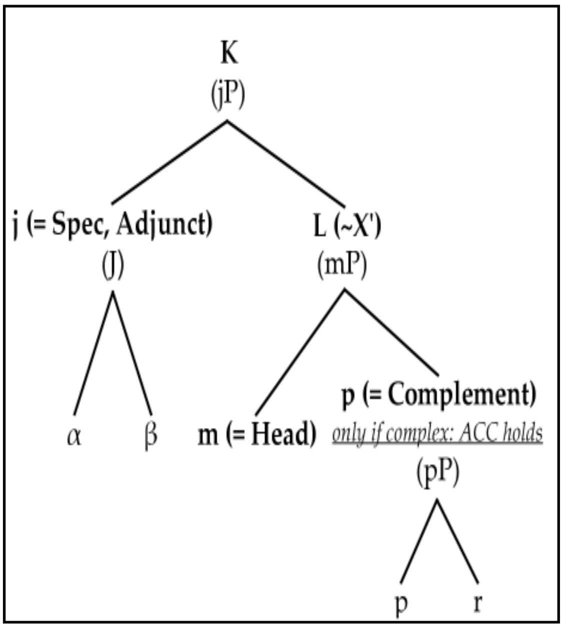
Categories and Transformations: 4.8 “Order” (CT: 334-340)

For Noam Chomsky, the order of syntactic elements is not part of the LF component or the computation from the numeration (N) to LF (N → LF mapping). It is part of the **phonological** and also, in a somewhat different sense, of the **morphological** component.

The standard assumption had been that the head-parameter could account for the essential differences in the ordering of elements: **head-initial vs. head-final languages**.[1] It basically depends on the way a language “branches”, so to speak, for leftward or rightward movement to be optional or necessary, i.e. triggered by featural needs. Since English is a head-initial language and thus right-branching, leftward movement is generally triggered via featural demands of landing sites and/or moving elements; rightward extraposition is free in English. In contrast to this, in Japanese leftward movement is optional and rightward movement is restricted. Ever since Kayne proposed his non-standard way of looking at ordering phenomena with his **Linear Correspondence Axiom (LCA)**, the head-parameter has decreased in importance. Recall that in the LCA, we have asymmetric c-command **(ACC)** that is responsible for the ordering of terminal elements. The universality of a Subject-Verb-Object (SVO) ordering is hence established , whereby specifiers are actually all just adjuncts. Chomsky now asks, how Kayne’s LCA could be fit into his own bare phrase structure theory **(BPS)**. On CT: 336, he exemplifies some of his points using the tree given here. This is a condensed version of his remarks including his train of thought as it emerges from the text. As far as I can see, the essential thing for Chomsky is to keep the ACC relations, for only then can the right ordering (j-m-p) be achieved without having to postulate some head-parameter. The ACC relations are as follows:



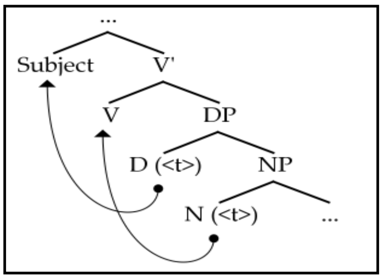
- j ACC {m, p}
- m ACC {p} ***only if nontrivial complement*** - If we had a trivial complement (i.e. a one-membered complement), then this would be ***ambiguous c-command with no order of the elements {m, p} specified***.[2]

Chomsky concludes:

> “In brief, the LCA can be adopted in the bare theory, but with somewhat different consequences. The segment-category distinction (and the related ones) can be maintained throughout. We draw Kayne’s basic conclusion about SVO order directly, though only if the complement is more complex than a single terminal” (CT: 336).

Recall that **segments** are adjunct-related and **categories** proper parts of spec-head relations.

As noted in footnote 2, trivial complements can only be ordered via the ACC if they are traces, moved overtly, since the **LCA can delete traces**. This leads us to suppose that non-complex complements and/or heads all should have to raise overtly. Let me have a look at CT: 337, where Chomsky tries to get this fleshed out a bit. Here, V asymmetrically c-commands D and NP, thus it precedes *both* D and NP. If we now move D out of the DP and let it incorporate somewhere above V (the position here being irrelevant), then the LCA can delete the



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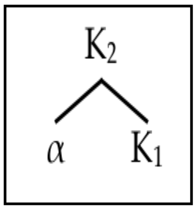
[1] Note that this restriction may only pertain to some parts of a given language. Chomsky grants this fact the phrase “further refinements” (CT: 335).

[2] Eventually, the question should arise as to how the order is specified at the last “leaves” of the syntactic tree. Chomsky later (CT: 337) will allow the LCA to delete traces at the bottom of the tree, assuming that trees terminate with at least one trace or, preferably (?), traces exclusively.

trace and we have V necessarily preceding *only one* element, the NP. As far as I understand he mechanism, the same holds for D asymmetrically c-commanding N and whatever its complement may be. Only that here, N *must* incorporate into V.[3] ***Put somewhat crudely: In a binary structure, and under the conditions posed by the LCA and ACC, we need to have at least one trace for linearization to be achievable in an unambiguous manner.***

Let us now have a look at the ordering of adjuncts, to me a somewhat confusing argumentation. The central issue seems to be: "Ordering depends on exactly how the core relations of phrase structure theory, *dominate* and *c-command*, are generalized to two-segment categories" (CT: 338). The relevant tree-representation is (156) (CT: 338), given here: When we take this to be a classic adjunction structure, then the formal representation is this:



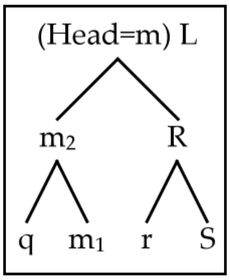
- $[K_2, K_1] = \{<H(K), H(K)>, \{\alpha, K\}\}$.

Chomsky now poses the question of whether α and K are dominated by the two-segment category $[K_2, K_1]$. Keep in mind that we need a reasonably well-defined notion of *dominance* in order to pin down *c-command* well enough for a two-segment category (cf. also (157) (CT: 339)). If my understanding is not at a total loss, then Chomsky's argument of why $[K_2, K_1]$ dominate K_1 is essentially Θ-theoretic in nature. **Since K_1 and α are *terms*, they ought to receive one (and only one each) Θ-role; since K_2 is not a term, it does not receive an additional semantic role.** Chomsky writes:

> "But there is no 'third' role left over for K_2; the two-segment category will be interpreted as a word by Morphology and WI (see (125)) if K is an X^0, and otherwise falls under the narrow options discussed earlier" (CT: 339).

Again, WI saves the day – we had this before, and the problem is that ***nobody really knows how WI works***. Anyhow, he arrives at the conclusion that the two-segment category dominates its lower segment and that the lower segment does not c-command its adjunct (here: α).

To complicate things further, Chomsky now scrutinizes the word "disconnected" in (157) applying it to a nonmaximal head. The tree is here: Note that q is not ***dominated*** by m_2, since $[m_2, m_1]$ is a two-segment category, it is only ***contained*** in it. q and $[m_2, m_1]$ asymmetrically c-command r and S, but, to the best of my knowledge, c-command also R, if I understand (157) (CT: 339) correctly. Applied explicitly it would read as follows:



- **$[m_2, m_1]$, q** c-command **R** if
  - (a) every Z that dominates **$[m_2, m_1]$, q** also dominates **R** and
  - (b) **$[m_2, m_1]$, q** and **R** are disconnected.

Without this symmetric c-command, not asymmetric one. Since there is only one Z in the given graph, namely L, the relations hold as given in (157). Chomsky then toys around with various interpretations of Kayne's ideas of "disconnectedness" but eventually finds no way to choose among the proposals. He arrives at what we found in the beginning: The LCA is a "principle of the phonological component that applies to the output of Morphology" (CT: 340).

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[3] It is opaque to me why Chomsky says that lexemes such as *this* and *that* are complex "with the initial consonant representing D […] and the residue a kind of adjective" (CT: 338).