

15 years of brain research: Multisensory speech perception examined

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Research on multisensory speech perception in recent years has helped revolutionize our understanding of how the brain organizes the information it receives from our many different senses, UC Riverside psychology professor Lawrence D. Rosenblum writes in the January 2013 issue of *Scientific American*.

"[Neuroscientists](#) and [psychologists](#) have largely abandoned early ideas of the brain as a [Swiss Army knife](#), in which many distinct regions are dedicated to different senses," he says. "Instead scientists now think that the brain has evolved to encourage as much cross talk as possible between the senses—that the brain's sensory regions are physically intertwined."

The article, "A Confederacy of Senses," explains how research in the past 15 years has demonstrated that no sense works alone. An abstract of the article can be read [here](#).

"The multisensory revolution is also suggesting new ways to improve devices for the blind and deaf, such as cochlear implants," Rosenblum writes. This research also has improved speech-recognition software, he says.

Researchers have discovered that the brain "does not channel visual information from the eyes into one neural container and auditory information from the ears into another, discrete, container as though it were sorting coins," Rosenblum writes. "Rather our brains derive

meaning from the world in as many ways as possible by blending the diverse forms of sensory perception."

Rosenblum is the author of "See What I'm Saying: The Extraordinary Powers of Our Five Senses" (Norton, 2010), and has spent two decades studying multisensory perception, lipreading and hearing. His research has been supported by the National Science Foundation and the National Institutes of Health. He is known internationally for his research on risks the inaudibility of hybrid cars pose for blind and other pedestrians.

Provided by University of California - Riverside

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