The incompleteness of language and cognition: The case of Pirahã number

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Abstract

This talk will describe a set of studies examining numerical abilities in the Pirahã, a tribe living in lowland Amazonia in Brazil. Being one of the least integrated of the indigenous tribes in modern times, the Pirahã still live a basic hunter-gatherer existence with little or no contact with mainstream Brazilian culture. Their language contains no words that indicate exact numerosity with only two words, ho'i and hoi' that indicate approximately one and two respectively. The studies reported in this talk examine the question of whether such lack of words for exact number leads to "strong determinism" in the sense that the speakers of this language are unable to entertain exact numerical concepts. The pattern of results suggest that the Pirahã inherit only the innate abilities for exact appreciation of numbers smaller than 3, and approximate appreciation of larger numbers. The failure of both the language and conceptual structures to encode exact numerosity suggests that languages can be incomplete and are not equipotential, contrary even to the Whorfian hypothesis.