

The Derivation of Inverse Order Languages

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VOS/VSO languages often show mirror image ordering with respect to word order phenomena in the predicate phrase and in DP compared to SOV/SVO languages. This can be illustrated with respect to adverb/PP/adjective order, double objects and on the basis of data on focus/background (information) structure. The following typology emerges: Two types of VO languages exist, i.e. direct VO languages, for example English, and inverse VO languages like Malagasy. In the VO-languages with inverse order, the subject follows the verb (VOS), whereas in the direct order languages, the subject precedes the verb (SVO). Some authors (Rackowski (1998), Pearson (2000), and Rackowski and Travis (2000)), derive the three mentioned correlations from the *Universal Base Hypothesis* (Kayne 1994) and Cinque's (1999) Universal Hierarchy of Adverbs. The assumption is that SVO is the base structure for every language, i.e. $S > IO$ (goal) $> DO$ (theme) and $Adv1 > Adv2$ base orders but that different transformations apply in SOV/SVO vs. VOS languages, producing direct and inverse order languages, the latter have $DO > IO > S$ and $Adv2 > Adv1$ linearization. For example, SVO languages have verb movement, which implies that the order of adverbs and nominal arguments is retained. Verb movement is motivated as a mechanism for endowing every phrase on the main projection path of the sentence with a "verbal" feature (Pearson 2000, Massam 2001). In VOS (i.e. *inverse order*) languages, verb movement is blocked, therefore roll-up movement, i.e. predicate (or VP-) movement has to apply. This movement results in a change of word order for adjuncts and nominal arguments (a similar analysis has been proposed for VSO languages).

It will be shown that the unified analysis for these phenomena in SOV/SVO/VOS languages based on the parametric option of having either roll-up or head movement, is incompatible with data found in Oceanic VOS languages such as Fijian (i.e., the North-West Viti Levu variant) and Kiribati. Although many languages linearize arguments and adjuncts in the predicate phrase in a unitary way, Kiribati and North-West Fijian use different strategies for arguments in double object constructions and for adjuncts. Adverbs, PP-adverbials and adjectives following the head they modify appear in inverted order ($Adv2 > Adv1$) compared to adjuncts preceding the head. The order of arguments ($IO > DO$) is similar to the order in direct order languages, i.e. it is determined independently of the order of adjuncts. However, it will be illustrated on the basis of extraction facts that the hierarchical position of arguments is similar in SVO and VOS languages.

Another potential argument against a roll-up analysis for deriving word order facts in VOS languages concerns the effects of different adverb positions on interpretation. In the following example the adjunct in pre-subject position scopes over the adjunct in post-subject position.

[Malagasy]

- (1) Nanao vakansy [araka ny fanirian'i Fafa] ny fianakavian-dRabe [tamin'izany foroana izany]
made holidays according to Fafas plan the family of Rabe in those days
'The family of Rabe made holidays according to Fafas plans in those days.'
- (2) % Namaky foana ny tononkalo izy intelo
read always the poem s/he three times
'He/she always read the poem three times.'

The interpretation of (1) suggests that the pre-subject adjunct c-commands the sentence-final adjunct before the derivation the structure is transferred to the semantic interface. And in (2), at least for some speakers, an "anti-mirror reading," is possible (*foana* scopes over *intelo*). This is problematic for a roll-up analysis. If Malagasy VOS order is derived from an underlying SVO order (via intraposition) the base position of the element in pre-subject position is structurally lower than the position of the sentence final subject and elements following the subject. Furthermore, the adjunct *araka ny fanirian'i Fafa* may not c-command from its derived position elements following the subject.

The theoretical consequences of the empirical generalizations for analyses deriving linear order of adjuncts and arguments in SOV/SVO and verb-initial languages are discussed. An alternative derivation for the observed typological differences (that avoids simultaneous application of head and roll-up movement (cf. Cinque 2005)) is that in the discussed Oceanic VOS languages, word order is derived from a base-generated structure involving right adjunction and right-peripheral specifiers, as assumed, for example, in Ernst (2002) and Abels and Neeleman (2007). The above-mentioned scope facts are likewise compatible with a base-generated VOS structure for Malagasy involving a head/specifier parameter, as well as right-adjunction.

However, some cases of (optional) roll-up movement with German complex PPs will be discussed (compare: *Mit dem Hammer auf den Kopf hat er ihn geschlagen* [With the hammer on the head has he him beaten] with *[[Auf den Kopf] mit dem Hammer <PP>] hat er ihn geschlagen* [On the head with the hammer has he him beaten]), showing that roll-up movement - violating anti-locality - is not generally excluded.