

Non-Existent Word Orders and Left-Branching Structure

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In this paper, we will argue that certain word order patterns do not exist in human languages because they violate some of the principles of linearization. We will discuss four non-existent word order patterns: (i) DP V/V pronoun, (ii) V O Aux, (iii) OV in main clauses/VO in subordinate clauses and (iv) O V/Aux V O. We will take each of these in turn.

(i) Greenberg's (1963) universal no. 25 claims that if the pronominal object follows the verb, so does the nominal object. That is, there is no language in which a verb is followed by its pronominal object and preceded by its DP object, as shown in (1)-(4).

- (1) VO languages (English, ...)
 - a. V pron (*love her*)
 - b. V DP (*love Mary*)
- (2) pron V/VO languages (Bantu and Romance languages, eg. Swahili, French, ...)
 - a. pron V (*nili-ki-tafuta*
I-Past-it-look 'I looked for it.')
 - b. V DP (*nilitafuta kisu*
I-Past-look knife 'I looked for a knife.')
- (3) OV languages (Japanese, Turkish, ...)
 - a. pron V (*kanojo-o aisuru*
her-Acc love 'love her')
 - b. DP V (*Mary-o aisuru*
Mary-Acc love 'love Mary')
- (4) * OV/V pron languages (Non-existent)
 - a. V pron (*#love her*)
 - b. DP V (*#Mary love*)

In other words, the reverse of the Bantu and Romance languages order does not exist.

(ii) Biberauer et al. (2007) argue that of the possible permutations of V, O and Aux, only the V O Aux order is missing in human languages. All the other possible permutations of Aux, V and O can be found, as shown in (5).

- (5) a. Aux V O (English: *can read books*)
- b. Aux O V (German: *Anna hat Wasser getrunken*
Anna has water drunk 'Anna has drunk water.')
- c. V Aux O (Dutch: .. *dat het lijk gevonden werd in de kast*
that the corpse found was in the closet
'.. that the corpse was found in the closet')
- d. * V O Aux (Non-existent)
- e. O Aux V (Dutch: .. *dat Jan het boek wil lezen*
that John the book wants to-read
'.. that John wants to read the book.')
- f. O V Aux (Japanese: *hon-o yom-eru*
book-Acc read-can 'can read books')

(iii) Almost no language has the OV order in main clauses and the VO order in subordinate clauses (n.b. possible (not obligatory) in Basque). The other three possible patterns are exemplified by English (VO in main/subordinate clauses), German (VO in main clauses/OV in subordinate clauses as shown in (6)) and Japanese (OV in main/subordinate cl).

- (6) a. *Anna trink-t Wasser.* (VO in the main clause)
Anna drink-3Sg water
'Anna is drinking water.'

- b. *Hans sag-t, dass Anna Wasser trink-t.* (OV in the subordinate cl)
 Hans say-3Sg that Anna water drink-3Sg
 ‘Hans says that Anna is drinking water.’

The reverse of the German order does not exist.

(iv) As far as we know, no language has the OV order when Aux is absent and the VO order if Aux is present (*O V/Aux V O). Other permutations of these elements can be found, however: V O/Aux V O (English), V O/Aux O V (German, Kisi (shown in (7)), Nuer, Dinka and Dongo) and O V/O V Aux (Japanese).

- (7) a. *Kùwó lwá sàá* (V O)
 snake bite Saa ‘The snake bit Saa.’
 b. *Fàlà có lndó yìkpàá* (Aux O V)
 Fallah Pres.Prog machete sharpen ‘Fallah is sharpening the machete.’

We will argue that the non-existence of these word orders can be explained if we assume the universal base order Spec-Head-Complement and the movement of the complement to the specifier position of its head (or a higher functional head) (Kayne 1994). This movement changes right-branching structure into left-branching structure ([H [_C ...]] -> [[_C ...] H]).

We will argue that left-branching structure has short juncture between its constituents and that it behaves like a word or a compound as a whole. This argument is supported by the fact that some phonological assimilation occurs within left-branching structure but not in right-branching structure (e.g. Japanese Voicing (Otsu 1980) and Korean *n*-Insertion (Han 1994)). Moreover, the idea of left-branching structure as a compound fits nicely with the observation that head-final languages tend to be agglutinative and have simple syllable structure (CV) (Lehmann 1973, Plank 1998). Furthermore, left-branching structure behaves like a word or a compound in that it does not allow extraction of its constituent (Left Branch Condition (Ross 1967)). Thus, the movement of the complement to the specifier position of a head has the effect of (weak) Incorporation. This idea explains the non-existent word orders.

The first non-existent word order, DP V/V pronoun, can be derived only when a language allows a DP object to be ‘incorporated’ into V (DP-V) and leaves a pronominal object in the complement position without ‘incorporation’ (V pronoun). However, this is impossible because pronouns are lighter and more easily ‘incorporated’ into V than DPs in general. The other word orders are derived by no ‘incorporation’ (V pron/V DP), the ‘incorporation’ of pronouns only (pron-V/V DP) and the ‘incorporation’ of pronouns and DPs, which are typically left-branching and compound-like (pron-V/DP-V).

The second non-existent order V O Aux could be derived if VP is ‘incorporated’ into Aux as in [_{VP} V O]-Aux. However, this is a violation of a morphological principle prohibiting the embedding of a phrasal category in a word (cf. Chomsky 1995).

The third non-existent order, OV in main clause/VO in subordinate clause, could appear in a language that allows the ‘incorporation’ of the object CP into V in the main clause, and leaves the object in the complement of V in the subordinate clause to make S [_{CP} S V O]-V. This is impossible for two reasons. First, CP is too heavy to be ‘incorporated’ into V (if it is right-branching). Second, the O in the subordinate clause is lighter and more easily ‘incorporated’ into the subordinate V than the CP object in the main clause.

The fourth non-existent order, O V/Aux V O, can be derived if O ‘incorporates’ into V only when Aux is not present: O-V/Aux [_{VP} V O]. However, this is implausible because there is no reason to make O stay in the complement position only when Aux is present. The reverse pattern, V O/Aux O V is possible and exemplified by German and some African languages because Aux, a higher head, triggers ‘Incorporation’ of O into V to make Aux O-V.

Thus we can give a principled answer to the question why certain word order patterns are missing from the world’s languages. This also gives support to the universal base order Spec-H-C (Kayne 1994) and challenges the Spec-C-H hypothesis (Fukui and Takano 1998).

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