

Running Words Together: The science behind cross-cultural linguistics

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While communication may be recognized as a universal phenomenon, distinctions—ranging from word-order to naming—undoubtedly remain as they help to define culture and develop language. Yet, little is understood about the similarities and differences in languages around the world. Recently, however, two studies have emerged that aid in our understanding of cross-linguistic similarities and differences.

In a study examining cross-linguistic contrast, researchers from CNRS and Université de Provence, and Harvard and Trento Universities found direct evidence to support word-order constraints during language production. Specifically, the way in which participants pronounced a set of words was dependent upon the preceding word as it varied across languages.

Psychologists Niels Janssen, F. Xavier Alario and Alfonso Caramazza presented Spanish-, French- and English-speaking individuals with phrases and noted that, in all three languages, the last word was easier to pronounce than the first word when the sounds were compatible. For example, ‘vela verde,’ meaning ‘green candle,’ was easier to pronounce in Spanish than ‘vela azul,’ or ‘blue candle.’

They also discovered that participants ran their first word into their last word, and as a result, English-speaking participants would run the adjective into the noun, as in ‘blue table,’ and those who spoke the Romance languages would pronounce the opposite, such as ‘table bleu.’

These findings, which appear in the March 2008 issue of *Psychological Science*, a journal of the Association for Psychological Science, provide insight into how word-order affects language production: “No matter how complex our thoughts, when we express them in speech, we produce them one by one,” explained Janssen. “And, the order in which these words should be uttered follows tight linguistic rules in many languages. As a result, each word is affected by its predecessor.”

However, language is not only constrained by word-order but by naming as well. In collaboration with researchers Mutsumi Imai, Eef Ameel, Naoaki Tsuda and Asifa Majid from universities in Japan, Belgium and The Netherlands, psychologists Barbara C. Malt from Lehigh University and Silvia Gennari from the University of York investigated whether participants speaking various languages identified two different words to distinguish between the acts of walking and running.

English-, Japanese-, Spanish- and Dutch-speaking individuals watched video clips of a student moving on a treadmill at different slopes and speeds. According to the study, English and Dutch verbs tend to express manner of motion, Spanish verbs tend to express direction of motion and Japanese verbs tend to express a directional path; these variations assure that any patterns in naming could not be attributed to structural similarities.

Despite the vast lexical differences, however, all participants used distinct words both to describe when

the student was walking and to identify precisely when she began running. These results, which also appear in the March 2008 issue of *Psychological Science*, indicate cross-linguistic naming patterns for locomotion and help to support the notion of certain universal rules and constraints in all languages.

“We found that converging naming patterns reflect structure in the world, not only acts of construction by observers,” Malt stated. “On a broader level, the data reveal a shared aspect of human experience that is present across cultures and reflected in every language.”