

A Note on Non-restrictive Relative Clauses

Shun'ichiro Inada
University of Tokyo

shun_inada@yahoo.co.jp

1. The Derivation and Structure of Non-restrictive Relative Clauses

In this note I will discuss the derivation and structure of the non-restrictive relative clauses (NRRCs) with respect to the compatibility of the formal properties of Head of the relative clauses with the type of relativizer used. I will first look at two previous analyses on the restrictive relative clause (RRC): (i) the hybrid analysis presented in Inada (2006, 2007a) and (ii) the universal Head-raising analysis in Kayne (1994) and Bianchi (1999). Then I will argue that neither of these two analyses of RRCs can be properly extended to the analysis of NRRCs, because they predict that the NRRCs can be derived via Head-raising, with their various properties apparently against it (i.e., the absence of reconstruction effects). De Vries (2006) proposes a new analysis of the NRRCs. In his analysis, they are derived via raising of a phonetically null internal Head and are coordinated with an overt external Head. In this derivation, the NRRCs result in having virtually the same structure as that of free relatives (FRs). De Vries's analysis can account for various properties of the NRRCs, but it has some serious problems concerning the type of relativizer used in German and Norwegian NRRCs and FRs.

1.1. Inada's (2006, 2007a) Analysis of Relative Clauses

1.1.1. Restrictive Relative Clauses

First, let us briefly look at Inada's (2006, 2007a) analysis of relative clauses in Germanic and Romance languages. Inada (2006, 2007a) proposes that Germanic and Romance languages have two types of relative clauses illustrated below.¹

- (1) a. Complementation/Head-raising
 $[_{DP} \mathbf{D}^0 [_{ForceP} [\mathbf{HeadNP}] Force^0 [_{TopP} [_{DP} \mathbf{D}^0 t_{NP}] Top^0 [_{TP} \dots t_{DP} \dots]]]]]$
- b. Adjunction/Matching
 $[_{DP} \mathbf{D}^0 [\mathbf{HeadNP}] [_{TopP} [_{DP} \mathbf{D}^0 [\mathbf{HeadNP}] Top^0 [_{TP} \dots t_{DP} \dots]]]]]$

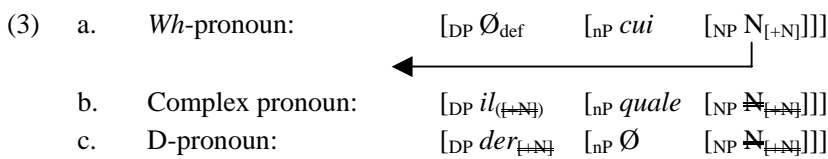
Inada (2006, 2007a) observes the correlation between the type of relativizer and various properties of relative clauses (i.e., the possibility of the occurrence of the bare relative pronoun, the availability of heavy pied-piping, and the various reconstruction effects), and claims that whether RRCs are derived via Head-raising or undergo Matching is determined by the type of relativizer used in the language. The different types of relativizers are exemplified below.

- (2) (i) Relative Particle: *that* (English), *che* (Italian), *que* (French), *som* (Norwegian)...

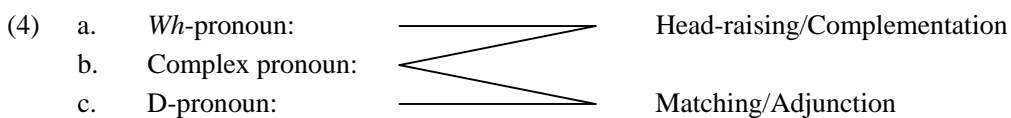
¹ In this paper, the antecedent of the relative clause is referred to as a Head.

- (ii) Relative Pronoun:
 - a. *Wh*-pronoun: *cui* (Italian), *qui* (French), *hvem* (Norwegian)...
 - b. Complex pronoun: *il-quale* (Italian), *lequel* (French), *which* (English)...
 - c. D-pronoun: *der* (German)...

With the internal structure of the relative pronouns in (2iia-c), Inada (2006, 2007a) argues that the D⁰ of the *wh*-pronoun, which licenses the [+N] feature of the complement NP, is defective, as shown in (3) (cf. Chomsky (1995), Bianchi (1999)). When *wh*-pronouns are employed, the Head NP of the relative clause, which is originated in the position of the complement of the defective D⁰ of the relative pronoun, must raise for its [+N] feature to be licensed by the matrix D⁰ in the Complementation structure as shown in (1a). On the other hand, D⁰ of the d-pronoun is not defective because of its demonstrative-like property, and the internal Head NP does not raise but is deleted under identity with the external Head in the Adjunction/Matching structure as shown in (1b). In addition, as for the complex pronoun, its Head D⁰ can have the [+N] feature.²



Thus, under the analysis of relative clauses presented in Inada (2006, 2007a), the type of relativizer determines the derivation and structure of the relative clause follows, as illustrated in (4), which then accounts for the various properties of RRCs: the possibility of the occurrence of the bare relative pronoun, the availability of heavy pied-piping, and the various reconstruction effects.



As for RRCs with relative particles, Inada (2006, 2007a) argues that they are also derived via Head-raising. Among the Germanic and Romance languages, some languages show the “doubly filled COMP filter” effect: when a relative pronoun occupies the Spec of CP, the head of that CP must not dominate a relative particle. In addition, some also show the “empty COMP filter” effect: when a relative pronoun does not occupy the Spec of CP, the head of that CP must dominate a relative particle. Inada (2006, 2007a) claims that *wh*-pronouns, which are defective, must delete if a pied-piped element (i.e., a preposition) is absent.³ When the *wh*-pronoun is deleted, the doubly filled COMP filter allows the occurrence of the relative particle as in the languages like English and Norwegian, and the empty COMP filter forces the relative particle to occur as in languages like Italian and French. This analysis leads us to conclude that the RRCs with relative particles are always co-occur with the deleted *wh*-pronouns. *Wh*-pronouns function as a relativizer which forces the relative clause to be derived via Head-raising.

1.1.2. Non-restrictive Relative Clauses

In the NRRCs of Modern English, the relative particle *that* is not allowed to occur, while the *wh*-pronoun *who(m)* is used as a relativizer.

² [+N] feature of the complex pronoun is sometimes defective and the complement NP must raise in this case.

³ This condition on deletion of the *wh*-pronoun is reduced to the adjacency condition in the complementation structure as illustrated below. See Inada (2006, 2007a) for detailed discussion of the deletion of such bare relative pronouns.

(i) [_{DP} Det [_{CP} [_{DP} \emptyset [_{NP} *cui*]]] C⁰ [_{IP} ...]]

- (5) a. * John, (*that*) I met yesterday...
 b. John, *whom* I met yesterday...

Aoun and Li (2003) observe that the RRC with a *wh*-pronoun in English does not show the reconstruction effects of the Head. Inada (2006, 2007a) claims that the relative clauses with English *wh*-pronoun are not derived via Head-raising. Given this generalization, it is predicted that the NRRCs in English cannot be derived via Head-raising.⁴

On the other hand, relative particles are used as a relativizer in French, Italian, and Norwegian NRRCs as exemplified in (6)-(8).

- (6) a. Ma soeur, *que* le magistrat avait convoquée pour le lendemain..., <French>
 my sister, “that” the magistrate had summoned for the next day
 b. Ma soeur, à *qui* tu as parlé hier...
 my sister, to whom you have talked yesterday...
 c. Ma soeur, à *laquelle* tu as parlé hier (Cinque (1982: 276-277))
- (7) a. Giorgio, *che* stimi, l’ha fatto. <Italian>
 Giorgio, “that” you esteem, it-has done
 b. Giorgio, *a cui* tieni, ti odia.
 Giorgio, of whom you-are-fond, hates you
 c. Giorgio, *al quale* tieni, ti odia. (Cinque (1982: 249))
- (8) Bankdirektøren, *som* de alle hadde kjent i årevis, var likevel ikke til å stole på. <Norwegian>
 bank-manager, “that” they all had known for years, was after-all no to trust (Askedal (1994: 263))

Table (9), which is based on the observation from Smits (1989), shows that NRRCs with relative particles are generally observed in most of Germanic and Romance languages.

(9) *Distribution of Relative Particles*

	Stem from C and/or P	In RRCs	In NRRCs
Icelandic <i>sem</i>	C (as)	+	+
Norwegian <i>som</i>	P/C (as)	+	+
Danish <i>som</i>	P/C (as)	+	+
Swedish <i>som</i>	P/C (as)	+	+
Catalan <i>que</i>	C (that)	+	+
Italian <i>che</i>	C (that)	+	+
Polish <i>que</i>	C (that)	+	+
Spanish <i>que</i>	C (that)	+	+
French <i>que</i>	C (that)	+	(+)
English <i>that</i>	C (that)	+	-
Romanian <i>de</i>	C (that)	+	-
Dutch <i>dat</i>	C (that)	-	-
German <i>dass</i>	C (that)	-	-

⁴ Since the relative clauses with English *wh*-pronouns do not show reconstruction effects but allow heavy pied-piping, they are identified as complex pronouns or d-pronouns under the analysis in Inada (2006, 2007a).

Under the analysis in Inada (2006, 2007a), the relative clauses with relative particles are derived via Head-raising and have the complementation structure. However, NRRCs with relative particles do not show any reconstruction effects as shown in Italian examples (10)-(11). The example of RRC in (10a) is unacceptable because of a violation of Condition C: *Gianni*, which is a part of the Head, is bound by the subject of the RRC. On the other hand, the example of NRRC in (10b) does not violate the Condition C. This observation indicates that *Gianni* is not bound by the subject of the NRRC (cf. Bianchi (1999: 110)).

- (10) a. * Questo è il quadro di Gianni [*che* gli_i piace di più].
 this is the picture by Gianni that pleases him the most
 b. L'ultimo quadro di Gianni, [*che* gli_i piace moltissimo], non sarà messo in vendita.
 the last picture by Gianni, which he likes very much, not be put on sale

(11a) is an example of RRC with the *wh*-pronoun and (11b) is an example of NRRC with the complex pronoun. The *wh*-pronoun and the complex pronoun function as a relativizer which forces the relative clause to be derived via Head-raising as shown in (4). In (11a), an anaphor *propria* which is contained in the Head is bound by the subject of the RRC. In contrast, an anaphor *propria* in (11b) cannot be bound by the subject of the NRRC.

- (11) a. Il giudice_j invalidò l'unica prova della propria_i innocenza [con *cui* l'imputato_i sperava di scagionarsi].
 'The judge invalidated the only proof of his innocence with which the defendant hoped that he could exonerate himself.'
 b. * Il giudice_j invalidò l'unica prova della propria_i innocenza, [con *la-quale* l'imputato_i era certo di scagionarsi].
 'The judge invalidated the only proof of his innocence, with which the defendant was able to exonerate himself.'
 (Bianchi (1999: 121))

These examples seem to show that the Head of RRCs is directly raised from within the relative clause, whereas the Head of NRRCs is not. Thus, as is pointed out in Inada (2006, 2007a), the Head-raising analysis of these NRRCs raises a question about how the absence of the reconstruction effects in these NRRCs can be properly accounted for.

1.2. Universal Head-raising Analysis and Non-restrictive Relative Clauses

1.2.1. Kayne (1994) / Bianchi (1999)

Kayne (1994) and Bianchi (1999) propose that both RRCs and NRRCs are universally derived via Head-raising. And they argue that the NRRCs are derived via Head-raising and the covert movement of the IP, as shown in (12). This covert movement accounts for the absence of the reconstruction effects in NRRCs.

- (12) a. [DP D⁰ [CP [DP NP [DP D⁰ t_{NP}]] C⁰ [IP ... t_{DP} ...]]] (Pre-LF)

 b. [DP IP [DP D⁰ [CP [DP NP [DP D⁰ t_{NP}]] C⁰ t_{IP}]]] (LF)

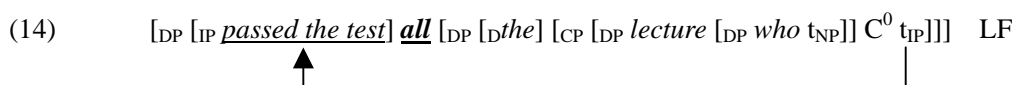
As illustrated in (12b), the IP of the relative clause raises to the position of the Spec of the matrix D⁰, where it is not c-commanded by the matrix D⁰ and the Head NP. In this configuration, the reconstruction of the Head is impossible.

Like the binding reconstruction in (10) and (11), there is also a difference between RRCs and NRRCs with respect to the scope reconstruction of the quantified Head.

- (13) a. all the lecturers that passed the test
 b. all the lecturers, who passed the test (de Vries (2006: 234))

In (13a), *all* takes scope over both the Head and the relative clause. In (13b), on the other hand, the quantifier *all* takes scope over the Head, but not over the relative clause; thus there is no test-failing lecturer. Given the assumption that the scope of the quantifier is its c-command domain, the RRCs must be placed at the position below the sister of the quantifier, whereas NRRCs must occur at the higher position. Then, the NRRC cannot be the direct complement of the matrix D^0 .

The IP-movement analysis by Kayne and Bianchi illustrated above seems to be able to account for the absence of the scope reconstruction in NRRCs.



Within the framework of LCA advocated by Kayne (1994), however, both the quantifier *all* in the Spec position and the moved IP are analyzed as an adjunct to the matrix D^0 . Since the quantifier and the IP mutually c-command each other, the IP-movement analysis does not rule out the reading where the quantifier *all* takes scope over the relative IP. Thus, the absence of the scope reconstruction is not accounted for by their LF movement of IP.

The IP-movement analysis faces another problem. Jackendoff (1977: 171) observes that, when the RRCs and NRRCs occur together, the RRCs must precede the NRRCs.

- (15) a. The man that came to dinner, who was drunk, fainted.
 b. *The man, who was drunk, that came to dinner fainted.

LF-movement of IP cannot explain this restriction on the surface order of the stacked relative clauses.⁵ Moreover, syntactically, the LF-movement of IP itself is not well-motivated.

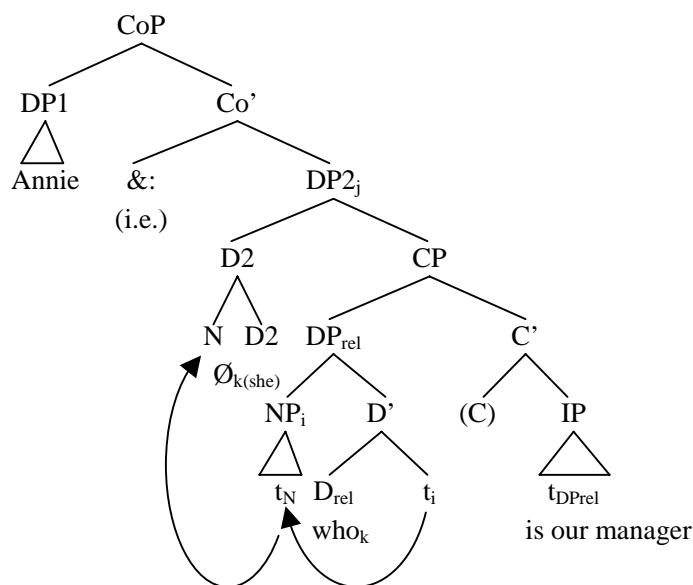
1.2.2. De Vries (2006)

De Vries (2006) claims that NRRCs are derived via Head-raising and have a complementation structure, but they are not the direct complement of the overt matrix D^0 in the sense of Kayne. De Vries's (2006) analysis of the derivation and structure of the NRRCs is illustrated in (16). The raised Head N and the external D2 of the NRRCs are phonologically null, and DP2, which is headed by this empty N+D2, is coordinated with the overt Head DP1.

⁵ One might argue that these stacked relative clauses are coordinated and the example in (15b) is ruled out because it violates the ATB application of the extraction of IP at LF. If so, there arise a question about why only (15a) is grammatical with the extraction of IP from the second relative clause.

(16) ‘Annie, (i.e., she) who is our manager’

(de Vries (2006: 248))



Notice that DP2 has the structure of a free relative, and is coordinated with the overt Head DP1. De Vries (2006) claims that non-restrictive modification, that is, appositive relativization means specifying a Head with a free relative. Thus DP2 specifies DP1. Then, the overt Head DP1 and the second null DP2 have the same referent.⁶ Since the raising of the Head N is performed within the second conjunct DP2, the apparent Head DP1 as the first conjunct cannot be reconstructed into the relative clause CP within DP2. De Vries’s (2006) analysis accounts for the absence of both binding and scope reconstruction in NRRCs, and moreover, the restriction on the relative order of RRCs and NRRCs shown in (15). In the structure illustrated in (16), RRCs, which are the complement of the D1 in the first conjunct DP1, precede NRRCs, which are the complement of D2 in the second conjunct DP2.

2. Types of Relativizers and Types of Relative Constructions

2.1. Types of Relativizers and Free Relatives

De Vries’s (2006) Head-raising analysis of NRRCs can resolve many problems that the non-coordinate analysis with the complementation structure has faced. However, Bianchi (1999) points out that in Italian FRs can be introduced by interrogative *wh*-pronouns *chi* as in (17a), whereas NRRCs are introduced by complex pronouns *il-quale* as in (17b) (cf. (Bianchi (1999: 144))).⁷

- (17) a. [Chi / *il-quale ha fatto questo] verrà punito.
 who did this will be punished

⁶ De Vries (2006) claims that the difference between *and*-coordination in (17a) and the specifying coordination in (17b) is that in the former case the coordinated DPs denote two different individuals, whereas specifying coordination gives just one individual.

(i) a. Joop and Jaap
 b. John, our boss (de Vries (2006: 238))

⁷ Bianchi (1999) also points out that the NRRCs allow heavy pied-piping, which is excluded in FRs.

(i) a. Gianni, [per incontrare il-quale] sono venuto a Lucca, è un vecchio amico.
 Gianni, in-order-to meet whom I came to Lucca, is an old friend
 b. *[Per incontrare chi] sono venuto a Lucca è un vecchio amico.
 in-order-to meet whom I came to Lucca is an old friend

- b. Gianni, [**chi / il-qual*e ha telefonato ieri], è un mio vecchio amico.
Gianni, who have telephoned yesterday, is an my old friend

Bianchi's observation raises a question as to whether the assumption of de Vries (2006) is tenable. Under his analysis, both FRs and NRRCs, which involves the phonetically null Head, result in having the same structure. Then a question arises concerning why there is a difference between FRs and NRRCs with respect to the type of relativizer used.⁸

Here we would like to examine whether the de Vries's assumption holds also in Germanic languages.⁹ In Norwegian and German, the type of relativizer in FRs must be *wh*-pronouns as in (18) and (19).

- (18) a. Vi vet [*hvem* du så]? <Norwegian>
who knows whoever you saw (Smits (1989: 46))
b. [*hvad* du har gjort], er tilstrekkelig. (Smits (1989: 388))
what you have done is sufficient
- (19) a. Ich nehme [*wen* du mir empfiehlst]. <German>
I take who you me recommended (Riemsdijk (2006: 344))
b. [*Was* er dir erzählt hat] ist alles gelogen. (Smits (1989: 135))
whatever he you told has is completely untrue

Recall that the type of relativizer used in Norwegian NRRCs is a relative particle, and that of German NRRCs is a d-pronoun, as we have seen in section 1.1.2. These are examples of NRRCs with nominal Heads.

- (20) Bankdirektøren, [*som* de alle hadde kjent i årevis], var likevel ikke til å stole på. <Norwegian>
(21) Ich wollte mine Schwester besuchen, [*die* nicht zu Hause war.] <German>

The next section is concerned with the type of relativizer in NRRCs with non-nominal Heads.

2.2. Types of Relativizers and Non-nominal Heads

In English, RRCs can only have nominal Heads, whereas NRRCs can have non-nominal Heads. Fabb (1990) illustrates this as follows:

- (22) a. John luckily escaped, which I unluckily didn't.
b. * John luckily escaped which I unluckily didn't.
- (23) a. John answered the question politely, which I thought was how he should have answered it.
b. * John answered the question politely which I thought was how he should have answered it.

⁸ Whether there is such a covert head or not in the free-relative constructions is not deeply examined here because it is not of further relevance. What is important here is that the use of *wh*-pronouns indicates that the construction is the free relative. Hence, I will continue to refer to "null head" in this paper.

⁹ Dutch is said to be another Germanic language that uses a d-pronoun as a relative pronoun. De Vries (2002, 2006) observes that the regular non-neuter relative pronoun is *die*, but it changes into *wie* in the vicinity of a preposition.

- (i) a. de man {*die*/**wie*} ik zie/bewonder/sla
the man {"*die*"/*whom} I see/ admire/hit
b. de man {met *wie*/*met *die*} ik praat
the man {with whom} I talk

The bare *wh*-pronoun *wie* only occurs with the pied-piped preposition as exemplified above. On the other hand, *die* can be bare as in (ia). However, the fact that *die* cannot occur with the pied-piped preposition, as shown in (ib), raises a problem since every type of relative pronoun is allowed to occur when they are accompanied by a preposition as argued in Inada (2006, 2007a). I assume that *die* in Dutch is a complementizer occupying C⁰. In this paper, however, I will not discuss Dutch relatives. For a detailed discussion of Dutch relatives, see de Vries (2002).

- (24) a. The cheese was bought by John, which was fortunate.
 b. *The cheese was bought by John which was fortunate. (Fabb (1990))

In (22) an NRRC has a VP as its Head. In (23) an NRRC has an adverbial phrase (i.e., manner adverb *politely*) as its Head. And in (24) an NRRC has a CP as its Head. In English, a *wh*-pronoun is used as a relativizer both in NRRCs with nominal Heads and those with non-nominal Heads (but see section 2.4).

In Norwegian, the type of relativizer used in NRRCs with nominal Heads and that of NRRCs with non-nominal Heads are different. In NRRCs with nominal Heads the relative particle *som* is used, as in (25), whereas in NRRCs with the various non-nominal Heads the *wh*-pronoun *hvilken* or *hvat* is used, as in (26a-c).

- (25) Kongen, [*som* ikke var lykkelig], så nervøs ut. <Norwegian>
 ‘The king, who wasn’t happy, looked nervous.’
 (26) a. Han så nervøs ut, [*hvilket* han slett ikke var].
 ‘He looked nervous, which however he was not.’
 b. Han så han hadde gjort det, [*hvilket* ikke var sant].
 ‘He said he had done that, which not was true.’
 c. Han ville ikke høre på et slikt tilbud, [*hva* jeg i grunnen finner rimelig].
 ‘He would not hear of such an offer, which I in the last resort find reasonable.’ (Smits (1989: 393))

In German NRRCs, the d-pronoun *der* is used as a relativizer in the case of nominal Heads, as in (27), whereas the *wh*-pronoun *was* is used as a relativizer in the case of non-nominal Heads, as in (28a-c).

- (27) Ich wollte mine Schwester besuchen, [*die* nicht zu Hause war.] <German>
 ‘I wanted to visit my sister, who turned out not to be home.’
 (28) a. Er is reich, [*was* wir alle gerne sein möchten].
 ‘He is rich, what we all would like to be.’
 b. Sie hat einen anstrengenden Job, [*was* ihr sehr gefällt].
 ‘She has a demanding job, which pleases her a lot.’
 c. Der Job hat ihm nicht gefallen, [*was* bedauerlich ist].
 ‘The job did not please him, which is a pity.’ (Smits (1989: 278))

Unlike in English, the types of relativizers in Germanic and Norwegian NRRCs are different with respect to whether they have nominal Heads or not. The occurrence of the *wh*-pronouns in the NRRCs with non-nominal Heads can be accounted for if we follow de Vries’s coordinate analysis. In the case of nominal Heads, however, the relative particle is used as a relativizer in Norwegian, and the d-pronoun in German.

De Vries (2006: note 30) argues that the relativizer in FRs has a strong preference for a *wh*-morphology because, without an independent antecedent, the referring/demonstrative function is vacuous. Given this claim, it can be said that since the referring function of the relativizer is not relevant in the case of NRRCs with non-nominal Heads, the *wh*-pronoun occurs, as in (26) and (28). On the other hand, in the case of nominal Heads, which are considered to be an independent antecedent of the relative clause, on the other hand, the relative particle occurs in Norwegian as in (25) and the d-pronoun occurs in German as in (27). In the next I consider the relative clause with a “light” Head. If the light Head, which is nominal, is identified as an independent antecedent, it is predicted that the occurrence of the *wh*-pronoun is impossible.

2.3. Types of Relativizers and Light-headed Relatives

Light-headed relatives are the relative clauses, whose Head is a “light” element, such as *wh*-pronouns in Norwegian and demonstratives in German (cf. Citko (2004)).

- (29) a. [DP Hvem_{light-head} [*som* gjør det]], skal miste sit liv. <Norwegian>
 who that does that, shall lose his life (Smits (1989: 46))
 b. Jeg spiser [DP hva_{light-head} [*som* du gir meg]]. (Smits (1986: 392))
 I eat what that you give me.
- (30) a. Ich nehme [DP den, [*dem* du vertraust]]. <German>
 I take Det_{M.ACC} Det_{M.DAT} you trust
 ‘I take who you trust.’ (Riemsdijk (2006: 354))
 b. [DP Das [*was* er dir erzählt hat]] ist alles gelogen.
 Det_{N.NOM} what he you told has is completely untrue (Smits (1989: 135))

In light-headed relatives in Norwegian, a relative particle is used as a relativizer, in the case of NRRCs with nominal Heads.¹⁰ In light-headed relatives in German, however, either a d-pronoun or a *wh*-pronoun is used as a relativizer. When the form of the demonstrative which occurs as a light Head of the relative clause is in masculine agreement, the d-pronoun is used as a relativizer as in the case of NRRCs with nominal Heads, as shown in (30a). In these relatives, the referring function of the relativizer would not be vacuous in the sense of de Vries (2006). On the other hand, when the form of the demonstrative which occurs as a light Head is in neuter agreement, the *wh*-pronoun is used as a relativizer as in NRRCs with non-nominal Heads and in FRs, as shown in (30b). In (30a), the light Head that agrees in masculine denotes a person. On the other hand, in (30b), the light Head that agrees in neuter denotes a thing. In addition, there are other examples of light-headed relatives with the *wh*-pronouns, where the Head is non-human, as shown in (31).

- (31) a. Glaub nicht alles, [*was* du hörst]!
 believe not all, what you hear
 b. Wir haben etwas erlebt, [*was* Sie nicht für möglich halten].
 we have something experienced, what you not for possible hold
 c. Vieles, [*was* ich hier gesehen habe], war sehr eindrucksvoll.
 many what I here seen have, was very interesting
 d. Das ist das Beste, [*was* ihr tun könnt].
 that is the best (thing), what you_{pl.} do can

Based on the observation that a *wh*-pronoun is used as a relativizer even in the case of light-headed relatives with an independent antecedent as in (30b) and (31a-d), it can be pointed out that the type of relativizer used does not correlate with the occurrence of the independent antecedent.¹¹ If so, we cannot simply say that the NRRCs and FRs have the same structure and only their referring functions are different.

It is worth pointing out that when the light Head is a 1st person or 2nd person pronoun, the relativizer used is the d-pronoun, as shown below.¹²

¹⁰ When the relative particle *som* is omitted in Norwegian, the surface string of the light-headed relatives and that of the FRs are the same, because the light-head in Norwegian is the *wh*-pronouns. Smits (1989) claims that there are not true FRs in Norwegian, but there are only semi-FRs with some *wh*-pronoun as propositional-antecedent and *som* as relativizer. And, if the normal requirements are met, *som* is to be Ø.

- (i) a. [*Hvem* [**(som)* *t* snakker med Marit]], blir lykkelig.
 who that talks with Marit becomes happy
 b. [*Hvem* [(*som*) Marit snakker med *t*]], blir lykkelig.
 who that Marit talks with becomes happy (Smits (1989: 392))

¹¹ Suppose that whether the referring function of the relativizer is vacuous or not is correlated with the difference between the light-head of the examples (30a) and (30b). Since both of them are demonstratives [3rdperson, singular], the minimal (and maximal) difference between them is their gender agreement: masculine vs. neuter. However, it is hard to say that the masculine agreement between the light-head and the relativizer is not vacuous whereas the neuter agreement between them is considered to be vacuous.

¹² Hestvik (1992) observes that Norwegian personal pronouns also occur in RRCs, as shown below.

- (32) a. Ich, [**der** (ich) schon zehn Jahre hier wohne], verlasse diese Stadt nicht <German>
 I, who I already ten year here live, leave this city not
 b. du, [**der** (du) uns nichits vormachen wolltest], ...
 you, who you us not cheat want-to-PAST
 c. Der Lehrer ist mit euch, [**die** (ihr) so fleissig seid], zufrieden.
 the teacher be with you_{pl.}, who you_{pl.} so earnest be, satisfied-with

With the personal pronouns as a light Head, the d-pronouns is used as a relativizer, as in the case with the demonstrative Head that denotes a person, as we have seen in (30a). These observations lead us to the following generalization: in light-headed relatives the d-pronoun is used with the Head that denotes a person, whereas the *wh*-pronoun is used with the Head that denotes a thing.

2.4. Types of Relativizers and Non-restrictive Modification in English

As we have seen in section 2.2, in English NRRCs *wh*-pronouns are used both with nominal Heads and with non-nominal Heads. However, Jespersen (1927) observes that, when the Head is human, the relative particle *that* is frequently used even in English NRRCs. The relative clause in (33) is identified as a non-restrictive relative clause because the Head *my mama* “is completely individualized and admits no further restrictions (Jespersen (1927: 101)).”¹³

- (33) the sea makes me think of my mamma [*that*'s dead]. (Jespersen (1927: 101; Di Do 96))

Given the assumption that the non-restrictive modification is reduced to the specifying coordination, the relative clauses headed by such a “completely individualized” noun phrase, i.e., *my mama*, or 1st/2nd person pronoun must have the structure proposed by de Vries (2006), because they would not allow further restrictions. Jespersen (1927) also observes the light-headed relatives headed by personal pronouns in Early Modern English.

- (34) a.. I, [*that* thought I was strong], prove so weak. (Jespersen (1927: 102; Phillipotts GR 181))
 b. I, [*that* am at present a truth-loving man] (Jespersen (1927: 102; De Quincey 4))
 c. I, [*who* speak to you], may not be responsible. (Jespersen (1927: 102; Phillipotts GR 187))
 (35) Who are you [*that* presume to school the nobles]? (Jespersen (1927: 103; Carlyle H 138))

On the other hand, Jespersen points out that “in recent time, *we who*, though not very frequent, is found more often than *we that*... (Jespersen (1927: 103)),” and “*he that* is now obsolete in the spoken language, being preserved only in traditional phrases such as *he [that fights and runs away] may live to fight another day* (Jespersen (1927: 97)).” Furthermore, “examples of *they that* (...) in the same sense (obsolete).”¹⁴ Jespersen suggests that “*that* after person may be interpreted as the old practice in non-restrictive clauses (Jespersen (1927: 101)).” If we follow his suggestion, we can say that there used to be also compatibility between the Head that denotes person and the use of relative particles in Early Modern English.¹⁵

-
- (i) han some gâr der
 he that walks there

¹³ The relativizer of the NRRC can be *that* when the head is the pronoun *this*, which “in most cases, expresses complete identification and thus allows of a non-restrictive clause only...”

(i) this [*that* you have seen]... (Jespersen (1927: 102; Sh Hml I 5.159))

¹⁴ Jespersen (1927) observes the examples of *he who* and *they who* though they are not frequent.

(i) He [*who* is evil] can receive no good. (Jespersen (1927: 97; Shelly 234))

(ii) ... and lorded over them [*whom* now they serve] (Jespersen (1927: 98; Mi SA 267))

¹⁵ It might be an incompatibility between the head that denotes person and the *wh*-pronoun.

3. Concluding Remarks

In this paper, I have discussed the problems of the Head-raising analysis of NRRCs. Although many of the problems are resolved by de Vries's (2006) modified Head-raising analysis, his analysis faces another problem: why the types of relativizers used in NRRCs and that in FRs are different in languages like Italian, Norwegian, and German. The type of relativizer used in NRRCs and FRs do not show that they have the same structure, as discussed in section 2. Under the analysis in Inada (2006, 2007a) on the relative clause, the distinction between NRRCs and FRs in German with respect to the type of relativizer used can be accounted for. Since German employs d-pronouns as a relativizer, the relative clause in German is not derived via Head-raising but undergoes Matching with the adjunction structure. Thus German relative clauses in principle do not pose the problems such as the absence of reconstruction effects to the complementation structure. Since the derivation and structure of FRs (i.e., derived via raising of the phonetically null Head as in de Vries (2006)) is different from that of NRRCs, the choice between d-pronouns and *wh*-pronouns is no longer a puzzle. However, the NRRCs with relative particles, as in languages like Norwegian, are considered to be derived via Head-raising even under Inada's analysis. Although the occurrence of the *wh*-pronouns with non-nominal Heads is accounted for if we assume that NRRCs and FRs have the same structure, there still remains a question about why there is a correlation between the type of relativizer and the human/non-human distinction of the Head. This puzzle needs further investigation.

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