Response to Pinker (2007)

Pinker (2007) presents arguments and reasoning in favor of a universal grammar, in regards to understanding the mechanisms of language and language development. The underlying premise of the universal grammar theory is that all languages share the same syntactic structure, with the view that syntax is fundamentally distinct from semantics, and therefore all humans carry an innateness for acquiring language. My concern here is exploring a potential objection to the premise, all languages share the same syntactic structure, by showing that the premise is not sufficiently established given its failure to account for the structures of all languages–and thus the proposed syntactic "universals" are not indicative of all languages.

The potential objection I put forth comes from an examination of linguistic diversity, which demonstrates differences in the structure of languages at every level. Evans and Levinson (2009, p. 3) review some of the universals proposed by Pinker in favor of universal grammar, and then provide counterexamples to those claims. In one example, the claim that all languages mark tense through verb affixes (e.g. "-en", "-ate") is met with the counterexample that languages such as Chinese and Malay do not mark tenses. In another, the claim that all languages have features such as pronouns is objected to with the counterexample that certain Southeast Asian languages do not have clear personal pronouns, instead using titles such as "honorable sir." It may therefore be seen that Pinker's proposed universals cannot be applied to all languages.

If the notion of linguistic diversity is maintained, this poses challenges to our implementation of language models and processing systems. Ahmad et al. (2019) indicates that cross-lingual transfer, transferring language-related models across languages, is challenging as a result of differences between languages at multiple levels, including morphology, syntax, and semantics, which further implies that there may not exist a universal syntactic structure that underlies all language.

From a cognitive systems perspective, if we do not uphold a universal grammar, we then question how we can design and develop language processing systems that can handle this linguistic diversity. We must take into account, not only computational efficiency and accuracy as purported by one language, commonly English, but effectiveness for all languages with their distinct structural variations. Despite the immensity of this challenge, doing so may allow us to gradually step away from treating dominant languages in language-related studies as homogenous.

References

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