

The structure of language influences learning

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Credit: Lotus Carroll, flic.kr/p/dmLBhZ

There are words that convey a meaning, like verbs, nouns or adjectives, and others, like articles or conjunctions that sustain them, providing a structure for the sentence. A few years ago some scientists of the International School for Advanced Studies of Trieste, together with collaborators from other Universities, showed that the order of the two categories of words within a sentence is important for language acquisition in infants already in their first year of life.

Think of a frequently used noun or verb in our language. Try to count how many times you have uttered it in the last two hours. Now, do the same with the article "the". The language we speak is not only made of content [words](#) (nouns, verbs, adjectives, for instance) but also of lots of words that provide a support to them (articles, prepositions, etc.) that are used much more frequently than the first (function words, or functors). Despite the huge variability of known languages, language scientists were able to divide them roughly into two main categories: the languages in which the functor precedes the content word – and that use a Verb-Object order (VO) – and vice versa (OV). The experimental observations showed that the frequency of the terms is a clue that helps identifying to which category a language belongs and, as a consequence, "tuning in" to it.

Knowing the language's structure enables the individual to segment the speech (to divide the language flow into single words) and affects language learnability. This effect has been observed also in very young children for some languages, such as Italian and Japanese. Now a group of neuroscientists including Jacques Mehler and Marina Nespors of the International School for Advanced Studies (SISSA) of Trieste have extended the experiment also to adults, employing a wider range of languages. The research has been published in the review *Frontiers in Psychology*.

The experiment was carried on Italian and French [native speakers](#) (in representation of the VO language group), and on Japanese and Basque native speakers (OV languages), carrying out learning tasks centered on sentences in an artificial (invented) language that could feature one of the two order structures. "In the previous studies we observed that infants as young as 8-month-old already 'prefer' an artificial language that mirrors the structure of their native language," explains Nespors. "In this new series of studies we have observed this type of preference also in adults".

"This would also explain the increasingly greater difficulties encountered in learning a new language when growing up. Children, while showing such preference precociously, are in fact much more flexible and can easily learn also a language that has a different word order from their own, while adults seem to be more rigidly tied to their [native language](#) scheme." adds Nespor. "Of course, when learning a [language](#), also other variables come into play such as lexicon and prosody" concludes the neuroscientist.

Provided by International School of Advanced Studies

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