MICRO VS. MACRO EVOLUTION OF LANGUAGE

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Synopsis:

On the assumption that there are two types of language evolution, microevolution and macroevolution, this paper argues that both synchronic and diachronic diversity of language can be regarded as the result of the microevolution of language. In addition, the Dynamic Model of Language proposed in this paper provides the key to resolving dispute over language evolution between adaptionists and non-adaptionists. For empirical support of this argument, the loss of quirky subjects in the history of English and multiple subjects in Japanese are closely examined, and it is concluded that these phenomena are the results of complex adaptation attested in the microevolution of language.

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Michio Hosaka

It is still controversial whether language change can be the subject of language evolution research. While Givón (2002) elucidates a clear analogy between biological evolution and diachronic language change, Chomsky (2010) insists that the language faculty has remained essentially unchanged since the "Great Leap Forward". In this paper, I argue that language change can be compared to microevolution, and thus can be a core research area in language evolution.

In evolutionary biology there are assumed to be two types of evolution, microevolution and macroevolution. The former is considered as changes within an existing species and gene pool, and the latter is regarded as large-scale changes at or above the level of species. Moreover, it is said that microevolution is adaptive and accumulative, whereas macroevolution is non-adaptive and non-repeatable. Leaving it an open the question whether microevolution results in macroevolution, I argue that we can also distinguish two kinds of evolution in language.

There are two broad types of approaches to language evolution: adaptionist vs. non-adaptionist. The former argues that language is the result of the gradual adaptive evolution of a communication system attested among other animals, whereas the latter holds that language evolved abruptly for thought through exaptation. In other words, non-adaptionists regard the emergence of language as the result of macroevolution while adaptionists consider it as the result of microevolution. These views are in sharp opposition and there seems to be no room for compromise. This paper tries to find a new way to unify both approaches under the Dynamic Model of Language (DML), as shown in Figure 1.

Feature Selection

(Feature Merge)

Language of Communication (LoC) ← ——— **Language of Thought (LoT)**

(Lexical Insertion, Phonological and   TRANSFER
Morphological Realization, Functional
Projections, Displacement, etc.)

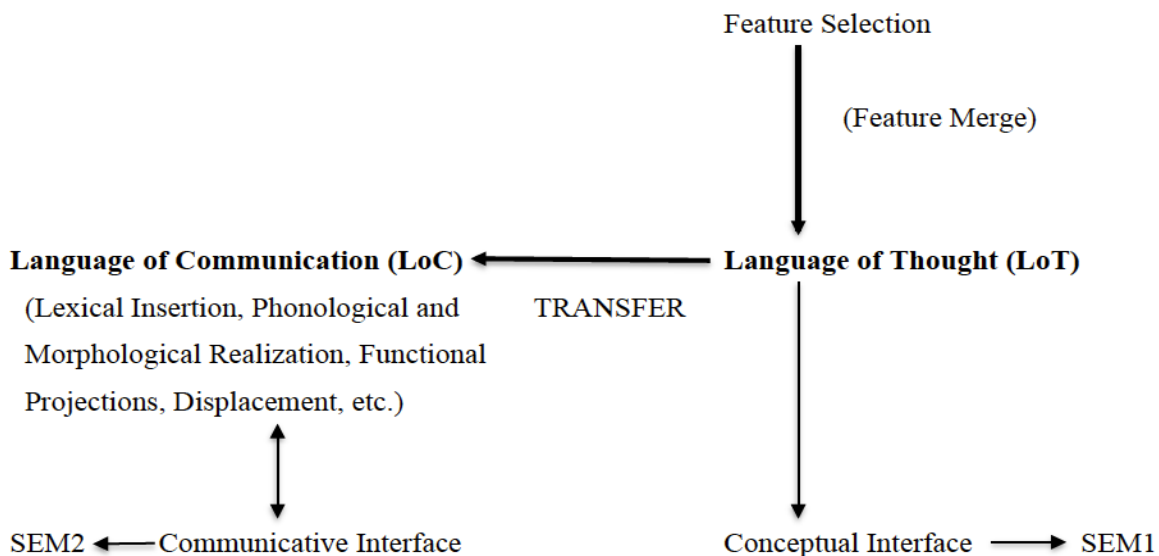SEM2 ← —— Communicative Interface   Conceptual Interface ——→ SEM1

Figure 1 Dynamic Model of Language (Hosaka 2016)

Under this model, there are assumed to be two levels of language, Language of Thought (LoT) and Language of Communication (LoC). In this model, the selection of semantic features and their merge is the first step to LoT, which is directly connected to the Conceptual Interface which produces SEM1.

On the other hand, LoC, which is required by the Communicative Interface, brings forth SEM2, which contains an interpretation different from that of SEM1. It is assumed that universal language competence lies in LoT, whereas the variety of languages that are actually used, are formed in LoC. Chomsky repeatedly insists that there has been no relevant evolution of the language faculty since the trek from Africa some 50,000 to 100,000 years ago. This unchanging faculty lies exclusively in LoT, whereas all of the various human languages, which emerged as a result of historical change, are in LoC. We can then presume that the syntactic derivation before Transfer is limited to the external merge of semantic features and that morpho-phonological realization and syntactic phenomena such as movement and agreement occur in LoC after Transfer. Under this assumption, it can be thought that Functional Projection (FP) emerged in LoC.

Chomsky mentions that the human ability to merge more than two linguistic elements is a language faculty indigenous to humans and that the emergence of the faculty occurred only once in human history. Although it is true that we acquired such an ability at some point in our evolution, there exist various languages in the world that have undergone drastic changes and are explained by postulating a number of parameters such as head parameter and *pro*-drop parameter. In this paper, the rise of the operation *Merge* is regarded as the macroevolution of language, and the subsequent diachronic language change is considered the microevolution of language. In particular, I insist that the latter evolution is closely related to the Third Factor first mentioned in Chomsky (2004), which I assume brought about principles such as Bounding Theory, Binding Theory and Case Theory. I also postulate that the Third Factor includes not only computational efficiency but also communicative efficiency. Based on such assumptions, I will explain how FPs emerged as an outer structure of Lexical Projection and dynamically changed afterward.

Drawing on research by Heine and Kuteva (2002), I assume that nouns and verbs are prototypical linguistic elements. Then, in the same vein as Chomsky, I presume that the emergence of *Merge* gave rise to the hierarchical structure of language. The next stage sees the emergence of FP. The following stages to the present include the dynamic change of FPs. These processes are illustrated in (1).

(1) a. Proto-Language Period: {X, Y}
　　b. Rise of Merge: [$_{XP}$ Z [$_{X'}$ Y, X]], [$_{XP}$ Y [$_{X'}$ ~~Y~~, X]], *[$_{XP}$ X [$_{X'}$ Y, ~~X~~]]
　　c. Rise of FP: [$_{FP}$ Y [$_{F'}$ X+F [$_{XP}$ [$_{X'}$ ~~Y~~ ~~X~~]]]]
　　d. Dynamic change of FP: [$_{FP}$ ...[$_{FP}$ Y [$_{F'}$ X+F [$_{XP}$ [$_{X'}$ ~~Y~~ ~~X~~]]]]...　　　　　(Hosaka (2009))

In the proto-language period, bare linguistic elements are assumed to exist in isolation, as in (1a). The rise of Merge allows a hierarchical structure to be constructed with them, although the merge of the head to its projection is impossible because of its self-destructive structure, as in (1b). The rise of FP enables the movement of the head of XP to the newly created head of FP, as in (1c). Then, owing to the following dynamic change of FP, languages may have the various types of constructions as found at the present time, as in (1d). It should be noticed that (1c) and (1d) are postulated as occurring only in LoC.

Empirically, I focus on quirky subjects in early English as in (2) and multiple subjects in

Japanese as in (3).

(2) Ða wife   þa   word   wel   licodon
    the woman-DAT these words   well liked
    'The woman liked these words.'   (Beowulf 6.39)

(3) Usagi-ga   mimi-ga   nagai
    rabbit-NOM   ear-NOM   long
    'It is rabbits which have long ears.'

It is then argued that the disappearance of quirky subjects in the history of English can be explained by the rise of FP to compensate for the loss of inflection, whereas multiple nominative constructions can be elucidated by the assumption that Japanese has not developed FP to license subjects structurally because it keeps a morphological means of identifying them. This paper specifically shows how FPs evolved dynamically in the history of both languages under the assumption of DML.

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