THE NEW COMPARATIVE SYNTAX

The Germanic SOV Languages and the Universal Base Hypothesis

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1.   Introduction: Universal Structure

Language as perceived by the ear is one-dimensional: a string of sounds. But no language utterance is understandable if the sound bites are not grouped together as morphemes, words, and constituents. For language to make sense, it needs this second dimension: structure.

Comparative grammar addresses the two-dimensional structure of sentences rather than their one-dimensional sequence of sounds. At the sound level, even two closely related dialects may differ wildly from one another. At the structure level, the same two dialects may turn out to be almost identical.

Similarly, claims about universal grammar are made in terms of structure. Some of these claims may be very trivial, for instance the generalization (actually an hypothesis) that in all languages every noun phrase *dominates* a noun. More interesting is the hypothesis that in all languages, every head X is dominated by an X-phrase (XP), and vice versa. This hypothesis is part of a universal theory of phrase structure, the X-bar theory (proposed in Chomsky 1970; see section 2.1 of the Introduction to this volume).

X-bar theory itself does not tell us what counts as a head. There appears to be no interesting sense in which we can define every sound bite in the one-dimensional representation of a sentence as a head. X-bar theory already presupposes a structural grouping of these sound bites into morphemes and words. Words are traditionally taken to be the prototypical heads. But there is a fairly strong tradition in generative grammar (and American structuralist linguistics more generally) in which morphemes or even abstract grammatical features (like PAST TENSE) are analyzed as heads for the X-bar theory. Since all languages have words, morphemes, and grammatical features, any implementation of the X-bar theory informs the structure of language (i.e., all languages) to an enormous extent.

One of the fascinating results of the past decades of linguistic research is that we can now safely conclude that all languages have very much in common at the level of structural analysis. If the X-bar theory is correct, no language can have a flat structure like (1):
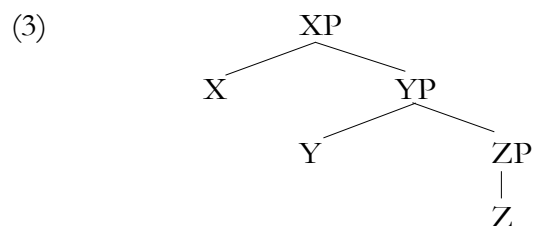
(1)   XP
            ┌──────┼──────┐
            X   Y   Z
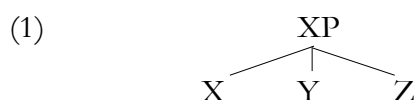
Minimally, (1) would have to be rewritten as (2):

(2)   XP
               ┌────────┼────────┐
               X   YP   ZP
                             │   │
                             Y   Z
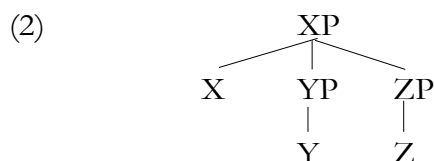
In (1), the relation between X and Y could be called *symmetric*: both X and Y are dominated by XP. In (2), X and Y are in an *asymmetric relation*: Y is dominated by YP, but X is not. A structure without such asymmetries in fact is not a (two-dimensional) structure, but a concealed (one-dimensional) string. ((1) is only a structure because we have put ``XP'' on top of the string X-Y-Z, not because it expresses hierarchical relations between the elements X, Y, and Z.) Structure, then, involves asymmetry.
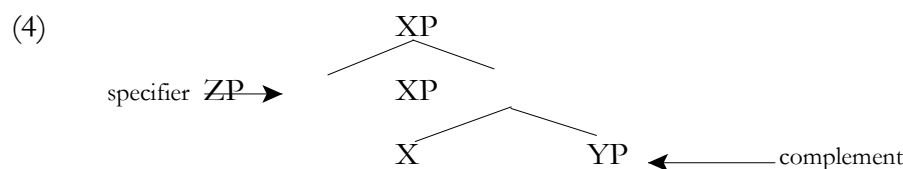
It has been argued that for a sentence to make sense, its structure must have *a maximal amount of asymmetry* (Kayne 1984, 1994; Hale and Keyser 1993). (2) does not have a maximal

amount of asymmetry. *Y* and *Z* are still in a symmetric relation, as both are dominated by the same number of nodes. For maximal asymmetry, then, (2) would have to be replaced by (3):

(3)

```
                XP
             /      \
           X          YP
                   /      \
                  Y         ZP
                             |
                             Z
```

A structure like the one in (3) is *binary branching*.

      A binary branching structure involves a layering of phrases. Each phrase dominates a head and a second phrase, the *complement* of the head. It is generally assumed that a phrase XP has room to include a third phrase also, the *specifier* of XP. The specifier is defined as the sister of the combination of the head and its complement, as (4) illustrates:[1]

(4)

```
                          XP
                       /      \
  specifier  ZP →     XP
                   /      \
                  X         YP  ←————— complement
```
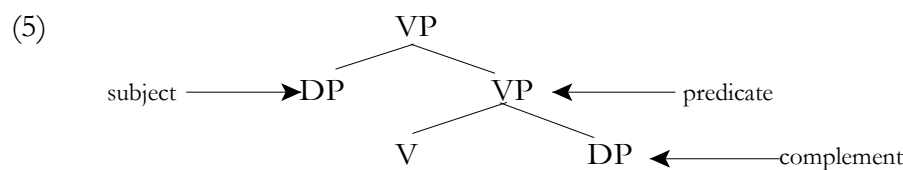
The strongest hypothesis is that binary branching is a universal property of the structure of sentences. If this can be maintained, a sentence in any given language is a marvellous structure of molecular elements, all identically shaped as in (4).

2.   The Universal Base Hypothesis

The importance of the X-bar theory is not only that it regularizes structure, but also that the structure defined by the theory *conveys meaning*.

      There is a traditional and intuitive sense in which a verb, for instance, has a *complement*. Likewise, the combination of a verb and a complement (a *verb phrase*, according to the X-bar theory) is a predicate requiring a *subject*.

      In the X-bar theory, these notions *complement* and *subject* are defined in structural terms. A complement is a sister of a head, and a subject is a sister of a predicate (compare (5) to (4)):[2]

(5)

```
                          VP
                       /      \
  subject ——→ DP        VP  ←——— predicate
                     /      \
                    V         DP  ←——— complement
```

---

[1] The `combination of a head and its complement' is often indicated as X' or *X-bar*. This is a notation for an element that is not a head but also not a maximal projection (i.e., not the highest node of the phrase). It is a *relational* notation: if there is no specifier, the X'-element will be notated as XP. We have generalized this notation in the text of this chapter.

[2] *DP* is the notation for `noun phrase' (see the Introduction to this volume, section 4.3). A noun phrase is assumed to be headed by a determiner element (D). The noun phrase proper (NP) is assumed to be the complement of D (Abney 1987). See Giusti (this volume) and Siloni (this volume) for more discussion of the syntax of noun phrases.

The hypothesis that the function of a noun phrase is defined by its position in a syntactic structure is part of the *theta theory* of generative grammar.

Adopting X-bar theory and theta theory, we have the beginning of an understanding why and how knowledge of the structure helps to make sense of a sequence of sounds.
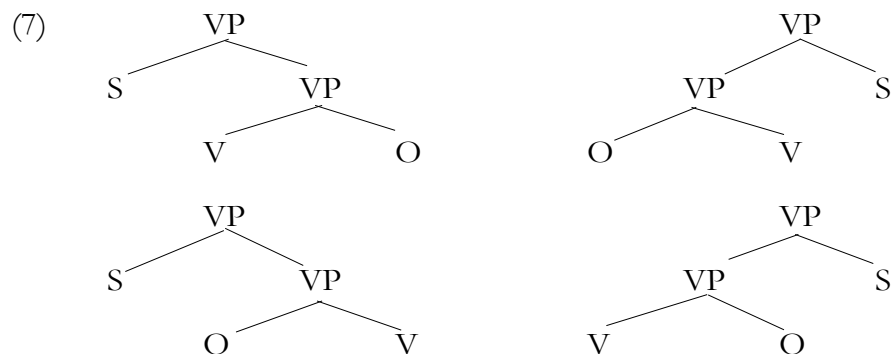
In this article, we will be concerned with the following question, which we have left out of the discussion so far:

(6)   How does the order of elements in a sentence S relate to the hierarchical structure of S?

Based on what we have discussed so far, three types of answers to (6) are imaginable.

First, we might assume that the elements in the hierarchical structure (5) can be *linearly ordered in various language specific ways*. (5) itself is intended to be a schema, abstracting away from linear ordering. That is, the subject, verb, and complement are ordered in hierarchical terms only. For example, the subject and the complement are in an asymmetric relation (as only the complement is dominated by the lower VP), but this does not say anything about which of the two elements *precedes* the other.

This first type of answer implies that (5) can be notated in various equivalent ways, in the sense that the relations of asymmetry are the same in each case (where S = subject and O = complement):

(7)

```
        VP                              VP
      /    \                          /    \
    S       VP                      VP       S
          /    \                  /    \
        V        O              O        V


        VP                              VP
      /    \                          /    \
    S       VP                      VP       S
          /    \                  /    \
        O        V              V        O
```

Mapping these four structures into a one-dimensional representation would then yield the following four word orders (see also the Introduction, section 3.1.2):

(8)   SVO, OVS, SOV, VOS

This type of answer to the question in (6) presupposes that *linear order* (i.e. precedence) is a property of hierarchical structures, and that languages may differ as to which linear ordering prevails in constructing phrases.

This is the generally adopted view. For comparative syntax, it implies that languages are partly defined by a *parameter* that positions the head of a phrase. Hence the distinction between *head final* and *head initial* languages.

A second type of answer holds that linear ordering is not a property of hierarchical structure. Structure is uniquely defined by the relations of dominance and sisterhood. All representations above are misleading, because notation on paper suggests a linear ordering.

In this approach, the question of word order shifts from the hierarchical structures to the *mapping procedure* turning the structure into a string. About this, not much is known, however. This makes it unattractive to postulate `mapping parameters', in an attempt to reduce word order differences among languages to differences in the mapping from hierarchical structures to linear strings.

More interesting, then, would be to assume that the mapping procedure is rigid, and fixed for all languages in the same way. But if linear order is not already a property of the

hierarchical structures, the input for the mapping procedure lacks the information required for turning out a linearly ordered representation. Therefore, it must be the case that if the mapping procedure is rigid, linear ordering is a property of the hierarchical structure itself.

This, then, constitutes the third type of answer: the order of elements in a linear string is a function of the hierarchical relations among the elements in a structure. In other words, since structure is in all languages essentially the same, so is word order.

This is the *Universal Base Hypothesis*, advanced in the 1960s, and recently revived in more sophisticated terms by Richard Kayne (see Kayne 1994). This is the hypothesis we will be exploring in this article in the domain of the Germanic languages.

3.	Deviations from the basic word order.

Before we continue, we have to address the notion *basic order*. This refers to the ordering of elements in the representation that expresses the basic meaning relations between the elements (the *deep structure* of Chomsky 1957).

As we have seen, these basic meaning relations are expressed by an interaction of theta theory and X-bar theory: a complement of a verb V appears as the sister of V, the subject of V appears as the sister of VP (see (5)).

However, the order of subject, verb, and object in a sentence we perceive (the *surface structure* of Chomsky 1957) often deviates from the basic ordering. Consider the list of sentence types in (8). Missing from that list are the following two:

(8')	VSO, OSV

Of these, the VSO type is fairly common (appearing for instance in Semitic and Celtic languages).[3] What is remarkable about the word orders in (8') is that the verb and its complement are not adjacent. If structure conveys meaning, the word orders in (8') must be *derived* from the basic order by some movement. For instance, it is generally assumed that the VSO order is derived by movement of the verb to the left (see footnote 3).

It is important to note that the basic order can not always be immediately read off of the observable order. If a language has VSO sentences only, the basic order (which involves VO or OV) never surfaces.

Another implication of the possibility of movement is that even if the surface order has VO or OV, we cannot automatically conclude that the verb and its complement are in their basic positions. Both elements may have moved out of their basic positions, without affecting actual word order. We will see below that main clauses in Icelandic have this property: both the deep structure and the surface structure have VO, but we can easily demonstrate that both the verb and the object have moved to the left.

We will also see below that some languages, notably the Germanic SOV languages Dutch, German, and Frisian, show *two* word order types: main clauses are SVO, embedded clauses are SOV. There has been some discussion in the past about the question which of these two orders is the basic order. We can tell now that this question is wrongly put: it may very well be the case that both orders are derived by movement, so that neither the main clause order nor the embedded clause order *is* the basic order.

More generally, the question what the basic order is can only be settled by rational inquiry. We will now investigate how such inquiry may proceed.

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[3] The following is an example of a VSO word order construction from Welsh (Celtic), analyzed as involving verb movement to the left:

(i)	Darllenodd$_i$	Siôn	[$_{VP}$	t$_i$	y llyfr]
	read-3sg	John		the book
	`John read the book.'

4

4.   Movement theory.

We have seen in section 3 that movement may disturb the basic word order, for instance by separating a verb and its complement. This raises the question how we can recognize movement. Two aspects of movement theory are important in this respect.

      First, movement can be detected by *empirical tests*. Thus, assuming that the verb and its complement are generated as sisters, we may conclude that movement has occurred when an element intervenes between the verb and its complement. (9) is an example from Dutch:

(9)   Jan   heeft   *het boek*   <u>niet</u>   *gelezen*
            John   has   the book   not   read-PARTICIPLE
            `John has not read the book.'

In (9), the negative adverb *niet* `not' separates the verb *gelezen* `read' from its complement *het boek* `the book'. Hence we may conclude that movement has occurred.

      Second, we can conclude that movement has occurred by looking at comparable constructions in the language. For instance, compare (10) to (9):
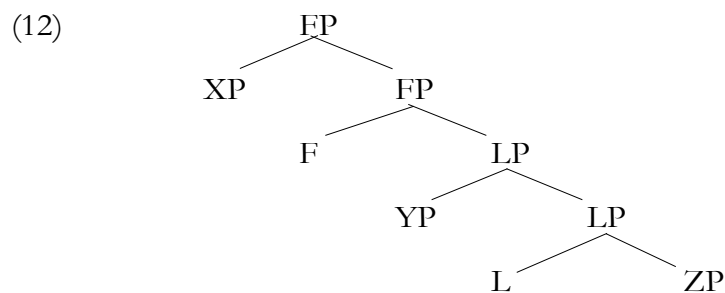
(10)   Jan   heeft   *het boek*   *gelezen*
            John   has   the book   read-PARTICIPLE
            `John has read the book.'

By looking at (10) alone, we cannot tell whether movement has occurred: the verb and its complement are adjacent. But a comparison with (9) suggests that it might: there is just no way to tell, as (10) does not contain adverbs at all. Drawing conclusions about (10) on the basis of (9) is allowed if we assume the following:
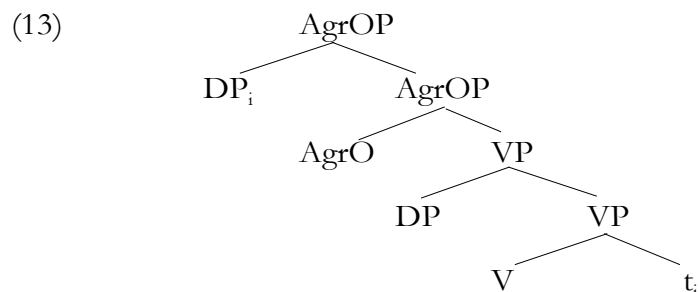
(11)   Movement is never optional

If we adopt (11), then (9) tells us that the object has moved in (10), even though this cannot be concluded from looking at (10) alone.

      The hypothesis that movement is never optional is an important feature of the *minimalist program*, a stage in the development of generative grammar introduced by Chomsky (1993). In this program it is assumed that elements are *generated* in lexical projections (as illustrated in (5)), and *licensed* in functional projections. Functional projections (see Giusti, this volume) are X-bar phrases headed by a grammatical feature. In the structure, functional projections (FP) are hierarchically higher than lexical projections (LP):

(12)

```
                    FP
               /         \
            XP            FP
                      /       \
                     F         LP
                          /        \
                        YP          LP
                                   /    \
                                  L      ZP
```

A functional head can contain the features of *tense*, the features of *agreement*, etc. It is assumed that there are features of *subject agreement* and features of *object agreement* (Chomsky 1991). Subjects are licensed in the specifier of the subject agreement phrase *AgrSP*, and objects are licensed in the specifier of the object agreement phrase *AgrOP*.

At some point in the derivation, then, the object has to move to the specifier position of AgrOP, leaving a trace in the complement position of VP. See (13):

(13)

```
                    AgrOP
              /            \
          DP_i            AgrOP
                      /         \
                   AgrO          VP
                            /          \
                          DP            VP
                                    /        \
                                   V           t_i
```

The object movement in (13) will be referred to as *Object Shift* here.

Likewise, the verb must at some point in the derivation move to the heads of the functional projections.[4] This explains another movement phenomenon, pervasively present in the Germanic languages, called *verb second*:

(14) Wanneer   *heeft*   Jan   het boek   gelezen?
       when   has   John   the book   read
       `When did John read the book?'

In (14), the finite verb *heeft* `has' appears in the second position of the sentence. This yields a VSO order, one of the orders in (8') that must have been derived by movement. It is generally assumed that this is movement to the functional head occupied by the complementizer in embedded clauses (referred to as *C*). The movement appears to be conditioned by the presence of the question word *wanneer* `when' in the first position (the specifier position of CP):

(14') [$_{CP}$ *wanneer*   *heeft$_i$*   [$_{AgrSP}$ *Jan*   [$_{AgrOP}$ *het boek$_j$* [$_{VP}$ t$_i$ [$_{VP}$ *gelezen* t$_j$]]]]]

In the minimalist program, as in earlier stages of generative grammar, it is assumed that the presence or absence of these movements defines the word order in a given language. A language, then, is *defined* by the movements of the elements of that language. Clearly, for such a definition to have any empirical content, something like (11) has to be assumed.[5]

Adopting these aspects of the theory of movement, let us now consider the word order phenomena of the Germanic languages.

[4] It is assumed, in generative grammar, that the movements described in the text are universal. Languages differ in whether the movements take place in the *overt syntax* or at the level of Logical Form (i.e., before or after the derivation branches into a phonological/phonetic part and a syntactic/interpretational part).

[5] For a correct interpretation of the hypothesis that movement is never optional, it must be kept in mind that movement depends on certain conditions: there has to be a cause or `trigger' for movement. The verb second example discussed in the text illustrates this. In the absence of an element in the specifier position of CP, we do not automatically expect verb movement to C to apply. It may be that the *trigger* for verb movement is absent in that case. In contrast, there seem to be no differing circumstances in (10) compared to (9). Therefore the inference from (9) regarding object shift in (10) is allowed, and in fact forced by (11).

5.   Word Order in the Germanic Languages

In this section we will further discuss verb movement and object shift in the Germanic languages. We will then try to derive from these movement patterns the basic word order in four types of Germanic languages. The conclusion will be that these four types of Germanic languages can be assumed to have the same basic structure, (5), and the same basic word order, SVO.

The Germanic family of languages consists of three groups, the first of which we will not be discussing here:

(15)   *The Germanic Languages*
        1.   The East Germanic Group: Gothic
        2.   The North Germanic Group: Icelandic, Norwegian, Danish, Swedish[6]
        3.   The West Germanic Group: English, Frisian, Dutch, German

The generally accepted genetic classification groups Icelandic and Norwegian together in a subgroup, next to the subgroup of Danish and Swedish. Likewise, the West Germanic group is split into two subgroups, one containing English and Frisian, and the other one containing Dutch and German.

However, we will see that present day syntactic criteria suggest a subgrouping as in (16).

(16)   a.   *North Germanic*
                1.   Mainland Scandinavian: Norwegian, Danish, Swedish
                2.   Icelandic
        b.   *West Germanic*
                1.   English
                2.   Continental West Germanic: Dutch, Frisian, German

The Mainland Scandinavian languages and Icelandic differ in two respects. First, the Mainland Scandinavian languages have no object shift, whereas Icelandic does.[7,8] Second, the Mainland

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[6] A fifth North Germanic language, Faroese, will be ignored in this article. Faroese appears to take an intermediate position between Icelandic and Danish (Vikner 1995).

[7] The Mainland Scandinavian languages do have a process of object movement, restricted to weak pronouns. This is referred to as `Object Shift' by Holmberg (1986). The generalization in the text refers to movement of full noun phrases.

[8] It has been argued that Icelandic has object shift only when the verb moves. This is relevant in participle constructions, in which the participle is assumed not to undergo verb movement. The generalization in the text abstracts away from this contingency. The contrast is illustrated in (i). Note the position of the object *bókina* `the book' with respect to the negative element *ekki*, which is assumed to mark the VP-boundary:

        (i)   a.   Jón   keypti   bókina   ekki
                        John   bought   book-the   not
                        `John did not buy the book.'
                b.   Jón   hefur   ekki   keypt   bókina
                        John   has   not   bought   book-the
                        `John has not bought the book.'

In (ia), both the verb and the object have moved to the left, across the VP-boundary, marked by *ekki*. In (ib), both the participle and the object remain to the left of *ekki*.

Scandinavian languages have verb second in main clauses only, not in embedded clauses, whereas Icelandic has verb second in both main and embedded clauses.[9]

English differs from the Continental West Germanic languages in not having object shift, nor verb second. The Continental West Germanic languages have verb second in main clauses, not in embedded clauses, but English has verb second in neither.[10]

Traditionally, the Continental West Germanic languages have been regarded as SOV languages (Bach 1962, Koster 1975). This assumes that the embedded clause word order *is* the basic word order. This assumption is potentially fallacious, as we have seen. The remaining Germanic languages are generally regarded as SVO languages.

The following examples serve to illustrate the generalizations made above.

a. Object Shift

English
(17) a.   John read (*yesterday) the book
      b.   *   John the book (yesterday) read

Continental West Germanic: Dutch
(18)   Jan   heeft   *het boek*   <u>niet</u>   *gelezen*
                  John   has   the book   not   read-PARTICIPLE
                  `John has not read the book.'

Mainland Scandinavian: Swedish
(19) a.   ..att   Johan   köpte   (*inte)   boken
                  that   John   bought   not   book-the
                  `..that John did not buy the book'
      b.   *   ..att   Johan   boken   (inte)   köpte
                  that   John   book-the   not   bought
Icelandic
(20)   ..að   Jón   keypti bókina   ekki
                  that   John   bought book-the   not
                  `..that John did not buy the book.'

The English examples (17) and the Swedish examples (19) show that the object and the verb cannot be separated, neither by rightward movement of the object (the a-examples) nor by leftward movement of the object (the b-examples).

The example from Dutch (18) shows that the object can be separated from the verb by a sentence adverb (*niet* `not'). As discussed above, we assume that this is the result of object shift to the left.

In Icelandic (20), both the verb *keypti* `bought' and the object *bókina* `book' appear to the left of the sentence negation element *ekki* `not'. It is assumed that *ekki* is generated to the immediate left of the VP. Hence, both the verb and the object must have moved to the left in (20), demonstrating the presence of both verb second and object shift.

b. Verb Second

English

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[9] Swedish has verb second in certain well defined embedded clauses (see note 11). The generalization in the text refers to the possibility of verb second in all types of embedded clauses.

[10] English has verb second in main clause questions (*Why has John left?* vs. *Why John has left?*). The generalization in the text again refers to the possibility of verb second in all types of main clauses.

(21) a.   John probably read the book
      b.   ..that John probably read the book

Continental West Germanic: Dutch

(22)   Jan   (*waarschijnlijk)   las   het boek
                    John (probably)   read   the book
                    `John was probably reading the book.'

(23) a.   ..dat   Jan   waarschijnlijk het boek   las
                that   John   probably   the book   read
                `..that John was probably reading the book'
      b.   *   ..dat   Jan   las   waarschijnlijk het boek
                   that   John   read   probably   the book

Mainland Scandinavian: Swedish

(24)   Johan (*inte) köpte   boken
                    John   not   bought   book-the
                    `John did not buy the book.'

(25) a.   ..att   Johan   inte   köpte   boken
                that   John   not   bought   book-the
                `..that John did not buy the book.'
      b.   *   ..att   Johan   köpte   inte   boken[11]
                   that   John   bought   inte   book-the

Icelandic

(26) a.   Jón   keypti bókina   ekki
                John   bought   book-the   not
                `John did not buy the book.'
      b.   ..að   Jón   keypti bókina   ekki
                that   John   bought   book-the   not
                `..that John did not buy the book.'

The English example (21a) shows that the verb is not necessarily in the second position in main clauses. Hence, English does not have the verb second property. It is generally assumed that the canonical surface position of the subject is the specifier position of AgrSP. We can then describe English as a language that lacks verb movement to AgrS (Emonds 1976, Pollock 1989). (21b) shows that English has no verb second in embedded clauses either.

The Dutch example (22), on the other hand, shows that nothing may intervene between the subject and the verb. Hence, Dutch has the verb second property. We can describe this by assuming that the verb moves to AgrS in main clauses in Dutch (Travis 1984, Zwart 1993), or higher, to C (Den Besten 1977, Schwartz and Vikner 1989). The examples in (23) show that the verb second property is absent from embedded clauses in Dutch.

The Swedish examples (24) and (25) show that Swedish behaves like Dutch as far as verb second is concerned. The position of the adverb demonstrates the absence of verb second in embedded clauses (Kosmeijer 1986).

Finally, the Icelandic examples in (26) show that Icelandic has verb second in both main and embedded clauses.

We can now draw a table illustrating the word order generalizations in the four types of Germanic languages. To be exact, we will list the main and embedded clauses of the Continental West Germanic and Mainland Scandinavian languages separately.

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[11] In Swedish, as in several other Germanic languages, verb second is allowed in main clauses, provided the matrix verb is of the class of so called `bridge verbs', of which *say* is a prototypical example. Verbs incorporating an element of negativity (*doubt*), factivity (*regret*), or nonreality (*would like*) are not in the class of bridge verbs, and do not allow verb second to take place in their complement clauses.

	object shift	verb second
English	-	-
Dutch-main	+	+
Dutch-embedded	+	-
Swedish-main	-	+
Swedish-embedded	-	-
Icelandic	+	+

TABLE 1

The following table is a list of the surface word order of the four types of Germanic languages:

	word order
English	VO
Dutch-main	VO
Dutch-embedded	OV
Swedish-main	VO
Swedish-embedded	VO
Icelandic	VO

TABLE 2

Now it is easy to see that the VO/OV status of the languages/sentence types can be derived from the properties summarized in table 1. The derivation runs as follows:

(27)   a.   If a sentence has the verb second property, its word order is VO.
        b.   If a sentence does not have the verb second property, then
                (i)   if it has the object shift property, its word order is OV, and
                (ii)   if it does not have the object shift property, its word order is VO.

It follows that there is no need for a separate OV/VO parameter to distinguish the properties of the four types of Germanic languages. In particular, the OV character of the embedded clauses in Continental West Germanic is contingent on the occurrence of object shift.

Note that this conclusion can only be drawn if object shift is taken to be obligatory. This, however, is forced by the principle in (11), which prohibits optional movement.

The presence or absence of Object Shift can also be described in terms of a parameter. In terms of Chomsky (1993), we can say that the trigger for Object Shift is a grammatical feature, located in AgrO, which licenses the direct object. Referring to footnote 4 on overt and covert movement, we can say that if the feature triggering Object Shift is `strong,' Object Shift takes place in overt syntax. If the feature is `weak', Object Shift is postponed until the level of Logical Form. The characterization of the AgrO-feature as `strong' or `weak' presents us with a new parameter: the Object Shift parameter. For Continental West Germanic, the Object Shift parameter is `strong', for North Germanic and English, the Object Shift parameter is `weak'. Consequently, only Continental West Germanic languages can be characterized as OV-languages. The important point here is not the descriptive artifact of an `Object Shift parameter' and its characterization in terms of `strong' or `weak' features. The point is that one parameter, namely the parameter needed to describe the variation among the Germanic languages with respect to Object Shift, at the same time draws the line between Germanic VO-languages and Germanic OV-languages. Since the `Object Shift parameter' is needed anyhow, there is no need to formulate an additional OV/VO parameter.

Let us return now to the Universal Base Hypothesis. This hypothesis holds that there is a single universal basic word order. Such an hypothesis obviously flies in the face of direct empirical evidence: languages show a variety of word orders, even if only three elements (subject, verb, object) are involved (see (8) and (8')). The Germanic languages discussed here are a case in point: both OV and VO orders are attested.

But on closer inspection, the variation in word order can be reduced to the interaction of two movement processes: object shift and verb second. Assuming this, there is no need to postulate two different *basic* word orders for the Germanic languages.

Note that we have not discussed the exact nature of the basic word order. The notation in (5) suggests that the basic word order is SVO. But this issue must again be decided on the basis of rational inquiry.

Again, the Germanic languages allow us to make an educated guess about the basic word order. The OV order in Continental West Germanic embedded clauses involves a movement process: object shift. If the basic order were OV, this movement process would be of the type that does not affect word order. As discussed above, such movement types cannot be excluded.

However, the algorithm in (27) suggests that the basic word order is not OV but VO. In particular, if no movements occur, the word order comes out as VO (i.e., the case of (27bii)). This allows us to formulate the hypothesis in (28):

(28)   The universal basic word order is VO

Assuming that phrases of all categories are structured in the same way, (28) can be strengthened immediately to (29):

(29)   The universal basic structure is head initial

The following table illustrates that assuming a basic SVO structure for all of Germanic, and assuming (a) that object shift is movement to the specifier position of AgrOP and (b) that verb second is movement to AgrS (or higher) allows us to derive the word order of all Germanic languages, without postulating a word order parameter. As will be clear from table 3, adding a word order parameter to the description of Germanic would be superfluous. This, then, provides support for the Universal Base Hypothesis:

	SpcAgrSP	AgrS	SpcAgrOP	AgrO	SpcVP	V	CmpVP
English	S					V	O
Dutch main	S	V	O				
Dutch embedded	S		O		V		
Swedish main	S	V					O
Swedish embedded	S					V	O
Icelandic	S	V	O				

TABLE 3

6.   Traditional Arguments for a Basic OV Structure of Continental West Germanic

In the previous section we have seen that there is no reason to postulate a difference in basic word order between the Continental West Germanic languages (traditionally characterized as OV languages) and the remaining Germanic languages (traditionally characterized as VO languages). This makes it necessary to address the traditional arguments for characterizing the Continental West Germanic languages as OV languages.

Our point of reference in this section will be Koster (1975) on Dutch. This article terminated a discussion raging in the early 1970s concerning the basic word order of Continental West Germanic languages (Ross 1970, Maling 1972, Bartsch and Vennemann

1972, Kooij 1973). This discussion more particularly was about the following question: Is the embedded OV order derived from the main clause VO order, or is the main clause VO order derived from the embedded OV order? We will discuss Koster's arguments for concluding that the main clause VO order is derived from the embedded OV order, via a process of verb movement to the left.

But before we continue, we have to point to a fundamental fallacy underlying the entire discussion. The fallacy is that the answer to the question which word order is derived from the other would allow us to draw any conclusions about the *basic* word order. Thus, Koster's answer that the main clause order is derived from the embedded clause order was taken to imply that the embedded clause word order *is* the basic word order, hence that Dutch is an SOV language. As we have seen, this conclusion is not warranted as long as we do not know for certain that the embedded clause word order is not itself derived from the basic word order via movement processes, like object shift.

As (30) shows, Koster's (1975) argumentation leading to the conclusion that the main clause order is derived from the embedded order can be entirely correct, without affecting the conclusion reached above that the basic word order of Dutch is VO:

(30)   *basic order*   [$_{VP}$ V O]

         OBJECT SHIFT

         embedded order   O$_i$ [$_{VP}$ V t$_i$]

         VERB SECOND

         main clause order   V$_j$ O$_i$ [$_{VP}$ t$_j$ t$_i$]

Koster (1975) addresses the lower part of the derivation in (30). The top part is simply not addressed in the literature before Kayne (1992). Given this state of affairs, there is no conflict between the Universal Base Hypothesis and the traditional view that the Continental West Germanic languages are SOV languages.

Koster's principal argument for deciding that the embedded clause word order in Dutch is more basic than the main clause word order is essentially an argument of *economy of description*. A grammar of Dutch in which the embedded clause word order is derived from the main clause word order needs to state more rules than a grammar in which the main clause word order is derived from the embedded clause word order.

This can be proved by looking at sentences containing a verb and a verbal particle, such as *op-bellen* `phone'. Koster (1975) assumes that the verb and the particle are inserted in the syntax as a unit. But movements can tear the verb and the particle apart. Consider the position of the verb and the particle in main and embedded clauses in Dutch:

(31)   a.   Jan   *belt*   Marie   *op*
        John   rings   Mary   up
        `John is calling Mary.'
   b.   ..dat   Jan   Marie   *op*   *belt*
        that   John   Mary   up   rings
        `..that John is calling Mary.'

As can be seen, the finite verb *belt* `rings' has different positions in main and embedded clauses, whereas the particle *op* `up' appears to occupy the same position in both main and embedded clauses.

Koster (1975) now argues as follows. Assuming that the verb and the particle are generated as a unit, the main clause word order can be derived from the embedded clause word order by a single (leftward) movement operation: verb second. This movement operates in main clauses only, and strands the particle. The particle in this derivation indicates the basic position of the verb.

On the other hand, if the embedded clause word order is derived from the main clause word order, two (rightward) movement operations are needed: particle movement and verb movement. Particle movement operates in both main and embedded clauses. Verb movement operates in embedded clauses only. In main clauses, the verb indicates the basic position of the verb-particle combination. Clearly, the verb second analysis yields a more economic description. This allows us to conclude that it is the *correct* analysis.

Subsequent research has confirmed Koster's (1975) conclusions time and again. Importantly, recurrent changes in the theoretical framework have only strengthened the conclusion that the main clause in Dutch is derived from the embedded clause.

For instance, in the Principles and Parameters framework (following the publication of Chomsky 1981), isolated rules have been replaced by the general rule Move Alpha. As a result, an argument based on counting the number of rules in the description can no longer be held valid. But the widening of the scope of research in the Principles and Parameters framework adds a new argument in support of Koster's conclusion that the main clause in Dutch is derived from the embedded clause. The verb second operation deriving the main clause word order turns out to be a very general movement phenomenon, attested in a wide variety of languages. On the other hand, the particle movement and verb movement that would be needed to derive the embedded clause word order from the main clause word order are not nearly as well defined as the verb second movement, and may safely be regarded as *ad hoc*.

More recently, an additional argument has emerged supporting the verb second analysis, and discrediting the rightward movement analysis. As we will see below, Kayne (1994) presents a number of compelling empirical arguments in support of the hypothesis that rightward movement is generally absent from the languages of the world. If this hypothesis is correct, deriving the embedded clause from the main clause in Dutch is simply impossible.

7.   Typological Considerations

As we have seen in the previous section, Koster's (1975) conclusions that in Continental West Germanic the main clause word order is derived from the embedded clause word order has led to the further conclusion that the Continental West Germanic languages are SOV languages. We have also seen that this conclusion is based on the hidden assumption that the embedded word order itself is not derived from a more basic word order, which never surfaces. Finally, we have seen that distinguishing the Continental West Germanic languages from the remaining Germanic languages by means of a word order parameter (OV/VO) is superfluous, given the algorithm in (27).

Our present conclusion that Dutch, German, and Frisian are head initial languages concurs with standard practice in works of typological grammar. To the dismay of generative grammarians, typologists have continued to classify the Continental West Germanic languages as SVO languages, in spite of the convincing argumentation in Koster (1975) (cf. Comrie 1981:83). We can now see that the typological classification was correct, on the understanding, of course, that the Universal Base Hypothesis implies that *all* languages are SVO languages.

Independently of the conceptual argument, there are in fact a number of typological considerations which strongly support the hypothesis that the Continental West Germanic languages are head initial. We will discuss these below, taking our examples from both Dutch and German.

First, it is interesting to note that both determiners and complementizers in Dutch (and German) precede their complements (here, the Dutch examples are presented):

(32) a.   de   [$_{NP}$ man]
                      the   man
      b.   *   [$_{NP}$ man]   de
                      man   the
(33) a.   ..dat   [$_{AgrSP}$ het regent]
                      that   it rains
      b.   *   .. [$_{AgrSP}$ het regent]   dat

it rains   that

Since Abney (1987), the determiner (D) is analyzed as the *head* of the noun phrase (DP), with the noun phrase proper (NP) a complement of D (see section 4.3 of the introduction to this book). A similar reasoning applies to (33b), where the complementizer (C) occupies the highest functional head of the clause (CP).

Given that DP and CP in Dutch are head initial, one would expect the remaining functional projections in Dutch to be head initial as well. Let us consider the remaining functional elements of the sentence, AgrS, Tense (T), and AgrO. Before Pollock (1989), these were considered to constitute a single functional head, INFL, heading IP.

The traditional view on the structure of the Dutch sentence is that IP is head final, rather than head initial. There are two types of arguments supporting this. First, IP is a projection of the functional features associated with the verb: tense and agreement. If the VP is head final, we might expect IP to be head final as well. This argument now no longer holds. We have found that there is no reason to suppose that the VP in Dutch is head final. Moreover, since CP is obviously head initial, the parallelism argument forces us to start from the hypothesis that IP is head initial as well.

The second argument supporting a head final IP is based on the assumption that an inflected verb occupies the INFL-position. Since in embedded clauses in Dutch, the inflected verb appears in sentence final position (see (23)), it must be the case the IP in Dutch is head final.

However, the assumption that an inflected verb has to occupy the INFL-position cannot generally be maintained. English and Swedish are two languages closely related to Dutch in which the inflected verb is assumed to occupy the V-position (in the Swedish case, in embedded clauses only) rather than the INFL-position (see (28)). There appears to be no reason, then, to assume that the inflected verb in embedded clauses in Dutch cannot simply occupy the V-position.

So, neither of the arguments supporting a head final IP (AgrP, TP) in Dutch is particularly compelling. Zwart (1991) and Haegeman (1991) present arguments based on cliticization phenomena in support of the hypothesis that the INFL-projections in Dutch are head initial. These arguments are based on the hypothesis that clitics occupy a functional head position (or are adjoined to a functional head). Consider (34):

(34)   ..dat   Jan   (*altijd)   't   doet
              that   John   (always)   it   does
              `..that John does it.'

In (34), *'t* is taken to be a clitic by Haegeman (1991) and Zwart (1991), and hence must move to a functional head.[12] (34) then shows that there must be a functional head to the right of C (occupied by the complementizer *dat*) and to the left of V (occupied by the verb *doet*). Hence, if the clitic evidence is admissible, (34) shows that at least some functional projections in addition to CP are head initial in Dutch.

Notice, however, that even if the clitic evidence is not admissible, considerations of elegance force us to start from the hypothesis that the INFL-projections are head initial. This is because CP is clearly head initial, and there are no compelling reasons to assume otherwise for IP (or AgrS, TP, and AgrOP).

Further typological considerations take us into the the domain of the lexical projections NP, AP, PP, VP.

Here, it is noteworthy that all lexical projections show up with a head initial structure in at least some of the constructions that they allow:

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[12] See Zwart (1992) for a discussion of the evidence suggesting that weak pronouns in Dutch are clitics. See also Cardinaletti and Starke (1994) for a slightly different view.

(35) a.   (de)   vernietiging   van Rome   NP
               the   destruction   of Rome
      b.   dol   op   taalkunde   AP
               crazy   on   linguistics
               `crazy about linguistics'
      c.   van   Rome   PP
               of   Rome
      d.   (..dat Jan)   zei   dat het regent   VP
               that John   said   that it rains
               `..that John said that it is raining'

The problem with the constructions in (35) is that in general we cannot exclude that the head initial orders are derived via some movement process. In this, the lexical projections differ from the top functional projections DP and CP illustrated in (32)-(33). All we can do at this point is ask whether the lexical projections present any evidence in support of head final structure. If not, considerations of elegance again force us to stick to the head initial hypothesis.

NP never surfaces as head final, so no evidence for head final status of NP is expected to be available here:

(36)   *   (de)   van Rome   vernietiging
                       the   of Rome   destruction

Certain APs and PPs do allow head final construction:

(37) a.   het Westvlaams   machtig   AP
               the West Flemish   potent
               `speaking West Flemish'
      b.   de rivier   langs   PP
               the river   along
               `along the river'

But there is reason to believe that in these constructions, there has been object shift of the noun phrases to the left, just like with the complement of V (see section 4). Again, the relevant test looks at *adjacency* of the noun phrase and the head (A or P, in this case).

Compare (37) with the following constructions:[13]

(38) a.   het Westvlaams   *nauwelijks*   machtig   AP
               the West Flemish   barely potent
               `hardly capable of speaking West Flemish'
      b.   de weg   de rivier   *weer*   langs   PP
               the road   the river   again   along
               `the road back along the river'

The examples in (38) show that an adverbial element may appear between the adjective or preposition and its complement. As before, we must conclude that the complement and the head (the adjective or the preposition) are generated as sisters. This means that the word order in (38) is derived, possibly by movement of the complement to the left, just like with the complement of V (see section 4). Adopting the principle that movement is never optional (11), this implies that the complements are in a derived position in (37a) and (37b) as well.

Hence, the head final constructions in (37) are just as irrelevant for determining the position of the head in the AP and the PP as is the OV word order in embedded clauses.

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[13] (38b) shows the PP embedded in a DP, to make sure that the P is not construed as a particle with a verb.

Finally, the VP in Dutch shows head final word orders, as discussed above, though not with complement clauses:

(39) * ..dat Jan   [dat het regent]   zei
         that John   that it rains   said

If the VP in Dutch has a head initial basic word order, (35d) must be derived from (39). Hence, it has been proposed that the complement clause in (35d) ends up to the right of the verb by a rightward movement rule, called *extraposition*.

It has always been recognized as a problem, however, that the extraposed clause in (35d) does not behave as if it were extraposed. Most importantly, extraposed clauses are islands for extraction. Consider the contrast in (40), from Dutch:

(40) a. * [$_{CP}$ Hoe$_i$ zei je   [$_{CP}$ dat het   tijd   was
             how   said you   that   it   time   was
             [$_{CP}$ om me   t$_i$ te gedragen]]] ?
             C   me-REFL   to behave
             `How did you say it was time for me to behave?'
      b.   [$_{CP}$ Hoe$_i$ denk je   [$_{CP}$ dat Piet zei
             how   think you   that   Pete   said
             [$_{CP}$ dat ik   me   moest t$_i$ gedragen]]] ?
             that   I   me   must-PAST   behave
             `How do you think that Pete said I ought to behave?'

In (40a), the clause *om me te gedragen* `for me to behave' is standardly considered to be a complement of the noun *tijd* `time', moved to the right via the extraposition process. The extraposition turns the clause into a (weak) island: no adverbs may be extracted out of it.

Not so with the clause *dat ik me moest gedragen* `that I ought to behave' in (40b). This clause is the complement of the embedded verb *zei* `said'. If the complement clause were moved to the right in (40), we expect it to be an island for adjunct extraction, contrary to fact. For this reason, it is problematic to consider (35d) to be derived from (39).

To avoid the problem that the complement clause is not an island, while maintaining that the VP is head final, it has been proposed that complement clauses are generated in a different position than complement noun phrases (Hoekstra 1983). But this solution violates an important principle of the grammar, according to which arguments are always generated in one and the same position, regardless their categorial status (Baker 1988:46; see also section 4.3.2 of the Introduction of this book, and Guasti, this volume, section 7.2). Hence, the assumption that the VP in Dutch is head final faces a dilemma. Either the idea that extraposed clauses are islands must be abandoned, or the UTAH must be violated.

One of the strong points of the hypothesis that the VP in Dutch is head initial is that this long standing problem can be avoided. We may simply assume that the complement clause is in its basic position in (35d), explaining the transparency for adjunct extraction (40b), and at the same time adhering to the UTAH.

One thing that needs to be explained if the VP in Dutch is head initial is the ungrammaticality of (39). Why doesn't the absence of `clause shift' violate the principle that movement is never optional (11)? Apparently, object shift is restricted to noun phrases.

Vanden Wyngaerd (1989) and Chomsky (1991) propose that object shift is equivalent to the abstract objective Case marking of Chomsky (1981). As has been known since Stowell (1981), clauses do not have to be assigned abstract Case - in fact they cannot be assigned Case.[14] If we assume that abstract Case is assigned by AgrO to the noun phrase in the specifier

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[14] The hypothesis that clauses cannot be assigned Case provided Stowell (1981) and Reuland (1981) with a trigger for extraposition: the complement clause moves to the right in order to avoid being assigned Case by the verb. Compare the following sentences, showing that

(continued...)

position of AgrOP, we have a principled explanation for the absence of `clause shift': the complement clause does not need Case, and hence does not need to move - in fact, cannot move - to the specifier position of AgrOP.

To conclude this section, typological considerations suggest quite strongly that Dutch (and other Continental West Germanic languages) is a head initial language. This again supports the Universal Base Hypothesis in the domain of the Germanic languages.[15]

8.   Conclusion

In this article we have discussed the Universal Base Hypothesis, according to which the basic hierarchical structure of language is mapped into a linear string of elements in a rigid and uniform fashion, yielding head initial structures only. This hypothesis was investigated in the limited domain of the Germanic languages, of which a subgroup (the Continental West Germanic languages) had been claimed to feature head final basic structures. We have argued that the interaction of two movement processes in Germanic, object shift and verb second, allows us to predict the surface word order of the meaningful elements in the Germanic languages, thus making a head initial/head final parameter superfluous and theoretically undesirable. This can be taken to support the Universal Base Hypothesis in the domain of the Germanic languages, and, potentially, in the domain of language at large.

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[14] (...continued)
clauses, unlike noun phrases, need not be adjacent to the verb (which Stowell assumes to assign Case to its sister):

       (i)   a.   John bought (*yesterday) the book
                 b.   John said (yesterday) that is was raining

[15] For more discussion of this issue, see Zwart (1994, 1995), Koster (1995), Den Dikken (1994), among others.

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