

Speakers store abstract information, irrespective of their language

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Credit: Leiden University

The human brain stores not only individual words, but also all kinds of abstract information about these words. Research by Leiden linguists has shown that speakers have ready access to this information.

Der, den, dem, des. Many of us can probably still chant the noun cases in German, even if secondary school is some way back in our past. German and other Western languages make broad use of these kinds of noun cases and genders to express relations between words. A German speaker will, for example, talk about 'die Farbe des kleinen Tisches' if he wants to indicate the colour of a small table.

Leiden research has shown that this abstract information about words—such as suffixes according to [gender](#) or case—is stored in the brain and can be readily accessed. Linguists Man Wang, Yiya Chen and Niels Schiller recently published their research in scientific journal *Cortex*.

The researchers built on existing studies that addressed these kinds of links. They looked specifically at Mandarin Chinese, a language that, unlike German, has neither cases nor grammatical gender. Chinese uses what are known as classifiers to express the relations between words. For example, if you want to say 'three tables',

Chinese would insert an extra word ('three ZHANG table').

Wang, Chen and Schiller asked test subjects to say the names of objects while they were at the same time shown an unconnected different word. The task was: name the object and ignore the word. It was much easier for the candidates to do if object and word took the same classifier (for example, 'ZHANG' with 'table' and 'settee'). Different classifiers (such as ZHANG with 'table' and GE with 'house') made the task harder, as could be seen from electro-physiological measurements.

Surprisingly, the measurements corresponded with earlier studies with languages that do have grammatical gender or cases, such as German. The three linguists conclude from their findings that all speakers store abstract information about words and that they use this [information](#) when circumstances require it.

More information: Man Wang et al. Lexico-syntactic features are activated but not selected in bare noun production: Electrophysiological evidence from overt picture naming, *Cortex* (2018). [DOI: 10.1016/j.cortex.2018.05.014](https://doi.org/10.1016/j.cortex.2018.05.014)

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