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LEFT DISLOCATION, CONNECTEDNESS, AND RECONSTRUCTION

1. Introduction

The challenge which the construction of Left Dislocation (henceforth LD) presents to linguistic theory stems from the fact that it is difficult to determine whether it is purely base-generated or whether a movement rule of some kind is involved. Take a simple example such as (1).

- (1) John, I admire him.

The basic intuition about such a sentence is that John is the direct object of admire. But should this fact be expressed by deriving (1) from a d-structure in which John occupies the object position? Or should we treat this fact the way it is generally treated in the similar case of relative clauses such as (2)?

- (2) The man whom I admire.

Most analyses assume that the man in (2) is base generated. (For a different view, to which we return below, see Vergnaud (1974).) The intuition that the man is, in some sense, the direct object of admire would then be accounted for via the intermediary of an anaphoric relationship between the man and whom, where the latter is unquestionably the direct object of admire. We may say that the interpretation of John in (1) is 'connected' to the direct object position of admire as far as its grammatical relation is concerned. However, grammatical relations are by no means the only aspect in which this connectedness shows up. The well-formedness and/or interpretation of the left dislocated constituent may depend in a variety of ways on the syntactic context of the corresponding matrix position. The phenomena in question, which, following Higgins (1973), we will call connectedness phenomena, have to do with lexical anaphors (reflexives and reciprocals), idiomatic expressions, pronouns, quantifiers and scope, and case.

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Not all varieties of LD exhibit connectedness. In fact, it is the absence of connectedness which has played a major role in some of the earlier discussions of LD within the framework of generative grammar. Let us therefore continue with a brief partial survey of previous studies. Ross (1967) took connectedness for granted and proposed a copying rule which moves the left dislocated constituent from its matrix position to its surface position and leaves a pronominal copy behind. The main criticisms of Ross' proposal concerned the non-viability and non-desirability of a copying analysis, in particular Hirschbühler (1975) and Van Riemsdijk & Zwarts (1974). The latter study is of some interest, because it argues against copying, or any type of movement, and for a base generation analysis on the basis of the absence of certain types of connectedness phenomena. The absence of connectedness in LD was correlated with its presence in the corresponding topicalization structures for which a movement analysis was assumed. It will be shown below that there is significantly more connectedness in exactly those varieties of LD that Van Riemsdijk & Zwarts discuss than they had assumed. Consequently part of our discussion will be devoted to re-analyzing some of the facts discussed in their paper. With the analysis of both topicalization and left dislocation proposed in Chomsky's 'On wh-movement' (Chomsky (1977)) the situation is reversed, because both topicalized and left dislocated constituents are generated in their surface position. In fact, the existence of varieties of LD which demonstrate certain forms of connectedness was also pointed out in Cinque (1977). On the basis of his observations, Cinque concludes that there are two types of LD:

- (3) A The 'hanging topic left dislocation' (HTLD)¹
 - no connectedness
 - base generation analysis
- B The other variety of left dislocation (CLLD)
 - connectedness
 - movement analysis

Cinque's demonstration of the existence of the latter type mostly involves Romance languages in which the pronoun which is 'left behind' shows up as a clitic (hence the abbreviation CLLD). We will return briefly to this type of LD in section 3.

1. Cinque attributes this term to Alexander Grosu.

As a last antecedent of the present study we should mention the work by A. Zaenen, in particular Zaenen (1980). As was already pointed out in Van Riemsdijk & Zwarts (1974), the commonest form of LD in Dutch and German is different from LD in English in that the pronoun is a special pronoun, a so-called d-pronoun, which is itself moved to the complementizer position next to the left dislocated constituent. Zaenen calls this variety of LD 'contrastive left dislocation' (CLD), shows that it occurs in Icelandic as well, and shows that a contrast similar to that between (3A) and (3B) exists between HTLD and CLD in these languages, as can be seen from the following example:

(4) a. Þessum_{dat} hring_{dat} i, honum_{dat} i hefur Olafur lofað
 this ring , it has Olav promised
 Márik e_i (CLD)
 Maria
 This ring, Olav has promised it to Maria

b. ?Þessi_{nom} hringur_{nom} i, Olafur hefur lofað Mariu
 this ring , Olav has promised Maria
 hunum_{dat} i (HTLD)
 it
 This ring, Olav has promised it to Maria

It would appear, then, that CLD and CLLD pattern more or less together, and that both are in contrast with HTLD. Pretheoretically, we may note that whatever analysis we eventually choose, CLD and CLLD are similar in that they have a gap in the argument position that corresponds to the left dislocated₂ constituent, while HTLD has a lexical pronoun in that position.²

Taking Cinque's arguments regarding CLLD for granted, we will attempt to establish the contrast between HTLD and CLD for Dutch and German with respect to a number of connectedness criteria in section 2 of the present paper. Thus our main goal here is to further our understanding of the phenomenology of left dislocation.

It should be obvious, however, that the presence of connectedness phenomena in various forms of LD, which were formerly thought to be base generated, is of immediate interest to a number

2. The pronoun may be null, however, if it is subject to pro-drop.

of theoretical issues. We will pursue one of these in section 3 without claiming to really give any definitive answers. What we will be concerned with in particular is the issue of reconstruction at logical form. In other words, some of the connectedness phenomena give rise to the question of whether the left dislocated constituent should be moved to the position of the gap before certain rules of LF apply. Thereby the discussion will be directly related, for example, to some crossover cases such as *Whose_i brother do you think that he_i likes? The problem of reconstruction at LF is most clearly presented in Van Riensdijk & Williams (1981), where an alternative theory, the L-model, is explored which is, among other things, designed to avoid the need for reconstruction rules. Our discussion will address the consequences of CLD both for the standard EST model and for the L-model.

Before entering into a more detailed description of CLD, however, we must deal with some general questions which might arise in connection with the intuitive status of the contrasts which we are examining. The facts, to state it bluntly, are highly subtle and often murky. It is, for example, quite difficult to establish whether the left dislocation construction in English, which has the form of HTLD, allows certain forms of connectedness. Take (5), for example.

- (5) The first of his papers, I think every linguist would qualify it as a failure.

Can his be bound to the quantified expression every linguist? We believe the answer must be no, though that can be more readily established in a language like Dutch where the equivalent of (5) can be contrasted with the corresponding CLD structure which does allow that reading. There are, in fact, a number of specific factors which contribute to the difficulty of establishing correct judgments, and two of these factors we will briefly mention here.³ In the first place, for reasons unknown to us it appears that in Dutch and German, for any given pair of HTLD and CLD the latter is always slightly favored. We believe this to be a primarily stylistic matter which is also somewhat variable from person to person. Second, there exists a contamination of CLD and HTLD. In this construction the pronoun of HTLD is replaced in situ by the corresponding d-pronoun, the form which is normally fronted in the CLD construction. We call this the 'stranded d-pronoun'. Stranded d-pronouns are sometimes slightly better, sometimes somewhat worse than regular pronouns in ways which we fail to comprehend. However, the presence of a

3. There is a third and somewhat more theory-bound factor which we call Mixed-LD (MLD) to which we return in section 3.

stranded d-pronoun sometimes facilitates the connectedness reading to a certain extent, despite the fact that it occurs in the HTLD construction. Such a 'semi-connectedness' phenomenon occurs in one other construction involving case in German. We will return to that problem below. We have no desire to reopen the discussion about sentences which are ungrammatical but acceptable, but for ease of exposition we will treat these as such. To sum up, consider the following triplet:

- (6) a. Die man, die ken ik niet (CLD)
 That man, that-one know I not
 That man, I don't know
 b. ?Die man, ik ken die niet (HTLD with stranded
 That man, I know that-one not d-pronoun)
 c. ?Die man, ik ken hem niet (HTLD)
 That man, I know him not

We will henceforth disregard sentences of type (6b) and treat sentences like (6c) as fully grammatical. We do this in order not to confuse the acceptability of the construction as such with the judgment as to whether there is connectedness or not. Furthermore, where we feel there is a contrast, we will often present it as '*' vs. 'OK' rather than in terms of finer gradations and the cardinality of the number of question marks, to simplify the exposition.

2. Syntactic connectedness

In this section we discuss a series of connectedness phenomena and see how CLD and HTLD contrast with respect to these. This will set the stage for our discussion of the status of these contrasts in linguistic theory in section 3.

2.1. Idioms with bound pronouns

The data we are concerned with here consists of idiomatic expressions in LD-position, connected with a pronoun in the matrix sentence. As has already been remarked by Van Riemsdijk & Zwarts (1974) left dislocation seems to be totally unacceptable here: neither HTLD- nor CLD-sentences are grammatical, hence no contrast can be found:

- (7) a. *Zijn kerfstok, daar heeft Jan veel op (CLD)
 his tallystick, there has John much on
 John has a good deal on his slate
 b. *Zijn kerfstok, Jan heeft er veel op (HTLD)
 (8) a. *Het heen en weer, dat kan Jan krijgen (CLD)
 the to and fro, that can John get
 John can stuff it
 b. *Het heen en weer, Jan kan het krijgen (HTLD)

The same results can be found in idiom-chunks like the well known headway-idioms, eg (9):

- (9) a.*Opzien, dat heeft deze filmster veel gebaard (CLD)
sensation, that has this filmstar much caused
This filmstar has caused a great stir
b.*Opzien, deze filmster heeft het veel gebaard (HTLD)

The strength of this evidence against the contrast should, however, not be overestimated. It seems that there could be an explanation of the lack of contrast between HTLD and CLD involving idioms on the assumption that idioms have in common with bound anaphors that they do not qualify as antecedents to a d-pronoun, possibly because they are not referential in a strict sense.⁴

There is one type of idiomatic expressions, the so called inalienable possessions, that can occur in dislocated position. In these sentences there is a contrast between CLD and HTLD. In (10) the a-sentence has both an idiomatic interpretation (in which the breaking of the leg need not be a (conscious) action of the speaker) and a literal one. In the b-sentence, however, only the literal interpretation is available.

- (10) a. M'n been, dat heb ik gebroken (CLD)
my leg, that have I broken
My leg, I broke it
b. M'n been, ik heb het gebroken (HTLD)

In other similar examples the literal interpretation is semantically deviant. This explains why (11b) (but not (11a)) has no interpretation at all.

- (11) a. M'n hand, die heb ik gebrand (CLD)
my hand, that have I burned
My hand, I burned it
b.*M'n hand, ik heb 'm gebrand (HTLD)

4. A problematic aspect of this explanation is the existence of some idioms, in which a contrast in grammaticality does show up. Consider the following examples:

- (i) a. Zijn eigen boontjes, die dopt Jan wel (CLD)
his own beans, these peels John
John takes care of number one
b.*Zijn eigen boontjes, Jan dopt ze wel (HTLD)
(ii) a. In zijn nopjes, dat is hij (CLD)
in his burls, that is he
He is in high feather
b.*In zijn nopjes, hij is het (HTLD)

We do not have a satisfactory explanation for these exceptions.

2.2. Reflexives and reciprocals

Another symptom for connectedness is bound anaphora. Connectedness can be said to exist whenever it is possible to relate a bound anaphor, i.e. a reflexive or reciprocal, in LD-position to a proper antecedent.

The hypothesis is, that sentences containing a reflexive or reciprocal as or in a constituent in LD-position should be more acceptable in the case of CLD, than in HTLD-constructions.

Two major types of constructions must be distinguished: those in which the reflexive or reciprocal by itself is the constituent in LD-position, and those in which there is a reflexive or reciprocal embedded in a constituent in LD-position. We will first consider the former:

Non-embedded reflexives and reciprocals in LD are always ungrammatical in Dutch, as is exemplified in (12)-(13).

- (12) a.*Zichzelf, die kan Jan niet uitstaan (CLD)
 himself, him can John not stand
 Himself John can't stand

b.*Zichzelf, Jan kan hem niet uitstaan (HTLD)

- (13) a.*Elkaar, die kunnen Jan en Piet niet uitstaan (CLD)
 each other, them can John and Peter not stand
 Each other John and Peter can't stand

b.*Elkaar, Jan en Piet kunnen ze niet uitstaan (HTLD)

Again, the lack of contrast in these examples is explained by the same additional hypothesis as in the case of idioms. Reflexives and reciprocals are bound anaphors and, thus, do not qualify as the antecedent of a d-pronoun. Some evidence for this statement can be found by considering the Dutch pronoun diens, which typically refers to what can roughly be called the nearest NP to its left.

In (15) the reflexive cannot be antecedent of diens.

- (14) Jan schilderde Piet_i en diens broer
 John painted Peter_i and his brother

- (15) *Jan schilderde zichzelf_i en diens_i broer
 John painted himself_i and his_i brother

Sentences containing a reflexive or reciprocal embedded in the dislocated constituent, generally show the hypothesized contrast between HTLD and CLD.

- (16) a. Elkaars jassen, die dragen ze niet graag (CLD)
 each other's coats, they wear they not willingly
 Each other's coats they don't like to wear

b.*Elkaars jassen, zij dragen ze niet graag (HTLD)

- (17) a. Elkaars verhalen, die horen ze graag (CLD)
 each other's stories, they hear they willingly
 Each other's stories they love to hear

b.*Elkaars verhalen, zij horen ze graag (HTLD)

2.3. Crossover

Turning to a third symptom of connectedness, crossover, we find a contrast, but judgements are rather subtle here. However, a fact that will be of great importance in the theoretical discussion in section 3, is that in crossover constructions CLD-sentences are judged less acceptable than HTLD-sentences.

Examples:

- (18) a. *Anneke_i d'r broer, die vindt ze_i wel aardig (CLD)
 Ann her brother, that-one she likes
 Ann likes her brother
- b. ?Anneke_i d'r broer, ze_i vindt hem wel aardig (HTLD)

The b-sentence becomes even better if ze is embedded:

- (19) OK Anneke_i d'r broer, ik geloof dat ze_i hem wel
 Ann's brother, I think that she him
 aardig vindt (HTLD)
 likes
 Ann likes her brother, I believe
- (20)a. * Anneke_i d'r fiets, die heeft ze_i nu pas terug-
 Ann her bike, that-one has she just back-
 gekregen (CLD)
 get
 Ann only just now got her bike back
- b. OK Anneke_i d'r fiets, ik geloof dat ze_i hem nu pas
 heeft teruggekregen (HTLD)

If these structures are considered as base-generated, the theory of pronominals as it stands would predict that (18a) en (20a) are grammatical too.

2.4. Quantifiers

In this section we will examine the behaviour of CLD and HTLD w.r.t. quantifiers. More specifically, we will look at two aspects of quantified sentences, namely binding relations between quantifiers and pronouns (subsection 2.4.1.) and relative scope of quantified phrases (subsection 2.4.2.). Before we turn to these, it should be stressed that, irrespective of the aspects to be discussed in 2.4.1. and 2.4.2. below, occurrences of quantified phrases in dislocated position, are mostly less grammatical than other expressions, while subject-object asymmetries seem to play a role also.

First consider quantified phrases in dislocated position related to object position. Here quantifiers can occur in dislocated position, while, showing the expected contrast, the CLD-form is better than the HTLD-form.

- (21) a. Een feest, daar heb ik zin in (CLD)
 a party, that I should like
 I should like a party
 b.?Een feest, ik heb er zin in (HTLD)
- (22) a. Drie artikelen van Chomsky, daar geeft Henk
 three papers by Chomsky, there gives Henk
 college over (CLD)
 class about
 Henk holds a class on three papers by Chomsky
 b.?Drie artikelen van Chomsky, Henk geeft er
 college over (HTLD)
- (23) a.?Elke filmster, die kent Henk persoonlijk (CLD)
 every filmstar, that knows Henk personally
 Henk knows every filmstar personally
 b.*Elke filmster, Henk kent haar persoonlijk (HTLD)

Dislocation related to subject position shows roughly the same distribution (although in this case even the CLD-sentences are a bit strange):

- (24) a.?Een vrouw, die zal nooit vloeken (CLD)
 a woman, that will never swear
 A woman will never swear
 b.*Een vrouw, zij zal nooit vloeken (HTLD)
- (25) a.?Drie artikelen van Chomsky, die zijn klassiek
 three articles by Chomsky, that have classical
 geworden (CLD)
 become
 Three articles by Chomsky have become classical
 b.*Drie artikelen van Chomsky, ze zijn klassiek
 geworden (HTLD)
- (26) a. Elke linguïst, die heeft Chomsky gelezen (CLD)
 every linguist, that has Chomsky read
 Every linguist has read Chomsky
 b.*Elke linguïst, hij heeft Chomsky gelezen (HTLD)

2.4.1. Pronouns and quantifiers

We will not discuss sentences with a quantifier in dislocated position, binding a pronoun not in dislocated position. As we said, sentences with quantifiers in dislocated position are always worse than other cases. Let us now consider some cases in which pronouns are in dislocated position. The acceptability judgments turn out to be as before, showing a contrast between CLD and HTLD.

- (27) a. Zijn₁ promotie, daar hikt elke linguïst₁ tegenaan (CLD)
his promotion, that every linguist has trouble with
With his promotion every linguist has trouble
b.*Zijn₁ promotie, elke linguïst₁ hikt er tegenaan
- (28) a. Hun₁ eerste artikel, dat vinden volgens de enquête
their first paper, that think according to the in-
drie linguïsten₁ het beste (CLD)
quiry three linguists best
According to the inquiry, three linguists consider
their first paper to be best
b.*Hun₁ eerste artikel, volgens de enquête vinden drie
linguïsten₁ het het beste (HTLD)
- (29) a. Zijn₁ eerste artikel, dat berokkent een linguïst₁
his first paper, that causes a linguist
vaak schade (CLD)
often harm
His first paper often harms a linguist
b.*Zijn₁ eerste artikel, het berokkent een linguïst₁
vaak schade (HTLD)

2.4.2. Scope-phenomena

Here things become more interesting. In general we can say that CLD-sentences show the same scope-ambiguities as the corresponding nondislocated sentences, while HTLD-sentences, if acceptable, do not: In HTLD-sentences the sentence-initial quantifier necessarily takes wide scope.

In examples (30)-(32) the b-sentences (CLD) have two readings (w.r.t. scope), just like the a-sentences (nondislocated), while the c-sentences (HTLD) have only one reading.

- (30) a. Iedereen houdt wel van een paar films van Bergman
everyone likes at least a few films of Bergman
Everyone likes at least some films of Bergman
b. Een paar films van Bergman, daar houdt iedereen
wel van (CLD)
c. Een paar films van Bergman, iedereen houdt wel van
ze (HTLD)
- (31) a. Iedereen krijgt hoofdpijn van drie artikelen van
everyone gets headache of three articles by
Chomsky
Chomsky
Reading three articles by Chomsky gives everybody
a headache
b. Drie artikelen van Chomsky, daar krijgt iedereen
hoofdpijn van (CLD)
c. Drie artikelen van Chomsky, iedereen krijgt hoofd-
pijn van ze (HTLD)

- (32) a. Elke man droomt weleens van een filmster
every man dreams sometimes of a filmstar
Every man dreams of a filmstar sometimes
b. Een filmster, daar droomt elke man weleens van (CLD)
c. Een filmster, elke man droomt weleens van haar (HTLD)

It is therefore interesting to look at sentences containing two quantifiers, which have only one reading, and the corresponding CLD- and HTLD-sentences with the narrow scope quantifier in initial position. In example (33) the a-sentence only has a reading with wide scope of the first quantifier (elke) over the second one (een); in (34) the a-sentence only has a reading with the second quantifier (elke) having wide scope over the first one (een). As is to be expected, the CLD-cases show the same pattern, while the HTLD-sentences become totally uninterpretable.

- (33) a. Elke deelnemer heeft recht op één medaille
every participant has right on one medal
Every participant is entitled to one medal
b. Eén medaille, daar heeft elke deelnemer recht op
(CLD)
c.*Eén medaille, elke deelnemer heeft er recht op
(HTLD)
- (34) a. Een prijs ligt klaar voor elke deelnemer
a reward lies ready for every participant
A reward is available for every participant
b. Elke deelnemer, daar ligt een prijs voor klaar (CLD)
c.*Elke deelnemer, een prijs ligt voor hem klaar (HTLD)

The hypothesis that sentence-initial quantifiers in HTLD-sentences have wide scope also shows nicely in sentences containing opaque verbs. In (35) the a- and b-sentence have a de re reading as well as a de dicto reading, while c only has a de re reading.

- (35) a. Jan zoekt tevergeefs naar een kabouter
John sought in vain for a gnome
John looked in vain for a gnome
b. Een kabouter, daar zoekt Jan tevergeefs naar (CLD)
c. Een kabouter, Jan zoekt tevergeefs naar hem (HTLD)

2.5. Case connectedness

A well-known symptom of syntactic connectedness is the presence of case agreement between the left dislocated noun phrase and the shared nominal (the pronoun). Our results so far would lead us to expect that CLD would favor case agreement, while HTLD would not (or not necessarily) require any case correlation. This prediction is by and large borne out as we will demonstrate below. Since Dutch does not have any overt case marking (except in pronouns), we will use German to test the prediction. In all relevant respects, in particular the behavior of HTLD and CLD with respect

to connectedness phenomena, German is like Dutch, hence the method of resorting to another language would seem justified in this case. In fact, case connectedness presents another attractive side. In most instances a left dislocated noun phrase can simultaneously exhibit one of the types of connectedness which we have already discussed (bound anaphors, bound pronouns, cross-over, etc.) and bear case. This means that we can test the correlation of the different types of connectedness directly with case connectedness.

There is unfortunately one respect in which the consideration of case introduces a new problem. Just as in the case of stranded d-pronouns (see p. 4) there is a class of constructions with case agreement in which we get 'semi-connectedness', and correspondingly to intermediate and marginal judgments. Just as in the previous case we will just point out the problem and then leave it aside. The construction in question is one in which we have an HTLD structure, i.e. with the pronoun in situ, but where the left dislocated noun phrase nevertheless agrees in case with that pronoun instead of being in the nominative case as is ordinarily the case. In other words, we have a type of long distance agreement. Consider, for example, the following paradigm.

- (36) a. Den Hitler (acc), den (acc) bewundern manche
 (the) Hitler, him admire some
 Deutsche immer noch (CLD)
 Germans still
 Some Germans still admire Hitler
- b. Der Hitler (nom), manche Deutsche bewundern
 ihn/den (acc) immer noch (HTLD)
- c.??Den Hitler (acc), manche Deutsche bewundern
 ihn/den (acc) immer noch (HTLD with semi-connected-
 ness)

Long distance case agreement as in (36) is not totally unacceptable and can sometimes serve as a strategy to overcome the handicap of long wh-movement. However, the intuitions are quite subtle and often confused. It may turn out to be possible to assimilate this type of construction to certain discourse phenomena such as question answer pairs, sluicing, etc. which also exhibit case agreement as well as, to a certain extent, other forms of connectedness. But pursuing this line of inquiry is beyond the scope of this present article.

In what follows we will test the HTLD-CLD distinction for German case marking and simultaneously we will check the correlation of case connectedness with the other types of connectedness.

2.5.1. Reflexives

Consider the following pair:

- (37) a. ?Der Anklage gegen sich selbst (dat), der (dat) weiss
 to the accusation against himself, to it knows
 der Hans nichts gegenüberzustellen (CLD)
 Hans nothing to oppose
 Hans has nothing to say against this accusation
 against himself
- b.?*Die Anklage gegen sich selbst (nom), der Hans weiss
 ihr (dat) nichts gegenüberzustellen (HTLD)

This type of embedded reflexive is never completely satisfactory in German, and furthermore, there is a risk of interference from non-bound readings such as, in the above example, the 'self-accusation' reading. (38) gives a similar example in the genitive, and (39), a particularly clear example with the sich reflexive (without selbst), where in addition the reflexive appears to be bound to a quantifier.

- (38) a. Des Herumnörgelns an sich selbst (gen), dessen (gen)
 the nagging at himself, of it
 ist ihr jüngster Sohn endgültig überdrüssig ge-
 is her youngest son definitely weary be-
 worden (CLD)
 come
 Her youngest son is fed up once and for all with
 this criticism of himself
- b.?*Das Herumnörgeln an sich selbst (nom), ihr jüngster
 Sohn ist dessen (gen) endgültig überdrüssig ge-
 worden (HTLD)
- (39) a. Ein fest bei sich zuhause (acc), das (acc) findet
 a party at his own place, that finds
 jeder Grossindustrielle am repräsentativsten (CLD)
 every tycoon most representative
 A party at his own place is what every tycoon finds
 most representative
- b.?*Ein Fest bei sich zuhause (nom), jeder Gross-
 industrielle findet es/das (acc) am repräsenta-
 tivsten (HTLD)

2.5.2. Reciprocals

Crucial cases are, again, hard to construct because unbound readings are often possible and moreover because there may be PRO subjects inside the NPs in question. Despite these problems, there is a detectable connectedness effect in a pair like the following.

- (40) a. Dem vertrauen zu einander (dat), dem (dat) wurden
the trust in each other, to it would
Jochen und Hilde ihre letzten Besitztümer opfern (CLD)
J. and H. their last possessions sacrifice
For their mutual trust J. and H. would give up
their last possessions
- b.??Das Vertrauen zu einander (nom), Jochen und Hilde
würden ihm/dem (dat) ihre letzten Besitztümer
opfern (HTLD)

2.5.3. Bound pronouns in idiomatic expressions

The same caveats which we discussed above in connection with the Dutch equivalent of such cases apply here. However, there is a clear connectedness contrast in the following cases.

- (41) a. Mein Leid (acc), das (acc) habe ich bei ihr nie
my sorrow, that have I with her never
klagen können (CLD)
express could
My troubles I've never been able to pour out to her
- b.??Mein Leid (nom), ich habe es/das (acc) bei ihr nie
klagen können (HTLD)
- (42) a. Deine Selbstbeherrschung (acc), die (acc) darfst du
your self-control, that may you
unter keinen Umständen verlieren (CLD)
under no circumstances lose
Your self-control you must not lose under any
circumstances
- b.??Deine Selbstbeherrschung (nom), du darfst sie/die
(acc) unter keinen Umständen verlieren

Note that in both cases there is nominative - accusative syncretism in the case forms, hence the b-sentences allow a semi-connectedness interpretation, which may reduce the contrast somewhat. However, instances of this construction type with other case forms are apparently hard to find.

2.5.4. Idiom chunks

Idiom chunks present the same problems as in Dutch. We will restrict ourselves to just one example here:

- (43) a. ?Den grössten Aufschwung (acc), den (acc) haben die
the biggest increase, it have the
Japanischen Kleinwagen genommen (CLD)
Japanese small-cars taken
The small Japanese cars achieved the biggest
increase in popularity
- b. *Der grösste Aufschwung (nom), die Japanischen
Kleinwagen haben ihn (acc) genommen (HTLD)

2.5.5. Quantifier scope

As we have noted, it is always difficult to get quantifiers in left dislocated noun phrases. Hence the following are both dubious. However, to the extent that these are at all possible, it appears to be the case that the first admits an ambiguous reading while the second does not.

- (44) a. ??Zwei Sprachen (acc), die (acc) muss jeder Schüler
 two languages, them must every pupil
 lernen (CLD) (AMB)
 learn

Every pupil must learn two languages

- b. ??Zwei Sprachen (nom), jeder Schüler muss sie (acc)
 lernen (HTLD) (non-AMB)

2.5.6. Bound pronouns

This construction is one of the clearest examples of connectedness, unimpaired by any of the interfering factors which complicate the previously discussed criteria.

- (45) a. Seinem Zweitwagen (dat), dem (dat) wird jeder
 his second car, it will every
 vernünftige Verkehrsbennützer den Vorzug verleien (CLD)
 reasonable traffic user preference give
 Every reasonable driver will give preference to his
 second car

- b. *Sein Zweitwagen (nom), jeder vernünftige Verkehrs-
 benützer wird ihm/dem (dat) den Vorzug verleihen

- (46) a. Der ersten seiner Freundinnen (gen), derer (gen)
 the first of his girlfriends, her
 entsinnt sich jeder Casanova gern (CLD)
 remembers every casanova with pleasure
 Every casanova remembers his first girlfriend with
 pleasure

- b. *Die erste seiner Freundinnen (nom), jeder Casanova
 entsinnt sich ihrer (gen) gern

- (47) a. Seine Dissertation (acc), die (acc) hat noch jeder
 his dissertation, that has every
 MIT-Student unter schwerem Druck schreiben müssen (CLD)
 MIT student under heavy pressure write must
 Every MIT student has had to write his dissertation
 under heavy pressure

- b. *Seine Dissertation (nom), jeder Student hat sie (acc)
 unter schwerem Druck schreiben müssen (HTLD)

2.5.7. Crossover

This is the second criterion which leads to fairly straightforward contrasts between HTLD and CLD. Consider the following examples.

- (48) a. *Dem Hans sein letztes Buch (acc), das (acc) hat er
 Hans' last book, that has he
 in drei Wochen geschrieben (CLD)
 in three weeks written

Hans has written his latest book in three weeks time

- b. ?Dem Hans sein letztes Buch (nom), er hat es (acc) in
 drei Wochen geschrieben (HTLD)

- (49) a. *Das schönste Portrait von Peter (acc), das (acc) hat
 the most beautiful portrait of Peter, that has
 er mir nie zeigen wollen (CLD)
 he to me never show wanted

He has never wanted to show me the most beautiful portrait of Peter

- b. ?Das schönste Portrait von Peter (nom), er hat es (acc)
 mir nie zeigen wollen

In summary, there is a clear contrast between the presence of case connectedness in CLD and its absence in HTLD. Furthermore, case connectedness correlates with the other connectedness criteria.

3. Theoretical discussion

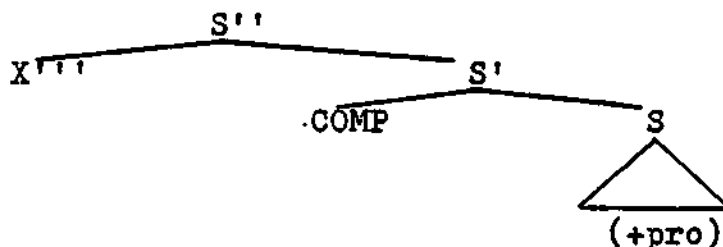
It is evident from the facts presented above that there is a clear contrast between HTLD and CLD in the case of embedded reflexives and reciprocals (2.2.), crossover phenomena (2.3.), binding relations between quantifiers and pronominals, and relative scope of quantifiers (2.4.) and case agreement (2.5.). This contrast is absent in the cases of idioms and non-embedded reflexives and reciprocals. We presented an explanation for this in section 2.1..

In this section we will consider the question what consequences for linguistic theory this contrast and its specific properties have.

3.1. The analysis of HTLD-structures

The most obvious analysis of HTLD-structures is that in which the element in dislocated position is base-generated under S' (cf. Chomsky (1977)), with the pronominal occupying the argument position under S.

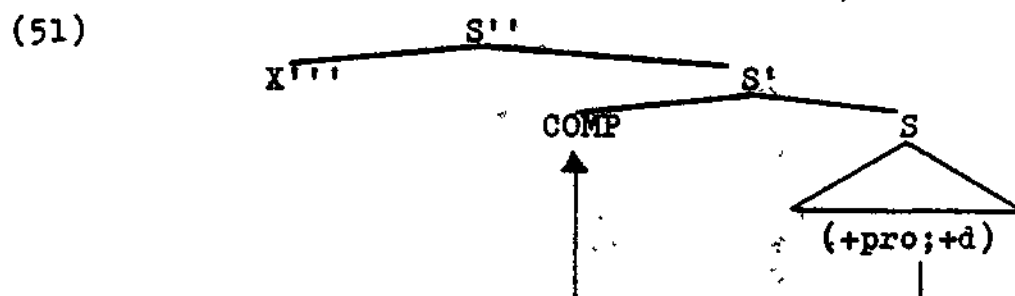
(50)



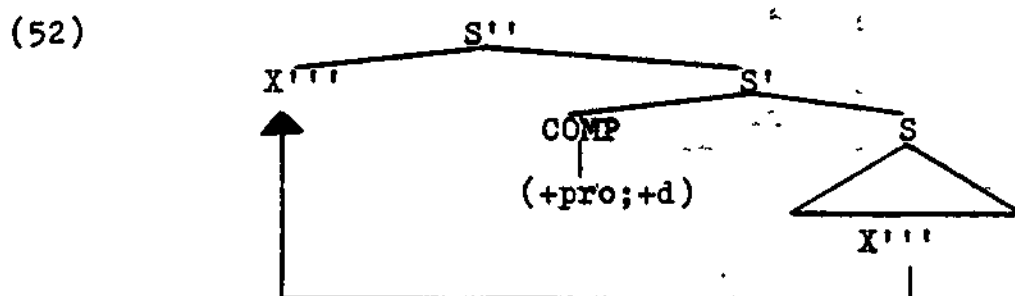
3.2. The analysis of CLD-structures

In principle, four possible analyses of CLD-structures can be distinguished:

Alternative A: the element in dislocated position is base-generated under S'' and, by WH-movement, the d-pronoun is moved from an argument position under S to COMP:

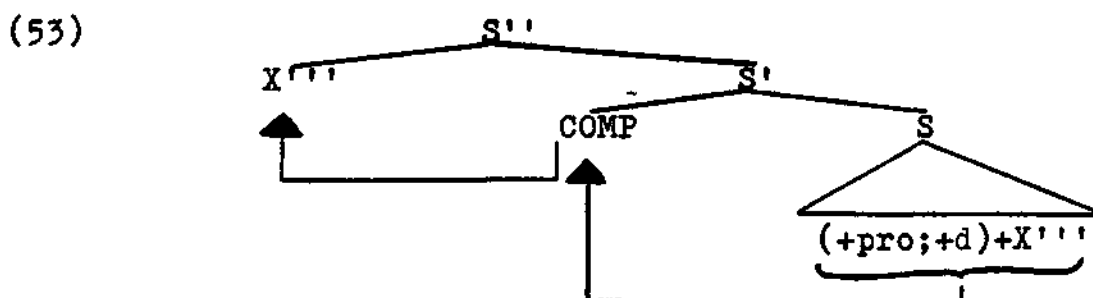


Alternative B: the d-pronoun is base-generated in COMP, and the element in dislocated position has been moved from an argument position under S to the position under S'' :



It would prove difficult to account for such a movement operation for it does not fit the description of either NP-movement or WH-movement. Therefore, this alternative should be regarded as, at least, obscure.

Alternative C: if we adopt for left dislocation the theory of relatives that has been proposed in Vergnaud (1974) we get the following situation: the element in dislocated position and the d-pronoun are generated as sisters in an argument position under S , and together they are moved into COMP by WH-movement. Next, the X''' -node is moved to the position under S'' , whereas the d-pronoun remains in COMP.⁵



5. The process is known under the names Vergnaud-Raising, Head Raising, and Promotion Analysis.

Alternative D: both the element in dislocated position and the d-pronoun are base-generated, in the position under S' and in COMP respectively, and movement does not apply at all. We will not go into this alternative, since it is subject to objections that will be raised against alternatives A and B.

Contrary to the analysis of HTLD, the A, B, and C alternatives involve movement. Possibly the connectedness phenomena that occur can be linked to the occurrence of movement in the derivation. We will now scrutinize these three possible analyses of CLD-structures in the light of two theories about the organization of grammar: a) the T-model (cf. Chomsky & Lasnik (1977), Chomsky (1978) and (forthcoming)) and b) the NP-structure model (cf. Van Riemsdijk & Williams (1980)). In this manner, the knife cuts both ways: on the one hand, a decision in favour of any one of the possible analyses is dependent upon the chosen theory, and on the other, the possibilities of accounting for connectedness phenomena may underlie the adoption of one of the two competing theories.

3.3. The T-model

The T-model is organised as follows:

- (54)
- | | |
|------------------------------|------------------------------------|
| 1. Base | |
| 2. Transformations (= moves) | |
| <hr/> | |
| 3a. Deletion | 3b. Rules of construal |
| 4a. Filters | 4b. Quantifierinterpretation, etc. |
| 5a. Phonology | 5b. Bindingconditions |
| 6a. Stylistic rules | |

One of the characteristics of this model is that the assignment of (abstract) case, the interpretation of bound anaphors, the assignment of disjoint reference and quantifierinterpretation are effected after (WH-) movement. Within the T-model, each of the alternatives that have been given above will yield a structure on the basis of which the connectedness phenomena that occur cannot be accounted for: because both are in an un-governed position, neither the element in left dislocation nor the d-pronoun can be assigned case (cf. Chomsky (forthcoming)); embedded reflexives and reciprocals cannot be assigned an antecedent, simply because there is no c-commanding antecedent; bound pronominals are outside the scope of their quantifier, and it is predicted that a quantifier in dislocated position has wide scope. Nevertheless there are two independently needed auxiliary principles that may in principle be employed to account for the phenomena of connectedness within the T-model:

- a) NPs inherit the case of their trace;
- b) (pseudo-) reconstruction.

Inheriting case

The principle that NPs inherit the case assigned to their trace is also needed in connection with sentences like (55):

- (55) Who_i did John hit e_i

In structure (55) who is in an ungoverned position, so it cannot get case. This entails that the structure will be rejected by the case filter, demanding that any lexical NP be assigned case. In order to prevent this happening it is assumed that who inherits its case from its trace, wh does occupy a governed position and consequently has been assigned case.

Reconstruction and pseudo-reconstruction

Roughly, reconstruction can be characterised as a principle that nullifies the effects of WH-movement at the level of LF by putting the WH-constituent back where it came from before the interpretation of anaphors, disjoint reference and quantifier-interpretation take place. Reconstruction is needed to account for the fact that a sentence like (56) is ungrammatical when who and he are regarded as coreferential ('crossover', see p.4):

(56) *[Whose_i brother]_j do you think that he_i likes e_j ?

Disjoint reference does nothing to exclude (56), because he neither precedes nor c-commands who. The operation of reconstruction puts who back into its argument position, and thus makes it possible for disjoint reference to make the right prediction.

Pseudo-reconstruction involves no movement back to the original position, but employs the trace that has been left: in (56), the trace of who must not be coreferential with he. A special case of pseudo-reconstruction is the proposal in Longobardi (1979). There it is proposed to assume 'layered traces'. This means that when a constituent is moved there remains not only a copy of the top node of the moved constituent, but the entire internal structure of the moved constituent is copied, as in (57):

(57) *[[Whose_i brother]_j do you think that he_i likes [[e_i] e]_j

Given the connectedness phenomena in section 2 layered traces will also be needed in the cases of CLD, if pseudo-reconstruction is to be employed.

Let us now see how the alternative analyses of CLD-structures can be accommodated within the T-model.

Alternative A

When only the d-pronoun has been moved, and, consequently, the element in dislocated position has been base-generated in position, it is nevertheless necessary -in order to account for connectedness phenomena- to apply reconstruction to the element in dislocated position. Since this element has never been moved it is not possible to apply reconstruction in its standard form, so another auxiliary principle is called for. A solution might be found in using the fact that the d-pronoun and the element in dislocated position are coindexed. Thus, the element in dislocated position, the d-pronoun, and the trace form an indexing-chain. Supposing that, given such a chain, the heaviest element in terms of contents is reconstructed, it will not be the d-pronoun, but the element in dislocated position that will move

to the right, giving us the desired structure for interpretation at LF. Still this is a dubious step, for it presupposes that co-indexation of d-pronoun and element in dislocated position takes place before reconstruction, whereas the other rules of construal must apply after reconstruction, in view of the interpretation of reflexives and reciprocals.

Neither is pseudo-reconstruction of any avail. The (layered) trace involved is that of the d-pronoun, containing no information about the internal structure of the element in dislocated position. Therefore this information will not be available at LF.

Within this alternative, case assignment too has its problems. The d-pronoun may well inherit case from its trace, but where does the element in dislocated position get it from? Again an extra principle must be called upon, which may be a process like 'case attraction' (cf. van Riemsdijk & Zwarts (1974) and van Riemsdijk (1978)), in which the element in dislocated position wrings its case out of the d-pronoun.

Alternative B

Taking the element in dislocated position to be moved and the d-pronoun to be base-generated, the standard type of reconstruction is unproblematic: the element in dislocated position itself can now simply be moved back, immediately yielding the desired structure for interpretation at LF. Yet this alternative is also dubious: such movement differs from the standard type and a d-pronoun base-generated in COMP, without an associated empty position, is also rather unusual. From a theoretical point of view this solution seems hardly desirable.

More or less the same arguments apply to pseudo-reconstruction: the element in dislocated position being the moved constituent, the layered trace will in this case contain all the necessary information for interpretation at LF. However, the same objections concerning the theoretical status of such an analysis as above apply here.

As far as case is concerned, this derivation is the mirror-image of alternative A: now the element in dislocated position may inherit its case, but how does the d-pronoun get it? Therefore, in this case a reversed case attraction rule would be needed.

Alternative C

Applying Vergnaud-Raising, there are no problems with reconstruction. By tracing back, the moved constituent ends up in its original position, and the correct structure emerges.

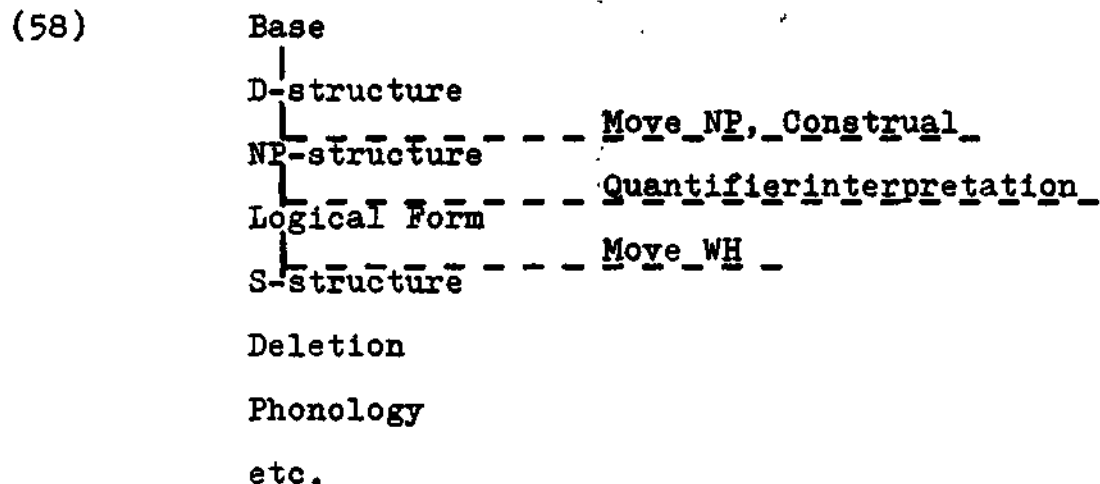
Pseudo-reconstruction is without problems also. After movement all the necessary information is still available in the layered trace, and interpretation is straightforward.

As far as case assignment is concerned, if we assume pseudo-reconstruction we may take it that both the element in dislocated position and the d-pronoun can inherit case from the complex trace, since either of them can be marked as the trace's head. With standard reconstruction, however, it is not at all evident how case marking would be effected. Perhaps case inheritance might take place via trace in COMP.

We have to conclude that within the T-model the derivation of CLD-structures by means of Vergnaud-Raising (Alternative C) is by and large the least problematic.

3.4. The NP-structure model

In Van Riemsdijk & Williams (1980) the NP-structure model is proposed. It provides an answer to the reconstruction problem. Evidently within the T-model reconstruction is an undesirable necessity, because reconstruction (as well as pseudo-reconstruction) is contradictory to the idea that all semantic interpretation can be done at the level of S-structure, for by reconstruction the effects of WH-movement are undone. Therefore Van Riemsdijk & Williams propose to separate NP-movement and WH-movement and to introduce an extra level, NP-structure, in between. Thus, NP-structure is the structure that results after NP-movement, prior to WH-movement. Schematically:⁶



It is the basic characteristic of the NP-structure model that case assignment, the interpretation of bound anaphors, disjoint reference, and quantifierinterpretation apply before WH-movement, thus rendering reconstruction superfluous. Now let us once more turn to the alternative analyses.

Alternative A

If movement applies to the d-pronoun only, the constituent in dislocated position must be base-generated in position. Consequently, connectedness phenomena cannot be accounted for at the level of NP-structure, because the demands of case assignment, interpretation of anaphors, disjoint reference, and quantifierinterpretation are not met. So within the NP-structure model alternative A is not a valid option.

Alternative B

As has been mentioned before it is unclear what sort of movement is involved here. If it comes under NP-movement a situation parallel to alternative A arises. If it is a type of WH-movement connectedness can be accounted for on the level of NP-structure. Again we may ask how the d-pronoun gets its case, and again the answer seems to lie in a process of reversed case attraction (cf. section 3.3. Alternative B). Again, also, the same theoretical objections hold of the solution, and therefore it is an undesirable solution in the NP-structure model too.

6. Van Riemsdijk and Williams discuss several models involving NP-structure, but favour this one.

Alternative C

Vergnaud-Raising comes under the heading of WH-movement, so in an NP-structure model it follows case assignment etc. This means that within this model all the necessary information to account for connectedness phenomena is available at the relevant level.

We have to conclude that within the model of NP-structure too deriving CLD-structures by means of Vergnaud-Raising constitutes the most desirable option.⁷

3.5. Mixed left dislocation

Two different derivations of sentences containing a constituent in dislocated position have now been established: one in which the constituent in dislocated position is base-generated in place (HTLD), and one in which the dislocated constituent is moved into its surface position by means of Vergnaud-Raising (CLD). However, accepting the existence of both derivations, it must also be possible to base-generate a constituent in dislocated position, and subsequently move the accompanying pronoun into COMP by ordinary WH-movement. This is what we call Mixed left dislocation (MLD). In these cases, our theory predicts that there will be no connectedness. In general, however, it is extremely difficult to find evidence bearing on this prediction. German provides us with a clear example, involving case-connectedness. The relevant cases are those in which the dislocated constituent is a NP, but where the pronoun is contained in a PP. If this pronoun is a d-pronoun, the whole PP is fronted; there is no possibility for preposition stranding in German. In these sentences the case of the dislocated constituent and that of the pronoun can never be identical. Given our theory, this means that Vergnaud-Raising can not have taken place, so these must be cases of MLD:

- (59) a. *Dem Hans (dat), mit dem (dat) spreche ich nicht mehr
 the John , with him talk I not more
 John, I do not talk to him any longer
 b. Der Hans (nom), mit dem (dat) spreche ich nicht mehr

As a consequence, it is predicted that other connectedness phenomena will also be absent in sentences of type (59b). That this prediction is valid can be concluded from an example like (60):

- (60) *Sein Nachbar zur Linken, mit dem muss jeder Kursteil-
 his neighbour to-the left, with him must every
 nemer die Hausaufgaben erledigen
 participant the homework make
 Every participant should make his homework together
 with his left-hand neighbour

7. As has been noted above (see pp. 4-5, 13) sentences with a stranded d-pronoun show a form of semi-connectedness: they are not as good as CLD-structures, but nevertheless it seems that constituents in dislocated position behave as if they were in argument position. This type of sentence constitutes a problem for the Vergnaud-Raising analysis, for under this analysis stranding of the d-pronoun is not possible. Therefore, given Vergnaud-Raising, structures containing a stranded d-pronoun will have to be base-generated. In that case, however, no connectedness is predicted. For the time being, we will not pursue the matter any further.

The ungrammaticality of (60) follows from the fact that the pronoun sein must be outside the scope of the quantifier jeder.

3.6. Clitic left dislocation

In the introduction mention has been made of the existence of Clitic left dislocation in Romance languages, a type of left dislocation that also exhibits connectedness phenomena. Cinque (1977) proposed an analysis for this type of left dislocation which involves movement of the constituent in dislocated position. However, since there does not seem to be anything like a d-pronoun in these cases, the pertinent movement operation is not normally associated with Vergnaud-Raising. How now can connectedness in these cases be accounted for? Suppose that the movement operation involved is indeed Vergnaud-Raising, then we simply have to assume two auxiliary principles, both of which are independently needed. The first is clitic-doubling, a common enough feature of Romance languages, to account for the occurrence of a clitic in these structures. The second would be a mechanism deleting the WH-element that has ended up in COMP. Such a deletion device is also needed to account for the facts concerning topicalization in Dutch.⁸

3.7. Conclusion

The question at the head of this section was: how can the contrast between HTLD and CLD with respect to connectedness be explained? The answer is that HTLD- and CLD-structures are derived in different ways. In the case of HTLD-structures the constituent in dislocated position is base-generated under S' (section 3.1.), whereas in CLD-cases the d-pronoun and the constituent in dislocated position are base-generated as sisters in an argument position under S, followed by Vergnaud-Raising (section 3.2., under alternative C).

The choice of Vergnaud-Raising is neutral with respect to the T-model and the NP-structure model. But once it has been concluded that, in order to account for connectedness phenomena, Vergnaud-Raising must be employed in any case, it immediately follows that the NP-structure model accounts for them most elegantly: the T-model needs Vergnaud-Raising as well as (pseudo-)reconstruction and case inheritance, whereas the NP-structure model makes do with Vergnaud-Raising alone. In this sense, accounting for connectedness phenomena in CLD-structures constitutes an argument for the NP-structure model.

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8. Topicalization structures in Dutch, we take it, are derived in the same way as CLD-structures, i.e. by Vergnaud-Raising, with subsequent deletion of the d-pronoun. By this assumption it is possible to account for the connectedness phenomena that occur in topicalized sentences. With regard to this choice the hypothesis of sections 2.1. and 2.2. is of interest. There it was assumed that sentences containing an idiom chunk or non-embedded reflexive in dislocated position failed to be grammatical because these elements were unable to function as the antecedent of a d-pronoun. Consequently, they should be all-right when the d-pronoun is deleted, as is the case with topicalization. This turns out to be correct. The following sentences

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8.(cont.) -the topicalized counterparts of (8a) and (10a) respectively- are fully grammatical:

- i. Het heen en weer kan Jan krijgen
- ii. Zichzelf kan Jan niet uitstaan