ADJECTIVES AND ARGUMENT STRUCTURE

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0 Introduction*

A great deal of attention has been lavished on the argument structure of verbs and nouns, particularly on the way in which the arguments are projected into the syntactic structure. Hardly any attempt has been made to investigate the argument structure of adjectives. There may be various reasons for this. It might be the case that the A-structure of adjectives is considered to be uninteresting in that the variation of adjectival A-structures is too limited to offer any insight in the relationship between the lexicon and the syntax. On the other hand it might be the case that adjectival A-structures are considered too complicated to be the subject of an interesting debate on the way arguments are projected into syntactic structures. It is the goal of this paper to show that considerations of this type are mistaken. I will try to demonstrate that there exists an interesting, but limited amount of variation in the way arguments are aligned in adjectival phrases. Moreover, I will argue that a major part of the theory on the projection of arguments within verbal projections can be transferred to adjectival projections. In the discussion on the argument structure of verbs a lot of attention has been paid to the argument structure of psychological verbs. I will provide evidence that a discussion of the A-structure of adjectives deepens our insights in the structure of psych-predicates and that another view on psych-verbs is called for.

In section 1 I will discuss the existence of a class of ergative adjectives in Dutch (cf. Cinque 1989, 1990). It will be demonstrated that there are a number of arguments supporting the claim that the class of adjectives should be divided into ergative and unergative adjectives. This will lead us to an interesting paradox. A large number of adjectives that are unergative according to the tests provided in section 1, appear to be ergative with respect to their argument structure. These adjectives have a Theme-subject. If we assume that alignment of arguments proceeds in agreement with general principles such as the Universal Alignment Hypothesis, and if we adopt the unmarked position that the alignment of arguments in adjectival projections does not differ substantially from the alignment in verbal projections, it follows that a Theme-subject should be a derived subject, i.e. adjectives with Theme-subjects should be ergative in the relevant sense.

In section 2 I will discuss adjectival predicates that involve the attribution of mental properties (MP-adjectives, cf. Stowell 1991). These adjectives may have a Theme-subject. It will be demonstrated that the two ways in which the arguments can be aligned with adjectives of this type correlate with rather distinct syntactic properties. This will lead us to postulate a complex structure for the cases in which the Theme appears as the subject of the adjectival predicate.

In section 3 I will demonstrate that psychological adjectives are similar to MP-adjectives in most respects. The major difference is that most Psych-adjectives are either simplex, i.e. the Experiencer is the subject, or complex, the Theme is the subject. For the complex cases I will argue that the paradox mentioned above can be solved by adopting an analysis in which these constructions are lexically ergative and syntactically unergative. Such an analysis results in a three way distinction of adjectives with respect to their A-structure. Adjectives may be a) unergative, b) lexically, but not syntactically ergative or c) lexically and syntactically ergative.

After this discussion we are in a position to discuss the problem of psychological verbs. An important observation is that psychological adjectives do not allow an Experiencer object to be realised as an NP. This is particularly striking in the case of present participles of psychological verbs. The non-occurrence of EO-NPs in adjectival predicates cannot be due to the general impossibility of adjectives to assign inherent Case, given that indirect object NPs do appear in adjectival phrases. Nevertheless, the correlation between the possibility to realise an Experiencer object and the categorial status of the predicate

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(V vs A) calls for an explanation in terms of Case theory. I will argue that this leads to an analysis of psychological verbs which is somewhere in between the analysis of Belletti & Rizzi (1988) and that of Pesetsky (1990).

1 Ergative adjectives

In recent work Cinque (1989, 1990) argues that the class of adjectives should be divided into ergative and non-ergative adjectives. He provides a number of tests for both Italian and German to determine whether an adjective is ergative. In this section I will argue that the same distinction is also motivated for Dutch. In addition to the criteria discussed by Cinque, which can be applied to Dutch only partially, I will provide a number of other criteria which can be used to make the relevant distinction.

1.1 NE-cliticization

Cinque (1990) shows that the presence of the clitic *ne* divides the class of adjectives into two groups. With adjectives such as *noto* ('well-known'), *chiaro* ('clear') and *probabile* ('probable') a post-verbal subject with an empty head requires the presence of *ne*, whereas *ne* leads to ungrammaticality in constructions with adjectives such as *buono* ('good'), *pericoloso* ('dangerous') and *ingiusto* ('unjust'). This is illustrated in (1).

- (1) a Ne_i sono note [solo alcune e_i]
 Of-them are well-known only some
 b. * Ne_i sono pericolosi [molti e_i]
 Of-them are dangerous many

This is an important argument in favour of an ergative - unergative distinction in Italian adjectives, given that the same difference in the presence of *ne* is one of the strongest arguments in favour of the distinction between ergative and unergative verbs in Italian, as is extensively discussed in Burzio (1986) and Belletti & Rizzi (1981). Unfortunately this argument cannot be duplicated for Dutch. Although Dutch has a weak pronoun (*er*) which is similar to Italian *ne* in many respects (cf. Bennis 1986, Ch.3), this pronoun does not discriminate between ergative and unergative subjects. It is required in both cases, as is illustrated by the Dutch sentences in (2).

- (2) a dat *(er_i) [slechts enkele e_i] bekend zijn
 that there only some well-known are
 b dat *(er_i) [veel e_i] gevaarlijk zijn
 that there many dangerous are

1.2 Embedded verb second

The major argument of Cinque (1989) to claim that the ergative - unergative distinction can be found in German as well is that adjectives such as *klar* ('clear'), *bekannt* ('well-known') and *sicher* ('sure') are compatible with an embedded subject clause with verb second, whereas adjectives such as *peinlich* ('unpleasant'), *wichtig* ('important') and *gefährlich* ('dangerous') do not allow verb second subject clauses. This is shown in (3).

- (3) a Es ist klar [er wird kommen]
 It is clear he will come
 b *Es ist peinlich [er wird kommen]
 It is unpleasant he will come

Cinque demonstrates that embedded verb second clauses can only be found in the complement of lexical categories. It thus follows that the embedded clause is a complement in (3a), but not in (3b), which is a

consequence of the fact that *klar* is an ergative adjective and *peinlich* an unergative one. Again, this argument cannot be duplicated for Dutch given that embedded verb second clauses are ungrammatical in general¹.

1.3 AS-clauses

In addition to these arguments, Cinque provides two other arguments that are relevant for an ergative - unergative distinction in Dutch. Following Stowell (1987) he argues that in constructions corresponding to the English *as*-construction the empty position in the *as*-clause can only be a CP generated in object position. This is shown for English, Italian, German and Dutch in (4) and (5).

- (4) a As I said e, he will not come
 b Come ho detto e, lui non verrà
 c Wie ich e sagte, wird er nicht kommen
 d Zoals ik e zei, zal hij niet komen
- (5) a *As e demonstrates his innocence, John was abroad
 b *Come e dimostra la sua innocenza, Gianni era all'estero
 c *Wie e seine Unschuld beweist, war Hans im Ausland
 d *Zoals e zijn onschuld bewijst, was Jan in het buitenland

The same construction can be used to make a distinction between ergative and unergative adjectives. This is also true for Dutch, as is shown in (6)-(7).

- (6) a As is well-known, John has won the prize
 b Come è noto, Gianni ha vinto il premio
 c Wie bekannt ist, hat Hans den Preis gewonnen
 d Zoals bekend is, heeft Jan de prijs gewonnen
- (7) a *As is surprising, Mary has not yet left
 b *Come è sorprendente, Maria non è ancora partita
 c *Wie überraschend ist, ist Marie noch nicht abgefahren
 d *Zoals verrassend is, is Marie nog niet vertrokken

The acceptability of (6) indicates that the empty position in the *as*-clause appears in object position. This can only be true if these adjectives are ergative.

1.4 The presence of ES/HET

Another argument for German can be derived from the presence of *es*, as Cinque observes. If a postverbal subordinate clause is related to a D-structure subject the presence of *es* is obligatory, whereas the presence

¹ Although embedded verb second clauses are considered to be ungrammatical in Dutch, there exists a contrast between embedded verb second in object position and embedded verb second in subject position, as shown in (i) and (ii).

- (i) a *Het bewijst mijn gelijk, [hij is op tijd aanwezig]
 It proves my right he is on time present
 b ??Het valt mij op, [hij is op tijd aanwezig]
 It strikes me he is on time present
- (ii) a *Het is belangrijk, [hij zal op tijd aanwezig zijn]
 It is important he will on time present be
 b ??Het is duidelijk, [hij zal op tijd aanwezig zijn]
 It is clear he will on time present be

In those cases it appears to be the case that the embedded main clause is right dislocated. Nevertheless, the difference in acceptability can only be due to the difference between ergative and unergative predicates in the matrix clause.

of *es* is optional if the clause is related to a D-structure object. This is also true for Dutch, as is demonstrated in (8) and (9).

- (8) a dass *(es) seine Unschuld beweist, dass Hans im Ausland war
 b dat *(het) zijn onschuld bewijst dat Jan in het buitenland was
 that (it) his innocence proves that John abroad was

- (9) a Ihm ist (es) eingefallen [dass Hans ihn besuchen würde]
 b Hem is (het) te binnen geschoten [dat Jan hem zou bezoeken]
 Him is (it) occurred that John him would visit

The reason for the contrast between (8) and (9) is that the subject position is an NP position, whereas both NP and CP can be generated in object position. In (9) the D-structure object is either the pronoun, in which case the postverbal CP is an adjunct indirectly related to the object position and the pronoun has to be moved to subject position in order to receive Case (cf. Bennis 1986, Ch.2), or the subordinate clause itself, in which case the matrix clause remains subjectless. In (8) only the pronoun may appear in subject position. Given that Dutch and German are not pro-drop languages, it is impossible to drop the pronoun in subject position². The same asymmetry in the possibility to leave out the pronoun *es/het* is found with adjectives, as is demonstrated in (10) and (11).

- (10) a Jetzt ist *(es) peinlich dass wir ihm helfen müssen
 b Nu is *(het) pijnlijk dat wij hem moeten helpen
 Now is (it) embarrassing that we him must help

- (11) a Jetzt ist (es) klar dass wir ihm helfen müssen
 b Nu is (het) duidelijk dat wij hem moeten helpen
 Now is (it) clear that we him must help

This contrast can be explained straightforwardly if we assume that adjectives of the type *klar/duidelijk* are ergative. This analysis is corroborated by the fact that in Dutch wh-extraction from the subordinate clause is possible in sentences such as (11b), whereas extraction from the *dat*-clause is hardly possible in (10b).

- (12) a ??Waar_i is (het) pijnlijk dat Jan over t_i heeft gesproken
 Where is (it) embarrassing that John about t has spoken
 b Waar_i is (het) duidelijk dat Jan over t_i zou spreken
 Where is (it) clear that John about would speak

As shown in Bennis (1986) extraction from subordinate clauses in Dutch is possible from clauses that are D-structure objects only. This again argues for an analysis in which the subordinate clauses in (11) and (12b), but not in (10) and (12a), are generated in object position.

Below I will provide several other arguments that demonstrate that adjectives of the type *duidelijk* differ from adjectives of the type *pijnlijk*. This distinction can be explained if we accept the idea that the class of adjectives can be divided into ergative and unergative adjectives.

1.5 Embedded questions

The selection of embedded questions is generally considered to be lexically determined. A matrix verb determines whether a complement clause may or may not appear as an embedded question. Other properties

² This account of (8) and (9) differs from the argumentation in Cinque (1989). He accounts for these facts in terms of the theory of Cardinaletti (1988), who claims that German allows pleonastic pro in particular positions only. Given that in both theories the contrast between (8) and (9) is explained by the D-structure position of the subordinate clause, I will not discuss these different analyses here.

of the matrix clause, such as the presence of negation or modality, may also influence the status of the complement clause. However, these factors do not appear to influence the status of a subject clause. This is shown in (13).

- (13) a Jan vraagt zich af / vertelt niet *of* / *wanneer* zij weggaat
 Jan wonders / tells not if / when she leaves
 b *Dat* / **Of* / **Wanneer* Jan weggaat bewijst zijn onschuld niet
 That / Whether / When John leaves proves his innocence not

We find that with ergative adjectives of the type *duidelijk* the status of the subordinate clause can indeed be influenced by factors such as negation, whereas other adjectives do not allow embedded questions, as shown in (14)³.

- (14) a Het is onzeker / onduidelijk *dat* / *of* / *wanneer* Jan weggaat
 It is unsure / unclear that / if / when John leaves
 b Het is onaardig / ongevaarlijk *dat* / **of* / **wanneer* Jan weggaat
 It is unkind / undangerous that / if / when John leaves

This again shows that the embedded clause is related to the object position in (14a), but not in (14b).

1.6 Object clauses

Several adjectives allow sentential objects in combination with a referential subject. We do not expect ergative adjectives to show up with both a subject and an object. It is indeed the case that *duidelijk* and other ergative adjectives do not allow object clauses. Some examples are given in (15).

- (15) a Jan is bang / bereid / begerig [om PRO dat te zeggen]
 John is afraid / ready / eager [for PRO that to say]
 b *Jan is duidelijk / bekend / aannemelijk [om PRO dat te zeggen]
 John is clear / well-known / plausible [for PRO that to say]

1.7 The indirect object and Inversion

The occurrence of indirect objects in adjectival constructions in Dutch is quite remarkable. There are two different construction-types in which indirect objects may appear. If the surface subject is the Theme-argument only ergative adjectives allow the indirect object to be realized as an NP. The other construction concerns a subclass of the adjectives denoting mental properties (cf. section 2). Examples are *gehoorzaam* ('obedient'), *trouw* ('faithful') and *behulpzaam* ('helpful'). If these adjectives appear with a non-Theme subject, an indirect object is possible. These constructions are illustrated in (16) and (17).

- (16) a dat deze opmerking (mij) duidelijk / bekend is
 that this remark (me) clear / well-known is
 b dat deze opmerking (*mij) gemeen / kinderachtig is
 that this remark (me) mean / childish is
 c dat deze opmerking (*mij) moeilijk / interessant is
 that this remark (me) difficult / interesting is

³ There are some problematic cases which appear to show that unergative adjectives allow embedded questions as well. It concerns adjectives such as *(on-)belangrijk* ('(un-)important'). These adjectives belong to the class of 'psychological adjectives', discussed in section 3. In general it is a problem that adjectives do not limit themselves to the membership of one class only, as will be clear later on. I would like to claim that adjectives such as *(on-)belangrijk* may be ergative, and must be ergative in the cases in which they appear in construction with an embedded question. An argument in favour of such an analysis is that the addition of an embedded question causes the implicit argument, which is otherwise present, to be absent. This can be derived from the fact that an embedded question can only marginally appear together with a *voor*-phrase ('for') and that these adjectives do not allow infinitival questions.

- (17) a dat Jan (mij) gehoorzaam / trouw is
that John (me) obedient / faithful is
b dat die opmerking (*mij) gehoorzaam / trouw is
that this remark (me) obedient / faithful is

The facts in (16) and (17b) illustrate that an indirect object may be present in combination with a Theme-subject in the case of ergative adjectives only. The MP-adjectives in (16b) and (17b) and the psychological adjectives in (16c) do not allow an indirect object to be present. This is particularly striking in the case of the adjectives in (17). The contrast between (17a) and (17b) indicates that we cannot ascribe the occurrence of indirect objects with ergative adjectives to an accidental property regarding the argument structure of adjectives. The ungrammaticality of the indirect object in (17b) must be due to a more general principle. I will come back to this in section 2. For our purposes here it suffices to establish that ergative adjectives can be distinguished from other adjectives by their possibility to accommodate an indirect object. Although this is in itself sufficient to support the distinction made above, these facts allow us to construe an argument that strongly favours an ergative analysis of the adjectives of the type *duidelijk*. As is well-known from the literature (cf. Den Besten 1982, Everaert 1982, Hoekstra 1984) the order between subject and indirect object is fixed if the subject is a D-structure subject, whereas the order is free with a derived subject as in passive and ergative sentences. This is demonstrated in (18).

- (18) a dat Jan mij een hand gaf / *dat mij Jan een hand gaf
that John me a hand gave that me John a hand gave
b dat dit hem opvalt / dat hem dit opvalt
that this him strikes that him this strikes

The order IO - SUBJ is known as Inversion. It turns out to be the case that with adjectives Inversion is indeed possible with ergative constructions of the type in (16a), whereas Inversion results in ungrammaticality with non-ergative adjectives of the type in (17a). This is shown in (19)⁴.

- (19) a dat mij deze opmerking duidelijk / bekend is (cf.16a)
that me this remark clear / well-known is
b *dat mij Jan gehoorzaam / trouw is (cf.17a)
that me John obedient / faithful is

This contrast argues quite strongly for an analysis of (19a) in which the surface subject is generated in a position lower than the indirect object. Only an ergative analysis of these adjectives is able to provide an account for the contrast in (19) without ad hoc assumptions.

1.8 Implicit arguments

Finally, I will discuss a set of data that does not argue for an ergative - unergative distinction directly. These data show a clear-cut distinction between the class of ergative adjectives and other adjectives. It concerns the fact that it is generally impossible to add an infinitival clause to an ergative adjectival projection. It does not matter whether this infinitival clause is an adjunct or a complement. It is impossible to replace a finite CP by an infinitival clause in the case of ergative adjectives, as in (20b). In (21) it is demonstrated that object clauses may be infinitival in the case of non-ergative adjectives. The examples in (22) show that subject clauses may also be infinitival with non-ergative adjectives.

⁴ The contrast in (19) cannot be derived from the difference in animacy of the subject. If we replace the unanimate subject in (19a) by an animate one such as *die jongen* the sentence remains perfectly acceptable, as shown in (i).

(i) dat mij die jongen niet bekend is
that me that boy not known is

- (20) a Het is bekend / duidelijk / waarschijnlijk dat hij dat zal zeggen
 It is well-known / clear / probable that he that will say
 b *Het is bekend / duidelijk / waarschijnlijk om PRO dat te zeggen
 It is well-known / clear / probable for PRO that to say

- (21) Jan is bang / bereid om PRO dat te zeggen
 John is afraid / ready for PRO that to say

- (22) a Het is gemeen / moeilijk / leuk dat hij dat zal zeggen
 It is mean / difficult / nice that he that will say
 b Het is gemeen / moeilijk / leuk om PRO dat te zeggen
 It is mean / difficult / nice for PRO that to say

Another construction in which we find a similar contrast is the construction with infinitival adjuncts which are derived through empty operator movement. This 'double gap construction' is possible with unergative adjectives quite generally, whereas ergative adjectives do not show up in this construction. Examples are given in (23).

- (23) a Dat_i is gemeen / moeilijk / kinderachtig [om PRO _e te zeggen]
 That is mean / difficult / childish [for PRO _e to say]
 b *Dat_i is duidelijk / bekend / waarschijnlijk [om PRO _e te zeggen]
 That is clear / well-known / probable [for PRO _e to say]

Given the contrast in (20), it appears to be obvious that an explanation of the contrast between (20b) and (21)-(22b) and the contrast between (23a) and (23b) should be found in properties of control. An explanation along these lines can be found in Bennis & Hoekstra (1989). They argue that the PRO-subject in CP is always subject to obligatory control. In the cases in which a controller is apparently absent, they argue in favour of an implicit argument (cf. Roeper 1987). Given such an analysis, we have to conclude that ergative adjectives differ from unergative ones in the availability of an implicit argument that is able to control the PRO-subject of a related infinitival clause. For the moment I will assume that ergative adjectives have no implicit argument, whereas unergative adjectives may have an argument which is not lexically realized but syntactically active. The question then arises why this would be a distinguishing property of ergative adjectives. I will come back to this question in section 2, where we investigate the factors that determine the presence of an implicit argument in more detail.

I conclude this section with the presentation of the underlying structure of an ergative adjective in (24).

If the direct object in (24) is an NP it has to be moved to [SPEC,AP] or further in order to receive Case. The fact that it cannot receive Case in its base position is not due to the ergative status of the adjective. Adjectives do not assign structural Case in general. The ergativity of these adjectives resides in the non-thematic status of the subject position.

We thus conclude that it is well-motivated to divide the class of adjectives into two groups: unergative adjectives, which have a D-structure subject, and ergative adjectives, without an argument in subject position at the level of D-structure. Theoretically this division is supported by the fact that the same distinction can be found with verbal predicates. There is no logical reason why this distinction should be restricted to verbs. Empirically this division is supported by a large number of phenomena. It would be very hard to account for the same range of facts without making such a structural distinction in the projection of arguments.

2 Adjectives denoting mental properties

The second class of adjectives which is relevant for the discussion is the class of adjectives that can be distinguished interpretively by the fact that they attribute mental properties (MP) to their subject. Following Stowell (1991) I will call these adjectives MP-adjectives⁵. Examples of adjectives of this type are *slim* ('clever'), *gemeen* ('mean'), *kinderachtig* ('childish') and *stout* ('naughty').

2.1 Two types of MP-adjectives

The most striking property of these adjectives is that they appear in two rather different constructions. Either the adjectival property is attributed to a Theme subject - THEME - as in (25), or to an individual - POSSESSOR -, as in (26).

- (25) Dat is gemeen / kinderachtig / lief / stout
 That is mean / childish / dear / naughty
- (26) Jan is gemeen / kinderachtig / lief / stout
 John is mean / childish / dear / naughty

First, I will demonstrate that the constructions in (25) and (26) exhibit different syntactic properties. I will label the construction in (25) MP-A and the construction in (26) MP-B.

A structural difference between (25) and (26) can be found in the presence of internal arguments. In general it appears to be the case that internal arguments are not allowed in MP-A, whereas they can be found in MP-B. This is demonstrated in (27) for prepositional objects and in (28) for indirect objects (cf.17).

- (27) a *Dat is gemeen tegen kinderen
 That is mean to children
 b Jan is gemeen tegen kinderen
 John is mean to children
- (28) a *Dat is mij gehoorzaam
 That is me obedient
 b Jan is mij gehoorzaam
 John is me obedient

The reason for the ungrammaticality of (27a) and (28a) cannot reside in a violation of the theta-criterion. The two arguments have different roles and it is perfectly clear what is meant by (27a) and (28a). It cannot be due to Case theory either, given that some of these adjectives are able to assign case to the indirect object, as in (28b). The ungrammaticality must be due to another structural property. Before presenting a solution to the contrast in (27) and (28) I will discuss two other differences between MP-A and MP-B.

In constructions of the type MP-A we can add the possessor of the adjectival property in a *van* ('of')-PP. This is of course impossible in MP-B, given that the subject in MP-B already bears the POSS-role. Adding a *van*-PP would result in a violation of the theta-criterion, similar to the violation in (26a). This is demonstrated in (29).

- (29) a Dat is gemeen van Jan
 That is mean of John
 b *Jan is gemeen van Marie / zichzelf
 John is mean of Mary / himself

⁵ The analysis presented here differs in several respects from the analysis presented in Stowell (1991). Stowell's main conclusion is that MP adjectives have two external arguments. In a way this is similar to the analysis presented below. Although I will refer to his analysis at several points in the discussion, I will not discuss Stowell's proposal in detail for reasons of space.

Important is the status of the *van*-NP. Stowell (1991) argues that in sentences such as (29a) the NP *Jan* is the subject of an AP, from which the head is moved to a dominating AP. Given the impossibility to assign Case to this NP structurally, he adopts a mechanism of *of*-insertion, where *of* is taken to be a genitive Case-morpheme. In this way the adjectival construction in (29a) is reminiscent of nominal constructions with a genitive NP. According to Stowell the *of*-NP cannot be an object because such an analysis would yield wrong predictions with respect to *wh*-movement and heavy-XP-shift. As shown in (30), object-PPs allow extraction, regardless of whether the preposition is stranded or pied piped. *Wh*-movement of the *of*-NP in constructions with MP-adjectives is not allowed, as is demonstrated in (31).

- (30) a Who was John proud of?
 b Of whom was John proud?
 (31) a ??Who was it smart of [PRO to leave town]?
 b *Of whom was it smart [PRO to leave town]?

The evidence against an analysis of the *of*-NP as an object is rather convincing. However, Stowell takes this as an indication that the *of*-NP should be analysed as a subject. He argues that the facts in (31) are similar to the the immobility of the first NP (Dative-NP) in a double object construction, as in (32).

- (32) *Who_i did you say John gave t_i the book?

Stowell adopts an analysis of double object constructions along the lines of Larson (1988). The similarity between (31) and (32) in Stowell's proposal is that the extraction takes place from the subject position of a small clause headed by the trace of the lexical category occupying the head of the dominating projection. Although it is unclear to him why extraction from this position should be impossible, the similarity between (31) and (32) indicates that the *of*-NP is a subject. I think this argument does not hold for various reasons. I will only mention one objection to this proposal here. Stowell appears to agree with Pesetsky (1990) that psychological predicates of the EO-type are complex, in a way similar to the complexity of MP-A adjectives. In later paragraphs I will indicate that I adopt a similar complex structure for certain types of psychological predicates. In such an analysis of EO-verbs the subject of the small VP is the Experiencer argument. The psychological verb is moved from the head of the small VP to the head of the dominating Cause-projection. It thus follows directly that Stowell's analysis predicts that extraction of the Experiencer is impossible in EO-predicates. It is obvious that this prediction is wrong, as is illustrated in (32).

- (32) Who do these jokes amuse?

The situation is even worse. It appears to be the case that not only extraction of the Experiencer, but also extraction from the Experiencer is allowed in English.⁶ This is shown in (33).

- (33) Which country do these jokes amuse the king of?

If the Experiencer is the subject of a small VP we would expect that extraction from the subject would give rise to ungrammaticality because such an extraction would lead to a violation of the left-branch constraint. We thus would expect (32) & (33) to show a contrast of the type in (34) (cf. Kayne 1984).

- (34) a Who do you believe [t to be intelligent]
 b *Who do you believe [the brother of t to be intelligent]

The head of the embedded clause is moved to a dominating projection (Cause) in (32)-(33), but not in (34). It thus appears to be possible to ascribe the extension of extraction possibilities to movement of the verb.

⁶ Belletti & Rizzi (1988:330) argue that extraction from the experiencer is impossible in Italian. They take this to be an argument in favour of the analysis in which the experiencer is a kind of second object or indirect object. Pesetsky (1990:78) claims that the judgements on extraction from the experiencer in Italian are not very sharp. He nevertheless argues that the relative unacceptability is due to the fact that extraction from the experiencer is extraction from a small clause subject, which would lead to a left-branch effect.

We can explain the difference between (33) and (34b) as a consequence of the fact that the NP from which extraction takes place is a barrier in (34b), but not in (33). The subject NP is theta-marked by the head of the embedded clause and governed by the head of the dominating clause. Through V-movement these two head positions are identical in (33), but not in (34). Given that the NP in (34) is not L-marked, extraction from this NP cannot take place. This account is opposite to the analysis given in Stowell, who argues that movement of the verb to a dominating projection reduces extraction possibilities.

I will approach the *van*-NP from a different angle. I will assume that the *van*-NP in (29a) is basically similar to the *door* ('by') -phrase in passives. It is an optional adjunct, interpretively related to an implicit argument. In this way *van* / *of* is not a genitive Case marker, but rather a preposition assigning a possessor role to its complement, in the same way as *door* / *by* assigns an agent role. I suggest that the impossibility of extraction of/from the *of*-NP in (31) is due to the adjunct status of this PP. As is well-known an asymmetry between arguments and adjuncts arises in the case of long extraction (cf. Chomsky 1986 a.o.). If we take a predicative adjective to be a kind of argument, extraction from adjectival phrases would involve long extraction, given that the extracted phrase cannot be adjoined to the AP-projection. Long extraction of an adjunct would lead to a violation of the conditions on antecedent government. We thus assimilate extraction from AP to extraction from NP.

The difference between these two proposals becomes obvious in the analysis of control constructions as well. It is clear that the MP-A construction may cooccur with an infinitival clause, without the presence of an overt controller of the PRO subject. This is shown in (35a,b) for infinitival subjects and in (35c) for an infinitival adjunct with empty operator movement.

- (35) a Het is kinderachtig (van Jan) [om PRO daarover boos te worden]
 It is childish (of John) [for PRO about-that angry to become]
 b [Om PRO daarover boos te worden] is kinderachtig (van Jan)
 [For PRO about-that angry to become] is childish (of John)
 c Dat_i is kinderachtig [om PRO boos over e_i te worden]⁷
 That is childish [for PRO angry about e to become]

Constructions of the type MP-B do not appear with infinitival clauses of this type. It is not surprising that MP-B does not occur with subject sentences as in (35a) or (35b). This is simply due to the fact that the subject of MP-B is a possessor and that possessors are not propositional. However, the non-occurrence of MP-B with infinitival clauses of the type in (35c) is surprising. The ungrammaticality of (36) indicates that there is no implicit Theme in MP-B, whereas MP-A constructions have an implicit POSS-argument. This implicit argument is able to control the subject-PRO of the infinitival clause (cf. Roeper 1987, Bennis & Hoekstra 1989).

- (36) *Jan is kinderachtig [om PRO e te zeggen]
 John is childish [for PRO e to say]

We thus find that MP-A and MP-B differ quite substantially. These differences are summarized in (37).

- (37) MP-A: Theme-subject, no internal arguments, implicit argument,
van-PP
 MP-B: POSS-subject, internal arguments, no implicit argument,
 no *van*-PP

2.2 A structural difference between MP-A and MP-B

The differences in (37) appear to argue for a structural difference between the two types. In particular the difference in A-structure, i.e. Theme-subject vs POSS-subject, seems to lead us to postulate an ergative -

⁷ Note that there can be no direct movement relation between *dat_i* and *e_i* in (35c), because P-stranding in Dutch is possible with R-pronouns only (cf. Van Riemsdijk 1978 a.o.). We have to assume that an empty R-operator is moved to the embedded [SPEC,CP].

unergative contrast. In section 1 we discussed another class of adjectives with a Theme-subject. These adjectives are demonstrably ergative. The problem with MP-A adjectives is that they are ergative in the sense that their subject is thematically identical to the subject of the adjectives discussed in section 1, but that all the other tests to establish ergativity fail. If we consider MP-A constructions to be ergative, we lose the explanation for the contrasts discussed in section 1; if we consider MP-A constructions to be unergative, we are faced with two apparent problems: first, we have to give up a thematic hierarchy which requires alignment of arguments in adjectival phrases to proceed in a uniform way; second, it remains unclear how the difference between MP-A and MP-B should be represented structurally.

The solution I propose to solve this puzzle is that the MP-A construction is structurally complex and the MP-B construction simplex. The relevant structures are given in (38).

2.2.1 The MP-B construction

The MP-B construction appears to be relatively simple. The adjective assigns an external argument (POSS). With some of these adjectives (*gehoorzaam* etc.) an Indirect Object can be present, assuming that adjectives are able to assign inherent Case. Prepositional objects may appear since they do not require Case. There is no reason to expect an implicit argument or a *van*-PP. There is one major problem with this type of adjective. We expect to be able to realize the Theme as an object clause. Unfortunately, this appears to be impossible. At first glance it seems that the infinitival clause in (39a) is the Theme-argument of the adjective⁸. Such an analysis would be supported by the fact that the same infinitival clause may appear as a subject in (39b). The difference between (39a) and (39b) would then be reminiscent of the contrast in (40).

- (39) a Jan is gemeen [om PRO dat tegen haar te zeggen]
 John is mean for PRO that to her to say
 b [Om PRO dat tegen haar te zeggen] is gemeen van Jan
 For PRO that to her to say is mean of John
- (40) a The enemy's destruction of the city
 b The city's destruction by the enemy

However, the infinitival clause in (39a) turns out to be some kind of adjunct clause. There are three important differences between real object clauses and the infinitival clause in (39a). These differences are:

- the complementizer *om* cannot be left out;
- the infinitival clause cannot be substituted by a finite clause introduced by the complementizer *dat*;
- no extraction is possible from the infinitival clause in (39a).

These properties are illustrated in (41). The contrast with object clauses in APs is illustrated by the differences between (41) and (42).

⁸ It is even the case that some speakers do not accept the presence of an infinitival clause in MP-B constructions, as in (39a). I will continue to judge these sentences as fully acceptable although I agree that they are somewhat marked.

- (41) a Jan is gemeen [(om) PRO zo over dat onderwerp te praten]
 John is mean (for) PRO like-that about that subject to talk
 b ??Jan is gemeen [dat hij zo over dat onderwerp praat]
 John is mean that he that like-that about that subject talks
 c *Waar_i is Jan gemeen [om PRO zo t_i over te praten]
 Where is John mean for PRO like-that t about to talk
- (42) a Jan is bang [(om) PRO over dat onderwerp te praten]
 John is afraid (for) PRO about that subject to talk
 b Jan is bang [dat hij over dat onderwerp zal praten]
 John is afraid that he about that subject will talk
 c Waar_i is Jan bang [(om) PRO t_i over te praten]
 Where is John afraid (for) PRO t about to talk

From this we may conclude that the infinitival clause in (39a) is not an object clause. Stowell (1991) reaches a similar conclusion on the basis of comparable facts in English. He argues that the infinitival clause in MP-B constructions is an event-clause. His theory on event-structure, a reinterpretation of proposals by Kratzer (1989), requires Event arguments to be external arguments. It then follows that infinitival clauses such as the one in (39a) must be compared with subject clauses, rather than with object clauses. However, it can also be shown that the infinitival clause in (39a) differs substantially from a comparable subject clause in a MP-A construction. The same three contrasts as between (41) and (42) can be observed between (41) and the subject clauses in (43).

- (43) a Het is gemeen [(om) PRO over dat onderwerp te praten]
 It is mean (for) PRO about that subject to talk
 b Het is gemeen [dat Jan over dat onderwerp praat]
 It is mean that John about that subject talks
 c ?Waar is het gemeen [om PRO t over te praten]⁹
 Where is it mean for PRO t about to talk

The properties of the infinitival clause in (39a), illustrated in (41), directly argue in favour of an adjunct status^{10 11}. Given this discussion, we have to conclude that the MP-B construction does not allow the Theme argument to be realized. I have only a suggestion as to why this would be so. Suppose Stowell is right in claiming that the Theme argument in MP constructions is eventive and that eventive arguments must be external at D-structure. Stowell deduces from this that these adjectives may have two external arguments

⁹ The marked acceptability of (43c) is due to the fact that extraction from subject clauses is marked in general. However, there is a clear contrast between extractions of this type and the absolute unacceptability of (41c)(cf.(12)).

¹⁰ It is interesting to note that extraction from sentences such as (41c) is completely unacceptable in Dutch, whereas according to Stowell object extraction from similar sentences in English is acceptable. Stowell argues that the difference between argument extraction and adjunct extraction in those cases argues for an analysis in which the infinitival clause is external. However, the difference in Dutch between (41c) and (43c) appears to argue against such a conclusion. These facts can be explained if we assume that the infinitival clause in (41c) is an adjunct. Whereas argument extraction from adjuncts is to some extent acceptable in English (cf. Chomsky 1986), it is completely impossible in Dutch. In Dutch there exists a contrast between subject sentences and adjuncts, which is similar to the contrast between (41c) and (43c). So we can explain the difference between Dutch and English with respect to extraction only if we take the infinitival clause in (41c) to be an adjunct clause both in Dutch and in English.

¹¹ It can be observed that adjunct clauses of the type discussed here do not appear in MP-A constructions, as is demonstrated in (i).

(i) *Die opmerking_i is gemeen van Jan_i [om PRO mij zo te beledigen]
 That remark is mean of John [for PRO me so to insult]

Whether PRO is interpreted as controlled by the S-structure subject *die opmerking* or by the implicit argument/*van*-PP in both cases the sentence is ungrammatical. Although it is not immediately obvious why MP-A and MP-B would differ in this respect, this difference provides us with another criterion to distinguish between these two construction types.

simultaneously. I would conclude that the impossibility of the realization of the Theme in MP-B follows from the fact that a predicate may have only one external argument. The possessor argument is external and thus prevents the Theme from being realized. Given that the Theme is optional, the only solution is to drop the Theme-argument.

2.2.2 The MP-A construction

The next question is what happens in the complex structure of MP-A. Before solving the paradox discussed above, I will first have to be more explicit about the complex structure in (38). There are several constructions for which complex structures of the type in (38) have been proposed recently. Particularly interesting are the discussion about the difference between stage-level and individual-level predicates (Kratzer (1989), Diesing (1992), Stowell (1991)) and the discussion about psychological predicates (Pesetsky (1990), Grimshaw (1990)). Kratzer argues that a structural distinction should be made between stage-level predicates, assigning temporary properties, ('firemen are available') and individual-level predicates, assigning enduring properties, ('firemen are altruistic'). This view is represented in (44).

(44)	a	stage level:	$[NP_i [_{AP} t_i A]]$	firemen are available
	b	individual level:	$[_{AP} NP A]$	firemen are altruistic

I will not discuss the arguments for making this distinction. However, it is clear that this distinction corresponds quite closely to the distinction made with respect to MP-A and MP-B. In a sentence such as *John is mean* (MP-B) *mean* is an individual-level predicate, as in (44b). On the other hand, in a sentence such as *That remark is mean* (MP-A) *mean* is a stage-level predicate. The fact that in my view MP-A is complex is rather similar to the view that stage-level predicates are complex.

Another recent discussion leads us to a similar conclusion. For psychological predicates it is argued by Pesetsky (1990) that psychological predicates with an object Experiencer (EO-predicates), as in *The storm frightens me*, are structurally complex, whereas psychological predicates with a subject Experiencer (ES-predicates), as in *I fear the storm* are simplex. I come back to this discussion in section 5. For the moment it is sufficient to observe that the sentence with a Theme-subject is taken to be structurally complex, whereas the construction with an Experiencer subject (or rather a possessor subject, cf. section 4) is simplex. A similar conclusion can be derived from the proposal of Grimshaw (1990)¹².

These two discussions have in common that the subject of the complex structure corresponds to the Theme of the embedded predicate. The subject argument of the complex structure is called the EVENT argument in Kratzer, Diesing and Stowell. In Pesetsky and Grimshaw the subject is considered to be a Cause argument.

In line with proposals of this type I will assume that the meaning of the adjectives of the MP-A type is more complex than the meaning of MP-B. This additional component can be located in X in (38), if we take X to be a zero-morpheme as in Pesetsky (1990). Although the term may not capture all relevant cases, I will take this morpheme to be Cause¹³. If we allow the interpretation of Cause to be sufficiently vague, it is reasonable to say that in a sentence such as *That is mean of John* the meanness of John is caused by that. This causal element is absent in constructions of the type MP-B. Also in line with the other proposals discussed above is the claim that $[NP, XP]$ must be the Theme argument. Finally I will adopt a particular version of thematic hierarchy (45c), which will be the subject of discussion later. Summarizing, the structure in (38) should be interpreted with regard to the proposals in (45).

¹² Grimshaw (1990) argues that in the case of EO-predicates the thematic hierarchy differs from the aspectual hierarchy. Assuming that the aspectual hierarchy determines the projection of arguments, it follows that the THEME, lower on the thematic dimension, shows up as the subject. If we translate this purely lexical proposal into a more structural analysis, it follows that on level I, the level of argument structure, the THEME is dominated by the EXPERIENCER, whereas on the derived level of D-structure the aspectual hierarchy is obeyed, i.e. the THEME is the subject of a more complex structure.

¹³ Other possibilities are Sug (cf. Pesetsky 1990), Event or Stage.

- (45) a X = CAUSE
 b [SPEC,XP] must be Theme
 c AGENT/POSS/EXP > GOAL/LOC > THEME

Let us return to the problem of the argument structure of MP-A constructions. Given (45c) the Theme argument must be projected as an internal argument. Given (45b) the Theme argument must be at the position [Spec,XP] at some point of the derivation. If we would satisfy these two demands by a syntactic movement operation, we would be faced with a Case problem. The POSS-NP would not receive Case. Case-assignment from an XP-external source is impossible because the external Case-assigner should assign Case to the Theme in [SPEC,XP]. Internally, there is no Case available. The adjective does not assign Case to its specifier, nor does A assign Case to the subject of its complement after movement from A to X. It follows that MP-A cannot be syntactically ergative. Ergativity may appear in the absence of an external argument only. I will claim that MP-A structures are derived through a lexical manipulation of the type 'Externalize Theme' (cf. Williams 1981). Given that Externalize Theme is a lexical rule it should be subject to the thematic hierarchy in (45c). This implies that a manipulation on the arguments higher on the hierarchy is necessary. Given that it is generally impossible to delete the external argument (POSS in MP predicates), Externalize Theme forces us to absorb the external argument. This absorption leads to the presence of an implicit argument. Internal arguments other than Theme are generally optional. They should be left out in the case of MP-A constructions in order to prevent a violation of the thematic hierarchy. We thus end up with a system in which the level of Lexical Conceptual Structure differs from the level of D-structure. The projection of arguments in LCS proceeds in accordance with UTAH or UAH and in agreement with the Thematic Hierarchy in (45c). Lexical rules may manipulate on LCS as long as they do not lead to a violation of the Thematic Hierarchy¹⁴. The level of D-structure can be seen as the interface between the lexicon and the syntax. After D-structure the Thematic Hierarchy restriction is no longer valid. Syntactic rules should obey the Projection Principle. We thus may consider the Thematic Hierarchy a leading principle within the lexicon, analogous to the Projection Principle in syntax.

2.3 Flip-adjectives

As indicated above, many adjectives appear in more than one class. Cinque (1989,1990) observes that both in Italian and in German several non-ergative adjectives can be turned into ergative ones by the addition of an indirect object. This is shown in (46).

- (46) a *Dei suoi atteggiamenti *ne*, è simpatico [solo uno *e*]
 b Dei suoi atteggiamenti *me ne*, è simpatico [solo uno *e*]
 Of his attitudes (me) of-them is nice only one
 (47) a *Jetzt ist peinlich dass wir ihm helfen müssen
 b Jetzt ist *mir* peinlich dass wir ihm helfen müssen
 Now is (me) unpleasant that we must help him

In (46) the presence of *me* licenses the occurrence of *ne*, indicating that in contrast with (46a), (46b) is ergative (cf. 1.1). A similar conclusion can be derived from the possibility to leave out the pronoun *es* in (47b) (cf. 1.4). I will try to demonstrate that similar phenomena in Dutch provide evidence for the analysis of MP-adjectives given above. The adjective *sympathiek* (appealing, nice) is an MP-adjective which allows the presence of an indirect object. It thus belongs to the class of *gehoorzaam* (obedient) and *trouw* (faithful). Alignment of the thematic roles in a structure would give us (48).

¹⁴ Other constructions in which we may find similar restrictions on lexical manipulation are adjectival passives and middle constructions. It would take us too far afield if we would discuss the similarities and differences between these constructions and MP-A constructions here.

There is no way in which the three arguments can be realized in one construction. In the case of an MP-B construction, as in (49a), the NP-POSS can be realized if this NP can be assigned Case from an external position. The NP-GOAL can be realized as well, given the possibility to assign inherent Case. The NP-Theme has to be deleted for reasons discussed above. In the MP-A construction, as in (49b) the Theme appears as the subject, the POSS is implicit and the GOAL must be left out. So far there is nothing remarkable. However, *sympathiek* also allows deletion of the external argument, instead of absorption. The result is that *sympathiek* may also appear as an ergative adjective. In that case the Theme appears as a subject and the GOAL may appear as an indirect object. We now expect that POSS may not appear as implicit argument in this case. That is indeed what we find, as is illustrated in (49c).

- (49)
- a Jij bent (mij) sympathiek
You are (me) nice
 - b Dat is (*mij) sympathiek van jou
That is (me) nice of you
 - c Dat is mij sympathiek (*van jou)
That is me nice (of you)

The tension between the lexical-conceptual presence of arguments and the realization and licensing of arguments can thus be solved in various ways. The fact that the analysis as developed thusfar makes precise predictions with respect to these 'flip'-adjectives is an indication that such an approach is on the right track.

3 Psych-adjectives

The next class of adjectives to be discussed here concerns the class of adjectives that have an implicit or explicit Experiencer argument. In accordance with the discussion on Experiencer verbs (Psych-verbs), I will call these adjectives *Psych-adjectives*. As with Psych-verbs there are basically two classes of Psych-adjectives: the Experiencer is an implicit argument or lexically realized in a PP headed by the preposition *voor/for* (EO-adjectives)¹⁵ or the Experiencer is expressed as the subject of the adjective (ES-adjectives). Examples are given in (50).

- (50)
- a Dat is pijnlijk, moeilijk, interessant (voor Jan)
That is embarrassing, difficult, interesting (for John)
 - b Jan is boos, bang, verliefd, trots
John is angry, afraid, in love, proud

I will argue that EO-adjectives are in most structural respects similar to MP-adjectives of the A-type, whereas ES-adjectives are rather similar to MP-B adjectives. One important difference is that an MP-adjective is characterized by the possibility to appear in two different constructions, whereas Psych-adjectives do not always demonstrate this structural variation, as is shown in (51).

¹⁵ The reason why the experiencer cannot be realized as an NP will be discussed in par. 4 and 5. We will see that Case is an important factor. However, it cannot be due to the impossibility of adjectives to assign inherent Case. We saw above that both ergative and non-ergative adjectives allow an oblique NP to surface as an indirect object.

- (51) a *Jan(EXP) is *pijnlijk*
 John is embarrassing
 b *Dat is *boos* (voor Jan)
 That is angry (for John)

The following similarities between EO-adjectives and MP-A adjectives can be observed:

- no PP-object is possible (52a)
- no indirect object can be lexically realized (52b)
- no single-gap adjunct clause can be realized (52c) (cf. note 11)
- there is an implicit argument which can be realized in a *voor*-PP (52d,e)

- (52) a *Dat is *pijnlijk* tegen kinderen
 That is embarrassing towards children
 b *Dat is *mij* *pijnlijk* (voor Jan)
 That is me embarrassing (for John)
 c *Die *opmerking* is *pijnlijk* om PRO mij zo te beledigen
 That remark is embarrassing for PRO me so to insult
 d Het is *pijnlijk* (voor Jan) om PRO dat te zeggen
 It is embarrassing (for John) for PRO that to say
 e Dat is *pijnlijk* (voor Jan) om PRO e te zeggen
 That is embarrassing (for John) for PRO e to say

These similarities argue for an analysis which is similar to the analysis of MP-A adjectives. On the basis of distributional similarities with MP-A adjectives we thus end up with a representation of EO-adjectives that is structurally complex. It is interesting to observe that several people (Pesetsky (1990), Grimshaw (1991) and others) have argued in favour of a complex analysis of EO-verbs (and adjectives) on different grounds.

The EO-adjectives contrast with the ES-adjectives in the same way as MP-A adjectives contrast with MP-B adjectives. ES-adjectives allow internal arguments, such as PP-complements (53a) and CP-objects (53b), and they have no implicit argument (53c-e).

- (53) a Jan is *boos* op mij
 John is angry at me
 b Jan is *bang* om PRO naar huis te gaan ¹⁶
 John is afraid for PRO to house to go
 c *Jan is *boos* van/voor mij
 John is angry of/for me
 d *Het is *boos* om PRO dat te zeggen
 It is angry for PRO that to say
 e *Jan is *boos* om PRO over e te praten
 John is angry for PRO about e to talk

I thus want to claim that ES-adjectives are similar to MP-B adjectives in most respects. The main difference between them resides in the fact that MP-B adjectives do not allow the Theme to be lexically realized, whereas ES-adjectives do allow a CP-object, as in (53b). Given the discussion in 2.2 this difference could be analysed as the consequence of the fact that ES-adjectives do not select an eventive internal argument.¹⁷

¹⁶ The infinitival clause in (53b) is a complement clause and not an adjunct, witness the possibility to delete the complementizer *om*, the possibility to replace the infinitival clause by a finite clause and the acceptability of wh-extraction from the embedded clause (cf. 2.2.1).

¹⁷ This difference might be related to the fact that these ES-adjectives subcategorize for a prepositional complement. Even when they appear with a CP-complement a PP containing the subcategorized preposition and a resumptive pronoun (*er op* 'there on') may be added.

We can now divide the class of adjectives into three groups depending on the status of the S-structure subject. MP-B adjectives and ES-adjectives have a subject at all levels of representation. The S-structure subject of MP-A adjectives and EO-adjectives is lexically derived, whereas the S-structure subject is syntactically derived in the case of ergative adjectives. Schematically this is depicted in (54).

(54)		LCS-subj	DS-subj	SS-subj
a	Jan is gemeen / boos	+	+	+
b	Dat is gemeen / pijnlijk	-	+	+
c	Dat is duidelijk	-	-	+

Such a schematic approach gives a simplified picture of the constructions in which we find adjectives. Most of the Psych-adjectives do appear in other constructions as well. Almost all EO-adjectives may also occur in the MP-A construction, as is shown by the selection of a *van*-PP instead of a *voor*-PP in (55a). Moreover, most of these adjectives appear in a construction of the type in (54a), as is shown in (55b). On the other hand, many ES-adjectives may show up as MP-A adjectives, as in (55c,d).

- (55) a Dat gedrag is moeilijk, vervelend, interessant *van* Jan
 That behaviour is difficult, tedious, interesting of John
 b Jan is vervelend, moeilijk (*voor mij / *van mij) tegen kinderen
 John is tedious, difficult (*for me / *of me) against children
 c Dat is bang *van* Jan (*voor slangen)
 That is afraid of John (*for snakes)
 d Dat is trots *van* Jan (*op zijn vrouw)
 That is proud of John (*on his wife)

The fact that an implicit argument is impossible in (55b) and that a prepositional object is impossible in (55c,d) indicates that the distinction between (54a) and (54b) is well-motivated, whereas the distinction between MP-adjectives and Psych-adjectives is weak. I will come back to the latter distinction in section 6. With respect to the former distinction it might be observed that we can now explain the facts described in Higgins (1973) and discussed in Pesetsky (1990:40). They discuss the fact that there is a contrast in (56) and (57), which appears to indicate a "general restriction on transitive adjectives predicated of nouns like *manner*" (Pesetsky 1990:40). They observe that this not always the case, given sentences such as (58).

- (56) a John was proud (of his son)
 Sue was nervous (about the exam)
 b John's manner was proud (*of his son)
 Sue's behaviour was nervous (*about the exam)
 (57) a John was careful (with the electrodes)
 Sue was attentive (to every detail)
 b John's manner was careful (*with the electrodes)
 Sue's behaviour was attentive (*to every detail)
 (58) Bill's words were clear (to all)
 Tom's attitude was reminiscent of Bill's

These observations follow directly from the analysis presented above. In (56) we find Psych-adjectives and in (57) MP-adjectives. As expected, the MP-B constructions in (57a) and the ES-constructions in (56a) allow internal arguments to be realized. In (57b) and (56b) the construction is the complex construction of the MP-A type, which does not allow the realization of an internal argument. The reason being that the realization of such an internal argument would violate the central principle that determines the alignment of arguments: thematic hierarchy (cf.2.2). In (58) we find ergative adjectives. In these cases the alignment of arguments is in accordance with the thematic hierarchy at the level of D-structure.

Although the structures proposed here are in many respects similar to the structures proposed by Pesetsky (1990), these facts do not have to be derived from the properties of a zero-morpheme in (56b) and (57b). If the analysis adopted here is correct, it weakens Pesetsky's analysis of Psych-verbs as well. This will be the subject of the following sections.

4 Present Participles^{18 19}

There is one class of adjectives which appears to allow the lexical realization of the Experiencer-NP in an EO-construction. This seems to be an exception to the generalization that adjectives do not allow the Experiencer to show up as an NP-object. It concerns the class of present participles derived from EO-verbs. Examples are given in (59).

- (59) a de *mij* ontmoetende opmerking
the me touching remark
b de *hem* amuserende voorstelling
the him amusing performance

The grammaticality of the examples in (59) appears to be a serious problem for the theory developed thusfar. I have argued that the non-occurrence of the POSS-argument in MP-A constructions or the EXP-argument in EO-constructions should be derived from Case theory. Given that Adjectives do not assign structural Case the LCS-subject of the adjective cannot receive Case in complex adjectival constructions of the type MP-A / EO. We thus do not expect the NP-Experiencer in (59) to surface as an NP. However, we can show quite clearly that the categorial status of present participles may be verbal, at least with respect to their internal structure (cf. Bennis & Wehrmann 1990). More interestingly, it can be demonstrated that the presence of an NP-Experiencer of the type in (59) is restricted precisely to those constructions in which the present participle phrase is internally verbal. If that is correct, it supports the present theory since a verbal head may assign structural Case to its subject (the Experiencer) after movement to X (Cause). This strongly suggest that the presence of an NP-Experiencer in object position is licensed by structural Case-marking. This argues against an approach along the lines of Belletti & Rizzi (1988), in which the object Experiencer is Case-marked inherently.

The observation that present participles can be either verbal or adjectival is discussed with respect to English in Fabb (1984), Brekke (1988) and Milsark (1988). The crucial argument relies on the possibility of intensification by adjectival modifiers such as *very*, as in (60).²⁰

- (60) a a (*very) sleeping beauty
b a (very) amazing performance

Below I will repeat some of the arguments for Dutch in order to make clear that a distinction between verbal and adjectival present participles is well-motivated.

The distribution of present participles of EO-verbs differs quite substantially from that of other present participles. It is generally assumed that in Dutch present participles appear in adjunct position only, i.e. in attributive or adverbial position. It is indeed true that present participles of almost all verbs appear in these positions, as is indicated in (61).

- (61) a de vliegende Hollander
the flying Dutchman
b Ik dans zingend in de regen
I dance singing in the rain

¹⁸ Most of the arguments in this section were presented in Bennis and Wehrmann (1990). Since they are embedded in a different context I will repeat these arguments here.

¹⁹ In this section and in the following sections I will not discuss the case of ergative Psych-verbs of the class 'piacere' (It.), 'bevallen' (Dutch). These inchoative Psychs have many properties in common with the EO-verbs discussed here.

²⁰ Borer (1990) argues against an analysis in which the categorial status of present participles varies. She argues that present participles are always adjectival. In Bennis & Wehrmann (1990) we have argued that this position cannot be upheld given the extensive evidence for a dual categorial status of present participles of Psych-verbs in Dutch.

It is also true that the same present participles do not appear in complement position, neither in the complement of raising/copula verbs²¹ nor in the complement of verbs such as *vinden* ('to consider'). This is illustrated in (62).

- (62) a *Deze Hollander is vliegend
This Dutchman is flying
b *Ik vind hem zingend
I consider him singing

However, present participles of EO-verbs appear both in adjunct and in complement position, as is demonstrated in (63).

- (63) a het ontroerende gebaar
the touching gesture
b hij zingt die aria ontroerend
he sings that aria touching
c Dat gebaar is ontroerend
That gesture is touching
d Ik vind die aria ontroerend
I consider that aria touching

It turns out to be the case that in the case of adjuncts only the Experiencer may be realized as an NP. In both cases the Experiencer may surface in a *voor*-PP. This is demonstrated in (64).

- (64) a een (voor mij / mij) ontroerend gebaar
a (voor mij / me) touching gesture
b dat gebaar is (voor mij / *mij) ontroerend
that gesture is (for me / me) touching

The possibility to add the Experiencer in a *voor*-PP indicates that the present participle is adjectival, given that EO-adjectives, but not EO-verbs, allow such a lexicalization of the Experiencer. In order to explain the occurrence of the Experiencer NP in (59) I present the following empirical generalization:

- (65) Present participle phrases are internally verbal, with the exception of present participles of EO-verbs which may be adjectival.
Present Participles must be adjectival in complement position.

For our purposes here, it is important to be able to explain that the realization of the Experiencer as an NP in 'object' position is crucially related to the categorial status of the projection it belongs to. I will not try to explain why the generalization in (65) holds.²² The generalization in (65) can be supported by many arguments. I will mention some of these arguments.

²¹ Dutch has no progressive form in which the present participle appears, as in English. The Dutch counterpart of the English progressive construction is the so called "*aan het* INF-construction", in which an infinitival verb is used.

²² It turns out to be the case that not only EO-verbs but also other stative verbs allow adjectival present participles. For instance *al-wetend* ('all-knowing') and *god-vrezend* ('god-fearing') may also appear as adjectival present participles, given the fact that they appear in predicative position, their stress-pattern, adverbial modification with *heel*, and the possibility of comparative formation (eg. *godvrezend-er*) (see below). Given the fact that adjectives are stative predicates, it might be the case that the full assimilation of verbal predicates to adjectival ones is dependent on aspectual similarity. A similar conclusion can be derived from the fact that in the case of past participles only passive participles may appear as adjectives.

The verbal status of present participles follows from the fact that they may appear with lexical direct objects (66a) and Small Clause complements (66b)²³. Given the impossibility of adjectives to assign Case structurally, this indicates that the present participle must be verbal. We even find present participles that take a complete VP-complement, as in (66c).

- (66) a een Russisch lerend meisje
a Russian learning girl
de zijn vrouw hatende man
the his wife hating man
- b het hem ongelukkig makende voorstel
the him unhappy making proposal
de zijn bord leeg etende jongen
the his plate empty eating boy
- c een [niet naar huis gaan] willende jongen
a not home go wanting boy

The observation that the present participle of EO-verbs may be adjectival in adjunct position and must be adjectival in complement position, is supported by the following considerations:

- the stress pattern of (compound) adjectives differs from the stress pattern of complex verbs. A complex verb such as *uitbreiden* ('to extend') has initial stress, whereas a derived adjective such as *uitbreidbaar* ('extendible') has stress on the syllable preceding the adjectival suffix. In the case of EO-verbs we find that in attributive position both stress patterns are available (67a), whereas in predicative position we find the adjectival stress pattern only (67b). With other present participles we only find the verbal stress pattern with initial stress as in (67c). As is to be expected, if we add the NP-Experiencer to (67a), the verbal stress pattern becomes obligatory, as is illustrated in (67d).

- (67) a de uitpúttende / úitputtende wandeling
the exhausting walk
- b Die wandeling is uitpúttend / *úitputtend
That walk is exhausting
- c het *uitstérvende / úitstervende ras
the dying-out race
- d de mij *uitpúttende / úitputtende wandeling
the me exhausting walk

- the adverbial modifier *heel* ('very') modifies adjectives only, as is clear from (68). *Heel* only modifies present participles from EO-verbs, as is shown in (69). As predicted, *heel* may modify present participles of EO-verbs if the Experiencer does not appear as an NP and if the stress is non-initial. This is shown in (70).

- (68) a *Doornroosje slaapt heel
The sleeping beauty sleeps very
- b *Dit verheugt me heel
This enjoys me very
- c Zij is heel aardig
She is very nice
- (69) a *een heel slapend meisje
a very sleeping girl
- b een heel verheugende mededeling
a very gratifying announcement

²³ The non-occurrence of similar data in English follows from the fact that the VO-nature of English would lead to a violation of the empirical generalization that both in English and in Dutch constituents in attributive position must be head-final, as formulated in the Head Final Filter (cf. Williams 1982).

- (70) a *een mij heel verheugende mededeling
a me very gratifying announcement
b een heel uitputtende / *uitputtende wandeling
a very exhausting walk

- the formation of complex adjectives on the basis of present participles is restricted to adjectival present participles. This is true for comparative suffixation (71) and *on*('un')-prefixation (72).

- (71) a *een slapend-ere schoonheid
a sleeping-er beauty
b een aangrijpend-ere ontwikkeling
a moving-er development
(72) a *een on-slapende prins
a un-sleeping prince
b een on-opwindende afloop
a un-moving end

Again, the combination of the different conditions gives us subtle, but correct predictions. In particular the fact that an NP-Experiencer cannot be combined with an affixed present participle, as illustrated in (73), forces us to adopt the proposal that NP-Experiencers appear in verbal predicates only.

- (73) a *een mij nog aangrijpendere gebeurtenis
a me still moving-er happening
b *een mij onopwindende afloop
a me un-moving end

This discussion has led us to the conclusion that the present participle of an EO-verb can be either verbal or adjectival. The appearance of an NP-Experiencer in these constructions is limited to verbal present participles. Adjectival present participles pattern with adjectives in the sense that they allow the Experiencer to be lexically present in a *voor*-PP only. Verbal present participles behave like verbs in expressing the Experiencer as an NP, and not in a *voor*-PP. This indicates that the particular realization of the Experiencer is dependent on the categorial status of the projection.

Given the discussion in preceding sections, it cannot be maintained that only verbal projections are able to assign inherent Case. Regular adjectives such as *gehoorzaam* ('obedient') or *duidelijk* ('clear') are able to assign inherent Case to an indirect object. If we want to analyse the possibility of the realization of an NP-Experiencer as a consequence of general principles, we have to relate this realization to the possibility to assign structural Case. Verbs, but not adjectives have the property to assign Case structurally. This leads us to a theory in which the Experiencer must have a structural position in which it can be Case-marked structurally. In principle there are various options available. A number of potential underlying structures for present participles of EO-verbs is given in (74).²⁴

The structure in (74a) is similar to the structure advocated in Belletti & Rizzi (1988). In this structure the Experiencer is not in a position in which it can be Case-marked structurally. In (74b) the problem is that

²⁴ For the sake of simplifying the structures I will assume that the *-end* flection is attached to the lexical head in the lexicon. More complex structures can be given in which *-end* is the head of a separate functional projection. I assume that the latter approach is correct. However, for our purposes here this additional layer of structure is irrelevant.

the Experiencer occupies a position lower than the Theme, whereas the reverse order is found with ES-constructions. (74c) is problematic because it is not clear how the Experiencer can be Case-marked by *V-end*. I thus want to argue for a structure as in (75). This structure is similar to the structure adopted for MP-A adjectives in (38) in most respects.

If *V + -end* is verbal it may assign Case to the Theme. Given that the eventive Theme must be external, this would result in a violation of the Case Filter since the Experiencer cannot be Case-marked. Another option is available. If we move the verbal present participle to the functional head position *Cause*, it may assign Case to the Experiencer under government. The Theme may now be moved to the subject position [SPEC, CauseP] in order to receive Case from an external source or to be interpreted as a PRO-subject.

If *-end* is adjectival Case cannot be assigned to the Experiencer structurally. A syntactic externalization of the eventive Theme is thus impossible, since it would always result in a violation of the Case Filter. The solution to this problem can be found in a lexical manipulation of the type discussed before. The Theme is externalized which forces the Experiencer to become internalized, in order to conform to the Thematic Hierarchy condition on lexical operations.

We thus find that the layered structure for adjectives of the EO type, and indirectly for adjectives of the MP-A type, is motivated by the presence or absence of NP-Experiencers in present participle phrases. It will be clear that this discussion leads us to a particular analysis of verbal psychological predicates. This will be the subject of the next paragraph.

5 Psych-verbs

The discussion with respect to the alignment of arguments is particularly interesting with respect to Psychological verbs of the type *frighten* (Engl.) / *preoccupare* (It.) (76). The problem with these verbs is that the Theme appears to be the subject, while the Experiencer is an object. Given that other verbs, such as *fear* (Engl.) / *temere* (It.) (77), have an Experiencer subject and a Theme object, the problem is that no uniform alignment of thematic roles appears to be possible.

- (76) a This frightens John
 b Questo preoccupa Gianni
- (77) a John fears this
 b Gianni teme questo

This problem is the subject of an ongoing debate in recent literature (cf. Belletti & Rizzi (1988), Pesetsky (1990), Grimshaw (1991) and many others). There are basically two ways to stick to the uniformity of thematic assignment in these cases. The first line of approach is to consider the S-structure subject in (76) to be a derived subject. In that case the Theme can be analysed as a D-structure object in both (76) and (77). This is the solution adopted in Belletti & Rizzi. Another approach to this problem is to claim that the thematic role of the subject in (76) differs from the thematic role of the object in (77), as defended in Pesetsky (1990).

Conceptually the approach adopted in Belletti & Rizzi is more attractive, given that they consider the problem to be a structural problem throughout. Pesetsky has to adopt a further proliferation of semantically based thematic roles and has to explain the fact that the Cause-role (the subject of (76)) does not cooccur with the OBJECT-OF-EMOTION-role (the object of (77)). Given the discussion in previous paragraphs it follows that I do not agree with either of them.

The problem with Belletti & Rizzi's proposal is the status of the Experiencer argument. They claim that the Experiencer is projected as the external argument in (77), but as an internal argument in (76). In both cases the Experiencer is projected on a position higher than the Theme. In (77) the Experiencer receives structural Case as the subject of the predicate and in (77) the Experiencer receives inherent Dative or Accusative Case. A theoretical problem with B&R's approach is that their interpretation of thematic uniformity concerns the relative prominence of arguments only. Given this prominence condition an Agent of an intransitive verb may just as well be generated as the object of the verb.²⁵ The theory of uniform alignment would be more interesting if we could relate a particular thematic role to a designated position, irrespective of the context in which this role appears. In the context of this paper the most serious objection to the solution adopted by B&R is that they assume the Experiencer in (76) to receive inherent Case. In the preceding sections I have argued at length that the possibility of the Experiencer to show up as an NP in adjectival constructions and present participles is dependent on the categorial status of the predicate: verbal projections allow NP-Experiencers, adjectival projections do not. Of course it would be possible to claim that the assignment of inherent Case to the Experiencer is a possibility of V, but not of A. However, the distinction follows straightforwardly from the independently motivated principle that V, but not A, assigns Case structurally. This point of view is corroborated by the fact that inherently Case-marked NPs in Dutch may retain their Case under passivization, as is shown in (78).

- (78) a Hij [nom] werd verzocht [om PRO uit te stappen]
 b Hem [obl] werd verzocht [om PRO uit te stappen]
 He / Him was requested to get out

Whatever the correct analysis of these cases (cf. Den Besten 1981, Everaert 1982, Hoekstra 1984), this alternation should appear with passives of Psych-verbs if the Experiencer is assigned inherent Case by V. In (79) it is demonstrated that passives of Psychological verbs are possible, but only if the Experiencer is realized as a nominative subject.

- (79) a Hij [nom] wordt (door mij) geïnteresseerd in taalkunde
 b *Hem [obl] wordt (door mij) geïnteresseerd in taalkunde
 He / Him is (by me) interested in linguistics

The contrast between (78b) and (79b) indicates that the Experiencer is not Case-marked inherently. These considerations lead us to reject a proposal along the lines of Belletti & Rizzi.

On the other hand, I agree with B&R that the subject in (76) is a derived subject, and not base generated in subject position, as in Pesetsky's proposal. In order to defend his proposal Pesetsky tries to attack the arguments of Belletti & Rizzi in favour of a derived status of the subject. Within the context of this article I cannot evaluate these arguments. However, although Pesetsky succeeds in casting doubt on some of the arguments of Belletti & Rizzi, he does not convincingly show that a derivational approach is incorrect.²⁶ Without further discussion I will adopt an analysis in which the S-structure subject is moved

²⁵ In order to prevent such an alignment, they stipulate that Agents are always external as a consequence of being intrinsically underscored. This is of course no explanation of the fact that Agents are always external, but a reformulation of the requirement. (B&R, p.348)

²⁶ The most interesting argument of Pesetsky against Belletti & Rizzi concerns the availability of passivization with Psych-verbs. Belletti & Rizzi claim that no syntactic passivization is possible. Given their structure it would be unexpected if passivization were possible because they take Psych-verbs to be ergative verbs. The apparent counterexamples to this claim are taken to be cases of adjectival passives in their view. Aside from the fact that it is not clear how the characterization of these passives as adjectival would solve the problem, Pesetsky intends to show that this view is incorrect for English. An evaluation of these arguments and a review of the very complex facts would require a long discussion. However, if Pesetsky is right in that causative Psych-verbs allow syntactic passivization, it directly argues against the approach of Belletti & Rizzi, but it does not follow that the derived subject analysis of Psych-verbs is wrong. If we assume that syntactic passivization is contingent on the possibility of a verb to assign structural Case, Psych-verbs would allow passivization in the theory proposed here, independent of the question whether the S-structure subject of active Psych-verbs is derived or not.

from an internal object position,²⁷ as is the most common analysis of Psych-verbs (cf. Den Besten (1982), Bennis (1986), Belletti & Rizzi (1988), Grimshaw (1990), E. Hoekstra (1991) a.o.).²⁸ We now end up with a analysis of Psych-verbs which is in line with the analysis for adjectival constructions discussed in previous sections: ES-verbs are similar to adjectival constructions of the type MP-B and ES in all relevant respects. The main difference is that only Psych-verbs have the possibility to assign Case to an object. The D-structure of these constructions is given in (80).

The D-structure of EO-verbs is similar to (80) in most respects. They differ from ES-verbs in that these verbs require an additional causative layer of structure, as in (81).

²⁷ Note that the impossibility of *ne*-cliticization with EO-verbs, as in (i), and the impossibility of the Theme to appear in its D-structure position (V-Theme-Exp), as in (ii), can be derived from the fact that the Theme has to be moved to the subject position of CauseP in order to receive Case.

- (i) *Ne_i hanno preoccupato Gianni [solo due e_i]
Of-them worried John only two
- (ii) *Preoccupano le tue idee Gianni
Worry your ideas John

The S-structure subject may not receive Case at its D-structure object position, as appears to be possible in the case of ergative verbs, given that the EO-verb has to assign Case to the Experiencer argument. Such a derivational approach to EO-verbs also predicts that these verbs may appear in *as*-clauses as discussed in par.1.3. Although the theoretical status is unclear, it appears to be empirically justified to claim that propositional phrases that are generated in object position may appear as the empty element in *as*-clauses. The facts are rather unclear. A sentence such as (iii) should be just as ungrammatical as (iv) according to the non-derivational approach and as grammatical as (v) according to the derivational approach.

- (iii) ?Zoals mij telkens weer verbaast, houdt Jan van slakken
As surprises me again and again, John likes snails
- (iv) *Zoals mijn vooroordelen bevestigt, houdt Jan van slakken
As confirms my prejudices, John likes snails
- (v) Zoals door iedereen beweerd wordt, houdt Jan van slakken
As is asserted by everyone, John likes snails

According to me, (iii) is rather acceptable. This supports the derivational approach. I don't know why (iii) is somewhat marked in comparison with (v). Anyway, the facts on *as*-clauses do not provide us with a clear-cut distinction from which we may derive an argument in favour or against a derivational approach to EO-constructions.

²⁸ Note that the analysis adopted here crucially claims that the Experiencer is an external argument that can be lexicalized only if structural Case is available. This conclusion is in conflict with Belletti & Rizzi's approach, but in line with Pesetsky's. The further claim of Pesetsky that the subject of causative Psych-verbs is a Cause argument base generated in an external subject position can be accommodated in the theory presented here if we assume that all eventive Theme arguments must be externalized by lexical manipulation. In that case the D-structure of a Psych-verb construction would be similar to the structure adopted by Pesetsky. Although I think that the derivational approach is to be preferred both conceptually and empirically, further research on this topic is required to settle the issue.

The S-structure of a verbal Psych-construction is derived through A-movement of the Theme to [SPEC,Cause] and head-movement of V to Cause. The Experiencer is assigned Case structurally by V after moving into Cause. The Theme is assigned Case from an external source. If (81) would be the D-structure of adjectival Psych-predicates, the structure would lead to a violation of the Case filter, given that no internal nor external Case is available to assign to the Experiencer. I have argued that the solution to this Case problem can be found in lexical manipulation of the type Externalize Theme. The application of this rule results in the absorption of the Experiencer in order to prevent a violation of Thematic Hierarchy at the level of D-structure. It thus follows that after lexical manipulation no problem for Case theory arises because the problematic argument is no longer present structurally.

6 The distribution of thematic roles

The analysis of the Experiencer as an external argument in all the constructions in which an Experiencer appears, allows us to make a generalization concerning the status of this role. An important question is whether thematic roles are primitives of the theory. Although the actual labelling of thematic roles has not played an important role in generative theory for a long period, the distinction of different roles is crucial to recent work on argument structure. The problem with these roles as primitives is that it is by no means clear how to distinguish between different roles and how to find independent evidence that concepts of the type Agent and Experiencer are required as theoretical concepts. I would like to suggest that concepts of this type do not have a theoretical status, i.e. the interpretation of a particular NP as an Agent should follow from other principles of the theory. This might sound strange in a final section of a paper on argument structure. However, I will indicate that we do not need the concepts Agent, Experiencer and Possessor as part of the grammar. Note that I have argued throughout that these three thematic roles are assigned to external arguments. What I would like to suggest now is that the interpretation of an external argument as either Agent, Experiencer or Possessor can be derived from properties of the predicate the external argument belongs to. In particular I suggest the following interpretive generalizations:

- (82)
- a NP_{EXT} is interpreted as Agent
if NP_{EXT} is the subject of a dynamic predicate
 - b NP_{EXT} is interpreted as Possessor
if NP_{EXT} is the subject of a stative predicate
 - c NP_{EXT} is interpreted as Experiencer
if NP_{EXT} is not a subject

Given that concepts such as external argument, subject and dynamic/stative are well-defined and independently motivated, we can dispense with the concepts Agent, Possessor and Experiencer. It is evident that such a view on thematic roles has lots of consequences.²⁹ In the remainder of this paper I will briefly discuss two consequences which are relevant to the discussion in preceding paragraphs.

First, it follows from (82) that there are no Experiencer subjects. The generalization in (82) forces us to interpret the subject of a verb such as *fear* in (77) as different from the object of *frighten* in (76). Given that Psych-verbs of the type *fear* are stative, (82) predicts that their subjects are interpreted as Possessor.

²⁹ For a more extensive discussion on this subject I refer to work in progress by Wehrmann, in which it is proposed that all thematic roles can be dispensed with in favour of structural and aspectual information.

This prediction is supported by the fact that many of the ES-verbs have a variant in which the verb is replaced by the possessive verb *hebben* ('to have') with a bare singular object, derived from the ES-verb, while the object of the ES-verb appears in a PP. This alternation is shown in (83).

- (83) a Jan vreest / weet / kent / bewondert / waardeert mijn antwoord
 John fears / knows / knows / admires / estimates my answer
 b Jan heeft vrees / weet / kennis / bewondering / waardering van / voor mijn antwoord
 John has fear / knowledge / knowledge / admiration/ estimation of / for my answer

We do not find an alternation as in (83) with dynamic verbs, as in (84), nor with EO-verbs, as in (85). Given that the interpretation of the subject in (83b) is clearly possessive, it follows that the subject in (83a), which is analagous to (83b) in its interpretation, should also be interpreted as the entity that possesses the psychological state described by the predicate.

- (84) a Jan koopt / bouwt / verwoest een huis
 John buys / builds / destroys a house
 b *Jan heeft koop / bouw / verwoesting van / voor een huis
 John has buy / build / destruction of / for a house
 (85) a Dat belemmert / grieft / beledigt mij
 That impedes / hurts / insults me
 b *Dat heeft belemmering / grief / belediging van / voor mij
 That has impediment/ grievance / insult of / for me

A second consequence of the generalization in (82) is that it implies that there exists a complementarity in distribution between Agent, Possessor and Experiencer. To the extent that this consequence of (82) is empirically justified, it supports the theory adopted here, given that such a generalization does not follow from other proposals concerning the alignment of arguments. One immediate result of this complementary distribution is that we can explain why adjectives of the type *leuk* ('nice'), *vervelend* ('tedious'), *plezierig* ('pleasant') and *fijn* ('fine'), which may have an Experiencer argument (86a) or a Possessor argument (86b), do not appear with the Experiencer argument and the Possessor argument in one construction, as is demonstrated in (87) and (88).

- (86) a Dat is leuk / vervelend / plezierig / fijn voor Jan
 That is nice / tedious / pleasant / fine for John
 b Dat is leuk / vervelend / plezierig / fijn van Jan
 That is nice / tedious / pleasant / fine of John
 (87) *Dat is leuk / vervelend / plezierig / fijn van Jan voor mij
 That is nice / tedious / pleasant / fine of John for me
 (88) a Het is leuk IMP_i (voor mij_i) om PRO_i dat te vertellen
 b *Het is leuk IMP_i voor mij_i om PRO_i dat te vertellen
 It is nice (for me) for PRO that to tell

The non-occurrence of two implicit arguments in (87) explains the fact that the *van*-PP and the *voor*-PP, which are both adjuncts related to an implicit argument, do not co-occur. The ungrammaticality of (88b) shows the same thing: an implicit Possessor argument cannot control a PRO-subject in the presence of a *voor*-PP, binding an implicit Experiencer argument. It thus follows that an implicit argument can be interpreted as a Possessor or as an Experiencer, but these two do not co-occur.³⁰ Related to this is the

³⁰ As observed by Van den Wyngaerd (1991) there are some counterexamples to this claim. To some extent a sentence such as (i) is acceptable.

(i) Het is vervelend [IMP_i] voor Marie_i [om PRO_i zo vroeg weg te gaan]
 It is tedious for Mary [for PRO so early to leave]

I will assume that the *voor*-phrase in (i) is not related to an implicit argument, but rather an adjunct-PP with a bene-/male-factive interpretation. *Voor*-phrases of this type can be added to many predicates in which there is no implicit argument

generalization that only Possessor (*van*-PP), Experiencer (*voor*-PP) and Agent (*door*-PP) may appear as implicit argument. The fact that these roles behave as a natural class with respect to absorption supports the claim that they are instances of one role: the external argument.

A potential problem for the thesis that Agent and Experiencer do not co-occur in one predicate is the construction with dynamic Psych-verbs. It has often been noted that verbs such as *interesseren* ('to interest') and *amuseren* ('to amuse') may appear in two constructions. Either they appear as regular EO-verbs, as in (89a), or they appear with an agentive subject, as in (89b). This dual behaviour can be found with many EO-verbs.

- (89) a Die dingen interesseren / amuseren mij
 Those things interest / amuse me
 b Hij interesseert / amuseert mij voor / met die dingen
 He interests / amuses me for / with those things

There are two ways to approach this problem. First, we may claim that the NP *mij* is interpreted as an Experiencer in (89a), but not in (89b). It is obvious that such an approach to rescue the hypothesis that thematic roles are derivative is not a very interesting one. It would require us to make subtle semantic distinction without empirical support. Moreover, it would lead us to false predictions, for instance with respect to extraction from the Experiencer (cf. section 2).

I would like to claim that an Agent (*hij*) and an Experiencer (*mij*) co-occur in (89b). The reason that they may co-occur without violating the generalization in (82) is that they are the external arguments of different predicates. *Hij* is the external argument of an (unergative) causative projection, whereas *mij* is the external argument of the verb *interesseren*. I have argued before that EO-verbs constitute complex predicates in such a way that the projection of the verbal head is dominated by a causative predicate. Without further argumentation it was assumed that this causative predicate is ergative in the sense that it doesn't assign a thematic role to its subject. This subject position was taken to be the landing site for the eventive Theme. We now may add that causative projections can be unergative as well. We thus can explain the alternation in (89) by making use of the independently motivated complex structure of EO-predicates, in combination with the expected alternation between ergative and unergative predicates.

7 Summary

In this paper I have argued that the argument structure of adjectives may provide us with insights in the way in which arguments should be aligned. There are basically two types of adjectival constructions. Either the external argument is realized as the subject (Possessor), or an internal Theme appears as the subject. I have tried to show that internal arguments can be externalized by different operations. The unmarked case of externalization is NP-movement, as was shown to be the case with ergative adjectives. Unergative adjectives appearing in constructions in which the external argument is present in the lexical grid can only externalize their internal argument by lexical manipulation of the type Externalize Theme. I have indicated that this operation goes together with absorption of the external argument and stripping of other internal argument. The reason being that lexical operations are subject to a lexical hierarchy, which restricts lexical operations in a way similar to the way in which the Projection Principle restricts syntactic operations. I have argued that those adjectival constructions that require lexical externalization are syntactically complex in such a way that the adjectival projection is dominated by a causative projection. This additional layer of structure makes it possible for us to argue that the Experiencer is an external argument. This in turn allows us to analyse the Experiencer as structurally Case-marked. This latter claim is motivated by the fact that the realization of an Experiencer-NP in present participle constructions turns out to be dependent on the categorial status of the participle. Verbal present participles are able to assign Case and thus may license an NP-Experiencer, while adjectival present participles do not assign Case. This has led us to an analysis of Psych-verbs which takes the complex structure of Pesetsky's proposal as a starting point, while retaining the NP-movement analysis of Belletti & Rizzi. Finally it was indicated that an approach along these lines allows us to make

possible. Such an analysis is supported by the fact that we do not find cases such as (i) with a *van*-phrase, because *van*-phrases do not have a comparable adjunct interpretation.

generalizations about thematic roles, in such a way that we can derive the interpretation of a particular role from structural and aspectual properties. We thus do not need labels of the type Agent, Possessor and Experiencer anymore. They are external arguments in different configurations. To what extent a similar approach is successful with respect to other thematic roles, such as Theme, Patient and Goal, remains to be investigated.³¹

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³¹ Recent work in progress by Hoekstra and by Wehrmann suggests that the distinction between Patient and Theme can be replaced by a structural representation as well. Theme is the subject of a small clause dominated by a lexical category, whereas Patient is the NP object of verbs.