<Workshop Report>

Linear Information, Structure and Performance Systems

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1. Introduction

Any theory of grammar that assumes structure of linguistic elements must deal with the problem of how structure is linearized into a sequence of elements. Interest in the linearization problem has increased since Chomsky's (1995) interface conditions in the minimalist program. The problem of linearization is also related to the theory of performance and parsing (Hawkins 1994).

However, the precise nature of linearization and linear information has not been well discussed in the literature. In this workshop, we discussed (i) whether or not linear information is necessary in the representation of phonology, morphology and syntax, (ii) how structure is linearized into a sequence of elements, (iii) in which direction linearization proceeds in structure, either top down or bottom up, and (iv) what linguistic performance requires for the linearization of structure.

Tokizaki discussed head-complement orders in XPs ranging from CP to Word and Shiobara investigated constituent orders in VP. Nasukawa discussed precedence relations between segments.

2. Linearization/construction of morpho-syntactic structure and linear information (Hisao Tokizaki)

This paper argued that the hierarchical structure of morphosyntax is mapped onto the linear sequence of elements with stress and disjuncture; stress and disjuncture also play a role in parsing and building the structure the speaker has intended. Left-branching structure may well be linearized without prosodic boundaries because the sensori-motor system hardly expresses disjuncture after the main stress. Constituents with complement-head order are left-branching and compound-like because of strong juncture. They must have the same stress location as a word in the language. This stress constraint prohibits a complement from moving into the specifier position to derive the complement-head order from the head-complement order in the base. We do not need to specify linear order between head and complement in morphosyntax.

3. Significance of Linear Order in Phonologically Constrained Syntax (Kayono Shiobara)

The second paper argued for the significance of linear information in the grammar. The test case consisted of VP-internal idioms in Japanese and English. The grammatical model adopted here is that of Shiobara (2010), in which linearization is distributed between core syntax and the syntax-prosody interface. The approach to linearization based on this model, dubbed the "Prosodic Phase Hypothesis," provided a prosodically-based account of the distinctive properties of Japanese and English VP-internal idioms, including not only clearly prosodic factors such as weight and sentence level stress, but also, indirectly, syntactic factors such as susceptibility to displacement. This approach argues for the significance of linear information in the syntax, which is constrained by prosody.

4. The redundancy of linear information in phonology (Kuniya Nasukawa)

In the pursuit of a strictly monostratal model of phonology (Nasukawa 2010), syllable/prosodic structure is fully specified in lexical representations. Accordingly, information relating to the linear order of segments is redundant in representations: dependency relations holding between syllabic categories are sufficient to account for phonological phenomena. This paper therefore investigated the possibility of omitting from phonological representations all precedence relations between units, which would allow positional precedence to be viewed merely as a by-product of phonetic interpretation relevant to the sensori-motor systems. As such, the division between phonology and its external systems would parallel the division between syntax and performance systems.

5. Concluding Remarks

A general conclusion that can be drawn from these three papers is that linear information is needed at the interface between grammar (including morphology and phonology) and the sensori-motor system. Interface conditions may decide the order of head and complement, of constituents in VP and of segments. We can thus eliminate linear information from grammar itself.

References

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