

To Raise or Not to Raise: the Case of Finnish Restrictive Relative Clauses

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0. Introduction

While there are numerous accounts of relative pronouns in Finnish, little research (non-generative or generative) has been done on the clausal constructions that they introduce. The purpose of this paper is to present some work in progress on these previously neglected constructions. First, I discuss the motivation for distinguishing between restrictive and appositive relatives in Finnish. Second, I discuss some advantages and disadvantages that the so-called “standard” and “raising” analyses (see e.g. Kayne 1994; Bianchi 1999) of restrictive relative clauses have in this language, and present some ideas as to how the problems might be avoided.

The paper is structured as follows: in Section 1, I introduce the different relative clause construction types and present arguments for distinguishing between them in Finnish. In Section 2, I introduce the two different analyses for restrictive relatives and apply them to Finnish. I also discuss some questions that the analyses raise. In Sections 3 and 4, I address two specific problems for the analyses, namely case assignment and relative clause extraposition. In Section 5, I summarise the main points in the discussion.

1. Relative Clause Construction Types

The standard typology of relative clauses distinguishes between headed and free relatives. In the former, a relative pronoun or complementiser appears together with a nominal head and the relative clause functions as a postmodifier of that head.¹ Headed relatives can sometimes lack relative pronouns or complementisers altogether; see (1a-b). In free relatives, a relative pronoun appears alone. Unlike headed relatives, free relatives fulfill a range of functions, including subject and direct object; see (2a-b):

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¹ I use the term *nominal head* to refer to the whole nominal constituent that is the antecedent of the relative clause.

- (1)a. The man who came to dinner yesterday was my uncle
 b. The steak (that) he ate looked delicious
- (2)a. Whoever says so must be insane
 b. He eats whatever I serve him

Among headed relative clauses, a distinction is made between restrictive and appositive relatives. Restrictive relatives are necessary modifiers: they restrict the set of entities referred to by the nominal heads and help pick out their referents. Appositives give only additional information about the heads whose reference is independently established; see e.g. Jackendoff (1977: 171ff.), Kayne (1994:110ff.), Bianchi (1999:Chapter V), Alexiadou et al (2000:30ff.), and Platzack (2000).

The distinction between headed and free relatives can also be made in Finnish. Both constructions are usually introduced by the same set of pronouns: in headed relatives, such as (3), the pronouns co-occur with a nominal head, while in free relatives, such as (4), the pronouns occur alone; see e.g. Hakulinen&Karlsson (1979:285; 351ff.), Pääkkönen (1990), and Vilkuna (1996:67):

- (3)a. asia, joka vaivaa minua
thing which bothers me
 ‘a/the thing which bothers me’
- b. asia, mitä en voi ymmärtää
thing which not-1sg can understand
 ‘a/the thing which I cannot understand’
- (4)a. Joka ei minua usko voi käydä itse katsomassa
Who not-3sg me believe can go self look
 ‘Whoever does not believe me can go and see for themselves.’
- b. Sirkku teki mitä Pulmu käskei
Sirkku did what Pulmu told
 ‘Sirkku did what Pulmu told her to do.’

Finnish headed relatives are also divided into restrictive and appositive relatives. In present-day Finnish, both constructions are usually introduced by the pronouns *joka* and *mikä*. *Joka* is more frequent and is used of both persons and things, while *mikä* is nowadays only used of things or when the antecedent is a whole clause. The pronouns appear in the appropriate case and number inflected forms; see Karlsson (1982:148f.), Pääkkönen

(1990), Helasvuo (1993), Ikola (2001:45ff.). So, while the relative clause constructions in (3) pick out the nominal heads' referent, the ones in (4) give extra information about the heads whose reference is independently established. Secondly, only appositive relative clauses can contain speaker-oriented adverbials like *muuten* 'by the way', *valitettavasti* 'unfortunately', and *ohimennen sanoen* 'in passing' in Finnish - see e.g. Karlsson (1973):

- (5)a. Suomen kaunein nainen, joka on (muuten) lääkäri,
Finland's most beautiful woman, who is (btw) doctor
 asuu Tampereella
lives in Tampere
 'The most beautiful woman in Finland, who is a doctor, lives in Tampere.'
- b. Tuo nainen tuolla, joka on (muuten) lääkäri, asuu Tampereella
That woman there, who is (btw) doctor, lives in Tampere
 'That woman over there, who is a doctor, lives in Tampere.'
- c. Pariisi, jota (muuten) rakastan, on Ranskan pääkaupunki
Paris, which (btw) love-1sg, is France's capital
 'Paris, which I love, is the capital of France.'

The distinction between restrictives and appositives was not properly made in Finnish until the 1950s - see e.g. Penttilä (1954), Pääkkönen (1990), and Helasvuo (1993) for discussion. Because even recent researchers have found the distinction difficult to make (both constructions are introduced by the same set of pronouns; in writing, both constructions are enclosed in commas, and in speech, there are no systematic intonational differences between them; see e.g. Helasvuo 1993), its necessity in Finnish is sometimes questioned.

The following data strongly suggest that the distinction between restrictive and appositive relatives exists in Finnish. First, because appositives give only additional information about their nominal heads, they tend to occur with fully specified definite heads, including proper names. This allows us to predict, correctly, that the relative clause in (6a) is more likely to receive a restrictive reading, while the one in (6b) is likely to receive an appositive reading:

- (6)a. Tapasin eilen miehen, jolla oli poro
Met-1sg yesterday man who had reindeer
 ‘Yesterday I met a man who had a reindeer.’
- b. Tapasin eilen Mattin, jolla oli (muuten) poro
Met-1sg yesterday Matti, who had (btw) reindeer

Second, as observed by Jackendoff (1977:175f.) and many others, only negative polarity items inside of restrictive relative clauses can fall within the scope of main clause negation, and that only pronouns inside of restrictive relatives can be bound by quantifiers like *everyone* in the main clause subject position:

- (7)a. En tunne ketään, joka puhuu yhtään ranskaa
not-1sg know anyone who speaks any French
 ‘I don’t know anyone who speaks any French.’
- b. *En tunne Sirkkua, joka puhuu yhtään ranskaa
Not-1sg know Sirkku, who speaks any French
- (8)a. Jokaisella_i on äiti, joka rakastaa häntä_i
Everyone has mother who loves him
 ‘Everyone_i has a mother who loves him_i.’
- b. *Jokaisella_i on äiti, joka (muuten) rakastaa häntä_i
Everyone has mother, who (btw) loves him

Third, only restrictives can appear with certain quantified nominal heads:

- (9)a. Sirkulla ei ole yhtään poroa, jonka nimi on Petteri
Sirkku not-2sg has any reindeer whose name is Rudolph
 ‘Sirkku does not have a reindeer whose name is Rudolph.’
- b. *Sirkulla ei ole yhtään poroa, jonka nimi on (muuten)
Sirkku not-2sg has any reindeer, whose name is (btw)
 Petteri
 Rudolph

The well-formedness of (9a) and ill-formedness of (9b) follow from the more general fact that only restrictive relative clauses can fall within the scope of a quantifier or determiner; see e.g. Jackendoff (1977:175f.), Bianchi (1999:35f.), and Alexiadou et al (2000:5). Looking at quantifiers first, (10a,11a) do not entail that Sirkku has many friends or that she ate all

the cakes, whereas in (10b,11b) such interpretations are clearly possible. The restrictive or appositive reading of the relative clause also determines what types of elements can follow these sentences:

- (10)a. Sirkulla on monta ystävää, jotka asuvat Tampereella.
Sirkku has many friends who live in Tampere
 ‘Sirkku has many friends who live in Tampere.’
- b. Sirkulla on monta ystävää, jotka asuvat (muuten) Tampereella
Sirkku has many friends, who live (btw) in Tampere
- (11)a. Sirkku söi kaikki kakut, jotka oli kuorrutettu suklaalla.
Sirkku ate all cakes which were covered with chocolate
 (Mutta niihin, joissa oli kermaa, hän ei koskenut).
(But those which had cream she not-2sg touch)
 ‘Sirkku ate all the cakes which had chocolate topping. (But she did not touch the ones which had cream.)’
- b. Sirkku söi kaikki kakut, jotka oli (muuten) kuorrutettu suklaalla. (*Mutta niihin, joissa oli kermaa, hän ei koskenut).
*Sirkku ate all cakes, which were (btw) covered with chocolate. (*But those which had cream she not-2sg touch.)*
 ‘Sirkku ate all the cakes, which had chocolate topping. (*But she did not touch the ones which had cream.)’

As for determiners, Hakulinen&Karlsson (1979:125f.) and Vilkuna (1996:199) have observed that in standard written Finnish, nominal heads which are preceded by the demonstrative pronouns *se* ‘it/that’ and *ne* ‘they/those’ can only be followed by a restrictive relative clause. I emphasize that such heads in fact *must* be followed by a restrictive relative clause:²

² Note that (12)-(13) are examples of *written* Finnish. In colloquial spoken Finnish, the (b)-sentences would also be well-formed. They would imply that we are talking about a specific cake (which has probably been mentioned before), or about a specific group of men who came to dinner (e.g. *I met three women and three men yesterday. I knew the men, who then came to dinner.*).

- (12)a. Söin sen kakun, jonka päällä oli suklaata
Ate-Isg that cake which on-top was chocolate
 ‘I ate the cake which was covered with chocolate.’
- b. ??Söin sen kakun, jonka päällä oli (muuten) suklaata
- (13)a. Tunsin ne miehet, jotka tulivat illalliselle
Knew-Isg those men who came to-dinner
 ‘I knew the men who came to dinner.’
- b. ??Tunsin ne miehet, jotka tulivat (muuten) illalliselle

Finnish does not have “real” articles. It has been proposed however that, in addition to their normal deictic uses, the pronouns *se/ne* can be used as definite articles; for discussion see e.g. Laury (1993), Sundbäck (1995), Juvonen (2000), Hiietam & Börjars (2003). The data in (12)-(13) contrast with those in (14) where *se/ne* are used deictically; crucially, only the appositive reading is available for the relative clause in (14b):

- (14)a. Leivoin eilen kaksi suklaakakkua. Ne kakut
Baked-Isg yesterday two chocolate cakes. Those cakes
onnistuivat paremmin kuin nämä tämämpäiväiset
turned out better than these today’s
vadelmakakkuni.
raspberry cakes-Px
 ‘I made two chocolate cakes yesterday. Those cakes turned out better than these raspberry cakes which I made today.’
- b. Tapasin eilen Mattin. Se mies, joka on (valitettavasti)
Met-Isg yesterday Matti. That man, who is (unfortunately)
serkkuni, on kyllä ihan hullu.
my cousin, is really completely mad
 ‘I met Matti yesterday. That man, who unfortunately is my cousin, is completely nuts.’

On the basis of these data and discussions, I take it to be established that the distinction between restrictives and appositives is real in Finnish. In the following sections, I focus solely on the properties of Finnish restrictive relative clauses and discuss two different analyses for them.

2. The Structure and Properties of Restrictive Relatives

I begin by looking at systems where the nominal head is base-generated outside the relative clause. I then review Kayne’s (1994) and Bianchi’s

(1999) raising analysis where the head originates from inside the relative clause and is raised to [Spec,CP]. Finally, I apply these analyses to Finnish.

2.1. The Systems

The traditional view of restrictive relative clauses is that they are left- or right-adjoined to a nominal projection at the N-bar or NP level; see e.g. Jackendoff (1977:169ff.), Bianchi (1999:33ff.), Alexiadou et al (2000). In the case of left-adjunction, the relative clauses precede the nominal heads while in the case of right-adjunction, they follow them. Because the heads are base-generated outside the relative clauses, the system must ensure that they are linked to the relative clauses somehow: relations such as matching, agreement, binding, and predication have been proposed in the literature; see e.g. Chomsky (1977), Safir (1986), Bianchi (1999:33ff.).

Wh- and non-Wh-relatives are often assigned different analyses. In Wh-relatives, like (15a), the relative pronoun *who* is a kind of operator binding a trace, and the C⁰ position is empty. In non-Wh-relatives, like (15b), [Spec,CP] contains a null operator and the relative complementiser *that* appears in C⁰; see e.g. Chomsky (1977), Chomsky & Lasnik (1995: 70ff.), Alexiadou et al (2000):

- (15)a. $[_{DP} \text{ the } [_{NP} [_{NP} \text{ man }][_{CP} \text{ who}_i \text{ C}^0 [t_i \text{ came to dinner }]]]]$
 b. $[_{DP} \text{ the } [_{NP} [_{NP} \text{ claim }][_{CP} \text{ Op}_i \text{ that } [\text{ John made } t_i]]]]]$

But structures like (15) are ruled out by Kayne's (1994) antisymmetry theory: because right-adjoined relative clauses asymmetrically c-command the nominal heads, they should precede rather than follow them in linear ordering.

Instead of treating relative clauses as adjuncts, some grammarians, including Platzack (2000), have proposed that they are complements and therefore sisters of a lexical N⁰ head:

- (16) $[_{DP} \text{ D } \dots [_{NP} \dots \text{ N}^0 \text{ CP }]]$

Although the idea of relative clauses as sisters of lexical N⁰s is compatible with the antisymmetric approach, Kayne (1994:87) rejects it and proposes instead that relative clauses are selected by functional D⁰s as complements:

- (17) $[_{DP} \text{ D}^0 \text{ CP }]]$

Following ideas put forward by Schachter (1973), Vergnaud (1974) and

others, Kayne (1994:87f.) further proposes that the nominal head of a relative clause is created internally, by raising a nominal category from inside the relative clause, to [Spec,CP]. In Wh-relatives, the raising element is a DP while in non-Wh-relatives, it could be a DP or an NP.³ The data in (18)-(19) show how in Wh-relatives, the relative pronoun *which* heads a relative DP and selects the NP *claim* as its complement. Inside the relative DP, the NP raises to [Spec,DP] and inside the CP, the relative DP raises to [Spec,CP], producing the correct hierarchical structure and linear order. In non-Wh-relatives, the raising element is an NP and the head of CP is overtly filled by the relative pronoun *that*:⁴

- (18) The claim which John made
 a. $[_{DP} \text{ the } [_{CP} C^0 \text{ John made } [_{DP} \text{ which } [_{NP} \text{ claim }]]]]$
 b. $[_{DP} \text{ the } [_{CP} [_{DP} [_{NP} \text{ claim }]_i \text{ which } t_i]_j C^0 \text{ John made } t_j]]$
- (19) The claim that John made
 a. $[_{DP} \text{ the } [_{CP} \text{ that John made } [_{NP} \text{ claim }]]]]$
 b. $[_{DP} \text{ the } [_{CP} [_{NP} \text{ claim }]_j \text{ that John made } t_j]]$

Before examining the Finnish data, let us briefly discuss some well-known advantages of the raising analysis over the complement-of- N^0 analysis. First, it provides a more economical account of data such as (20). These examples show that proper names cannot be preceded by definite determiners unless they are also followed by a restrictive relative clause; see e.g. Vergnaud (1974:265), Kayne (1994:103f.), Bianchi (1999:42f.):

- (20)a. I love (*the) Paris
 b. The Paris that I love

Let us assume, in line with Longobardi (1994) and others, that proper names with unique referents are N^0 s which must raise to D; to allow these N^0 s to raise to D, the D position must be empty. Within the complement-of-

³ Bianchi (1999) assumes the moving element to be a DP, Kayne (1994) an NP; the latter view has been criticised by Borsley (1997). Some discussion on the identity of the moving element can also be found in Alexiadou et al (2000:16ff.).

⁴ Bianchi (1999:Chapters VI-VII) and Zwart (2000) have proposed that the NP could raise out of the raised relative DP altogether, to another [Spec,CP]. Both authors assume CPs to have a fully developed structure, consisting of (at least) a ForceP and TopicP, and thus making a number of specifier positions available for movement.

N⁰ approach, the well-formedness of (20b) can only be explained by assuming that *Paris*, although a proper name, lacks unique reference and therefore need not raise to D. But this line of analysis does not really explain why proper names with unique referents cannot take relative clause complements (given that they can take other types of complements, as in *Catherine of Aragon, William of Orange*), or why proper names without unique referents can only combine with definite determiners (consider **A Paris that I love*). More generally, why is there such close dependency between relative clause complements and determiners of proper names?

Within the raising analysis, (20b) is derived by movement of the nominal item *Paris* from inside the relative clause to [Spec,CP] (and, assuming that the raising element is a DP, the N⁰ can raise to D, as required). The CP is in turn selected by the external D *the* as a complement; the construction is well-formed because *Paris* does not form a constituent with the external D at any stage. The analysis explains straightforwardly the relation between the relative clause and the definite determiner - see also Kayne (1994:87ff.), Bianchi (1999:Chapter II):

(21) [DP the [CP Paris_i that I love t_i]

Another piece of evidence for the raising analysis, and especially for the idea that the nominal head of a relative clause is created by movement from inside the relative clause, is provided by reconstruction cases:

(22)a. Bill liked the [stories about himself_i] which John_i told

b. *Bill liked the [stories about him_i] which John_i told

In (22a), the nominal head *stories about himself* contains an anaphor which is bound by the subject of the relative clause: the well-formedness of (22a) is expected if the nominal head originates from inside the relative clause (the raising approach), but unexpected if it is base-generated outside the relative clause (the complement-of-N⁰ approach; but see Platzack 2000). For the same reasons, only the raising analysis predicts that (22b) should be ill-formed (i.e. that the raised nominal head cannot contain a pronoun which is bound by the subject of the relative clause).

2.2. Applying the Systems to Finnish

Finnish restrictive relatives are similar to English Wh-relatives in that they contain an overt relative pronoun inflecting for case and number, and the C⁰ position is empty. These facts suggest that Finnish restrictive relatives

should be analysed in the same way as English Wh-relatives. Within the complement-of- N^0 view, Finnish relative clauses are assigned the structures in (23b) and (24b):

- (23)a. väite, joka vaivaa minua
claim which bothers me
- b. $[_{DP} D [_{NP} väite [_{CP} joka_i C^0 [t_i vaivaa minua]]]]$
- (24)a. väite, jonka Pulmu esitti
claim which Pulmu made
- b. $[_{DP} D [_{NP} väite [_{CP} jonka_i C^0 [Pulmu esitti t_i]]]]$

Like the English *who* in (15), the Finnish relative pronouns *joka/jonka* can be treated as operators binding a trace. Further, because the nominal head *väite* is base-generated outside the relative clause, it must be linked to the relative clause via the mechanisms listed in Section 2.1. (matching etc.).

Within the raising analysis, the pronouns *joka/jonka* are relative D^0 s selecting an NP complement. Inside the relative DPs, the NPs raise to [Spec,DP]; the DPs as a whole then raise to [Spec,CP]:

- (25)a. $[_{DP} D^0 [_{CP} C^0 [[_{DP} joka [_{NP} väite]] vaivaa minua]]]]$
- b. $[_{DP} D^0 [_{CP} [_{DP} [_{NP} väite]_i joka t_i]_j C^0 [t_j vaivaa minua]]]]$
- (26)a. $[_{DP} D^0 [_{CP} C^0 Pulmu esitti [_{DP} jonka [_{NP} väite]]]]$
- b. $[_{DP} D^0 [_{CP} [_{DP} [_{NP} väite]_i jonka t_i]_j C^0 Pulmu esitti t_j]]$

As we have seen, the raising approach assumes a close dependency between a relative clause and a functional D^0 , the complement-of- N^0 approach between a relative clause and a lexical N^0 . In the following, I examine which view is more consistent with the Finnish data. First and foremost, both approaches seem equally compatible with the examples given in (7)-(8): a main clause Neg head or subject can c-command into a relative CP in both complement of D and complement of N positions (the DP/NP as a whole must of course be in a position where it can be c-commanded by Neg or the subject). In (9)-(13), we have in turn seen how the relative CPs fall within the scope of a quantifier or determiner. Assuming that quantifiers and determiners are external D^0 s, it is hardly surprising to find that they can c-command into their own complements (the raising approach). But in the same way, if these D^0 s first select an NP and the N^0 s then select a relative CP, the D^0 s are still able to c-command

into the CPs (the complement-of-N⁰ approach).⁵

The first real piece of evidence for the raising analysis, and for treating relative clauses as complements of functional D⁰s rather than N⁰s, comes from the fact that in written Finnish, neither proper nor common nouns can be preceded by a non-deictic *se/ne* unless they are also followed by a restrictive relative clause:

(27)a. Rakastan (??sitä) Pariisia
Love-1sg (?? that) Paris
 ‘I love Paris.’

b. Se Pariisi, jota rakastan
That Paris which love-1sg
 ‘The Paris that I love.’

(28)a. Rakastan (??niitä) poroja
Love-1sg those reindeer
 ‘I love old reindeer.’

b. Ne porot, joita rakastan
Those reindeer which love-1sg
 ‘The old reindeer that I love.’

In (27a), like in (20a) above, the sentence with *se* can be ruled out by assuming that proper names with unique referents are N⁰s which must raise to a phonologically empty D. (27b), like (20b), can in turn be derived by raising *Pariisi* from inside the relative clause to [Spec,CP]. The CP is then selected by the external D *se* as a complement. The construction is well-formed because *Pariisi* does not form a constituent with the external D *se*. The examples in (28) receive a similar analysis:⁶

⁵ Zamparelli (1995), among others, argues that DPs have a layered structure and that quantifiers and determiners appear in different layers of the DP. I will return to this briefly in Section 4.

⁶ Note that in (27b), unlike in (20b) above, we are forced to assume that, if *Pariisi* is to have unique reference, the relative D *jota* must select another DP as its complement, and the N⁰ *Pariisi* then raises to the empty head of this DP. I return to this in Section 4. In (28) the nouns are common nouns which need not (presumably) raise to D; we can therefore continue to assume that the relative D *joita* selects an NP as its complement.

- (29)a. $[_{DP} se [_{CP} rakastan [_{DP} jota Pariisia]]]$
 b. $[_{DP} se [_{CP} [_{DP} Pariisi_i jota t_i]_j rakastan t_j]]$
 c. $[_{DP} ne [_{CP} rakastan [_{DP} joita poroja]]]$
 d. $[_{DP} ne [_{CP} [_{DP} porot_i joita t_i]_j rakastan t_j]]$

The fact that non-deictic *se/ne* sometimes only require the presence of a relative CP, but not an NP, provides further support for the idea that *se/ne* are external D⁰s selecting a CP complement:

- (30)a. *se (ihminen), joka asuu Tampereella*
that (person) who lives in Tampere
 ‘The person(/one/anyone) who lives in Tampere’
 b. *se (asia), mitä sanoit, ei ole totta*
that (thing) which said-2sg not is true
 ‘That what you said is not true’

(31) show that Finnish quantifiers sometimes behave in the same way, and that quantifiers can even co-occur with *se/ne*. The data in (31) are thus compatible with the idea that quantifiers and determiners are functional D⁰s, and that DPs can have a layered structure, in the sense of e.g. Zamparelli (1995):

- (31)a. *jokainen (ihminen), joka pitää suklaasta*
every (person) who likes chocolate
 ‘everyone who likes chocolate’
 b. *kaikki (ihmiset), jotka pitävät suklaasta*
all (people) who like chocolate
 c. *kaikki ne (ihmiset), jotka pitävät suklaasta*
all those (people) who like chocolate

However, although Finnish supports the idea that relative clauses consist of an external D⁰ selecting a CP complement, it does *not* seem to support the idea that nominal heads of relative clauses are raised from inside the relative clauses, to [Spec,CP]. As shown by (32)-(35), Finnish does not allow reconstruction back into restrictive relative clauses, even though it allows reconstruction in some other situations; (34b,35b) are examples of topicalisation:

- (32)a. Sirkku_i näki [tämän [kuvan itsestään_i]]
Sirkku saw this picture of-self-Px
 ‘Sirkku_i saw this picture of herself_i’
- b. *[[kuva itsestään_i] jonka] Sirkku_i näki t
picture of-self-Px which Sirkku saw
- (33)a. Jokainen_i häpeää jotain elämänsä_i vaihetta
Everyone is ashamed of some life-Px period
 ‘Everyone_i is ashamed of some period of his_i life’
- b. ?*[[joku elämänsä_i vaihe] jota]_j jokainen_i häpeää t_j
some life-Px period which everyone is ashamed of
- (34)a. Sirkku_i inhoaa [tätä kuvaa itsestään_i]
Sirkku hates this picture of-self-Px
 ‘Sirkku_i hates this picture of herself_i’
- b. [Tätä kuvaa itsestään_i] Sirkku inhoaa t_i
- (35)a. Jokainen_i puhuu [jostain elämänsä_i vaiheesta]
Everyone talks about-some life-Px period
 ‘Everyone_i talks about some period of his_i life’
- b. [Jostain elämänsä_i vaiheesta] jokainen_i puhuu t

The data in (32)-(35) are clearly more consistent with the complement-of- N^0 analysis: if the nominal head is base-generated outside the relative clause, then there is no reason to expect it to reconstruct into the relative clause. In order to explain these data within the raising analysis, one would be forced to assume that, although the nominal head is created by movement, some independent principles ensure that in Finnish, it cannot reconstruct back into the relative CP. At this stage, it is not clear to me what these principles could be.⁷

Another potential problem for the raising analysis is the movement of NPs to [Spec, DP]. Finnish N^0 s are sometimes assumed to move to D, but Finnish NPs are not usually assumed to move to [Spec,DP] - see e.g. Löbel (1994), Vainikka (1996). Bianchi (2000a) & (2000b) has argued that the N-feature of D is a selectional feature which must be checked by merging a nominal category in its minimal domain (Bianchi makes use of Manzini’s 1994 definition of a minimal domain so that the minimal domain of X

⁷ In English, the nominal heads of appositive relatives also fail to reconstruct. Bianchi (1999:Chapter V) attributes this to the idea that appositives and restrictives have different LF structures. Whether this line of reasoning could also explain the Finnish data must remain a topic for further research.

includes all the categories which are immediately dominated by, and do not themselves dominate, a projection of X; Bianchi also restricts the relation of domination to only hold of categories and not of segments). In “normal” DPs, the N-feature of D is satisfied by merging an NP directly in D’s complement position. In relative clause constructions however the N-feature of D cannot be satisfied by merging a CP in its complement position. As the N-feature is also a strong feature, Bianchi argues, it triggers the raising of a nominal category from inside the CP to a position that is within D’s minimal domain; I will return to Bianchi’s use of minimal domains in the discussion of case assignment and relative clause extraposition, in Sections 3 and 4.

3. Case Assignment in Relative Clause Constructions

In Finnish, D heads show case and number agreement with their NP complements. In (36a), the D and NP inflect for nominative case and in (36b), for accusative case. (36c-d) show that the D and NP cannot inflect for different case or number:

- (37)a. $[_{DP}$ tämä $[_{NP}$ vanha poro $]]$ syö ruohoa
this-nom old-nom reindeer-nom eats grass
- b. Sirkku näki $[_{DP}$ tämän $[_{NP}$ vanhan poron $]]$
Sirkku saw this-acc old-acc reindeer-acc
- c. *Sirkku näki $[_{DP}$ tämän $[_{NP}$ vanha poro $]]$
Sirkku saw this-acc old-nom reindeer-nom
- d. *Sirkku näki $[_{DP}$ nämä $[_{NP}$ vanhan poron $]]$
Sirkku saw these-pl-acc old-sg-acc reindeer-sg-acc

(37) illustrate case and number agreement in Finnish relative clause constructions:

- (37)a. tämä vanha poro joka syö ruohoa
this-nom old-nom reindeer-nom which-nom eats grass
- b. tämä vanha poro jonka Sirkku näki
this-nom old-nom reindeer-nom which-acc Sirkku saw
- c. *tämä vanhan poron jonka Sirkku näki
this-nom old-acc reindeer-acc which-acc Sirkku saw
- d. *tämän vanhat porot jotka Sirkku näki
this-acc old-pl-acc reindeer-pl-acc which-pl-acc Sirkku saw

Within the complement-of- N^0 analysis, the nominal head *vanha poro* is selected by the external D^0 *tämä* as a complement. The head and D^0 form a constituent (a DP) which is assigned case by an appropriate external T, v or P head.⁸ The relative pronoun, which is raised to [Spec,CP], is assigned case independently in the appropriate position inside the CP. Within this line of reasoning, the well-formedness of (37a-b) and ill-formedness of (37c-d) are expected, and do not constitute a problem.

Within the raising analysis, relative pronouns are D^0 s selecting an NP complement. This suggests that the relative D^0 and NP should bear the same case. But the data in (37) show that the NP *vanha poro* bears the case of the *external* D^0 . This is surprising, given that the NP and external D^0 do not even form a constituent. Second, (37d) shows that all elements must bear the same number. Within the raising analysis, the well-formed data in (37a-b) have been derived in the following way:

- (38)a. $[_{DP} \text{tämä } [_{CP} C^0 [_{DP} \text{joka vanha poro }] \text{syö ruohoa }]$
 b. $[_{DP} \text{tämä } [_{CP} [_{DP} \text{vanha poro}_i \text{joka } t_i]_j C^0 t_j \text{syö ruohoa }]$
 (39)a. $[_{DP} \text{tämä } [_{CP} C^0 \text{Sirkku näki } [_{DP} \text{jonka vanha poro }]]$
 b. $[_{DP} \text{tämä } [_{CP} [_{DP} \text{vanha poro}_i \text{jonka } t_i]_j C^0 \text{Sirkku näki } t_j]$

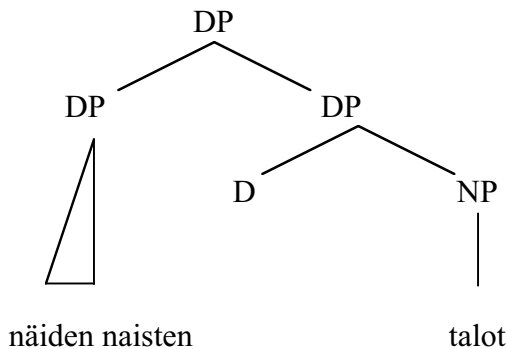
To explain why the relative D and its NP complement need not bear the same case in examples such as (37b), Bianchi (2000a; 2000b) has proposed that case is a property of functional D^0 heads, and that lexical NPs only show case *agreement* (presumably in the post-Spellout component) with the closest D^0 that governs them. In other words, case is realised as a set of morphosyntactic features which are not turned into a concrete case morpheme until in the Morpho-Phonological component; cf. Halle & Marantz (1993). Bianchi further argues that in examples such as (37), the NP raising to the left of the relative D^0 *joka/jonka* ends up being close enough to the external D^0 to agree with it for case: in situations where the external D^0 has a different case from the relative D^0 , as it does in (37b), this means that the NP will have different case from the relative D^0 .

To show what is meant by closeness in Bianchi's system, I examine constructions where the relative DP is embedded inside other constructions, namely possessive DPs and postpositional PPs:

⁸ For reasons of space I must leave it open whether we are dealing with case *assignment* or case *agreement*.

- (40)a. Sirkku poltti [_{DP} näiden naisten talot]
Sirkku burned these-gen women-gen houses-acc
 ‘Sirkku burned these women’s houses.’
- b. nämä [naiset joiden talot Sirkku poltti]
these-nom women-nom which-gen houses-acc Sirkku burned
 ‘these women whose houses Sirkku burned’

In line with Abney (1987), Szabolcsi (1987), Zamparelli (2000) and related work, I assume that Finnish possessive phrases are DPs which appear in specifier positions of other DPs. These other DPs then have phonologically empty D heads:⁹



In (40a), the superordinate DP is assigned accusative case by the V *poltti*. The possessive DP in [Spec,DP] is assigned genitive case, probably by the phonologically null D⁰. In (40b), the situation is otherwise the same except the specifier of possessive DP is filled by the relative DP [*joiden naiset*]. Two movement operations take place: the NP *naiset* is raised to specifier of the relative DP, and the whole possessive DP is pied-piped to [Spec,CP]:

⁹ Abney (1987) and Szabolcsi (1987) have argued that the phonologically empty D heads are associated with Agreement features and that they are responsible for assigning case to the possessive DPs in their specifier position. More recent researchers have proposed that, rather than inserted there directly, the possessive phrases could be *raised* to [Spec,DP] from inside the D’s complement phrase. They further argue that D might be some other functional head than D. Vainikka (1993) has argued that in Finnish, possessive phrases are always inserted directly in [Spec,NP] and that they carry genitive case because genitive is the default case associated with all Finnish specifier positions.

- (41)a. $[_{DP} \text{nämä } [_{CP} C^0 \text{ Sirkku poltti } [_{DP} [_{DP} \text{joiden naiset }][_{DP} D^0 [_{NP} \text{talot }]]]]]]$
 b. $[_{DP} \text{nämä } [_{CP} [_{DP} [_{DP} \text{naiset}_i [_{DP} \text{joiden } t_i]]][_{DP} D^0 [_{NP} \text{talot }]]]]_j [_{CP} C^0 \text{ Sirkku poltti } t_j]]$

(41b) shows that the closest D^0 governing the NP *naiset* is indeed the external D^0 : the NP and the external D^0 are only separated by segments (i.e. by one segment of CP, one segment of possessive DP, and one segment of relative DP) and the NP falls within the D's minimal domain (given Bianchi's definition of minimal domains where "the minimal domain of a head H includes its complement and all the phrases adjoined to some member of the minimal domain: the Spec of the complement, the Spec of the Spec of the complement, and so forth;" see e.g. Bianchi 1999:58ff. for further discussion).

A similar situation arises in Finnish postpositional phrases:

- (42)a. *Sirkku seiso* $[_{PP} [\text{tämän vanhan poron }]_i \text{ edessä } t_i]$
Sirkku stood this-gen old-gen reindeer-gen in-front-of
 'Sirkku stood in front of this old reindeer.'
 b. *tämä vanha poro jonka edessä*
this-nom old-nom reindeer-nom which-gen in-front-of
Sirkku seiso
Sirkku stood
 'this old reindeer in front of which Sirkku stood'

In (42) the pronoun *jonka* is a D^0 selecting the NP *vanha poro* as a complement. The NP raises to [Spec,DP], and the DP raises to [Spec,PP]. The PP is then pied-piped to [Spec,CP] - see e.g. Kayne (1994:89f.) and Bianchi (1999:75ff.). The external D^0 can again determine the case of the NP *vanhat porot* because it governs this NP and is separated from it by only segments, not categories (i.e. by one segment of CP, one segment of postpositional PP, and one segment of relative DP):

- (43)a. $[_{DP} D [_{CP} C^0 \text{ Sirkku seiso } [_{PP} \text{ edessä } [_{DP} \text{ jonka NP }]]]]]]$
 b. $[_{DP} D [_{CP} [_{PP} [_{DP} \text{ NP}_i \text{ jonka } t_i]_j \text{ edessä } t_j]_k C^0 \text{ Sirkku seiso } t_k]]$

While Bianchi's system makes use of the notion of government (case being reduced to agreement under government), the question that arises is how a system which does not allow for government accounts for data such as

(40)-(42). One possibility could be to assume that the NP continues movement from [Spec,CP] to specifier of the external D. But given the linear order of the NP and external D (when this position is filled by phonologically overt material), this does not seem a very likely option (under our current assumptions; but see Section 4). Another possibility could be that the external D's features act as a probe that seeks a matching goal, i.e. a set of matching features which establish agreement in D's local (i.e. c-command) domain; e.g. Chomsky (1999; 2000). The NP's features could then identify it as the closest matching goal for D's probe. Given that CPs constitute strong phases, this line of reasoning could also explain why the NP must appear in [Spec,CP] (i.e. Chomsky's 1999; 2000 *Phase Impenetrability Condition* states that in each strong phase XP, only the specifier and head of X are visible to operations outside of X). Because the NP cannot raise alone, an appropriate superordinate category (a relative DP or PP) is pied-piped along with it, to [Spec,CP]. Whether these proposals are on the right track remains a topic for future research.

4. Extraposition

Relative clauses can sometimes become separated from their nominal heads by intervening material. Kayne (1994:118ff.) and Bianchi (1999:264ff; 2000b) have observed that extraposition is usually only possible when the nominal head is indefinite:

- (44)a. [A handsome man] just walked into the room [t who I knew
in school]
- b. ??[The handsome man] just walked into the room [t who I
knew in school]

Within the complement-of-N⁰ analysis, it is unclear how the N⁰ head can raise together with its premodifying adjectives, but leave its complement in situ - see e.g. Manninen (2002) for some suggestions and discussion. Within the raising analysis, extraposed relative clauses are seen as cases of leftward movement of the nominal head which strands the rest of the relative clause in its base position - see e.g. Kayne (1994:118ff.), Bianchi (1999:264ff.). Although there are numerous problems with this account, I focus here on those problems which are most relevant for our discussion of Finnish.¹⁰

First, in Finnish, restrictive relatives can become separated from their

¹⁰ Discussion of the other problems and of some possible solutions can be found in e.g. Borsley (1997) and Bianchi (1999:264ff.; 2000).

heads in both clausal and postpositional constructions. In the former, Hakulinen&Karlsson (1979:125f.) and Vilkuna (1986:199) have observed, the heads must always appear together with a non-deictic *se/ne*:

- (45)a. [(se) kilpailija joka purjehtii maailman ympäri] voittaa
the contestant who sails world around wins
 ‘The contestant who sails around the world wins.’
- b. [**(se) kilpailija*]_i voittaa [_t *joka purjehtii maailman ympäri*]
- (46)a. [(se) talo jossa Sirkku asui lapsena] paloi
the house in which Sirkku lived as child burned
 ‘The house where Sirkku lived as a child burned down.’
- b. [**(se) talo*]_i paloi [_t *jossa Sirkku asui lapsena*]

In postpositional phrases, the nominal heads need not appear with *se/ne* (although most of my informants preferred constructions containing them). While in the clausal constructions, extraposition is always optional, in postpositional phrases it is often obligatory:

- (47)a. *?[(sen) vanhan poron joka syö ruohoa] edessä t
the old reindeer which eats grass in front of
 ‘in front of the old reindeer which eats grass’
- b. [(sen) vanhan poron]_i edessä [_t *joka syö ruohoa*]
- (48)a. *?[(sen) vanhan talon jossa Sirkku asui
the old house in which Sirkku lived
lapsena] alla t
as child under
 ‘under the old house where Sirkku lived as a child’
- b. [(sen) vanhan talon]_i alla [_t *jossa Sirkku asui lapsena*]

I first examine the status of *se/ne* in clausal constructions like (45b,46b), and return to postpositional phrases at the end of this section.

In Section 3, I discussed the idea that *se/ne* are external D⁰s selecting a relative CP complement. But if *se/ne* are D⁰s and the nominal heads are in [Spec,CP], we would expect constructions like (45b,46b) to be ill-formed: because *se/ne* do not form a constituent with the nominal heads, they should not be able to move with them either.

To explain the well-formedness of the English (44a) and the ill-formedness of (44b), Kayne (1994:124f.) and Bianchi (1999:264) argue

that the indefinite article *a* can form a constituent with the nominal head in [Spec,CP] even if the definite article *the* cannot. Crucially, they claim that *a* is a type of quantifier which is included in [Spec,CP] along with the nominal head. But because *the* is a determiner heading the external DP, any attempt to move it together with the head results in ill-formedness. There are some problems with this line of reasoning which I would like to address here. First, it does not allow us to explain the well-formedness of (49), from Alexiadou et al (2000:19), without assuming that some definite determiners are also quantifiers and therefore included in [Spec,CP]:

- (49)a. We will discuss the claim tomorrow that John made yesterday
 b. We will see the boy tomorrow with whose mother I spoke

But if the indefinite article *a* and some occurrences of the definite article *the* are quantificational elements which are included in [Spec,CP] along with the nominal heads, it is unclear if the phonologically empty external D can still determine the case of the nominal head of the relative clause, in the manner discussed in Section 3. Because the quantificational *a/the* is an intervening head between the external D and the nominal head, the nominal head is no longer in the external D's minimal domain and case agreement between them should not be possible.¹¹

Second, the line of reasoning pursued by Kayne and Bianchi predicts that, rather than D⁰s selecting a CP, the Finnish *se/ne* are quantificational elements which are included in [Spec,CP] along with the nominal heads. So on the one hand, to explain data such as (27)-(28) above, we would like to say that there is a close dependency between *se/ne* and the relative CPs, while on the other hand, to explain data such as (45)-(46), we would like to say that *se/ne* occur *inside* the relative CP. (50) show that a number of other elements standardly assumed to be functional D⁰s in Finnish also move together with the nominal heads; this suggests that they, too, are inside the relative CP:

¹¹ In Section 3 we have seen that the minimal domain of a head H includes the Spec of H's complement, the Spec of the Spec of H's complement, and so on. Although here the quantificational phrase *the claim/the boy* is in the Spec of the Spec of the external D's complement, the nominal heads *claim/boy* are complements to Q and thus not in D's minimal domain. One could perhaps assume that the external D determines the case of the Q head, and that the Q head in turn determines the case of the nominal head. But this line of reasoning would imply that Q heads are partly like NPs (since they can show agreement with the closest D⁰ governing them) and partly like DPs (since they can determine the case of a nominal head in their own minimal domain).

- (50)a. [tämä kilpailija]_i voittaa [t_i joka toi tuomarille kukkasia]
this contestant wins who brought judge flowers
- b. [tuo kilpailija]_i voittaa [t_i joka toi tuomarille kukkasia]
that contestant wins who brought judge flowers

In order to explain the data in (45)-(46) and (50), I would now like to propose that the Finnish *se/ne*, *tämä*, *tuo* are D⁰s which are indeed inside the relative CP - on this view the relative DPs in (45) have the (pre-movement) structures illustrated in (51a). I further propose that the element raising to specifier of relative DP is not an NP but a DP headed by *se*. The relative DP is then pied-piped to [Spec,CP], and the CP is selected by a (phonologically empty) external D as a complement:

- (51)a. [_{DP} joka [_{DP} se [_{NP} kilpailija]]]
- b. [_{DP} D⁰ [_{CP} [_{DP} [_{DP} se kilpailija]_i joka t_i]_j C⁰ t_j toi ...]]

In (51b), the movement of the DP *se kilpailija* to specifier of relative DP, and of the relative DP to specifier of CP, cannot of course be driven by the external D's need to check its N-features, in the manner discussed in Section 3. Because the NP *kilpailija* is separated from the external D by the intervening D *se*, the NP is not even in the external D's minimal domain. Instead, I suggest that the movement operations take place because the empty external D needs to be licensed by the presence of appropriate material in its specifier position. In (51b), the "appropriate material" is the DP headed by *se* (i.e. this DP raises out of the CP to specifier of the external DP). Crucially, because CPs are strong phases in the sense of Chomsky (1999; 2000) and related work, this suggestion predicts that the DP cannot raise out of the CP unless it is at the edge of the CP:¹²

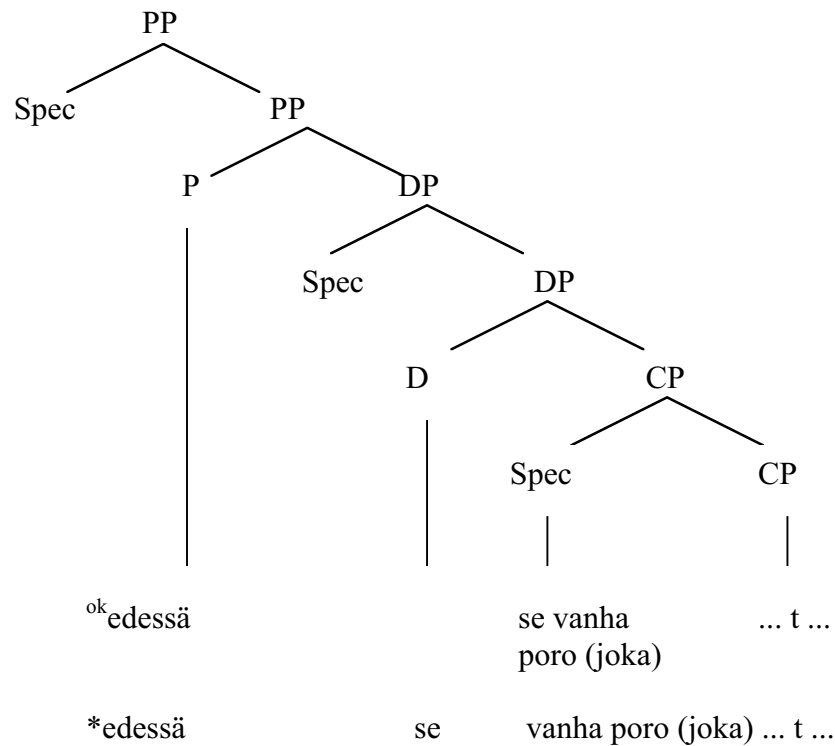
- (52) [_{DP} [_{DP} se kilpailija]_i D⁰ [_{CP} [_{DP} t_i joka t_i]_j C⁰ t_j toi ...]]

¹² Given that DPs are not strong phases, this line of reasoning does not explain why the DP headed by *se* must raise to specifier of the relative DP. Another solution could be to argue that the DP headed by *se* is merged directly as a specifier of the external D; this would in fact explain why in Finnish, the nominal heads of relative clauses fail to reconstruct back into the relative clauses. For reasons of space I must leave these questions open. Note that in (52), the fact that only the DP headed by *se* raises out of the relative CP (instead of the whole relative DP) could be due to economy considerations (i.e. only the minimum amount of material must be raised, to satisfy the external D's requirements).

While the line of reasoning sketched above is able to explain the data in (45)-(46), the relation between *se/ne* and the relative CP observed in (27)-(28) is still unclear. I propose that in standard written Finnish, a relative D can select either a DP headed by a non-deictic *se* or an NP as its complement. Secondly, and more importantly, I propose that *only* relative D⁰s can select DPs headed by *se* as their complements; on this view the examples in (27a,28a), where such DPs have been selected by lexical V⁰s, are predicted (correctly) to be ill-formed.

But what, then, is the role played by *se/ne* and why are they obligatory in extraposed constructions like (45b,46b)? On the basis of Zamparelli (1995) I hypothesize that the Finnish *se/ne* head specific types of DPs which are only present when their D⁰ position is filled by phonologically overt material (Zamparelli distinguishes between “weak” determiners like the indefinite article, and “strong” determiners like the definite article and universal quantifiers; I leave the identity of the Finnish *se/ne* as weak/strong determiners here open). On this assumption, the ill-formedness of (45a,46a) and the well-formedness of (45b,46b) suggests that in Finnish, elements which can be raised out of relative clauses to a superordinate [Spec,IP] must always be DPs (i.e. unless there is an intermediate DP in between the relative DP and the nominal head, the element raising to the superordinate [Spec,IP] will be an NP - this fact is also observed by Borsley 1997).

Postpositional constructions, such as (47)-(48), also support the view that *se/ne* are inside the relative CP. In Manninen (2003) I argue that in Finnish postpositional phrases, the DP complements always raise to [Spec,PP]. Given that nominal heads of relative clauses raise to [Spec,CP], we could simply assume that in (47)-(48), they continue raising to the specifiers of the external DP and PP. If *se/ne* are parts of the nominal heads, we would in fact expect them to raise together with the nominal heads to these positions. But if *se/ne* are external D⁰s, as argued by Kayne and Bianchi, then it is unclear how the correct hierarchical structure and hence the correct linear ordering are acquired:



The fact that most informants *prefer* the nominal heads to co-occur with *se/ne* provides some support for the idea that the raising element is a DP, rather than an NP.

Finally, the ill-formedness of (47a) and (48a) above seem to follow from a more general ban in Finnish against movement of complex items to a specifier position. (53b) shows for example that an AP cannot appear in [Spec,NP] if the A's complement position is filled:

- (53)a. Sirkku on ylpeä kurpitsaistaan
Sirkku is proud of her pumpkins
- b. *Sirkku on ylpeä kurpitsaistaan ihminen
Sirkku is proud of her pumpkins person
 'Sirkku is a person who is proud of her pumpkins.'

The line of analysis sketched above for restrictive relative clauses has some similarities with the analysis of possessive constructions discussed in Section 3: relative clauses are introduced by an empty "relativising" D, possessives by a "possessive" D. In relative clauses, the specifier of DP is filled by a DP which has (presumably) raised there from inside D's complement. In possessives, the DP in the [Spec,DP] could either be

merged there directly or raise from inside D's complement.¹³ Although many important questions remain about the structure and properties of restrictive relative clauses, as well as the exact mechanisms needed to make the system work (e.g. what is the semantics of the Finnish *se/ne*? Are the DPs headed by *se/ne* raised from inside the relative clause, or are they merged directly to specifiers of the external D?), this line of analysis, should it prove to be on the right track, avoids a number of problems that both the complement-of-N and the raising approach encounter.

5. Concluding Remarks

The purpose of this paper was to present some work in progress on Finnish relative clause constructions. I began by discussing the distinction between restrictive and appositive relatives in Finnish. I then introduced two different lines of analysis for restrictive relatives and discussed the advantages and disadvantages that they have in this language. In Sections 3 and 4 I examined case assignment and relative clause extraposition, both of which pose problems for the analyses. At the end of Section 4 I proposed an alternative analysis which seems to avoid these problems.

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¹³ In his discussion of Dutch clausal constructions where a coordinated DP has "split" (e.g. *John and Mary came to the party* vs *John came to the party and Mary*) Koster (1999) has proposed a similar structure even for coordinated constructions: the first element (*John*) is in the specifier, the second (*Mary*) in the complement, position of a "coordinating" D head.

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