PREPOSITION STRANDING EVERYWHERE

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ABSTRACT: We discuss the R-form of scrambled pronominal P complements in Dutch and account for the restricted use of this construction using Optimality Theory. The fact that pronominal P complements that do not refer to humans scramble, and subsequently take up a spatial form is explained by the interaction of five constraints. According to ECONOMY and STAY, expressions should be economical and stick to basic word order; SCRAMBLE dictates pronominal constituents to appear more to the beginning of the sentence; PCASE says to mark the syntactic relationship between the preposition and its complement, and, finally, *RHUM expresses the inappropriateness of the combination of a human referent with a spatial form.
KEYWORDS: adpositions; pronouns; stranding; animacy.

1. INTRODUCTION

Postpositional constructions in Dutch are well-known for their use in marking directionality, as illustrated in (1-ab).

(1) a.　　Ik liep　　　in het bos.

　　　　　I walked　　in the forest

　　　　　'I walked (around) in the forest.'

　　b.　　Ik liep　　　het bos　　　in.

　　　　　I walked　　the forest　　in

　　　　　'I walked into the forest.'

The prepositional construction in (1-a) has a stative Place meaning, in which *het bos* 'the forest' serves as the stage of a walking event. In contrast, the postpositional construction (1-b) unambiguously has a Goal meaning in which *het bos* 'the forest' is the endpoint of a walking

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event.

However, the typical use of the postpositional construction is *not* the marking of directionality. Rather, it concerns PPs with a pronominal complement, as illustrated in (2-a).

(2) a.   Ik heb overal   aan gedacht
           I have everywhere   at   thought.
           'I thought of everything.'

     b.   Ik heb   aan   alles   gedacht.
           I have   at   everything   thought
           'I thought of everything.'

Just like in English, the object of the verb *denken* 'to think' is obliquely marked as a PP, using *aan* 'at'. In Dutch, the pronominal complement of the P can appear either to the right (2-b) or to the left of the preposition (2-a). Interestingly, the form of the object changes in the latter case: it becomes an R-word *overal 'everywhere'*, which normally expresses a location. In this paper, we will explain how this unexpected form comes about as the optimal solution to a conflict between several constraints. Much of the data we discuss have also been observed in previous work (cf. amongst many others van Riemsdijk, 1978; Bennis, 1986; Koopman, 2000; Helmantel, 2002; Abels, 2003). However, none of these approaches actually motivates the spatial form of the pronoun, which will be central to this paper.

In Section 2 we will briefly discuss the similarities and differences between constructions as in (2-b) and "standard" postpositional constructions as in (1-b). In Section 3 we will discuss the various principles that play a role in the construction of sentences such as in (2). For example, we will show how animacy factors interact with a general preference for pronouns to scramble, as this is how we analyze the difference between (2-a) and (2-b). The interaction of the di erent principles is shown to explain all variation in Section 4.

2. PREPOSITION STRANDING WITH R-PRONOUNS AND POSTPOSITIONS IN DUTCH

Unlike English, where preposition stranding is well-attested, Dutch has been argued to allow preposition stranding only when the object is a so-called R-pronoun such as *daar* 'there' in (3), which occurs to the left of the preposition (van Riemsdijk, 1978).

(3) Daar ben ik niet blij   mee.

there am I not   happy with

'I am not happy with that.'

Other R-pronouns that behave similarly are *er* 'there', *hier* 'here', *waar* 'where', but also quantifiers such as *ergens* 'somewhere', *nergens* 'nowhere', and *overal* 'everywhere', as shown above. By contrast, when the P complement is a full noun phrase, preposition stranding is not allowed.

(4) [%]Deze tent ben ik   niet   blij   mee.

This   tent am I   not   happy with

'I am not happy with this tent.'

Different proposals have been made to account for this observation (van Riemsdijk, 1978; Bennis, 1986; Koopman, 2000; Helmantel, 2002; Abels, 2003). For example, van Riemsdijk (1978) proposes a filter that rules out (R-)pronouns in the complement position of P. In order to escape this filter, the R-pronoun has to move to the specifier position of PP. Some apparent counterexamples to this obligatory movement of R-pronouns have been pointed out in the literature (cf. (5); Bennis, 1986; Helmantel, 2002).

(5) De   bus vertrekt   van hier.

the   bus leaves   from here

'The bus leaves from here.'

Helmantel (2002) assumes, following van Riemsdijk (1978), that the underlying position of an R-pronoun is to the right of the preposition, in accordance with the canonical structure of PPs in Dutch. Helmantel does not want to stipulate a filter like van Riemsdijk to account for the movement of an R-pronoun. She also rejects Koopman's (1997) proposal, who argues that the trigger for the movement of an R-pronoun is a "strong place feature" that attracts R-pronouns but not full noun phrases or PPs. Alternatively, Helmantel (2002) proposes that movement of the R-pronoun is semantically motivated to ensure an identity relation between the R-pronoun and a discourse referent. Thus, she accounts for the fact that in some cases R-words such as *hier* 'here' and *daar* 'there' can remain in the complement position of the preposition, as illustrated in (5) above. In this example, the R-word is deictic

(it gets a specific locative interpretation and can be replaced by a full PP) and therefore it can remain in its base position to the right of the preposition, according to Helmantel (2002). By contrast, canonical R-words have a "pronominal character", they are anaphoric ("integrated into the discourse with an identity relation", Helmantel 2002: 150) and they have to move to the left of the preposition in order to make the identity relation with the antecedent possible.

Although we agree with the first part of her claim (deictic pronouns being able to remain *in situ*), the second part does not seem to be right. Quantified R-pronouns, such as *overal* 'everywhere', *nergens* 'nowhere', and *ergens* 'somewhere', do not seem to be anaphoric, but still, they can move to the left of a preposition. Compare (6), where the object of the preposition is a quantified R-pronoun, to (7), where the object is a quantified noun phrase:

(6)   Ik heb overal   / nergens / ergens   aan gedacht.

        I   have everywhere / nowhere / somewhere at   thought

        'I thought of everything/nothing/something.'

(7)   Ik heb   aan alles   / niets   / iets   gedacht.

        I   have at   everything / nothing / something thought

        'I thought of everything/nothing/something.'

If Helmantel (2002) was right and R-pronouns had to move to the left of the preposition to get the right (anaphoric) interpretation, then we would predict a meaning difference between (6) and (7), in the sense that the quantifiers in (6) but not those in (7) should get an anaphoric interpretation. However, this prediction is not borne out, as the interpretations are the same in this respect. If the quantificational noun phrases in (7) are indeed not anaphoric, as we think, there is no trigger for movement of the R-pronouns in (6) in Helmantel's account. The following conversation from the he corpus of spoken Dutch (CGN; van der Wouden, Hoekstra, Moortgat, Renmans, & Schuurman, 2002) illustrates the possibility of an R-quantifier that is to the left of the P but that does not get an anaphoric interpretation:

(8) CGN: fv400687

        A: maar ik ken   ook iemand   die een   kat heeft op een appartement

           But   I   know also someone who a   cat has   on an   apartment

           Dan nog

than still

B:ja

  yes

A: uh nou met die kat is wel geen huis   te houden

  uh now with that cat is well no   house to hold

B: ah ja.   awel

  ah yes. well

A: dat   krabt   overal   aan

  that   scratches   everywhere   at

  'But I do know someone who has a cat in an apartment. Well, it's impossible to live with that cat. It scratches at everything.'

The quantifier overal in (8) does not refer to any explicit antecedent in the discourse and therefore should have stayed *in situ* according to Helmantel.

Instead, we will analyze the di erent word orders in more general terms, relating the alternation to the scrambling behavior of pronouns in the verbal object domain. More importantly, however, Helmantel, nor any other study we are aware of, accounts for the spatial form that is used in the postpositional construction. Again, this paper is mostly concerned with the semantic motivation of this spatial form.

Summarizing, we discern two types of adpositional alternations in Dutch: that between prepositional and postpositional constructions with full DP complements and that between prepositional and postpositional constructions with pronominal complements. The present paper is about the second type only. Before we get to our analysis, however, we probably have to motivate why the alternation with full DP complements is di erent and should be studied in isolation. Most importantly, the alternation with pronominal complements comes with a change of form of the pronominal complement: in the postpositional construction, the pronominal complement has an R-form. Such a change is unattested for full DP complements with postpositions. Secondly, the choice between the prepositional and postpositional constructions with full DP complements is semantically motivated (as illustrated in the first example of this paper), but the position alternation with pronominal complements is without a difference in meaning. Rather than having a semantic motivation, the latter type seems to be syntactically driven. The spatial *form* of the complement and the constructions for which the alternation is allowed, however, is semantically motivated as we will show.

Consider the following examples for concreteness:

(9) a.   *. . . dat Jan in dat loopt

        . . . that Jan in that walks

     'that Jan walks in that'

b.   . . . dat   Jan daarin   loopt

        . . . that Jan there.in walks

     'that Jan walks in that'

c.   . . . dat Jan met hem loopt

        . . . that Jan with him walks

     'that Jan walks with him'

d.   #/% . . .dat Jan daarmee loopt

        . . .   that Jan there.with walks

     intended meaning: 'that Jan walks with him/her'[2]

For (simple) pronouns with a nonhuman referent, the prepositional construction is ungrammatical (9-a).[3] Instead, the version in (9-b) should be used. Note that the ungrammaticality of the prepositional construction for pronominal complements does not hold for (9-c), which is perfectly grammatical unlike its postpositional counterpart (9-d). Human pronominal complements prefer the prepositional construction. However, the grammaticality judgments of (9-d) differ between speakers (hence the percentage sign). Some find it acceptable, while others find it ungrammatical beyond any doubt. This difference in grammaticality judgments can be captured in our analysis as we will show in Section 4.

As shown in (9), for simple pronominal complements only the postpositional construction is allowed. However, for quantificational pronouns both constructions are again possible without any difference in meaning, as was illustrated in (2) above.

In the following, we will account for the construction alternation of PPs with pronominal complements. We will explain the restrictions on the use of the two constructions and account for the unexpected R-form in the postpositional construction.

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[2] By hashes we mean that a form is inappropriate for the intended meaning but not un-grammatical per se.

[3] There are exceptions. With heavy contrastive stress on the pronoun and a deictic inter-pretation this construction seems to be allowed.

3. CONSTRAINTS

In this section we will introduce and motivate the constraints necessary for our analysis. Eventually, our analysis has to account for the fact that some but not all P complements appear in a postpositional construction and that objects in such a construction get a di erent shape, viz. a spatial one. We will propose that SCRAMBLE dictates pronominal constituents to appear more early in the sentence. Thus, pronominal complements scramble to the left of their P. PCASE says to mark the syntactic relationship between the adposition and its complement. If a complement scrambles, it has to take up a spatial form to mark it as belonging to the adposition. However, *RHUM expresses the inappropriateness of the combination of a human referent with the spatial form. According to the interaction of these constraint, P complements with a human referent should not scramble.

3.1 PCASE

We will analyze the difference between the two constructions in terms of scrambling. Müller (2002) defines scrambling as movement of an DP to an outer specifier of XP (vP in Müller's original proposal that concerns verbal objects). Müller argues that free word order is a prerequisite for morphological case, rather than the other way around as it is generally claimed. The details of his proposal are of no importance for our present purposes. What is important is that he argues in favor of a constraint CASE that says that "a DP at the edge of vP has morphological Case", in which *edge* is defined as the outer specifier of XP.

According to Müller, the constraint motivates the findings that (i) only languages that have free word order have morphological case (not the other way around) and (ii) not all objects that stay in base position receive morphological case. The latter point is most important for us and is illustrated in the following examples from Korean and Turkish.

Korean (Müller, 2002)

(10) a. Suna-ka nuku(-luˆl) manna-ss-ni ?
     Suna-nom who(-acc) meet-past-Q

   b. Nuku? *(-luˆl)i Suna-ka ti manna-ss-ni ?
     who(-acc) Suna-nom ti meet-past-Q
     'Whom did Suna meet?' [translation ours]

As illustrated in (10), in Korean, a direct wh-object may or may not bear a morphological case *in situ*; but it must bear morphological case when scrambled. We find a similar pattern in Turkish. In addition to structural position, the use of case in Turkish is sensitive to specificity. Specific objects, that is objects whose referent is presupposed by the speaker, bear accusative case; non-specific objects don't. Only accusative case marked objects can scramble. Zero marked objects have to remain *in situ*, directly adjacent to the verb, as illustrated in (11).

Turkish (Kornfilt, 2003, 127-128)

(11)   a.   Ahmet dün   akşam yag-tığ-ım   şahane bir
              Ahmet yesterday evening make-f.nom-1sg   fantastic a
              pasta-yı ye-di.
              cake-acc eat-past
              'Ahmed ate a fantastic cake which I made yesterday evening.'

        b.   Ahmet şahane (bir) pasta-yı dün   akşam   ye-di.
              Ahmet fantastic a   cake-acc yesterday evening eat-past
              'Ahmed ate a fantastic cake [+specific] yesterday evening.'

        c.   Ahmet dün   akşam   şahane   bir pasta ye-di.
              Ahmet yesterday evening   fantastic a cake   eat-past
              'Ahmed ate a fantastic cake yesterday evening.'

        d.   *Ahmet   (bir) pasta dün   akşam   ye-di.
              Ahmet   a   cake   yesterday evening eat-past
              Intended meaning: 'Ahmed ate (a) cake [–specific] yesterday evening.'

In (11-a), the specific object is case marked and directly adjacent to the verb. In (11-b), the case marked object scrambled. In (11-c), the nonspecific object remains caseless. As (11-d) shows, this unmarked object cannot scramble. Thus, objects that do not bear object case are confined to the immediate left of the verb, while objects that do bear accusative case marking may move around (Kornfilt, 2003, 127).

The motivation for Müller's (2002) CASE constraint is very simple. It could be seen as a faithfulness constraint that says to mark the relation between head and complement. If an object stands in canonical object position, the relation between a verb and its object is clear from word order. If the relation between a verb and its object is not clear from word order, the speaker should use case to express this relation. Otherwise, the hearer will not get

the right interpretation. As a result, only when the object has moved and the objecthood cannot be told from word order, morphological case is used (cf. Lestrade 2010 for more examples of this interaction).

This idea squares nicely with the distinction between strong and weak case, as proposed by de Hoop (1996). Weak case is seen as a structural default case, establishing a direct relation between a structural position and the type of case (cf. Vainikka & Maling, 1996). Objects that bear weak case may not move from their original (structural) position. Only strong case is inherited under movement and therefore only moved DPs that are marked with strong case can survive the case filter.

If we reformulate Müller's constraint to fit the PP domain we get:

(12)   PCASE: a DP at the edge of PP has morphological case.

In accordance with this constraint, P complements should show their relation to their governing P. The constraint is violated if the scrambled complement does not bear strong (spatial) case and vacuously satisfied for the prepositional construction.

PCASE takes care of the marking of the relation between a P and its object. For a number of Ps, this relation is basically spatial and the object of the P could in fact be seen as a place. To be more precise and following Kracht (2008), from the object first a location is derived that serves as the input for the preposition. The preposition then defines a region with respect to this location, like ABOVE, IN FRONT, etc. So the preposition does not directly select for an object, but for a place which can be derived from an object. The strong case form that is assigned to the scrambled object of these Ps reflects this locationhood, hence the spatial R-form (13).

(13)   Ik praat daar niet over.
           I talk   there not over
           'I don't talk about that.'

This strong R-form is only given to the scrambled pronominal objects of (originally) spatial Ps. An R-form cannot be given to full DPs as there is no such form available in the language (e.g., *de tafel-r* 'the table as a place').

Pronominal objects of temporal or abstract Ps cannot get a strong case either, because there is no such thing as an abstract or temporal pronominal form. Since these objects can

only satisfy PCASE in the prepositional construction, the postpositional construction is ungrammatical, as is illustrated in (14).

(14)   a. een periode gedurende   welke we een hoop hebben gedaan
          A   period   during   which we a   lot   did   done
          'a period during which we did a lot'
       b.   *een periode welke/waar gedurende we een hoop hebben gedaan
             a period   which/where during   we a   lot   did   done

We analyze the difference between prepositions that can have preposed pronominal complements with an R-form and those prepositions that cannot as a difference in (underlying) spatial meaning. However, as Zwarts (1997) shows, this cannot be the complete story. Although it is true that all prepositions of the former type ("type A" in Zwarts' terminology) are basically spatial, there are some prepositions of the latter type ("type B") with a spatial meaning that do not allow R-pronouns. Some examples are *benoorden* 'in the north', *beneden* 'beneath', and *nabij* 'near'. Zwarts (1997) explains the difference between the two types as a difference between simple versus complex prepositions, the latter being derived from other word classes like nouns, verbs, etc. Movement of the complement of type B prepositions is argued to be prohibited by certain locality constraints, whereas this is allowed for type A prepositions.

Note that if the relation can be marked by some other (strong) marker, the postpositional construction is possible. This is illustrated in (15), in which an old genitive form des is used that is pretty much obsolete otherwise.

(15)   a.   Ondanks   dat blijf ik je   aardig vinden.
                   notwithstanding that stay I   you nice   find
                   'Notwithstanding that, I still like you.'
           b.   Desondanks   blijf ik je   aardig vinden.
                   that.notwithstanding stay I   you   nice   find
                   'Notwithstanding that, I still like you.'
           c.   *Daarondanks   blijf ik je   aardig vinden
                   There.notwithstanding stay I you   nice   find

In sum, if the relation between an originally spatial P and its object cannot be told

from word order, the relation is made explicit by the spatial form the object receives. This is similar to the use of (strong) case for the verbal object, as was illustrated for Korean and Turkish. The basic spatial meaning of these PPs is often lost in the metaphors the PP is used in.

Obviously, this constraint does not yet explain all variation described above. We still need a motivation for why only some objects scramble. The next constraint we introduce concerns scrambling.

3.2 SCRAMBLE

We think the postpositional construction with pronominal complements should be analyzed in terms of scrambling. Generally, pronouns are placed closer to the beginning of the sentence. This observation, which is generally accepted for pronominal complements of verbs, also explains the variation of our present concern.

Scrambling is a term initially used in the linguistic literature in phenomena of free word order (cf. e.g. the contributions to Karimi, 2003). As already became clear in the previous section, we use it for position alternations of the pronominal P complement. Note that we do not really adopt a movement analysis of the alternation between the prepositional and postpositional construction. We merely use the term *scrambling* as a convenient descriptive term for variation in word order.

Scrambling of pronominal direct objects in Dutch involves a very simple scrambling constraint SCRAMBLE (as proposed by de Hoop, 2003) that says that pronouns scramble:

(16)　　SCRAMBLE: Pronouns scramble

De Hoop (2003) uses the constraint for the almost obligatory scrambling of a pronominal object across an adverb, as illustrated in (17).

(17)　　a.　　Ik heb hem gisteren gezien.
　　　　　　　I have him   yesterday   seen
　　　　　　　'I saw him yesterday '
　　　　b.　　#Ik heb   gisteren   hem gezien.
　　　　　　　I have yesterday   him seen

Here we use the same constraint to account for the occurrence of an R-pronoun to the left of the adposition. We believe it is not a coincidence that elements that scramble to the left of an adverb in Dutch also tend to scramble to the left of a preposition. The only difference is that they take a di erent form in the latter case, viz. the form of an R-pronoun.

We gloss over the exact motivation for pronouns to scramble, the preference probably being motivated by harmonic alignment principles like end-weight, topic-first, and old-precedes-new.[4] These principles all state that short, anaphoric, easily processed items should come first (cf. van Bergen & de Swart, to appear; Bresnan, Cueni, Nikitina, & Baayen, 2007, and the references cited therein). Whatever the exact motivation for scrambling is, it similarly applies to both scrambling over adverbs, illustrated in (17), and scrambling over adpositions, as discussed in this paper.

Quantificational pronouns optionally scramble, and are thus in between pronouns that scramble almost obligatorily, cf. (17), and (indefinite) full DPs that hardly ever scramble (cf. van Bergen & de Swart, to appear), as illustrated in (18).

(18)　　a.　　Ik heb gisteren　alles　　gezien.
　　　　　　　I have yesterday　everything　seen
　　　　　　　'I saw everything yesterday.'
　　　　b.　　Ik heb　alles　　gisteren　gezien
　　　　　　　I　have everything yesterday seen
　　　　　　　'I saw everything yesterday.'
　　　　c.　　Ik heb　gisteren　een　man gezien.
　　　　　　　I　have yesterday een　man seen
　　　　　　　'I saw a man yesterday '
　　　　d.　　#Ik　　heb een man　gisteren　　　gezien.
　　　　　　　I　　　have a man　yesterday　　　seen

The optionality for quantificational pronouns to scramble is also observed in the adpositional domain (cf. (2) and the appendix to this paper), and will be important for our analysis in Section 4.

It is understandable that quantifier R-words behave like pronouns to a certain extent as

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[4] Also, stress plays a role, as unscrambled pronouns tend to receive stress (for a detailed discussion of the behavior of pronouns with respect to stress and scrambling, see Bouma & de Hoop, 2008).

they could be said to be partly *pronominal* in the literal sense, 'coming in the place of the noun'. Just like pronouns, they are sensitive to the animacy of their antecedent/referent. For example, *alle-* 'all' refers to nonhumans or humans depending on its form, cf. (19-b) and (20-b).

(19)   a.   Ik heb alle dingen gezien (non-pronominal)

              I have all   things seen

        b.   Ik heb alles   gezien (pronominal)

              I   have everything seen

              'I saw everything'

(20)   a.   Ik heb alle mensen gezien (non-pronominal)

              I have all   people seen

        b.   Ik heb allen   gezien (pronominal)

              I have everyone   seen

              'I saw everyone'

The constraint SCRAMBLE thus requires simple pronouns as well as quantificational pronouns to scramble, yet not to the same extent. The pressure put upon quantificational pronouns to satisfy the constraint is less than on ordinary pronouns. This is reflected in the optionality observed in the Dutch adpositional alternation. Both the scrambled and the unscrambled constructions are well-formed for quantificational (inanimate) pronominal complements, whereas only the scrambled variant is well-formed for ordinary (inanimate) pronominal complements.

We leave a more detailed account for the difference between the scrambling behavior of simple and quantificational pronouns for future research, simply assuming optionality for quantificational pronouns. Technically, this is done by the evaluation of the violation pattern on the equivalent constraints SCRAMBLE and STAY. This latter constraint is very often used in OT literature and says that sentences should conform to the canonical word order (Grimshaw, 1997).

(21)   STAY: Stick to the basic word order.

In our analysis, scrambled full NPs violate STAY twice, scrambled quantificational pronouns violate it once, and scrambled simple pronouns do not impose a violation. The

exact opposite pattern holds for SCRAMBLE. Unscrambled pronouns violate this constraint twice, quantificational pronouns once, and full NPs zero times. This is illustrated in the following tableau.

INPUT: simple pronoun	STAY	SCRAMBLE
☞ Scrambled unscrambled		**
INPUT: quantificational pronoun	STAY	SCRAMBLE
☞ Scrambled	*	
☞ unscrambled		*
INPUT: indefinite NP	STAY	SCRAMBLE
Scrambled	**	
☞ unscrambled		

Tableau 1: The interaction of SCRAMBLE and STAY

At this point, our three constraints dictate the scrambling behavior of pronominal complements and the spatial form of those P complements that do. However, not all objects that should scramble according to what we said so far in fact do. A fourth and final constraint is necessary to account for this.

3.3 ANIMACY: *RHUM

Despite the tendency of pronominal elements to scramble and to take up a spatial form in Dutch, there is a separate group of pronouns that are not subject to this rule. In Dutch, pronouns that refer to animate objects do – as a rule of thumb – not turn into R-pronouns and refrain from appearing to the left of the P. Compare the sentences with inanimate pronouns to the pronouns with animate referents in (22):

(22)　　a.　　Ik eet *met het / √er　　mee.

　　　　　　　I eat with it / there　　with

　　　　　　　'I eat with it.' (e.g. a fork)

　　　b.　　Ik eet √met hem / #er　　mee.

　　　　　　　I eat with him / there　　with

　　　　　　　'I eat with him.'

The above division also holds for quantified pronouns, as can be seen in (23) for inanimate referents and animate ones, although the R-pronominalization of quantified pronouns is optional, as explained earlier:

(23)   a.   Ik praat   over alles   / overal   over
                I   talk   about everything / everywhere about
                'I talk about everything'

        b.   Ik praat   √over iedereen/ #overal   over
                I   talk   about everyone / everywhere about
                (intended meaning:) 'I talk about everyone'

Thus, there seems to be a constraint that prohibits pronouns with animate referents from being expressed with a postpositional construction. However, as this involves both a change of word order on the one hand and a change to an R-pronoun on the other, the question is which of these blocks the postpositional construction for pronouns with animate referents. Since there is no restriction on the scrambling of animate pronominal objects in the adverbial type, the constraint should be on the combination of a spatial form with a human referent.

An interesting account of how locative forms and animate referents are indeed connected is given by Kuryëowicz (1964) and Aristar (1996). According to Kuryëowicz (1964, 190,191), the dative "is genetically nothing more than an offshoot of the locative used with personal nouns" and the dative "owes its origin to the semantic split of the locative entailed by the possibility of its having either a primary or a secondary (figurative) meaning when used with personal nouns".

Aristar (1996) provides typological evidence for Kurylowicz's proposal that the locative and dative cases are animacy oriented variants. There are languages in which the dative and locative reflect complementary patterns of markedness: a locative is unmarked when it occurs with an inanimate nominal but marked when it occurs with an animate nominal or pronominal; the dative is unmarked when it occurs with an animate and marked when it occurs with an inanimate nominal (Aristar, 1996). In the following example, this is illustrated for Kuvi.

Kuvi (Aristar 1996: 215)
  (24) a.   āyana-ki
             woman-dat

'to the woman'
b.   ilu   ta-ki
house P-dat
'to the house'
c.   āyani   taïa
woman.gen   P-loc
'at the woman's place'
d.   ilut-a
house-loc
'at the house'

In Kuvi, the dative is unmarked with humans; nonhumans need a postposition as a linking marker ("bridge morpheme") for this case (24-a-b). For the locative, the markedness pattern is reversed. The humans need a postposition as a bridge morpheme, whereas the locative is directly attached to nonhumans (24-c-d). Moreover, the literal meaning of a locative construction with a human referent is a circumlocution (24-c).

Thus, the markedness of certain combinations becomes clear from morphological markers (the marked combination having a more elaborate form or using bridge morphemes) and/or semantic reanalysis (the marked combination having a di erent interpretation). Also, there are many languages in which the cases which mark local, spatial relationships differ from the dative in the type of noun they can combine with. In these languages, the dative virtually always occurs on animate nouns while the local cases occur on inanimates; having a dative on an inanimate noun or having a local case on an animate noun yields ungrammaticality. Apparently, words with animate referents resist a locative form or don't like to be used as a location. This is perfectly understandable from a functional perspective in which spatial expressions are used to locate objects in space. The more movable some object is, the less suitable it is for this function. Prototypical reference objects have a stationary setting (cf. Talmy, 2000).

This observation explains the variation we find in the Dutch pronominal domain too. Consider the following table adapted from Broekhuis (2002):

+Human		-Human	
-Loc	+Loc	-Loc	+Loc

die		dat	daar
wie		wat	waar
iemand		iets	ergens
iedereen		alles	overal

Table 1: Locative pronominal forms in Dutch

As illustrated in Table 1, the locative form is only available for nonhumans in Dutch; not for humans. We will capture this principle in a constraint *RHUM, which is nothing but the Dutch instance of the general principle observed by Kuryëowicz (1964), Aristar (1996), and Talmy (2000):

(25)   *RHUM: Do not refer to humans with an R-form.

This constraint explains why pronominal complements with a human referent can only appear in a prepositional construction. If a human pronoun scrambles out of the P complement position because of SCRAMBLE, the constraint PCASE would dictate the locative form. However, this form is not allowed by *RHUM. In the next section, the interaction of these constraints will be made explicit.

4. AN OT ANALYSIS

In this section, we will give our optimality theoretic analysis of the variation described above. First consider PPs with pronominal complements, again illustrated in (26) for convenience.

(26)   a.   *. . . dat   Jan in dat   loopt
                . . . that Jan in that walks
         'that Jan walks in that'
         b.   . . . dat   Jan daarin   loopt
                . . . that Jan there.in   walks
                'that Jan walks in that'
         c.   . . . dat   Jan met hem loopt
                . . . that Jan with him walks

'that Jan walks with him'

    d.   #. . . dat   Jan daarmee   loopt

        . . . that Jan there.with walks

        intended meaning: 'that Jan walks with him'

In Dutch, pronominal complements with human referents do not scramble, whereas pronominal complements with nonhuman referents do. Tableau 2 illustrates how our constraints account for this. Given the scrambling data discussed in Section 3.2, we analyze pronouns and R-forms that do not scramble as violating SCRAMBLE twice.

(27)   Ik heb   op hem gewacht.

        I   have on him   waited

        'I have waited for him.'

INPUT: human pro	*RHUM	PCASE	SCRAMBLE	STAY
☞ op hem			**	
op daar	*		**	
hem op		*		
daar op	*			

Tableau 2: Optimization of pronominal PP complements with human referents

Among the candidates that are in competition to express a pronominal PP complement with a human referent, the candidate *op hem* has the best violation pattern and therefore becomes optimal. The candidate *op daar*, in addition to the number of violations of SCRAMBLE it shares with the first candidate, violates the most important constraint *RHUM. Although the third candidate does not violate SCRAMBLE, the relation between the complement and the governing P is no longer clear, violating PCASE. The fourth candidate does show this relation but this is at the cost of the constraint *RHUM, making it ungrammatical too.

Ranking the constraint *RHUM lower accounts for the judgments of those speakers mentioned in Section 2 that allow for an R-form for humans. Since this construction is most feasible for relative pronouns, the candidates differ slightly from the previous tableau.

(28)   het meisje   waar   ik van houd

            the girl   where I of   love

            'the girl I love'

The constraint to avoid a spatial form for a human is no longer decisive. PCASE rules out *wie van*, and among the remaining candidates, there is only one that does not violate SCRAMBLE. Notwithstanding the human referent, the optimal form for the relative pronoun (for these speakers) becomes *waarvan*

INPUT: human pro	PCASE	SCRAMBLE	STAY	*RHUM
van wie		**		
van waar		**		*
wie van	*			
☞ waar van				*

Tableau 3: Deranking *RHUM

'whereof'.

Now consider the optimization process of pronominal PP complements with nonhuman referents in Tableau 4. In this competition, *RHUM is vacuously satisfied as this constraint only applies to human inputs. Again, an unscrambled pronoun causes a double violation of SCRAMBLE. This time however, the double violation is fatal as there is a candidate with a better violation pattern, namely *daar op*. Since *RHUM does not apply in this competition, the scrambled variant is the best strategy here.

INPUT: nonhuman pro	*RHUM	PCASE	SCRAMBLE	STAY
op hem			**	
op daar			**	
hem op		*		
☞ daar op				

Tableau 4: Optimization for pronominal PP complements with *non*human referents

PPs with quantificational complements behave slightly di erently from PPs with pronominal complements. They scramble optionally, as illustrated in (29).

(29)   a.   . . . dat   Jan overal   in loopt

. . . that Jan everywhere in walks

'that Jan walks in everything'

b.   . . . dat   Jan in alles   loopt

. . . that Jan in everything walks

'that Jan walks in everything'

As discussed above, quantifiers violate both the scrambling constraint and STAY once. The optimization procedure for human referents is illustrated in Tableau 5. Since we are dealing with a human input in this optimization, *RHUM becomes of importance again. Just like for the first competition, the first candidate has the best violation pattern and therefore becomes optimal.

The optimization procedure for nonhuman referents is illustrated in Tableau 6. Again, *RHUM does not apply in this competition and therefore the scrambled option is a good strategy if the relation between the P and the complement stays marked.

In principle, there are three candidates that satisfy this condition. Of these candidates, however, the second can be said to violate an economy constraint. This constraint could have been added to all previous tableaux, but becomes only relevant now. Its violation by *in overal* can be explained in two ways.

INPUT: human quant	*RHUM	PCASE	SCRAMBLE	STAY
☞ in alles			*	
in overal	*		*	
alles in		*		*
overal in	*			*

Tableau 5: Optimization for PPs with human *quantifier* complements

INPUT: nonhuman quant	*RHUM	PCASE	SCRAMBLE	STAY	ECONOMY
☞ in alles			*		
in overal			*		*
alles in		*		*	
☞ overal in				*	

Tableau 6: Optimization for PPs with *non*human quantifier complements

First, using a spatial form for a nonspatial referent is an unnecessary operation if the syntactic relationship of this constituent is already clear from word order. Second, it suffices to mark the spatial function of a constituent only once in Dutch. If *overal* expresses spatial meaning already, the use of *in* becomes redundant.

Before concluding this paper, we wish to briefly mention similar construction alternations in the related languages English and German. English' *herewith*, *hereby*, and *therefore* are reminiscent of a similar process. However, except for a few standard expressions, the use of postpositional constructions with R-complements is archaic and formal, and seems to be no longer productive. The first example in (30) is from Yeats, the second from a US patent and trademark office (boldface is ours).[5]

(30) a. You that would judge me, do not judge alone this book or that, come to this hallowed place where my friends' portraits hang and look **thereon**; Ireland's history in their lineaments trace; think where man's glory most begins and ends and say my glory was I had such friends.

   b. Sequence Listings and Tables Related **Thereto** in International Applications Filed in the United States Receiving Office

In German, simple pronouns obligatorily scramble and take up an r-form (31-a). Quantificational pronouns behave similarly, but their syntactic relationship is additionally marked on the adposition (31-b) (examples are taken from the Tübingen Treebank of spoken German):

(31)   a.   das stimmt   allerdings, darauf   sollte   man in der heutigen
                that corresponds certainly   there.on should man in the present
                Zeit auch achten
                time also take.care
                'that's right of course, one should take care of that in these times'
         b.   da   können wir es irgendwo   reinlegen
                there can   we it somewhere there.in.put
                'over there, we can put it in somewhere'

---

5. CONCLUSION

In this paper, we motivated the R-form of scrambled pronominal P complements and accounted for the restricted use of this construction. We have explained the attested variation by means of five constraints. ECONOMY and STAY are very general constraints that are often used in OT literature and that say that expressions should be economical and stick to basic word order. SCRAMBLE dictates pronominal constituents to appear more to the beginning of the sentence. PCASE says to mark the syntactic relationship between the preposition and its complement. Finally, *RHUM expresses the inappropriateness of the combination of a human referent with a spatial form. The latter two constraints are language and domain specific instances of more general constraints that have been proposed independently of our present purposes.

The interaction of these constraints accounts for the fact that pronominal complements of adpositions that do not refer to humans scramble, and subsequently take up a spatial form to mark their syntactic relationship.

APPENDIX

In Table 2 the corpus counts from the syntactically annotated part of the CGN are given for some nonhuman complements. As one can see the total number of scrambled complements is much higher than that of unscrambled ones. More interesting, however, is the difference between, on the one hand, *iets/ergens* 'something' and *alles/overal* 'everything' and, on the other hand, *dat/daar* 'that'. As we argued in Section 3.2, unscrambled pronominal P complements violate the constraint SCRAMBLE more seriously than quantifier P complements, which is reflected in our frequency counts. Whereas the numbers of the scrambled versus unscrambled versions of quantifier complements are more or less the same, the unscrambled variant of the pronominal complement dat/daar 'that' appears in only 1% of the examples.

Note that the numbers for the pronomominal complements are in fact a serious underestimation. By convention in Dutch, the combination of a P and a scrambled pronominal complement is written as one word (32).

(32)   en   als je   die   erbij   optelt

and if   you those   there.at add

'and if you add those to that'

This does not hold for scrambled quantifier complements, however. The number of the scrambled pronominal complements in Table 2 only concerns those instances in which the complement is nonadjacent to the P. This is due to technical reasons as constructions like *erbij* 'at that' are analyzed as adverbials in the CGN. Including these constructions would make the tendency for pronominal complements to scramble even bigger.

Not listed in Table 2 are 24 uses of unscrambled *daar* 'there'. These are all used deictically, as illustrated in (33).

(33) en   vanuit Leuven naar naar daar   hè

and from Leuven to   to   there right

'and from Leuven to there, right'

	unscrambled				scrambled			
	alles	*iets*	*dat*	total	*overal*	*ergens*	*daar*	total
van 'of'	22	1	6	34	1	3	336	346
voor 'for'	10	5	4	31	2	4	371	377
met/mee 'with'	7	4	4	16	3		319	322
in 'in'		1	1	6	1	1	1	232
beneden 'downstairs'	5			5			1	1
op 'on'		3	1	5	4	2	1	237
boven 'above'	4			4			1	1
over 'over'		2		3		4	237	242
naar 'to'		1	1	2			40	40
bij 'at'				1	2	2	141	145
binnen 'inside'			1	1			4	4
door 'through'				1			9	9
other Ps				0	5	10	451	466
Total	48	17	21	109	18	26	2126	2179

Table 2: CGN Corpus counts

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