Title	二者関係の概念化に基づく構文交替の文化進化シミュレーション
Author(s)	岩村, 入吹
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Description	Supervisor: 橋本 敬, 先端科学技術研究科, 修士 (知識科学)

Abstract

This study explores the condition of emergence of more concrete grammatical phenomena such as "alternations" through cultural transmission of language, based on insights from previous constructive research on language evolution and cognitive linguistics. Alternations refer to linguistic phenomena where different forms are used to express different conceptualized meanings of the same situation, such as the alternation between active and passive voice.

To this end, I conducted a simulation of the cultural evolution of language, modeling intergenerational transmission in which speaker(a parent) produces linguistic forms through conceptualization of external events, while hearer(a child) infers the speaker's conceptualization based on their utterances and the shared events. Developing this study-specific evaluation metric, I examined the correspondences between linguistic forms that represent different conceptualizations of the same situation. Through these simulations, I investigated the conditions under which languages capable of encoding different conceptualizations through alternations can emerge.

The results indicate that languages that reflect conceptualization through word order or redundant forms can only emerge when the hearer is able to perfectly infer the speaker's conceptualization. In contrast, when inference is even slightly imperfect, different conceptualizations tend to be expressed using the same word order and vocabulary, effectively neutralizing conceptual distinctions.

These findings imply that in cases where language transmission does not involve perfect inference, ignoring conceptual distinctions may have contributed to reducing linguistic ambiguity and enabling more faithful intergenerational transmission. Furthermore, linguistic simplification due to inference failure is not limited to "exoteric communication" among unfamiliar interlocutors, as suggested by previous studies, but also occurs in vertical transmission within generations, as demonstrated in this study.

And, these findings suggest that in the earliest stages of language emergence, it was unlikely that languages encoding speakers' subjective conceptualizations would arise. The emergence of grammatical phenomena that reflect conceptual distinctions is likely to have occurred at a much later stage in cultural evolution. Furthermore, the cognitive linguistic principle that 'language reflects cognition' may not have applied in the earliest stages of language evolution.