

Study shows children can spontaneously recreate core properties of language

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A trio of researchers from Stanford University, Leipzig University and the Max Planck Institute for Evolutionary Anthropology has found that young children are able to recreate the core properties of spoken language using sign language when speaking aloud is not possible. In their paper published in *Proceedings of the National Academy of Sciences*, Manuel Bohn, Gregor Kachel and Michael Tomasello describe language experiments they carried out with children and what they learned from them.

To better understand language in human beings, scientists study all of its aspects, including its development—but most modern human languages developed over a very long time frame, making it difficult to study. To get around that problem, researchers sometimes create experiments to coax a new language or form of language into existence. One way to do this is have people interact with one another when their most natural form of communication is restricted. In this new effort, the researchers watched as [children](#) interacted with one another over a Skype connection with the sound disabled. They found that doing so forced the children to invent a primitive but effective form of [sign language](#).

The children were asked to convey the content of a picture to another child. At the outset, the pictures were of simple objects that were easy to convey,

such as a hammer. But as the study progressed, and the children took turns as the conveyor, the images in the pictures became more complex, forcing them to improvise. They note one such example was a blank sheet of paper—conveying nothingness, is of course, quite difficult. The children overcame the hurdle in short order by pointing to something white on their own clothing, and in so doing they also came up with a hand gesture for it. And from that moment on, the two had a new, shared word that meant "white." And that was how a language sprang into existence.

The researchers report that the children were able to build a lexicon of physical gestures in as little as 30 minutes. They suggest this indicates that [language](#)-like forms of communication can arise very quickly via social interaction.

More information: Manuel Bohn et al. Young children spontaneously recreate core properties of language in a new modality, *Proceedings of the National Academy of Sciences* (2019). [DOI: 10.1073/pnas.1904871116](https://doi.org/10.1073/pnas.1904871116)

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