

Finnish word order

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Finnish is said to be a discourse-configurational language because its word order correlates with discourse properties rather than grammatical roles. In addition, or perhaps as a consequence, its word order is free, often allowing for nearly all logically possible word order permutations (1).

- (1)
- | | |
|--|---------------------------------|
| a. Jari lainasi Merjalle kirjan
Jari borrowed to.Merja book.acc | b. Jari lainasi kirjan Merjalle |
| d. Merjalle lainasi kirjan Jari | c. Merjalle lainasi Jari kirjan |
| f. Kirjan lainasi Merjalle Jari | e. Kirjan lainasi Jari Merjalle |
| h. Merjalle Jari lainasi kirjan | g. Kirjan Jari lainasi Merjalle |
| | i. etc. |

One possible explanation for this phenomenon is some version of the nonconfigurationality hypothesis, according to which Finnish lacks asymmetric syntactic structure arresting constituents into rigid linear order (e.g., Helasvuo 2013). É. Kiss' argument that this applies to the Hungarian postverbal syntax represents a well-known variation of this idea. We argue, by relying on previous literature as well as on new data, that Finnish is configurational with very little or no input from discourse. Hence, some syntactic mechanism must be responsible for (1).

We will next consider the movement hypothesis, according to which Finnish is configurational but involves an extensive amount of grammatical movement. We argue that while the movement hypothesis is correct for the Finnish left peripheral operator field, in agreement with Huhmarniemi (2012)(see 1g), it is not correct for topicalization or word order permutations within the postverbal field (1a-f). We will reiterate arguments from (Brattico 2016, 2018) showing that topicalization differs from A/A-bar movement with respect to (a) long-distance movement, (b) satisfaction of the edge generalization, (c) licensing of parasitic gaps, (d) availability of context effects, (e) effects on selection, (f) binding properties, (h) morphosyntactic effects and (i) other locality properties. We also attest apparent "rightward movement" that cannot be A/A-bar-movement. We consider Vainikka's (1989) hypothesis that some word order permutations are due to post-syntactic stylistic movement, and another possible hypothesis which says that the word order permutations result from rightward movement, or "extraposition," and reject both on empirical grounds.

A third possible hypothesis is that thematic arguments are adjoined to the clause (Brattico 2016, 2018). Accordingly, the word salad in (1) is explained by the more free attachment mechanism (adjunct vs. argument). The reason why arguments can 'float' around in a sentence while interfering neither with selection nor with labeling follows automatically from the same hypothesis. However, there are problems. We criticize this proposal on two major points. One problem is that it purports to explain one controversial phenomenon, Finnish word order, by alluding to something even more controversial, a theory of adjunction. Another problem is that the distribution of thematic arguments is not at all identical with the distribution of adverbials. One example of such discrepancy is the fact that while adverbials can be stacked into a sequence, thematic arguments cannot:

- (2)
- | | |
|--|-----------------------------------|
| a. *?Jari kirjan Merjalle lainasi
Jari book to.Merja borrowed | b. ?*Lainasi kirjan Jari Merjalle |
|--|-----------------------------------|
- (3)
- | |
|---|
| a. ?*sitä käski lainata kirjan Jari Merjalle
expl asked to.borrow Jari book to.Merja |
|---|

In addition, what is possible and not possible in Finnish word ordering is often nonbinary (e.g., 2-3) and, moreover, it seems that the amount of noncanonicity correlates with feelings of marginality (4).

- (4)
- a. (?)Merjan₁ käski Jari ___₁ palauttaa kirjat Timolle.
 - b. ??Merjan₁ käski ___₂ ___₁ palauttaa kirjat Timolle Jari₂.
 - c. ?*Merjan käski ___₂ ___₁ palauttaa ___₃ Timolle kirjat₃ Jari₂

Argument distribution is limited by conditions that do not limit the distribution of adverbials. Here we consider a new hypothesis that builds on the adjunction hypothesis but assumes a minimalist parser-friendly top-down grammar of (Phillips 1996; Chesi 2004, 2013) that takes language comprehension into account. The top-down grammar constructs syntactic representations incrementally on the basis of incoming words by applying minimalist operations such as Merge, Agree and Move. The phrase structure is therefore composed in a left-to-right and top-down manner in a way the human parser must do it. We argue that this shift in perspective allows us to capture the non-binary properties of Finnish word order (4) together with its more strictly grammatical properties, as reviewed earlier.

The following experiment was conducted to examine the strengths and weaknesses of the approach. A top-down grammar was formalized and implemented computationally. It was then provided an extra ability to interpret richly case-marked thematic arguments as adjuncts, in accordance with the adjunction hypothesis. We used a Chomsky-Ernst theory of adjunction (Chomsky 2004; Ernst 2002). Adjuncts were reverse-engineered into their canonical positions by utilizing morphosyntax, case in particular. Operator movement (with and without pied-piping) was modeled by using the memory buffer mechanism of Chesi (2004). Then, a large corpus of Finnish sentences was crafted by systematically crossing structural variables, containing all logically possible canonical and noncanonical word orders, in various contexts. The raw corpus was fed to the algorithm. The final output and the internal behavior of the model were monitored.

The experiment yielded three main results: (1) The algorithm provided correct minimalist phrase structures for the corpus, and it correctly reverse-engineered A-movement, A-bar movement, head movement and reconstructed adjunct arguments into their canonical positions; (2) it correctly ruled out ungrammatical word orders; (3) computational complexity increased as a function of noncanonical word orders, suggesting a comprehension and complexity-based explanation for the graded nature of the grammaticality judgments. We conclude that word salads might be “unnatural” for the human parser to process even if they were judged as grammatical.

References: Brattico, P 2016 “Is Finnish Topic Prominent?”; 2018 “Word Order and Adjunction in Finnish”; Chesi, 2004, “Phases and Cartography in Linguistic Computation”; 2013 “Rightward Movement from a Different Perspective”; Chomsky, 2004 “Beyond Explanatory Adequacy”; Ernst 2002 “The Syntax of Adjuncts”; Holmberg & Nikanne 2002; “Expletives, Subjects and Topics in Finnish”; Helasvuo (2013) “Constituency”; Huhmarniemi 2012 “Finnish A’-Movement: Edges and Islands”; É Kiss 1987 etc; Phillips 1996 “Order and Structure”; Vainikka 1989 “Deriving Syntactic Representations in Finnish.”