

Dutch Object Clitics, Preposition Stranding and Across-the-Board Extraction

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Abstract

*We show how Dutch complement extraction can be analyzed in the HPSG-framework which is sketched in Chapter 9 of [Pollard&Sag(1993)], where the existence of traces is denied and instead extraction information is introduced by lexical rules operating on heads. We argue that Dutch prepositional *er* is always extracted and present our analysis of preposition stranding. We proceed to describe the highly idiosyncratic behaviour of Dutch P^o w.r.t. neuter pronouns; we posit a supertype for P^o in the hierarchical lexicon which disallows P^o to govern any pronoun which denotes a neuter referent. If we combine our analysis of preposition stranding with this analysis of P^o we explain the linear distribution of object clitics with respect to prepositions. Also we make the correct predictions for Across-the-Board extraction of object clitics.*

1 Introduction

It appears that Dutch features postpositional P^o , cf. (1a);

- (1) a. Jan heeft *er* op gerekend
 Jan has it on counted
 “Jan has counted on it”
 b. Jan heeft er_1 op $_{-1}$ gerekend

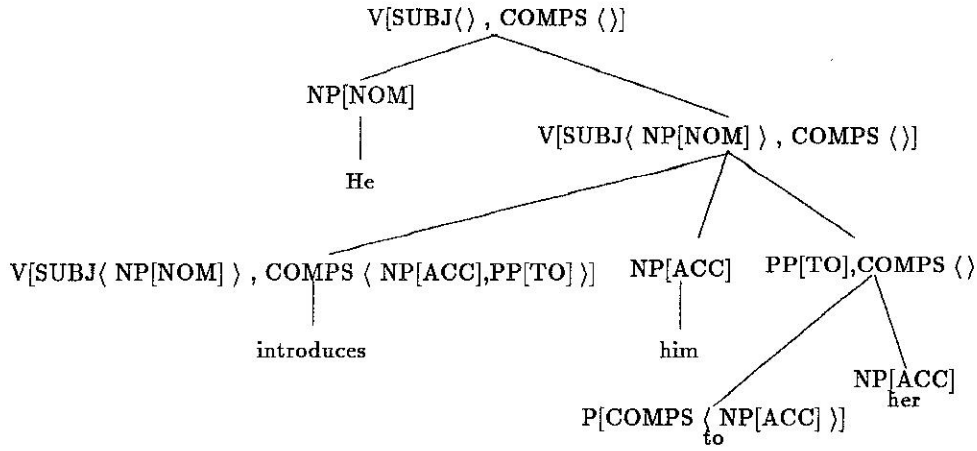
In this article¹ we give arguments in favour of the hypothesis that the analysis of (1a) should involve extraction mechanisms, where *er* is a filler corresponding to a position which is to the right of the preposition, as illustrated in (1b). We will discuss how this analysis allows us to maintain the claim that Dutch is *prepositional*. The empirical arguments in favour of this analysis involve the scope of adverbs and extraction from co-ordinate structure. Across-the-Board extraction also indicates that Dutch object clitics could be analyzed as post lexical clitics but not as affixes. First, we briefly highlight relevant aspects of HPSG as the theory is conceived of in Chapter 9 of [Pollard&Sag(1993)].

2 Complement Extraction through Lexical Rules

We adopt the division between subjects and complements which is motivated and put forward in [Borsley(1987)]; this means that we assume lexical items like (2) and (3).

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Figure 1: Subjects and Complements



$$(2) \left[\begin{array}{c} \text{PHON } \langle \textit{introduces} \rangle \\ \text{SYNSEM} \left[\begin{array}{c} \text{LOCAL} \left[\begin{array}{c} \text{HEAD } [\text{MAJOR V, FIN, PRESENT}] \\ \text{SUBJ } \langle \text{NP[CASE NOM]} \rangle \\ \text{COMPS } \langle \text{NP[CASE ACC], PP[PFORM TO]} \rangle \end{array} \right] \\ \text{NONLOCAL} \left[\begin{array}{c} \text{INHERITED } \{ \} \\ \text{TO-BIND } \{ \} \end{array} \right] \end{array} \right] \end{array} \right]$$

$$(3) \left[\begin{array}{c} \text{PHON } \langle \textit{to} \rangle \\ \text{SYNSEM} \left[\begin{array}{c} \text{LOCAL} \left[\begin{array}{c} \text{HEAD } [\text{MAJOR P, [PFORM TO]}] \\ \text{COMPS } \langle \text{NP[CASE ACC]} \rangle \end{array} \right] \\ \text{NONLOCAL} \left[\begin{array}{c} \text{INHERITED } \{ \} \\ \text{TO-BIND } \{ \} \end{array} \right] \end{array} \right] \end{array} \right]$$

This theory assumes that information about the subject should be separated from information about other complements. Linear precedence rule (4a) ensures that we get the correct linear ordering for lexical (non-phrasal) heads and their complements, and (4b) takes care of the ordering of subjects with respect to predicates, cf. [Borsley(1987)].

- (4) a. **Linear precedence constraint A**
 $\text{HEAD}[\text{LEX } +] < [\]$
 b. **Linear precedence constraint B**
 $\text{XP} < [\text{SUBJ } \langle \text{XP} \rangle]$
 c. **Linear precedence constraint C**
 $\text{C} < < \text{C}'$

The LP-rule in (4c) states that less oblique complements precede more oblique complements. Together with two simple Immediate Dominance Schemata² these LP-rules give rise to an analysis for a simple declarative English sentence as exemplified in Figure 1. We will motivate an analysis of Dutch PPs which allows us to maintain (4a) for Dutch prepositional heads, despite apparent counterexamples like (1a) above.

In Chapter 9 of [Pollard&Sag(1993)] a theory of extraction which does not employ any notion of traces or empty categories is suggested. This theory is empirically motivated by results obtained by psycholinguistic research (cf. [Pickering&Barry(1991)]). In this version of HPSG the information regarding extraction originates on the head that locally selects the extracted element, not on a trace. In (5) the unbounded dependency or extraction is introduced on *introduces*;

(5) Whom does Captain Kirk think that Spock introduces to Bones ?

The lexical rule which introduces the unbounded dependency with respect to extracted objects as in (5) is the Complement Extraction Lexical Rule (CELR) in (6)^{3,4}

(6)	+-	-+	+-	+-
	COMPS <...,[LOC [1]], ...>	==>	COMPS <... ...>	
	INHER F { }		INHER F {[1]}	
	+-	-+	+-	+-

This rule says that if a lexical entry exists for a head with a list of complements, then the existence of another lexical entry is also allowed, where this other lexical entry does not require the presence of one of its complements locally. Instead, this head may require the presence of that complement non-locally, as a value for a NONLOCAL feature.⁵ If we apply the lexical rule in (6) to (2), one of the two possible results is the entry in (7); it is this result which is assumed to be present in the analysis of cases like (5).

(7)	[SYNSEM	[PHON <introduces>]			
				LOCAL		[HEAD [MAJOR V, FIN, PRESENT]]
						SUBJ <NP[CASE NOM]>	COMPS <PP[PFORM TO]>	
TO-BIND { }								

The value of INHERITED is subject to the Nonlocal Feature Principle (NFP):

(8) Nonlocal Feature Principle

For each NONLOCAL feature, the INHERITED value on the mother is the union of the INHERITED values on the daughters minus the TO-BIND value on the head daughter

²One allowing for a phrasal sign which requires a subject in case it no longer requires complements, licensing VPs, and one licensing a phrase which doesn't require arguments provided the mother node dominates a subject and a phrasal head which requires a subject. For more (formal) definitions, cf. [Pollard&Sag(1993)].

³Repeated here from [Pollard&Sag(1993)], section 9.5.1.

⁴'F' supposedly stands for QUE with WH-movement, for SLASH in topicalizations and for REL in relatives (chap. 4, [Pollard&Sag(1993)]); we ignore these distinctions for the remainder of this paper.

⁵In the rule "COMPS" abbreviates SYNSEM:LOCAL:CATEGORY:COMPS and "INHER" abbreviates SYNSEM:NONLOCAL:INHERITED. Cf. [Pollard&Sag(1993)] for details.

The effect of the Nonlocal Feature Principle is that the information about the presence of a missing constituent percolates ‘up’ in the structure until it can be associated with an appropriate filler.⁶ This is guaranteed by the demands placed on the phrase structure which combines the filler with the clause which it is extracted from. We will discuss how the CELR should be modified to cover for Dutch extraction in section 4, after briefly discussing Across-the-Board extraction in HPSG and its relevance to our topic.

3 The Coordination Principle and Object Clitics

A strong universal constraint on extraction is the constraint exemplified in (9):

- (9) a. Which paper₁ did John like $_1$ and Mary hate $_1$
- b. * Which paper₁ did John like the article and Mary hate $_1$
- c. * Which paper₁ did John like $_1$ and Mary hate the article

In HPSG we can account for ATB facts in a straightforward manner by the Coordination Principle, cf. chapter 4 of [Pollard&Sag(1993)].

(10) **Coordination Principle (Strong Version)**

In a coordinate structure, the (CATEGORY and) NONLOCAL value of each conjunct daughter is identical to that of the mother

Of course *identical* also accounts for the situation where there has not been any extraction. We can use the ATB constraint to demonstrate that extraction of *er* is present in Dutch also in cases where *er* is closely (phonologically, morphologically, orthographically) related to P^o, and that therefore it is not *ad hoc* to assume that extraction from PP is present in (1a). Consider (11);⁷

- (11) Hij heeft *er*₁ naar $_1$ gekeken en van $_1$ genoten
 He has it at watched and of enjoyed
 “He has watched it and enjoyed it”

Even though *er* in (11) can be phonologically, morphologically and orthographically attached to *naar*⁸, it is evident that it cannot be a complement *in situ* of *naar* here. This is because semantically *er* in (11) is also related to *van*. In (11) *er* can never be locally related to *van* on any plausible analysis of complementation. Therefore either *er* must stand in a non-local relation to *van* or (11) is a case of Left Node Raising (LNR), which is, like Right Node Raising (RNR), a somewhat more local phenomenon than extraction. As noted in [Huybregts&vRiemsdijk(1985)], LNR is the inverse of RNR in that the result worsens if the source is right peripheral rather than left peripheral. No such effects arise when *er* is symmetrically moved to the left from coordinate VPs where *er* originates right peripheral in both conjuncts;

- (12) Ik zal *er*₁ Jan een opstel over $_1$ helpen schrijven en Karel een foto
 I shall it Jan an essay about help write and Karel a picture
 van $_1$ laten maken
 of let make

⁶This is illustrated for *er* by Figure 2 in section 5.

⁷Note that the underscores here are used not to denote traces or empty categories, but merely to indicate the positions where a complement could have been locally realized but isn’t because it has been realized non-locally elsewhere.

⁸For non-native speakers; *er* often appears as if compounded with prepositions in written Dutch: for example *erop* and *ernaar* are so-called ‘orthographic words’.

“I will help Jan write an essay about it and have Karel take a picture of it”

It seems reasonable then to rule out the possibility of analyzing (11) as Left Node Raising, and by elimination it must be a case of extraction. Because of the fact that both VP-like constituents are coordinates, the Coordination Principle must apply, and subsequently *er* must also be non-locally related to *naar*, even though it is adjacent and ‘intimately’ related to *naar*. In this way then (11) gives strong evidence that Dutch *er* can be realized as an object clitic which is extracted from one or more PPs, while it can be morphologically, phonologically and orthographically related to the (leftmost) preposition by some filler-head rule. This makes it less controversial to assume the (1b) analysis of (1a). We will produce further evidence in favour of this analysis that is related to Dutch preposition stranding.

4 Preposition Stranding in Dutch

Dutch displays an interesting idiosyncrasy with respect to extraction from prepositional phrases, illustrated in (13).

- (13) a. Op wie heeft Jan $_1$ gerekend ?
 On who did Jan count
 “Who did Jan count on ?”
 b. *Wie heeft Jan op $_1$ gerekend ?
 Who[R-] did Jan on count
 “Who did Jan count on ?”
 c. Waar heeft Jan op $_1$ gerekend ?
 What[R+] did Jan on count
 “Who did Jan count on ?”

Pied piping as in (13a) is always possible modulo island constraints, but, as the contrast between (13b) and (13c) illustrates, preposition stranding is only an option when the filler contains the phoneme /R/ in a syntactically relevant way.⁹ If we indicate this property as [R+] on the appropriate lexical items, we might account for this idiosyncrasy by adopting a modified version of the Complement Extraction Lexical Rule (cf. (6)) for Dutch prepositional heads;¹⁰

(14) Proposition Complement Extraction Lexical Rule:

+-	-+		
HEAD prep		+-	-+
COMPS <..., [LOC [1]], ...>	==>	COMPS <... ...>	
INHER SLASH { }		INHER SLASH {[1] [R +]}	
+-	-+	+-	-+

This lexical rule is restricted by the occurrence of [R+] in such a way that the introduction of extraction information on a PP is only allowed when it concerns an extracted element

⁹For an early extensive discussion, cf. [vRiemsdijk(1978)].

¹⁰This analysis is different from our earlier account of Dutch preposition stranding through constraints in [Rentier(1992)] mainly in a technical sense. This is so because in [Rentier(1992)] the analysis assumes the existence of traces. Though extraction was not modeled through lexical rules, the [R+]-property was already taken into account. Of course, since the analysis presented here is an extension of the theory of extraction without traces from chapter 9 of [Pollard&Sag(1993)], it's possible theoretical value is strongly derivative of the theoretical value of such a theory of extraction.

which is [R+]. Note that here we propose a substantial extension to the traceless theory of extraction through lexical rules as discussed so far. This is so because here we place idiosyncratic restrictions not on the head which licenses the unbounded dependency, but on the element which is extracted itself.¹¹

Through (14) we can account for the contrast between (13b) and (13c) in a straightforward manner: by stating in the lexicon that *waar* is [R+] and that *wie* is [R-]. To allow for (15a), and extraction of complements of verbs in general, Dutch must have a separate Complement Extraction Lexical Rule for verbs. As we can see from the contrast with (15b), this rule must *disallow* extraction of [R+] complements of verbs:

- (15) a. Dat₁ zal Jan waarschijnlijk --₁ waarderen
 That[R-] will Jan probably appreciate
 "Jan will probably appreciate that"
- b. *Daar₁ zal Jan waarschijnlijk --₁ waarderen
 That[R+] will Jan probably appreciate
- c. Daar₁ zal Jan waarschijnlijk [op --₁] rekenen
 That[R+] will Jan probably on count
 "Jan will probably count on that"

Topicalization of an [R+] demonstrative pronoun can obviously only be licensed by P°, cf. (15c). Therefore, we propose that in Dutch, any lexical rule which introduces an unbounded dependency on a verb will constrain the introduced element to be [R-]; this is reflected in the Dutch rule for verb complement extraction in (16).

(16) Verb Complement Extraction Lexical Rule:

+-		--							
HEAD	verb			+-				--	
COMPS	<..., [LOC [1]], ...>		==>	COMPS	<... ...>				
INHER SLASH	{ }			INHER SLASH	{[1] [R -]}				
+-		--		+-				--	

The same constraint should and can be built into the Dutch version of the Subject Extraction Lexical Rule, which completes our analysis of Dutch preposition stranding. An apparent counterexample to the Verb Complement Extraction Lexical Rule for Dutch can be construed by constructions with locative *er* or *hier* ("here") and *daar* ("there").¹²

¹¹That is, other restrictions than the subcategorization restrictions which are standardly imposed by the lexical head which licenses the complement.

¹²For the occasional confused (non-native) reader; Dutch features four uses of *er*. Besides the prepositional and locative uses, there are also the quantitative and existential uses of *er*, exemplified here as (i) and (ii). In addition, *er* can also have a mixed function, but not all permutations are possible.

- i Hij heeft er twee
 He has it two
 "He has two"
- ii Er wordt gedanst
 It was danced
 "There was dancing"

- (17) a. Hij heeft er gewoond
 He has there lived
 "He has lived there"
- b. Waar heeft hij gewoond ?
 Where[R+] has he lived
- c. * Wat heeft hij gewoond ?
 Wat[R-] has he lived

This paradigm suggests that there exists at least one Dutch verb which behaves like a preposition, and at first this might seem to necessitate all kinds of *ad hoc* solutions. But what is relevant here is the fact that we are talking about a *locative* element, and the lexicalist solution is obvious:

- (18) a. Wat [R -], [LOCATIVE -]
 b. Waar [R +], [LOCATIVE -]
 c. Waar [R -], [LOCATIVE +]

We can analyze (17b) as involving the second entry for *waar*, which can be correctly allowed through the Verb Complement Extraction Lexical Rule in (16) since it is [R-]. We can exclude (17c) through the mismatch between the requirements of *wonen*, which needs a locative NP [LOCATIVE +], and *wat* which is defined as [LOCATIVE -], cf. (18).

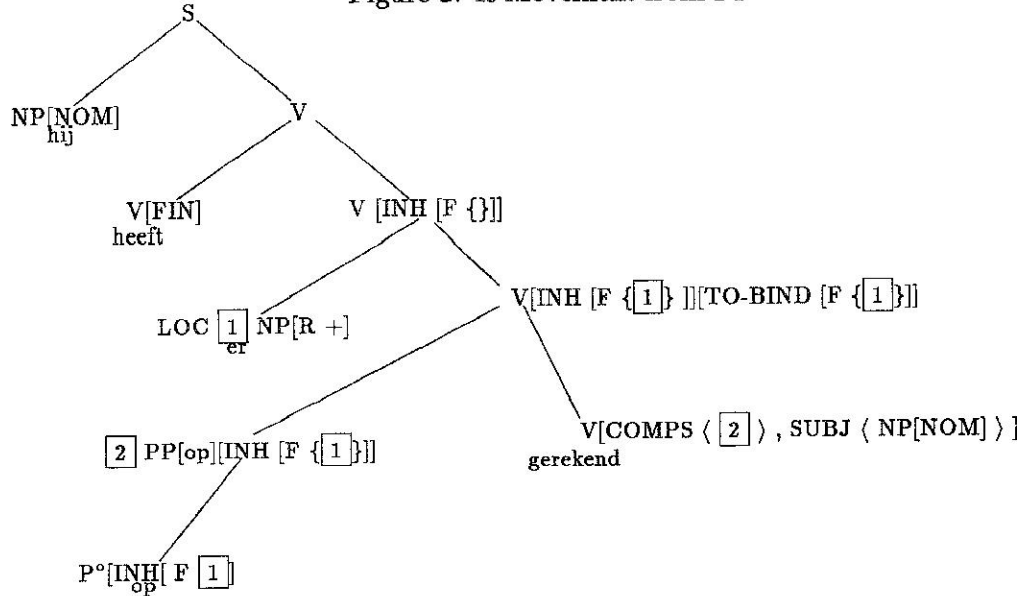
5 Clitic Pronouns and Prepositional Heads

An interesting paradigm in Dutch is the linear distribution of object clitics¹³ with respect to prepositions, cf. the examples in (19) and (20).

- (19) a. * Hij heeft *∂r* op gerekend
 He has her[R-] on counted
- b. * Hij heeft *∂m* op gerekend
 He has him[R-] on counted
- c. * Hij heeft *∂t* op gerekend
 He has it[R-] on counted
- d. Hij heeft er op gerekend
 He has it[R+] on counted
- (20) a. Hij heeft op *∂r* gerekend
 He has on her[R-] counted
- b. Hij heeft op *∂m* gerekend
 He has on him[R-] counted
- c. * Hij heeft op *∂t* gerekend
 He has on it[R-] counted
- d. * Hij heeft op er gerekend
 He has on it[R+] counted

¹³We discuss four object clitic pronouns of Dutch. The object clitics *∂r*, *∂m* and *∂t* are the reduced forms of the female, male and neuter pronouns; in addition *er* can also function as a neuter pronoun and surfaces in the same configurations as the other three reduced personal pronouns. For more details cf. a.o. [vRiemsdijk(1978)], [Koster(1987)] or [Huybregts(1991)].

Figure 2: R-Movement from PP



At first glance it seems hard to discover regularities; we will try to account for them here. First we assume that Dutch basically has no postpositions; this is a controversial claim, since many apparent counterexamples exist:

- (21) a. Jan klimt het dak *op*
 Jan climbs the roof on
 “Jan climbs the roof”
 b. Zij rijdt de auto de garage *in*
 She drives the car the garage in
 “She drives the car into the garage”

We will maintain this assumption for two reasons: first it is a good starting point, because now we can at least begin to make linear precedence generalizations. Secondly, note that the examples in (21) semantically all have to do with movement in a certain direction, that is all verbs are *directives*. Note furthermore that all apparent postpositions are strongly related to the verb here, and appear compounded with the verb when the verb is realized clause-final in non-matrix clauses. We therefore think it is acceptable to assume that a separate account for these facts can be found where these apparent postpositions are analyzed as particles.

Now if we assume that Dutch has no postpositions then we have an account for the first three constructions in (19). We analyze the clitic *er* in (19d) as extracted from the position to the right of the preposition. This assumption, mentioned in the introduction with respect to (1a), is illustrated further in Figure 2.¹⁴ In our analysis, the clitic *er* is never a complement of the preposition in situ; therefore *er* does not disobey the head-initial linear precedence generalization for prepositional complements in (4a), repeated as (22a).

¹⁴In Figure 2 the feature F stands for any appropriate NONLOCAL feature. It is irrelevant for our purposes here whether we call this feature OC (Object Clitic) as in [Monachesi(this volume)] or SLASH.

- (22) a. **Linear precedence constraint A**
 HEAD[LEX +] < []
 b. **Filler-head LP-rule**
 FILLER < HEAD[LEX -]

Instead the clitic-filler *er* obeys the standard LP-generalization that fillers precede heads in (22b), taken from [Pollard&Sag(1987)]. A strong motivation for this assumption is that it explains why adverbial modifiers may intervene between the preposition and *er*;

- (23) Hij heeft er misschien niet op gerekend
 He has it[R+] maybe not on counted
 "Maybe he hasn't counted on it"

If we would analyze *er* as a complement of the preposition in its normal position, we would have no explanation for the fact that the intervening modifiers are not related to the prepositional head, but are related to the main verb. Semantically, the adverbs have scope over the VP-like constituent *op ϕ gerekend*, as in (24);

- (24) Hij heeft misschien niet op het Nederlandse weer gerekend
 He has maybe not on the Dutch weather counted
 "Maybe he didn't reckon with the Dutch weather"

It is very natural to analyze the adverbs as modifiers which modify the verb projection. The only way to make *er* in (23) a complement *in situ* of *op* then would be to allow crossing branches or a form of scrambling, options that seem quite uncalled for here. So this makes it likely to assume that in (23) the clitic pronoun has been extracted from a position to the right of the preposition. Evidently our analysis becomes more general and straightforward if we simply assume that *er* is always extracted from this position, whether adverbs are present or not, as claimed in the introduction with respect to (1a).

It is plausible to assume that (19a), (19b) and (19c) cannot be extractions from prepositions and are ungrammatical because the clitic pronouns there, *er*, *om* and *het*, are [R-]. That is, we assume that of the Dutch clitic pronouns only the neuter pronoun *er* contains the phoneme /R/ in a syntactically relevant manner as argued by [vRiemsdijk(1978)]. The facts are accounted for then by the definition of the Prepositional Complement Extraction Lexical Rule in (14); we thus have an account for (19) which is in line with the analysis of the preposition stranding facts in (13).

6 A Generalization of the Analysis

We are left with the paradigm in (20). On our account so far, all four possibilities should be grammatical, since in all four constructions the prepositional heads are realized head initial and thus agree with the linear precedence generalization in (22a).

The empirical generalization here is that the first two clitic pronouns have female and male gender, while in the ungrammatical constructions (20c) and (20d) both clitic pronouns are neuter. So it seems that a Dutch preposition with a neuter pronoun as INDEX should always introduce an extraction. Here we propose to capture this generalization by imposing a negative constraint on the supertype of P^0 in the hierarchical lexicon for Dutch. Without working out the details, we assume that we have a hierarchical lexicon which eliminates redundancies through inheritance, as suggested in [Flickinger(1987)] and chapter 8 of [Pollard&Sag(1987)]. We posit a supertype of P^0 ,

as in (25),¹⁵ which can license any complement locally as a value of COMPS, provided this complement is not a neuter pronoun.

$$(25) \left[\begin{array}{l} \text{PHON } \langle X \rangle \\ \text{SYNSEM} \left[\begin{array}{l} \text{LOCAL} \left[\begin{array}{l} \text{HEAD} \left[\begin{array}{l} \text{MAJOR P} \\ \text{PFORM X'} \end{array} \right] \\ \text{COMPS } \langle \text{NP[ACC][R -]:[1]} \rangle \\ \text{CONT}[1] \left[\begin{array}{l} \text{PARA NOT} \left[\begin{array}{l} \text{IND GEN NEUTER} \\ \text{TYPE } ppro \end{array} \right] \end{array} \right] \end{array} \right] \\ \text{NONLOCAL} \left[\begin{array}{l} \text{INHERITED } \{ \} \\ \text{TO-BIND } \{ \} \end{array} \right] \\ \text{TYPE } prep \end{array} \right] \end{array} \right]$$

This entry in the hierarchical lexicon then is appropriate for any Dutch preposition¹⁶ which governs a complement which is not neuter and not pronominal. Instances of this supertype will always give rise to a PP from which extraction is impossible. This is so because the only available lexical rule for complement extraction which removes [R-]-complements is the VCELR which operates on verbs, not on prepositions. Apart from the constructions in (20c) and (20d), the negative constraint on the value of the PARA feature¹⁷ also correctly excludes all other ungrammatical constructions involving neuter pronominal objects.¹⁸

Since extraction from any PP licensed by an instance of (25) is prohibited, any PP licensed by an instance of (25) will give rise to a constituent which can only take part in extraction if there is pied piping. The question as to how we should license grammatical cases of preposition stranding is of course still answered through the Preposition Complement Extraction Lexical Rule. But we should change it in such a manner that it will erase the negative constraint on the value of PARA, thus giving the desired result;

(26) Preposition Complement Extraction Lexical Rule:

+-	-+		
HEAD prep		+-	-+
COMPS <...,[LOC [1]]:[2],...>	==>	COMPS <... ...>	
[2]CONT:PARA NOT[p _{pro} NEUT]		[2]CONT: PARA[p _{pro} NEUT]	
INHER SLASH { }		INHER SLASH {[1][R +]:[2]}	
+-	-+	+-	-+

An application of this to an instance of the supertype in (25) gives rise to a lexical entry of the supertype in (27):

¹⁵Instead of following the convention of subscripting the type of a sign to the left of the matrix, we mention the type of a sign in a separate feature, TYPE. However, this is only for (my) convenience.

¹⁶Again, we ignore whether these prepositions are put to a predicative, locative or temporal use, etc.

¹⁷The PARAMETER of a constituent, roughly corresponding to the notion of discourse referent.

¹⁸So neuter non-clitic pronouns, demonstrative pronouns and WH-pronouns in addition to clitic pronouns.

$$(27) \left[\begin{array}{c} \text{PHON } \langle X \rangle \\ \text{SYNSEM} \left[\begin{array}{c} \text{LOCAL} \left[\begin{array}{c} \text{HEAD} \left[\begin{array}{c} \text{MAJOR P} \\ \text{PFORM X'} \end{array} \right] \\ \text{COMPS } \langle \rangle \\ \text{CONT } \boxed{1} \left[\begin{array}{c} \text{PARA} \left[\begin{array}{c} \text{INDEX GEN NEUTER} \\ \text{TYPE } \textit{ppro} \end{array} \right] \end{array} \right] \end{array} \right] \\ \text{NONLOCAL} \left[\begin{array}{c} \text{INHERITED } \{ \text{NP[ACC][R+]:\boxed{1}} \} \\ \text{TO-BIND } \{ \} \end{array} \right] \\ \text{TYPE } \textit{prep1} \end{array} \right] \end{array} \right]$$

The entries which are instances of supertype (27) then are assumed to give rise to all cases of preposition stranding. With this theory on the relation between clitics and prepositions in Dutch, we now turn to the interaction between this theory and the analysis of ATB-extraction of section 3.

7 Across-the-Board Extraction of Object Clitics in Dutch

Across-the-Board extraction gives us indication that Dutch object clitics, unlike Italian object clitics (see [Monachesi(this volume)]), could be post lexical clitics by the coordination criteria of [Miller(to appear)]. Consider (11) again, repeated here as (28a). Clearly the clitic *er* is related to both conjuncts, and does not need to be repeated on each coordinate daughter.¹⁹ Therefore it could be a post lexical clitic but not an affix.

The assumptions of the previous sections furthermore give us a strictly formal account of the following paradigm of Dutch. It explains why all unbounded dependencies in (28) must be introduced on prepositions to obtain a grammatical construction;²⁰

- (28) a. Hij heeft *er*₁ naar ₁ gekeken en van ₁ genoten
 He has it[R+] at watched and of enjoyed
 "He has watched it and enjoyed it"
- b. *Hij heeft *er*₁ ₁ gezien en van ₁ genoten
 He has it[R+] seen and of enjoyed
 "He has seen it and enjoyed it"
- c. *Hij heeft *er*₁ naar ₁ gekeken en ₁ gewaardeerd
 He has it[R+] at watched and appreciated
 "He has watched it and appreciated it"
- d. *Hij heeft *er*₁ ₁ gezien en ₁ gewaardeerd
 He has it[R+] seen and appreciated
 "He has seen it and appreciated it"

In all examples in (28) we arguably have a clitic filler which is [R+]. Therefore only extractions involving elements which are also [R+] can successfully be related to the filler through the Nonlocal Feature Principle. Because of the definition of the lexical rules for Dutch above, information about an extracted element which is not introduced on a

¹⁹The item is allowed to be repeated on each conjunct though, like in Spanish, so the evidence is not conclusive. For discussion, cf. [Miller(to appear)], and [Monachesi(this volume)], footnote 10.

²⁰On a quantitative reading of *er* (28d) is only marginally ungrammatical.

prepositional head but on a verb will always be [R-], and this information can never be unified with information on any [R+] filler.²¹ Thus the ungrammatical sentences correspond to a unification clash.

8 Conclusion

Admittedly, we merely made it plausible that prepositional *er* is always extracted: we have only adduced evidence which indicates that *er* is extracted in constructions which involve adverbs and ATB-extraction. However, our analysis does allow us to maintain the LP-rule in (4a), “lexical heads precede complements” with respect to prepositional lexical heads and object clitics. Thus it gives us a handle on the curious distribution of object clitics with respect to P^o which is in harmony with our analysis of preposition stranding in Dutch.

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²¹Of course the framework also accounts for the inverse phenomenon, where the filler is *et* and only the construction analogous to (28d) would be grammatical.