Object Shift and Subject Shift[*]

Hans Broekhuis

1. Introduction

This paper compares Scrambling of the direct/indirect object to NP-movement of the subject, and it will show that the two processes are subject to more or less the same restrictions. In order to stress these similarities, I will refer to the two processes as object shift and subject shift, respectively. The use of the notion of object shift is to suggest that Dutch/German Scrambling of noun phrases is the same process as what is normally referred to as object shift in the Scandinavian languages: both processes were analyzed as cases of A-movement in Broekhuis (1999a, 1999b & 2000).[1] By also using the notion of subject shift, I aim at stressing the formal identity of (the intended type of) Scrambling and NP-movement.

The papers mentioned above argue that the core cases of Dutch Scrambling can be described by assuming the constraint ranking in (1).

(1)   Dutch: AGREEMENT >>ALIGNFOCUS >> CASE >> STAY

The constraints AGREEMENT and CASE require that the -Interpretable agreement and case features, which are assumed to be situated on V and v, respectively, be checked by means of overt-syntactic movement of the object into the checking domain of V and v. The fact that these two constraints outrank STAY means that, in the normal case, these movements take effect. The constraint ALIGNFOCUS requires that the prosodically unmarked focus be the rightmost constituent in its clause. The fact that this constraint outranks CASE blocks movement of the noun phrase into the local domain of v when the object is part of the focus of the clause. The fact that AGREEMENT outranks ALIGNFOCUS expresses that movement of the object into the local domain of V also applies when the object is part of the focus of the clause. Consider the structure in (2).

(2) $[OBJ_3 ... v [OBJ_2 ... V OBJ_1]]$

Adopting Kayne's (1994) *universal base hypothesis*, according to which all languages have an underlying specifier-head-complement order, the position OBJ_1 in this structure is the base position of the object. Position OBJ_2 is the position in which the agreement features of V are checked. The partial ranking AGREEMENT >> ALIGNFOCUS >> STAY expresses that movement into this position is obligatory, irrespectively of the question whether the object is part of the focus of the clause or not, that is, that Dutch is an OV-language. Position OBJ_3 is the position where the case features of the object and v are checked. The partial ranking ALIGNFOCUS >> CASE >> STAY expresses that this movement is blocked when the object belongs to the focus

[1] Following Vanden Wyngaerd (1988/1989b) for Dutch/German and Vikner (1994) for the Scandinavian languages. Note that scrambling is normally used as a cover term for various sorts of movement in the middle field of the clause. This paper will be concerned only with movement of the A-type, that is movement of DP/NP, not movement of the A′-type like Focus- or Neg-movement, which may also be applied to categories other than DP/NP.

of the clause, but that it is obligatory in other cases, that is, that Scrambling is sensitive to the information structure of the clause.
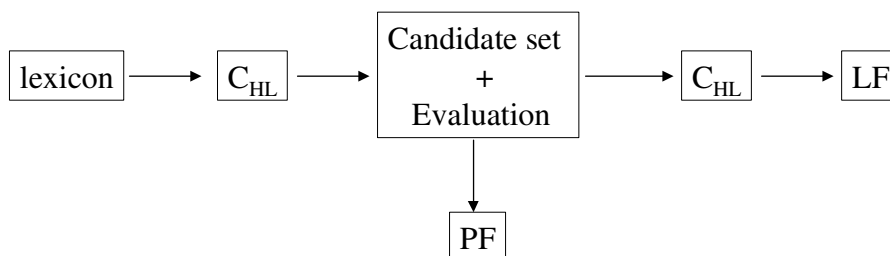
Since the constraint ranking in (1) is not specifically intended for the object of the clause, this ranking predicts that the subject of the clause should exhibit similar behavior as the object. Section 3.1 of this paper will show that, indeed, the subject exhibits behavior that would be expected on the basis of the partial ranking ALIGNFOCUS >> CASE >> STAY, and in this respect it supports the analysis of Dutch object shift in Broekhuis (1999b & 2000). However, the subject does not exhibit the behavior that would be expected on the basis of the partial ranking AGREEMENT >>ALIGNFOCUS >> STAY. Section 3.2 will argue that this is not problem for the analysis but follows from the nature of the agreement relations the object and the subject enter into. In section 4, I conclude with some speculations on "short" object shift, that is, scrambling into a position following the sentence adverbs.

Before I start the discussion of subject shift, I will first briefly outline the framework that is underlying the proposal in order to enable the reader who is not familiar with Broekhuis (1999a, 1999b & 2000) to place the discussion in its wider context. This will also enable me to slightly update the framework in the light of recent developments in the minimalist program.

2.   The D&E framework

The framework assumed in this paper is the derivation-and-evaluation (D&E) model as developed in Broekhuis and Dekkers (2000) and the references cited above. In its original formulation, the D&E model takes an adapted version of Chomsky's (1995a) computational system of human language (C_{HL}) as a generator, which produces candidate sets that are evaluated in an optimality theoretic manner.

(3)   The derivation-and-evaluation Model (Broekhuis and Dekkers 2000)

Just as in the minimalist program (MP), the computational system C_{HL} is assumed to be universal and to consist of operations that are conceptually necessary, that is, operations like MERGE, MOVE/ATTRACT and DELETE. The D&E model therefore differs from "standard" OT in that the former assumes a highly structured generator, the operations of which are furthermore subject to inviolable conditions: any application of MOVE/ATTRACT, for example, must satisfy Last Resort and the Minimal Link Condition.[2] The net result is that each candidate set contains a limited number of candidates only. The main difference with "standard" version of MP is that C_{HL} is not parameterized: there are no strong/weak or EPP-features that may force or block the application of a certain operation. Neither can an

---

[2] In other words, conditions like (84) in Chomsky (1995a:297), hold in full force: *K attracts F iff F is the closest feature that can enter into a checking relation with a sublabel of K.*

operation be blocked by the availability of a more economical option.[3] At any point P in the derivation, C_{HL} may choose between applying or not applying the operation(s) that could in principle be performed at P; C_{HL} thus defines a candidate set, which can be seen as a family of derivations. The candidate sets defined by C_{HL} can be assumed to be very similar, perhaps universal, for all languages: if there is any variation in candidate sets, it may be limited to differences resulting from e.g. the affixal/non-affixal or the categorial nature of the lexical elements involved in the derivation.

As in OT, the variation between languages is due to a difference in ranking of the universal violable constraints in CON. Instead of assuming strong/weak or EPP-features, it is assumed that the constraint F, which requires overt checking of the -Interpretable feature F, can be ranked higher or lower than the economy constraint STAY. Under the weak ranking in (4a) overt feature checking is excluded, whereas under the strong ranking in (4b) overt feature checking is forced. The main advantage of this formalization of "feature strength" is that even under the weak ranking movement can be forced provided that there is some higher ranked constraint A that favors overt movement (cf. (4c)), and that even under the strong ranking overt movement can be blocked provided there is some higher ranked constraint B that disfavors the movement (cf. (4d)). This was amply illustrated in Broekhuis (1999a, 1999b & 2000).

(4)   a.   weak ranking: STAY >> F
       b.   strong ranking: F >> STAY
       c.   A >> STAY >> F (if A favors movement, 'Procrastinate' is overruled)
       d.   B >> F >> STAY (if B disfavor movement, 'Strength' is overruled)

The D&E model in (3) was modeled after the MP version in Chomsky (1995a). The main idea was that the optimality theoretic evaluation uniquely determines the Spell-Out point for each language. The assumption that the computation continues after the evaluation in order to eliminate the yet-unchecked features, however, was criticized by various students in OT-syntax. And, indeed, there is some tension between this assumption and the conclusion reached by Broekhuis and Dekkers (2000) that the candidates in a single candidate set must have the same meaning, where "meaning" includes notions concerning information structure (as originally proposed by Grimshaw 1997).[4] The information needed for LF is therefore present at the point of evaluation, and the assumption of post-evaluation application of C_{HL} is only needed for theory-internal reasons, more specifically, for satisfying Full Interpretation. Elimination of post-evaluation application of C_{HL} is therefore desirable.
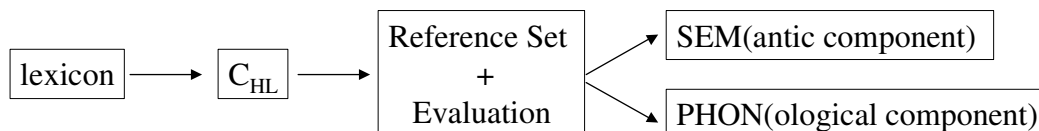
In order to obtain this, Dekkers (1999: 33ff) proposes that at the point of evaluation all -Interpretable features are checked, checking being obtained by feature movement. The question whether feature movement is reflected in the phonetic output depends on the ranking of the PARSE constraints, which require that movement of the formal features pied pipe the phonological features, and STAY, which in effect blocks pied piping. Since the proposal in Broekhuis (1999a, 1999b & 2000) crucially assumes that certain movements do **not** apply

---

[3] Cf. Broekhuis and Klooster (2001) who argue that Merge is not universally preferred to Move: assuming that Merge is costless simply gives rise to the wrong empirical predictions. The fact that Merge *seems* to come for free in English is simply due to the fact that Move is generally not a favored option in this language, that is, that STAY is ranked fairly high and outranks *MERGE (= do not merge): STAY >> *MERGE. For Dutch the ranking is arguably the inverse: *MERGE >> STAY.

[4] Broekhuis and Klooster (2001) show that it is not the enumeration that determines the candidate set: in fact, they show that the assumption that derivations take a numeration as their input is empirically wrong. The notion of enumeration should therefore be eliminated. If so, the assumption that candidates sets are defined in terms of meaning seems to be the only logical possibility left that is consistent with the data: we would not like an example such as *I will read you a poem tomorrow* to be blocked by the derivationally simpler form *I will read you a poem*.

overtly, I could not adopt Dekker's proposal.[5] The operation Agree (checking at a distance) introduced in the Minimalist Inquiry framework (Chomsky 2000, 2001a & 2001b), on the other hand, can in principle be made compatible with the conclusions reached in these papers. Although this still need be demonstrated, I will take this for granted and conclude that the post-evaluation application of C_{HL} can be eliminated. As a result, we can simply say that the evaluation determines the optimal input for the semantic and phonological component.

(5)   The derivation-and-evaluation Model (revised)

```
                               ┌──────────────┐      ┌────────────────────────┐
                               │ Reference Set│  ↗   │  SEM(antic component)  │
 ┌─────────┐      ┌──────┐     │      +       │      └────────────────────────┘
 │ lexicon │ ───→ │ C_HL │ ──→ │  Evaluation  │      ┌────────────────────────────┐
 └─────────┘      └──────┘     │              │  ↘   │ PHON(ological component)   │
                               └──────────────┘      └────────────────────────────┘
```

As a result, the postulated constraints and their rankings can be considered an explicit hypothesis about the bare output conditions, which still await explicit formulation in MP: what we have in D&E is of course still unpretentious but at least the general format that these bare output conditions should take is clear. The assumption that the constraints are part of the definition of the bare output conditions also drastically reduces the type of constraints that one would expect. Apart from general economy constraints like STAY, the constraints should bear directly on C_{HL}, SEM or PHON.

(6)   • Typology of constraints
     a.   economy constraints, e.g., STAY
     b. C_{HL} constraints, e.g., the constraint family F
     c.   SEM constraints, e.g., ALIGNFOCUS
     d.   PHON constraints, e.g., LE(CP)

    Although the model in (5) comes even closer to the standard OT-framework than that in (3), the discussion above should make it clear that the proposal is more cognate to MP than to the bulk of work in OT-syntax (or OT-phonology for that matter): a quick survey in OT-syntax reveals that there is no real metatheory on constraints: there are few or no explicit restrictions concerning the kind, the number or the complexity of constraints. In D&E, however, the constraint must belong to one of the four constraint types in (6), the number of constraints should be as small as possible, and the constraints should be maximally simple (preferably simple statements without the use of connectives like *and*, *or*, *unless*, *etc.*).
    Actually, it seems to be the case that D&E, despite the fact that it introduces an optimality theoretic evaluator, has about the same degree of complexity as the technical apparatus of the "standard" version of MP. A full comparison is not possible, of course, because the empirical domains covered by the two proposals do not fully coincide. But to make a start I will show that, in as far as the two can be compared, the technical apparatus of D&E does not exceed that of MP.
    The computational system C_{HL} is more or less the same in the two systems, at least in the sense that it involves the same operations: Merge, Agree, Move and Delete. Also the (inviolable) conditions on these operations can be assumed to be the same. The D&E system is simpler in that it makes the postulation of strength/EPP-features and economy conditions like "Merge is cheaper than Move" superfluous. These complicating factors have not been

---

[5] At least, under the assumption that the locality constraints on movement also apply to feature movement, which would be the case if the Minimal Link Condition is a part of the definition of Attract/Move, as was assumed so far.

eliminated, however, but simply reappear in some other form, namely as constraints. In order to compare the degree of complexity, we therefore have to see whether the postulated D&E constraints do or do not have a counterpart in MP.[6]

As in most work in OT-syntax, the constraint STAY in (7) plays an important role in D&E. This constraint has its counterpart in MP in economy principles like Procrastinate, Fewest Steps and the like. Other economy constraints may be *Merge, mentioned in fn. 3, and Grimshaw's (1997) NoLexM.

(7)   STAY: *t

The economy constraint STAY interacts with a set of constraints that can be assumed to be part of the constraint family F in (8), which requires a -Interpretable feature F to be checked by a feature in its checking domain. The constraint family F is therefore concerned with C_{HL}, and can be compared to feature strength or the EPP-features, which drive movement in MP. Constraints that are part of this family are CASE, AGREEMENT, WH, TOPIC, FOCUS, NEG, etc. We could call these C_{HL} constraints.

(8)   F: check F locally

Another C_{HL}-constraint briefly mentioned in Broekhuis (2000) is EPP, which requires the subject position of the clause to be filled and which is of course borrowed from the P&P framework. We will see in section 3.2 that the function of EPP can be performed by one of the constraints from F, and hence need not be stipulated separately.

The third set of constraints bears on SEM. The SEM constraints adopted in Broekhuis (1999a, 1999b & 2000) are related to the information structure of the clause: ALIGNFOCUS in (9a), which was adapted from Costa (1998), and D-PRONOUN in (9b), which is based on Diesing (1997). These SEM constraints find their parallel in the interpretive complex *Int* (which include at least new/old information) postulated in Chomsky's (2001a:31). Another SEM constraint is SCOPE in (9c), which will be introduced in the discussion below.

(9)   a.   ALIGNFOCUS: The prosodically unmarked focus is the rightmost constituent in its clause.
         b.   D-PRONOUN: A (d-linked) definite pronoun must be vP-external: *$[_{vP} ... pron_{[+def]} ...]$
         c.   SCOPE: relative scope corresponds to hierarchical order.

The final set of constraints bears on PHON. The PHON constraints are of the type proposed by Pesetsky (1998), such as LE(CP), TEL, which were also adopted in Broekhuis and Dekkers (2000). These PHON constraints do not have a counterpart in MP, which is due to the fact that, to my knowledge, MP has had nothing to say so far about the phenomena discussed in these papers (e.g. doubly filled Comp phenomena). Another PHON-constraint is AFFIX, which requires that an affix be phonologically supported. This is of course a reformulation of the Stray Affix Filter, which is also adopted in MP.

In sum, we can say that the descriptive apparatus of MP and D&E is comparable in size. If we want to make a choice between these two approaches, we therefore have to take recourse to other criteria. And the proof of the pudding is, of course, in the eating: which proposal provides the most elegant solutions for the problems under consideration and the best description of the data?

---

[6] That is to say, in my version of D&E: Dekkers (1999) contains a small number of constraints that are not assumed here.

3.   The problem

Section 1 has already discussed that the constraint ranking in (1), repeated here as (10a), expresses that the object of the verb obligatorily moves into the local checking domain of V (position OBJ$_2$), thus giving rise to the OV order, and into the checking domain of v (position OBJ$_3$) when it is not part of the focus of the clause. The latter movement is what is referred to as Scrambling or object shift.[7]

(10)   a.   Dutch: AGREEMENT >>ALIGNFOCUS >> CASE >> STAY
        b.   [OBJ$_3$ ... v [OBJ$_2$ ... V OBJ$_1$]]

Since the constraints AGREEMENT and CASE simply require that the Φ- and Case features be checked, they do not distinguish between subjects and objects. Consequently, the prediction is that subjects and objects behave similarly: agreement on the finite verb should obligatorily trigger movement of the subject, whereas case checking should only do so when the subject is part of the presupposition of the clause. Section 3.1 will show that the latter prediction is indeed borne out, so that this provides evidence in favor of the assumption that subject shift and object shift are essentially the same operation. Section 3.2, however, will show that the former prediction is incorrect. I will argue that this is not a problem for the present analysis but follows from the nature of the agreement relations the object and subject enter into.

3.1.   ALIGNFOCUS >> CASE >> STAY

Consider the examples in (11). Example (11a) illustrates the fact that object shift of definite noun phrases is apparently optional. Object shift must apply, however, when the noun phrase is part of the presupposition of the clause, whereas it cannot apply when the noun phrase is part of the focus of the clause; the latter case is marked by assigning main stress to the object. Example (11b) shows that non-specific, indefinite noun phrases never shift, which is due to the fact that they are necessarily part of the focus of the clause. Finally, example (11c) shows that definite pronouns obligatorily shift, which is due to the fact that they are never part of the focus of the clause.[8] Under the assumption that Case is checked in a position preceding the sentence adverb, this is precisely what the ranking ALIGNFOCUS >> CASE >> STAY predicts.

(11)   a.   dat   Jan <mijn huis>   waarschijnlijk <mijn huis> koopt.
              that Jan my house   probably   buys
              'that Jan will probably sell his house.'
        b.   dat   Jan <*een huis>   waarschijnlijk <een huis> koopt.
              that Jan a house   probably   buys
        c.   dat   Jan <het> waarschijnlijk <*het>   koopt.
              that Jan it   probably   buys

Now, consider the examples in (12). Example (12a) shows that a definite noun phrase acting as the subject need not be moved into the "regular" subject position adjacent to the complementizer, but may remain in a lower position (probably Spec$v$P). As in the case of object shift, the application of subject shift depends on the information structure of the

---

[7] I will refrain from giving a formal exposition here. The interested reader is referred to Broekhuis (1999a, 1999b & 2000) for detailed analysis.

[8] Note that I only consider cases with a more or less "neutral" intonation pattern with main stress on the verb or the direct object. Use of contrastive or emphatic accent may change the judgments on the examples under discussion. In *Je hebt waarschijnlijk HEM gezien* 'You probably saw HIM' the emphatic accent on the definite pronoun *hem* cancels the need of object shift.

clause: the subject can only remain in situ when it is part of the focus of the clause, which also in this case is normally marked by assigning main stress to the subject. Example (12b) shows that non-specific, indefinite noun phrases do not shift into the regular subject position: the shift is possible, but then the noun phrase receives a *specific* interpretation.[9] Example (12c), finally, shows that definite pronouns must shift (but see fn. 8).

(12) a. dat <de buurman> waarschijnlijk <de buurman> zijn huis koopt.
          that the neighbor   probably   his house buys
      b. dat <#een onbekende> waarschijnlijk <een onbekende> zijn huis koopt.
          that a stranger   probably   his house buys
      c. dat <ik> waarschijnlijk <*ik> zijn huis koop.
          that I   probably   his house buy

    Subjects and objects do not only behave similarly with respect to movement when they are one of the three noun phrase types mentioned above, but also when they are of some other noun phrase type. Consider the examples in (13).

(13) a. dat Jan alle boeken vaak meeneemt.   (∀ > vaak)
          that Jan all books   often takes-along
      b. dat Jan vaak alle boeken meeneemt.   (vaak > ∀)

The difference between (13a) and (13b) is not related to the information structure of the clause but to the relative scope of the adverb *vaak* 'often' and the universally quantified noun phrase *alle boeken* 'all books'. To a large extent, scope relations between XPs in the middle field can be read off of the linear order of the clause in Dutch. This could be accounted for by assuming the constraint SCOPE in (9c) above, which requires that scope relations correspond to hierarchical (thus linear) order.[10] When we assume the ranking SCOPE >> CASE, object shift is blocked in (13b). What is crucial here is that SCOPE does not only block object shift in (13b), but also subject shift in (14b), as expected.[11]

---

[9] The fact that the object shift is not compatible with the intended reading is indicated by means of "#". The notions of non-specific and specific indefinite noun phrase are normally imprecisely described as "unknown to speaker and hearer" and "unknown to hearer only", respectively. Specific readings may also result from object shift.

[10] Of course, postulating SCOPE does not imply that relative scope can always be read off from linear order. For example, in languages where STAY outranks SCOPE, the optimal candidate may violate SCOPE. Further, the movement which gives rise to the desired order must satisfy LAST RESORT. This accounts for the fact that when the universally quantified DP is the complement of a PP, scope ambiguities do arise in Dutch. Example (i), adapted from Den Besten and Broekhuis (1992), is ambiguous between the ∃∀ reading and the ∀∃ reading. Actually, the latter is the preferred one for extra-linguistic reasons. In passing, note that it is also possible to say *dat Peter in elke vaas een bloem zet* but this requires a special intonation pattern, which might indicate that the PP then has been moved into e.g. SpecFocP.

(i)   dat Peter een bloem in elke vaas zet.
         that Peter a flower in every vase put
         'that Peter puts a flower in every vase.'

[11] In passing, note that the examples in (14) show again that it is not the numeration that determines the candidate set (cf. fn. 4). The examples in (14a) and (14b) are based on *the same numeration*, so that (14a) should be blocked by (14b) as the less economical derivation (it involves one additional violation of STAY). By assuming that the candidates in the candidate set must have *the same meaning*, however, (14a) and (14b) are not part of the same candidate set, so that they cannot be compared, which correctly predicts that both are possible.

(14)   a.   dat   alle studenten   vaak   hier   zijn.   ($\forall$ > vaak)
               that   all students   often   here   are
        b.   dat vaak alle studenten hier zijn.   (vaak > $\forall$)

More examples of the type in (11) to (14) can readily be found, and as far as I can see the conclusion is invariantly the same: object and subject shift are subject to the same conditions. Further comparison of object and subject shift for other noun phrase types is important since it may give us more insight in the constraints that make up the interpretive complex *Int* alluded to in Chomsky (2001a). I will not explore the issue any further here, and instead turn to a more problematic aspect of the analysis: the fact that AGREEMENT does not seem to force the application of subject shift.

3.2.   AGREEMENT >>ALIGNFOCUS >> STAY

As was indicated above, the fact that AGREEMENT outranks STAY accounts for the OV nature of Dutch. Since considerations of information structure cannot block agreement-driven object shift, the direct object obligatorily moves from its postverbal base position into the checking domain of V, which is assumed to have -Interpretable Φ-features. When the evaluator compares the two substructures in (15), (15b) will be selected as the optimal candidate.

(15)   a.   ... [... $V_{[+\Phi]}$ $Obj_{[+\Phi]}$]]
        b.   ... [$Obj_{[+\Phi]}$ V [... t_V t_{Obj}]]

Now assume that finite I also has -Interpretable Φ-features, so that we have the structures in (16a). Also in this case the evaluator will select the b-candidate as the optimal one. This means that the subject obligatorily moves into SpecIP, that is, into the "regular" subject position.

(16)   a.   [$I_{[+\Phi]}$ ... [$_{vP}$ $Subj_{[+\Phi]}$ v [$_{VP}$ ....]]]
        b.   [$Subj_{[+\Phi]}$ I ... [$_{vP}$ t_{Subj} v [$_{VP}$ ....]]]

As we have seen in Section 3.1 this prediction is wrong. So, we have to ask ourselves whether this refutes the general framework we are pursuing or whether something special is going on in the case of the subject. If the latter, there are two possibilities: the subject differs in some way from the object, as a result of which the subject cannot be attracted by I, or I differs in some way from V as a result of which it does not attract the subject.

      It is not difficult to show that the absence of subject shift is not due to some difference between the subject and the object, but to some difference between I and V. First, consider the examples in (17a&a′), which contain the dyadic unaccusative verb *overkomen* 'to happen', and in which the definite subject *de ergste rampen* 'the most terrible disasters' can either follow the indirect object or be placed in the "regular" subject position (Den Besten 1985a). That the subject need not move into SpecIP for case checking follows from the discussion in section 3.1: when the definite subject belongs to the focus of the clause, as in (17a), movement for case checking is blocked by ALIGNFOCUS; when it is part of the presupposition of the clause, as in (17a′), movement for case checking must apply. The examples in (17b&c) show that also indefinite and pronominal subjects behave as expected.

(17)   a.   dat   het meisje_{dat.}   de ergste rampen_{nom.}   overkwamen.
            that   the girl   the most terrible disasters happened
            'that the most terrible disasters happened to the girl.'
       a′. dat de ergste rampen_{nom.} het meisje_{dat.} overkwamen.
       b.   dat <[#]erge rampen_{nom}> het meisje_{dat.} <erge rampen_{nom}> overkwamen.
       c.   dat <zij> het meisje <*zij> overkwamen.

The important thing to note at this point is, however, that the subject must *precede* the verb in clause-final position. Since the subject is an internal argument, it can only end up in this position if it has moved from its postverbal base-position into the preverbal position. Since Case cannot be involved in this movement, the movement must have been triggered by the -Interpretable Φ-features on V, that is, agreement. Given that the Φ-features of I do not trigger a similar movement of the subject into SpecIP, it is clear that the problem under discussion is not caused by some difference between the subject and the object, but by some difference between I and V.

So the next question is: In what respect are V and I different? I will argue that the difference lies in the fact that they do not contain the same set of -Interpretable Φ-features. In other words, the problem is due to the fact that the proposal in Broekhuis (1999b & 2000) is based on too simple a view on Φ-features. Once we have a better understanding of these features, everything will fall in place.

There is a general tendency to look upon Φ-features as a semantic unit: Φ-features are the gender, number and person features of noun phrases. Also in syntax the Φ-features are normally treated as a complex object, a feature bundle. There are, however, good reasons to not adopt such a view on the Φ-features. First of all, Φ-features of nouns fall into two categories: the features [number] and [person] are +Interpretable features, whereas [gender] is a -Interpretable feature (in most cases, at least). Further, it might be the case that the three features are introduced into the derivation by different elements: [gender] is a lexical property of nouns so it must be introduced into the derivation by the noun itself; the features [number] and [person], on the other hand, might well be introduced by the functional heads Num and D, respectively. The fact that we think of the Φ-features as a feature bundle is therefore not because they constitute a unit of some sort, but because they are normally combined within a single DP.

It is, however, not a logical necessity that the three always co-occur. They may, as in (18a), where we are dealing with a definite noun phrase headed by a count noun. But it may also be the case that one of the functional heads (hence Φ-features) is missing: in (18b) this is illustrated by a definite noun phrase headed by a non-count noun and in (18c) by an indefinite noun phrase headed by a count noun. In (18d) we are dealing with an indefinite noun phrase headed by a non-count noun with no functional head at all (hence only a gender feature). Assuming something like this would be entirely in line with the Bare Phrase Structure approach developed in Chomsky (1995b).[12]

---

[12] This does not imply, of course, that the features must be phonologically supported. Features may also be inserted into the structure by abstract functional heads. The behavior of generic noun phrases (e.g. the fact that they may not occur in expletive constructions: *there is red wine healthy*) suggests that they contain a [person] feature, that is, an empty D; cf. (23) below. See Longobardi (1994) and later work for further discussion.

(18)   • Structure   • Example
   a. $[D_{[person]} [NUM_{[number]} [N_{[gender]}]]]$ de vier/∅ mannen
                                                       the four/∅ men

   b. $[D_{[person]} [N_{[gender]}]]$ de wijn
                                                       the wine

   c. $[NUM_{[number]} [N_{[gender]}]]$ vier/∅ mannen
                                                       four/∅ men

   d. $[N_{[gender]}]$ wijn
                                                       wine

     If it is true that the Φ-features on nouns phrases are introduced into the derivation by separate heads, there is no reason to assume that the -Interpretable Φ-features that trigger movement of the noun phrase always makes up a complete Φ-feature bundle: V may contain a different subset of the Φ-features than I. That something like this is indeed the case is suggested by the overt morphology that is used to express object and subject agreement. In the Romance languages, for instance, object agreement typically involves gender (and number), whereas subject agreement involves person (and number). This is illustrated in (19), taken from Burzio (1986): the object clitic *la* agrees in gender and number with the participle, whereas the subject *Giovanni* agrees with the finite verb in person and number.

(19)   Giovanni la   ha   accusata.
         Giovanni her has$_{3sg}$ accused$_{fem,sg}$
         'Giovanni has accused her.'

Let us by way of hypothesis assume that the following holds, postponing the question why the distribution of the -Interpretable Φ-features is as it apparently is; see also Chomsky (2001a), where similar intuitions as in (20) are exploited.

(20)   a.   V has the -Interpretable Φ-features [gender] and [number]
       b.   I has the -Interpretable Φ-features [person] and [number]

The solution to the problem posed by the subject-object asymmetry under discussion now suggests itself. Apparently, I was wrong in assuming a single constraint AGREEMENT for all cases of agreement: instead we must assume separate constraints, one for each Φ-feature, as in (21).

(21)   a.   AGR$_{PERSON}$: check [person] locally
       b.   AGR$_{NUMBER}$: check [number] locally
       c.   AGR$_{GENDER}$: check [gender] locally

The desired distinction can now be made by assuming that AGREEMENT in the Dutch ranking in (1) is actually AGR$_{GENDER}$: it is the gender feature on V that forces movement of the postverbal object into preverbal position. Since we have seen that movement into SpecIP depends on the question whether the subject is part of the presupposition or the focus of the sentence, we have to assume that AGR$_{PERSON}$ and AGR$_{NUMBER}$ are outranked by ALIGNFOCUS. Since the precise position in the ranking cannot be determined on the basis of the data under discussion, we leave the ranking between STAY and these agreement constraints undetermined; this is expressed by the (X = Y) notation.

(22)   Dutch: AGR$_{GENDER}$ >>ALIGNFOCUS >> CASE >> (STAY = {AGR$_{NUMBER}$, AGR$_{PERSON}$})

By way of exercise let us see what the constraint ranking of English is. When we assume that the object remains in its base position (which is by no means uncontroversial; cf. e.g. Johnson 1991), we have to assume that STAY forces a violation of all constraints that favor object shift. Under the assumptions so far this means that STAY outranks CASE, AGR$_{GENDER}$ and AGR$_{NUMBER}$. Given this conclusion there is only one option left to force subject shift: AGR$_{PERSON}$ outranks STAY. Since subject shift is not sensitive to the information structure of the clause, AGR$_{PERSON}$ also outranks ALIGNFOCUS. This gives the English ranking in (23).

(23)   English: AGR$_{PERSON}$ >> STAY >> (ALIGNFOCUS = CASE = { AGR$_{GENDER}$, AGR$_{NUMBER}$})

Ranking (23) shows that we need not take recourse to EPP in order to account for subject shift; EPP can therefore be eliminated. Note that the proposal in (23) is fully compatible with Chomsky's proposal that expletives are inserted in order to satisfy the EPP: the expletive *there* is a D-element, which is therefore adorned with a [person] feature and merging it into SpecIP would indeed result in checking the person feature of I.[13] At the same time, the Dutch ranking in (22) predicts that Dutch need not take recourse to an expletive. And this seems true also, as is clear from the fact that SpecIP can remain empty in Dutch; see, for instance, the examples in (12a&b) and (14b). This also implies that Dutch element *er*, which is often considered the counterpart of English *there*, is not an expletive. And, actually, there is evidence that Dutch *er* and English *there* are different. In Chomsky (2001a, examples 28 and 29), it is shown that the expletive *there* blocks *wh*-movement of the subject, as in (24a′), whereas it does not block *wh*-movement of other phrases. In Dutch, on the other hand, the counterpart of (24a′) is fully acceptable. This can be understood better, when *er* and *there* are different kind of entities.[14]

(24)   a.   There were several packages placed on the table.
        a′.   *How many packages were there placed on the table?
        b.   Er   werden verscheidene pakjes   op de tafel   gezet.
              there were   several packages   on the table   placed
        b′.   Hoeveel pakjes   werden er   op de tafel   gezet?
              how many packages   were   there on the table   placed

4.   Some speculations

Although the discussion above is encouraging, we are still far from arriving at a fully descriptively adequate theory on Scrambling of the A-movement type. Let us see what we did accomplish so far, and what still remains to be done. Consider the derivation of a transitive construction in Dutch. The first step in the derivation is Merge of V and the internal argument OBJ, as in (25a): for concreteness sake, assume that the direct object has a complete set of Φ-features. According to (20a), V only has the features [gender] and [number]. At this point in the derivation, C$_{HL}$ has the option of erasing the -Interpretable Φ-features of V by means of Attract/Move or by means of Agree. Since the optimal Dutch candidate has opted for the movement option, I give that step in the derivation as (25b); note that the movement of V is forced by the assumption in Broekhuis (1999b & 2000) that heads do not have multiple specifiers but may create an additional phrase structure layer in order to facilitate checking;

---

[13] Note that this does not imply that I believe Chomsky's approach to expletive constructions to be correct. Actually, I don't (see Broekhuis and Klooster 2001). It is nevertheless worthwhile to discuss this option in case I am wrong in rejecting Chomsky's proposal.

[14] It does not explain it, of course. Note that the English data do not seem entirely undisputed; cf. Hoekstra and Mulder (1990:45).

this is, of course, not an essential ingredient in the D&E framework. After the agreement-driven movement in (25b), the derivation continues with merging the light verb v and the external argument SUBJ, as in (25c). At this point, C_{HL} has the option of checking the -Interpretable case-feature on v. Again this can be done either by means of Agree, as in (25d), or by means of Attract/Move, as in (25d′). The question of which option is realized depends on the question whether the object is part of the focus or the presupposition of the clause.[15] The next step in the derivation is the addition of I, and checking of its [person/number] and [case] features. Since the former do not force movement of SUBJ in the optimal candidate in Dutch the question whether the subject moves or not depends on the question whether it is part of the presupposition or of the focus of the clause.

(25) a. $[... \text{V}_{[\text{gender,number}]} \text{OBJ}_{[\Phi/\text{case}]}]$
      b. $[\text{OBJ}_{[\Phi/\text{case}]} \text{V} [... t_\text{V} t_\text{OBJ}]]$
      c. $[\text{SUBJ}_{[\Phi/\text{case}]} v_{[\text{case}]} [\text{OBJ}_{[\Phi/\text{case}]} \text{V} [... t_\text{V} t_\text{OBJ}]]]$
      d. $[\text{SUBJ}_{[\Phi/\text{case}]} v [\text{OBJ}_{[\Phi]} \text{V} [... t_\text{V} t_\text{OBJ}]]]$
      d′. $[\text{OBJ}_{[\Phi]} v [\text{SUBJ}_{[\Phi/\text{case}]} t_v [\text{OBJ}_{[\Phi/\text{case}]} \text{V} [... t_\text{V} t_\text{OBJ}]]]]$

        Now, following the assumption that the sentence adverb intervenes between the position in which accusative case is checked and the base position of the subject, we have determined the following two positions of the direct object.

(26) $... \text{OBJ}_2 \text{AdvP}_{\text{Sentential}} ... \text{OBJ}_1 \text{V}$

Note that the position OBJ_1 is the specifier position of the raised V in (25b), from which it follows that there is only one position for the object in between the sentence adverb and V in clause-final position. This prediction is, however, not borne out: example (27) shows that we must assume at least two positions for the object in this domain. So besides "long" object shift into a position preceding the sentence adverb, there is also "short" object shift into a position following the sentence adverb, but preceding VP-adverbs.

(27) a.   dat Jan waarschijnlijk morgen dat boek leest.
           that Jan probably tomorrow that book reads
           'that Jan will probably read that book tomorrow.'
      b.   dat Jan waarschijnlijk dat boek morgen leest.

One might speculate that this problem with short object shift is only apparent and simply results from the fact that I have abandoned the use of multiple specifiers. Assume that adjuncts are also placed in the specifier of some head, more specifically, that VP-adverbs are placed in one of the specifier positions of V and sentence adverbs in one of the specifier positions of I. The two orders in (27) could then be the result of a difference in the application of Merge and Attract/Move: when the object precedes the adverb, the latter has been merged before the former has been moved; when the linear order is the inverse, the order of the operations is also inversed. Although this might be a solution to the problem, it does not take into account that the two orders in (27) correlate to a difference in meaning. The best way to describe this difference is perhaps in terms of prominence in the focus field. In the examples in (27) both the VP-adverb *morgen* and the direct object *dat boek* are part of the focus of the clause, but the element that is closest to the verb seems to be the most

---

[15] Note that the movement of v in (25d′) is again due to the ban on multiple specifiers. The question of whether movement of v pied pipes V depends on the question whether V has moved to v, which is the case in main clauses but not in embedded clauses; see Broekhuis (1999b & 2000) for a discussion of this.

prominent part of the focus.[16] So, let us assume an additional constraint PROMINENCE: a preliminary definition is given in (28).

(28)   PROMINENCE: The prominent part of the focus of the clause is the rightmost constituent in its clause.

Assuming the constraint in (28) does by itself not solve the problem concerning the order variation in (27), since we do not know what landing site is involved, that is, what triggers the movement of the object. Under the assumption in Broekhuis (1999b & 2000), it is clear that the movement cannot be triggered by some feature F on V itself — if that were the case, checking of F by means of Attract/Move would not only force movement of the direct object but also of V itself, which should therefore also precede the VP-adverb. Consequently, there must be some functional head triggering the movement.

The task we are facing now is to identify the functional head that provides a landing site for the direct object, and the feature that triggers the movement. Let us begin with the latter. The assumption that the OV order in Dutch is the result of agreement-driven movement crucially rests on the fact that in e.g. the romance languages past participle exhibit gender agreement in certain circumstances. It might therefore be helpful to look for some other feature that may enter in object-verb agreement and that could be the trigger for the movement in (27b). One possible case would be definiteness agreement in languages like Hungarian. The examples in (29) show that the inflection on the finite verbs differs depending on the nature of the object: when the object is definite, as in (29a), the verb has the so-called definite conjugation, whereas the verb has the indefinite conjugation when the object is indefinite (see e.g. Kenesei et al. 1998: 68-70).

(29)   a.   Janos   szereti   Mariat.   (definite conjugation)
            John$_{nom}$ loves$_{DEF}$ Maria$_{acc}$
       b.   Janos   szeret   egy lanyt.   (indefinite conjugation)
            John$_{nom}$ loves$_{INDEF}$ a girl$_{acc}$

The data suggest that, apart from the Φ-features, the feature [±definite] may be involved in object-verb agreement. That something like that is the case is also supported by the phenomenon of short object shift. A Comparison of the examples in (27) to those in (30) reveals that short object is sensitive to the definiteness of the object.

(30)   a.   dat Jan waarschijnlijk morgen een gedicht zal schrijven.
            that Jan probably tomorrow a poem will write
            'that Jan will probably write a poem tomorrow.'
       b.   *dat Jan waarschijnlijk een gedicht morgen zal schrijven.

When we now postulate a functional head F containing a -Interpretable feature [definite], which is situated above V, but below *v*, we can account for the data in (27) and (29) by assuming the constraint DEFINITENESS in (31a). The ranking of PROMINENCE, DEFINITE and STAY must be as in (31b): the subranking DEFINITE >> STAY expresses that definite noun phrases normally move into SpecFP; however, the subranking PROMINENCE >> DEFINITE

---

[16] Example (27a) also allows a reading in which the adverb *morgen* is not part of the presupposition. That this reading is available is, of course, not surprising given the fact that adverbs have a fixed position in the middle field of the clause. This, in its turn, is due to the fact that there are no features that could trigger adverb displacement in the middle field of the clause. In the main text, I only consider the reading in which both the adverb and the object are part of the focus.

expresses that this movement is blocked when the object is the prominent part of the focus. Since an indefinite noun phrase does not have the feature [+definite], it is not attracted by F, so that it cannot be moved into SpecFP.

(31) a.   DEFINITENESS: check [+definite] locally
      b.   Dutch: PROMINENCE >> DEFINITENESS >> STAY

     A not so nice property of the constraint DEFINITE is that it explicitly refers to a positive value of the definiteness feature. One way to overcome this problem is to assume that the pertinent feature of F is simply [definite], so that F can only be present when the clause contains a definite object, that is, a noun phrase containing D, which could be assumed to introduce the +Interpretable definiteness feature. Another way might be to go to a higher level of abstraction. That this might be the right approach is clear from the fact that "short" object shift is not only sensitive to PROMINENCE, but also to SCOPE. Consider the examples in (32).

(32) a.   Jan heeft waarschijnlijk drie keer   twee boeken gekocht.   (3 times > 2 books)
           Jan has   probably   three time two books   bought
      b.   Jan heeft waarschijnlijk twee boeken drie keer gekocht.   (2 books > 3 times)

The examples in (32a) and (32b) differ in relative scope of the adverb and the direct object. Example (32a) concerns the buying of six *different* books: (32b), on the other hand, concerns the buying of two copies of three books. Although the noun phrase *drie boeken* in (32b) is normally referred to as *specific*, it is certainly not *definite*. This suggests that the formulation of the constraint involved should be less specific than that of DEFINITENESS in (31a). I leave the proper formulation of the constraint in question to future research.

     The remaining question is: What is the functional head F? Of course, we would not like to invent some new functional head, simply for the sake of its specifier position. A reasonable assumption would be that F should be a head that bears some relation to V — just like I has a temporal relation to v, F should bear some semantic relation to V. An option that comes to mind, then, is that F is the aspectual head Asp. This idea is especially attractive in view of the fact that aspect (or at least, Aktionsart) and definiteness seem to be intimately related. For example the definiteness of the direct object determines whether a verb like *to eat* is interpreted as an activity or as an accomplishment. This is illustrated in (33).

(33) a.   Jan eet spinazie.   (activity)
           Jan eats spinach
      b.   Jan eet   de spinazie.   (accomplishment)
           Jan eats   the spinach

     Adopting this suggestion for the moment, I conclude that also short object shift can be accommodated under the present proposal. The task for the near future is to see whether more landing sites for object/subject shift can be identified. If so, we should also address the question whether we can accommodate these forms of object/subject shift in our restricted program by identifying more functional heads that may trigger these movements. Given the fact that I and Asp contain features that trigger subject/object shift, a plausible candidate would be the functional head Mood. Again I will leave this suggestion for future research.

References

Broekhuis, Hans: 1999a, 'Theoretische aspecten van de generatieve grammatica I: de condities op de operatie Move/Attract', *Gramma/TTT* **7**, pp. 3-23.

Broekhuis, Hans: 1999b, 'Theoretische aspecten van de generatieve grammatica II: het werkwoord als samenstelling', *Gramma/TTT* **7**, pp. 89-116.

Broekhuis, Hans: 2000, 'Against feature strength: the case of Scandinavian object shift', *Natural Language & Linguistic Theory* **18**, pp. 673-721.

Broekhuis, Hans and Joost Dekkers: 2000, 'The Minimalist Program and Optimality Theory: Derivations and Evaluation', in Joost Dekkers, Frank van der Leeuw and Jeroen van de Weijer (eds.), *Optimality Theory: Phonology, Syntax and Acquisition*, Oxford University Press, Oxford/New York, pp. 386-422.

Broekhuis, Hans and Wim Klooster: 2001, 'On Merge and Move/Attract', in Marc van Oostendorp and Elena Anagnostopoulou (eds.), *Progress in Grammar. Articles at the 20th Anniversary of the Comparison of Grammatical Models Group in Tilburg*, Electronic publication, http://www.meertens.knaw.nl/books/progressingrammar.

Burzio, Luigi: 1986, *Italian syntax: a government-binding approach*, Reidel, Dordrecht/Boston/Lancaster/Tokyo.

Chomsky, Noam: 1995a, *The minimalist program*, The MIT Press, Cambridge, MA.

Chomsky, Noam: 1995b, 'Bare phrase structure', in Gert Webelhuth (ed.), *Government and binding theory and the minimalist program*, Blackwell, Oxford/Cambridge (Mass.), pp. 383-439.

Chomsky, Noam: 2000, 'Minimalist inquiries: the framework', in Roger Martin, David Michaels and Juan Uriagereka (eds.), *Step by step. Essays on minimalist syntax in honor of Howard Lasnik*, MIT Press, Cambridge, MA, pp. 89-155.

Chomsky, Noam: 2001a, 'Derivation by phase', in Michael Kenstowicz (ed.), *Ken Hale. A life in Language*, MIT Press, Cambridge, MA, pp. 1-52.

Chomsky, Noam: 2001b, 'Beyond explanatory adequacy', *MIT Occasional Papers in Linguistics* **20**.

Costa, João (1998). *Word Order Variation. A Constraint-based Approach*, LOT Dissertations 14. University of Leiden: PhD.-thesis.

Dekkers, Joost (1999). *Derivations & Evaluations. On the Syntax and Subject of Complementizers*, HIL dissertations 21: Phd.-thesis.

Den Besten, Hans: 1985a, 'The ergative hypothesis and free word order in Dutch and German', in Jindrich Toman (eds.), *Studies in German Grammar*, Foris, Dordrecht/Cinnaminson, pp. 23-65.

Den Besten, Hans and Hans Broekhuis: 1992, 'Verb Projection Raising in het Nederlands', *Spektator* **21**, pp. 21-34.

Diesing, Molly: 1997, 'Yiddish VP Order and the Typology of Object Movement in Germanic', *Natural Language and Linguistic Theory* **17**, pp. 369-427.

Grimshaw, Jane: 1997, 'Projection, Heads and Optimality', *Linguistic Inquiry* **28**, pp. 373-422.

Hoekstra, Teun and René Mulder: 1990, 'Unergatives as copular verbs; locational and existential predication', *The Linguistic Review* **7**, pp. 1-79.

Johnson, Kyle: 1991, 'Object positions', *Natural language and Linguistic Theory* **9**, pp. 577-636.

Kayne, Richard S.: 1994, *The antisymmetry of syntax*, MIT Press, Cambridge, Ma.

Kenesei, István, Robert M. Vago and Anna Fenyvesi: 1998, *Hungarian*, Routledge, London.

Longobardi, Giuseppe: 1994, 'Reference and proper names: a theory of N-movement in syntax and Logical Form', *Linguistic Inquiry* **25**, pp. 609-65.

Pesetsky, David: 1998, 'Some optimality principle of sentence pronunciation', in Pilar Barbosa, Danny Fox, M McGinnis and David Pesetsky (eds.), *Is the best good enough?*, MIT Press, Cambridge, MA, pp. 337-83.

Vanden Wyngaerd, Guido: 1988, 'Raising-to-object in English and Dutch', *Dutch Working Papers in English Language and Linguistics* **14**.

Vanden Wyngaerd, Guido: 1989b, 'Object shift as an A-movement rule', *MIT Working Papers in Linguistics* **11**.

Vikner, Sten: 1994, 'Scandinavian Object Shift and West Germanic Scrambling', in Norbert Corver and Henk van Riemsdijk (eds.), *Studies on Scrambling. Movement and Non-movement Approaches to free Word-Order Phenomena*, Mouton de Gruyter, Berlin/New York, pp. 487-517.

Hans Broekhuis
University of Tilburg, Models of Grammar
P.O.-box 90153
5000 LE Tilburg
The Netherlands
email: Hans.Broekhuis@uvt.nl
home page: http://fdlwww.kub.nl/~broekhui/home/home_page.html