

Speech mystery: Language relies on brain pathways that predate human beings

New research has identified the brain systems involved in language learning and discovered that these systems pre-date the human species. The findings add to the mystery of how language evolved.

The study used past research on language acquisition in children and second language learning in adults to study language origins in the brain.

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The results, published...in PNAS, revealed that when children learn a first language and adults learn a second language, they use brain circuitry that existed before humans evolved. More specifically, language acquisition for these groups used the declarative system and the procedural memory system.

In the study, children learned to use grammar with their procedural memory system. We use this system when we learn other new skills, such as riding a bike or learning a musical instrument, a statement on the study explained. Adults navigating the unfamiliar grammar rules of a second language tap into the declarative memory system, which helps us memorize shopping lists or recall what we did the day before yesterday.

Stumbling on these two neurologic circuits in a language study surprised the researchers because both existed before human language did.

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[T]hey could inform future research on the treatment of certain language problems, perhaps even suggesting new medicinal routes for communication issues associated with autism or dyslexia.

Read full, original post: [Evolution of language: Brain pathways for communication are more ancient than humans](#)