the movement approach it is not really different. The idea that a head nominal can be interpreted as having narrow scope with respect to another quantifier within an RRC is assumed to argue for movement. In (7), the interpretation that there are two patients for every doctor is possible if the QP *every doctor* can have scope over the relativized nominal *two patients*, i.e., *two patients* originates in object position after *examine* and then gets raised to its position in the PF. In other words, it seems to be unproblematic given the assumption that relative antecedents originate inside the relative clause.

7. I phoned the two patients that every doctor will examine tomorrow.

This would involve the following structure on a head-raising analysis:

8. [DP the [FP that every doctor will examine [DP two patients]]]

However, a universal quantifier sometimes has scope over an existential quantifier where there is no reason to think that it c-commands the existential quantifier at any syntactic level.

9. An X-box is every boy's favourite toy (Borsley, personal communication).

Every boy has scope over *an X-box*, but it doesn't c-command it at any level suggesting that there can be as many *X-boxes* as *boys*. This is because *X-box* is not referring to a single *X-box*. This interpretation is possible even though *every boy* does not c-command *an X-box* as *every boy* is inside the DP *every boy's favourite toy*. The point is not that it doesn't c-command it in the obvious structure but there is no plausible underlying structure in which it c-commands it.

Idioms

In transformational work, idiom chunks are introduced as a unit but they may not be a unit in the superficial structure of a sentence: *Pull the strings* as in (10). For A&L, there are cases where the parts of the idiom are separated; this is possible because there is head-raising:

10. The strings [that Pat pulled] got Chris the job

(10) would have the structure in (11) on A&L's:

11. [DP the [FP that Pat pulled [DP strings] got Chris the job]]

If we assume that the head nominal raises out of the RRC, this might work to explain why (10) may be interpreted idiomatically, but then (12) should not allow an idiomatic interpretation, as the *strings* is in the RRC in the underlying structure, while *pull* is in the upper clause. What this means is that idioms are not always introduced as one unit, a fact that weakens A&L's evidence.

12. Pat pulled the strings [that got Chris the job]. (Nunberg, Sag and Wasow, 1994: 510)

In fact, Nunberg, Sag and Wasow (1994) assume that idioms are 'semantically compositional', and the very idea of idiomaticity is 'fundamentally semantic in nature' (491). In other words, they assume that the components of an idiom do not need to form a unit at any syntactic level.

The appearance of certain expressions that incur reconstruction

Aoun & Li (2003) assume that a raising analysis is only appropriate for *that*-RRCs with certain Ds like *the/these/every/any/all/what/my* as in (13). (13) could derive from a structure such as (14):

13. The lattakia that I love.

14. [DP the [FP that I love [DP Lattakia]]]

However, it is not clear how a similar analysis could be proposed for (14)

15. The Lattakia of my dreams is my next destination.

Lattakia here is preceded by a definite article and modified by the PP; *Lattakia* is not moved to this position.

Reconstruction cannot predict the difference between which-interrogatives and superlative RRCs.

A further problem for movement-based views of reconstruction is outlined in Sharvit (2007): Sharvit is critical of the idea that movement leaving behind a copy is the way to explain reconstruction. He focussed his discussion on the following sentence:

16. The longest book John said Tolstoy had written was *Anna Karenina* (336).

Example (16) has two readings: high (because *longest book* is outside the scope of *say*) and low (because *longest book* is in the scope of *say*). It is only the low one that gives rise to a reconstruction effect:

17.

a. 'High' reading (longest book >> say)

John said about a bunch of books that they were written by Tolstoy. Of these books, *Anna Karenina* is the longest.

b. 'Low' reading (say >> longest book)

John said that *Anna Karenina* is the longest book written by Tolstoy.

Sharvit argues that if we form a *which*-interrogative sentence out of (16), we get the sentence in (18a). (18a) does not have the low reading in (18b), but rather that in (18c)

18.

- a. Which longest book did John say Tolstoy had written? (337)
- b. Which *x* is such that John said that *x* is the longest book Tolstoy wrote?
- c. Out of the set of entities such that each of them is the longest member in some set of books (e.g., (Book a (=longest member of set A), Book b (=longest member of set B), Book c (=longest member of set C)), which entity is such that John said that Tolstoy wrote it?

Under the movement theory of reconstruction, (18b) is predicted to be a possible reading of (18a) if the generation of the ‘low’ reading of (16) and the generation of the ‘low’ reading of (18) ‘involve the same ‘degree’ of reconstruction’ (337).

Beyond c-command

It was made clear in the previous section that the facts about reconstruction are not as straightforward as simple c-command. The point is that there are examples in which there is no plausible movement analysis in which there is c-command. The problem can be further complicated when posing an example such as *His last poem is what every Englishman prefers* (A&Ch, 1997: 16) which is a reversed pseudo-cleft sentence. Here *what* presumably originates as object of *prefer*. If so, *his last poem* cannot originate there. No movement is involved; the crucial constituent has not moved. In other words, one can’t account for the facts with just movement. One has to assume another mechanism (predication and coindexing) as well.

The following sections show that semantics and morphology can play a role in solving the problem.

Reconstruction and semantics in the literature

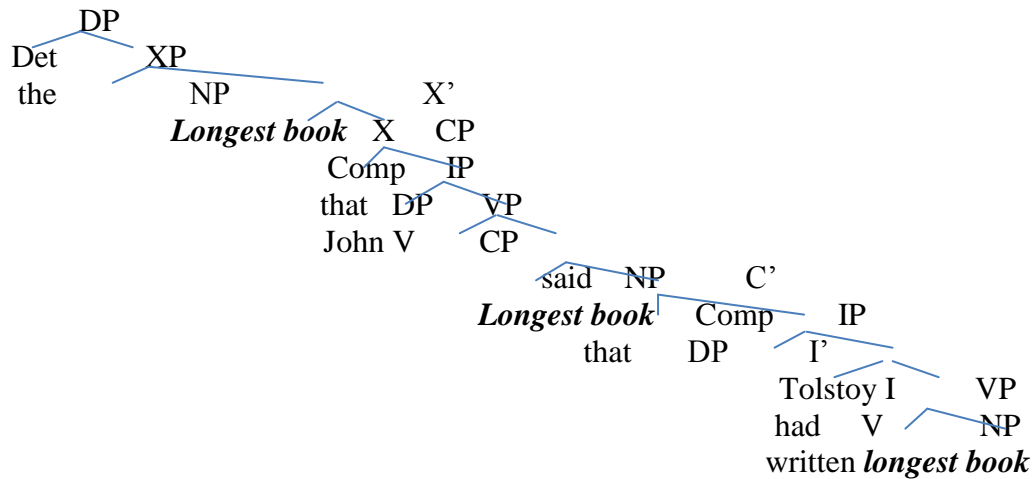
Reconstruction has figured in the literature on semantics as well as syntax. The following sections highlight the role of semantics in this domain.

The mixed analysis

Heycock (2005)

Heycock (2005) focused on the interpretation of adjectives modifying the antecedent of a relative clause and on whether they can be understood as part of the relative clause. She adopts some intermediate position between syntax and semantics in the sense that although she does not altogether deny the head-raising analysis, she contends that the raising analysis may be necessary to generate only certain low readings. For her, ‘reconstruction overgenerates massively’ (37) in the way it is dealt with in the literature. Heycock was referring specifically to Bhatt’s (2002) analysis. She was critical of the idea that ‘the low readings are the result of reconstruction of the noun and the modifier into the relative clause, and hence constitutes evidence for the ‘raising analysis’ of relative clauses’ (37). For Bhatt, a sentence such as (19) has two readings corresponding to the intermediate and low positions of ‘longest book’: for the intermediate copy, there is the following reading ‘*x is the longest book out of the books about which John said that Tolstoy had written them*’; for the low copy, there is the following reading ‘*What John said can be paraphrased as ‘x is the longest book that Tolstoy wrote’*’ (4-5).

19. The longest book that John said that Tolstoy had written.



Heycock would like to argue that the low readings arise when interpreting negation in the entailment with a lower scope. That is, the constructions that license a reconstruction effect are those that involve modifiers of a noun that generate negative entailments. The entailments in turn license the ‘short-circuited implicatures’. These implicatures are allowed with certain kinds of predicates. The idea is that there are certain meanings that could be derived through a process of pragmatic reasoning but don’t have to be because such meanings are available. So the low reading in (20b) is the result of interpreting the negation in the italicized entailment in (20b):

20. a. *Anna Karenina* is the longest book that Jennifer thinks Tolstoy wrote.
 b. Jennifer thinks - [*Tolstoy wrote a book other than Anna Karenina g long*]
 (18)

However, such low reading is blocked for instance in the case of factive verbs, implicatives (predicates whose complements are entailed) and weak and strong epistemic operators (possible, certain ...). These all block NP raising, and consequently no low readings follow. Examples (20-23) are taken from Heycock: (the crossing out signifies impossible meanings)

21. a. The only book that I know she likes.
 b. ~~The book that I know is the only one that she likes.~~
 22. a. Those are the only people that he managed to insult.
 b. ~~Those are the people s.t. he managed to insult only them (he successfully avoided insulting others).~~
 23. a. That is the only water that it is possible for him to drink.
 b. ~~This is the water s.t. it is possible for him not to drink anything other than that water (tall that he is)~~

24. a. This is the only book that it is certain that he wrote.
 b. ~~This is the book s.t. it is certain that he did not write any book other than that.~~

Heycock left unanswered the question of how implicatures should be formalized, she admits that the way implicatures ‘should be formalized is a notoriously difficult problem’ (37).

While this paper rejects raising as an account of reconstruction, I partially agree with Heycock in assuming that meaning (inference) is vital in getting the right reading, though not in the way proposed here.

Heller (2002)

In order to account for reconstruction, Heller (2002) adopted a semantic theory for her analysis of specificational pseudoclefts as in (25) in Hebrew:

25. What John is is dangerous to himself. (243)

She contends that connectivity 'is not a uniform grammatical phenomenon that is derived by a single operation (such as reconstruction; reconstruction here is used as a type of syntactic analysis⁵)' (246-247). Heller followed the spirit of Sharvit's semantic theory in analysing specificational pseudoclefts in Hebrew. Sharvit assumes a 'surfacy' LF' (304) for these constructions. In particular, he assumes a purely semantic theory where the pre-copular phrase and the post-copular phrase have the same denotation. The pre-copular phrase (be it a definite relative as in (26a) or a free relative as in (26b)) carries a *uniqueness* presupposition, while the post-copular phrase specifies the content of the pre-copular phrase.

26. a. What I bought was the bags that were on the shelf (namely, the blue, the red, and the brown bags)

b. The bags I bought were the bags that were on the shelf (namely, the blue, the red, and the brown bags)

For example, if on the shelf there were the blue and the red and the brown bags, (26a-b) imply that I bought these three bags and nothing else. Accordingly, *what I bought* and *the bags I bought* denote all the things bought by me.

This semantic theory has main assumptions (305-306); these are:

I. Specificational sentences are identity sentences (not person sentences), where the precopular phrase "is the same as" the postcopular phrase; *what I bought* and *the bags I bought* is the same as *the bags that were on the shelf*. There is an equation between the two phrases.

II. A relative clause denotes a set; *the bags I bought* denotes the set of bags

III. *The* is cross-categorial; the head can be attached to any type of predicate: *the bags I bought*, *the bags I was looking for*, *the bags I want to buy* is ...

IV. Be-of-identity is cross categorial; the postcopular phrase could be a CP, VP, NP, AP

Implementing this theory to account for variable binding for example, Sharvit assumes that in a sentence like (27) there is an identity⁶ equation between two functions: 'the (unique) natural woman-valued function which maps every man to the individual he does not love, and the function which maps every individual to his mother' (311) what is presupposed is that for every man there is a woman that he does not like.

27. The woman no man likes is his mother. (311)

In line with Sharvit, Heller also assumes that connectivity effects in specificational pseudoclefts can be accounted for in terms of equation. Connectivity effects are independent of each other; although they are all the result of equation.

For instance, the connectivity effects of reflexives are accounted for by assuming that a reflexive is an 'argument reducer'. That is, combining a reflexive with a predicate yields a reflexive predicate. The reflexive denotes the identity function on individuals which forces the predicate to 'type-shift' into a relation between functions and individuals. Adopting this analysis for the Hebrew reflexive *acmo* yields the following meaning for

⁵ It is not clear which syntactic analysis is referred to in this paper.

⁶ Identity statements don't require person identity. Cf. *I am the author of the book/You are the author of the book*.

(28): the (unique) property that Dan has is the property of being dangerous to oneself, which is equivalent to Dan's being dangerous to himself (274).

28. ma še-dan haya ze mesukan le-acmo
 what that-Dan was Z(n) dangerous to-himself
 What Dan was was dangerous to himself (274).

In (29) the reflexive connectivity involves an equation of two functions: the FR denotes the (unique) function that maps Ruth to whoever she loves, and the postcopular reflexive denotes the identity function on individuals. The equation of these functions asserts that Ruth loves herself. (274)

29. ma se-rut haxi ohevet ze *(et) acma
 what that-Ruth most loves Z(n) Acc herself
 'What Ruth loves most is herself.'

Agreement connectivity was also accounted for semantically by equating the domain of individuals for gender; both phrases should bear the same gender. In (30) the subject inside the free relative is feminine and the postcopular adjective is feminine. *mo'ila la-xevra* 'helpful(f) to-the-society' denotes a set of feminine individuals. *Ruth* is a feminine individual, and these sets of individuals consist of feminine individuals.

30. ma še-rut hayta ze *mo'il la-xevra/ mo'ila la-xevra
 what that-Ruth was(f) Z(n) *helpful(m) to-the-society/ helpful(f) to-the-society
 what Ruth was was helpful to society (268)

In (31) the copular *Z* equates real world individuals; the postcopular NP denotes a feminine individual, and the individual denoted by the free relative must also be feminine.

31. mi še-lokaxat et rut me-ha-gan zot ha-šxena
 who that-takes(f) Acc Ruth from-the-kindergarten Z(f) the-neighbour(f)
 The person that takes Ruth from the kindergarden is the neighbour. (270)

Case connectivity required sameness of a syntactic feature (278). In (32) the accusative marker *et* marks a postcopular definite NP when the gap inside the free relative is in object position. In other words, the two phrases around the copular must bear the same syntactic feature which is the accusative case feature.

32. [ma še-kaninu ba-šuk _] ze *(et) ha-sveder ha-kaxol
 What that-we-bought in-the-market Z(n) Acc the-sweater the-blue
 What we bought in the market was the blue sweater. (264)

Worth noting is that in all the examples mentioned above the copular used is neutral. Heller divides specificational pseudoclefts into two types; the first involves an agreeing copula, the other a neutral one. In example (33) which involves an agreeing copular, equation can be between two individuals

33. ma se-dekart maca ze/zot hoxaxa le-kiyum
 what that-Descartes found Z(n)/Z(f) proof(f) to-existence ha-el the-god
 'What Descartes found was a proof of God's existence.'

Heller differs from sharvit's analysis in different respects, most importantly in that connectivity is not a purely by-product of semantic properties but syntactic properties as well.

Heller's equation proposal for specificational pseudoclefts will loosely be utilized for explaining connectivity in constructions other than this in this paper.

Factors relevant to the interpretation of reconstruction

The previous sections explored some accounts which implemented syntax (syntactic features or c-command) and semantics for the interpretation of the reconstruction phenomenon. In the following sections, the idea of equation will help in interpreting

connectivity effects in constructions other than specificational pseudoclefts. This paper, similar to Heller's, assumes that connectivity effects are independent of each other, and they cannot altogether solely be accounted for syntactically and not solely semantically.

Here focus is on exploring how one case of reconstruction effects, binding, can be explained in terms of equation. It is not clear though if equation can explain all types of effects such as idiomaticity.

This section homes in on exploring how connectivity can be made to work well (i) when the crucial elements are 'equal' in their syntactic features (person, number and gender), most importantly even when they are not in a c-command relation, (ii) when the morphology of the crucial elements is transparent, and thus can lead to an equation of meaning and syntactic features (iii) when the meaning of the crucial elements is equal.

Reconstruction and feature equation

In order to explain connectivity, Heller reasoned that in Hebrew equation in syntactic features (person, number, and gender) is important for having a reconstruction effect in certain specificational sentences. The same is true for the English examples (1) and (4) repeated here as (34) and (35):

34. The portrait of **himself_i** that **John_i** painted is extremely flattering.

35. The picture of **his_i** mother that **every student_i** liked best was an old black and white.

In (34) *John* can be a referent for the reflexive *himself* since both share the same features: they refer to a masculine, singular and third person. A change in any of these features would not yield a reconstruction effect:

36. *The portrait of **herself/themselves/yourself_i** that **John_i** painted is extremely flattering.

For (35) the situation is similar; a change in any of the syntactic features of *his* would not result in any reconstruction effect.

Reconstruction and morphology

Before discussing how morphology could play a role in the interpretation of the phenomenon; a brief introduction about referentiality and morphology is necessary. Consider the examples taken from Bosch (1983: 154) cited in Booi (2007: 187):

37. John became a *guitarist* because he thought *it* was a social instrument.

38. *Shakespearean* imitators usually fail to capture *his* style.

The first point to observe about these examples is that in (37) the pronoun *it* is interpreted as referring to the guitar (not *guitarist*). *His* in sentence (38) refers to *Shakespeare* (not *Shakespearean*). The question that should be posed here is the possibility of relating *it* and *his* to only parts of the words *guitarist* and *Shakespearean*. In other words, is it possible for these words to have as referents parts of words?

If the answer to this question is yes, a violation to the Lexical Integrity Constraints follows; 'the syntax neither manipulates nor has access to the internal form of words' (see Anderson, 1992: 84). So, one can say that these examples show that pronouns can refer to something which is a part of the meaning of a preceding expression and not the whole meaning and not to parts of the form.

The second intriguing point is that there is a difference in the feature specifications of the words and their referents. In (37) there is a difference between *it* and *guitarist*; whereas *it* has the features (-animate, neutral, singular, third person pronoun), its referent is (animate, male, singular, third person noun). Example (38) shows a discrepancy in the word category; *Shakespearean* is (adjective), but *his* is (animate, masculine, singular, third person, pronoun). Apparently, the facts here do not constitute support to the claim that

referentiality involves equality between a word and its referent, but this condition is not met here.

The question is whether referentiality is possible between a word and one morpheme inside a multi-morphemic word. The equation model proposed here can work to explain referentiality in the instances above. The words: *guitarist*, *Shakespearean*, *New Yorker* can be interpreted respectively as *a person who plays the guitar* and a *Shakespeare-related quality*. When the meaning of these words is positioned in place of the words as in (39-40), the equation in meaning and features can be obtained again:

39. John became a *person who plays the guitar* because he thought *it* was a social instrument.

40. *Shakespeare-related quality* imitators usually fail to capture *his* style.

Booij (2007: 188) argues that ‘transparent morphological structure certainly helps to find adequate referents for pronouns in a discourse domain’.

When relativizing any of the instances (37-38), one gets structures such as:

41. Its strings that the guitarist (a person who plays the guitar) pulled ... were loose.

42. His style that the Shakespearean (Shakespeare-related quality) imitators fail to capture ... is fascinating.

The antecedents in (41) *its strings* and (42) *his style* contain a binding pronoun that can be understood as part of the relative clauses; they behave as if they originated in object position. The bound interpretation is possible when *its strings* is related to *guitar*, and *his style* is related to *Shakespeare* which are part of the meaning of the words *guitarist* and *Shakespearean*. Accordingly, the bound pronouns and the referents share the same syntactic features: in (41) they are both singular, third person animate and in (42) singular masculine third person. In addition to this, there is equation in the meaning of both the binding pronouns and the referents.

What made the binding interpretation possible in the three cases is the transparency of the morphological structure of the referents.

Reconstruction and word meaning

This section shows that the same analysis can also account for less morphologically-transparent cases. Consider example (43) where *orphan* cannot be reduced any further. *Orphan* means ‘a person who lost his parents’. Replacing the meaning of these words results in a semantic equation as well as a feature equation between these words and the binding pronouns:

43. John is an *orphan*, so he never knew *them*. (Booij, 2007: 188)

44. John is a *person who lost his parents*, so he never knew *them*.

When relativizing the sentence, a structure such as (45) might result:

45. His parents that the orphan has never seen passed away three years ago.

Again a reconstructed reading is possible because the meaning of *orphan* word helped in creating this interpretation.

Conclusion

If both the meaning of the crucial elements, together with the features (person, number and gender) is sufficient to show a reconstruction effect in the cases which involve a binding pronoun, then seeking to provide an account for connectivity in terms of c-command is redundant and unnecessary. Further investigation, however, is needed to explain other types of connectivity effects; it is assumed here, following Heller, that connectivity effects are independent of each other.

This paper calls for an interdisciplinary account for this phenomenon which in this paper required three fields: syntax (in minimal domains), semantics, and morphology. It is possible that other fields such as phonology and pragmatics could be at play. Further investigation is required.

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