The picture of the linguistic brain: how sharp can it be? Reply to Fedorenko & Kanwisher

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Grodzinsky, Y. 2010.

Abstract:

What is the best way to learn how the brain analyzes linguistic input? Two popular methods have attempted to segregate and localize linguistic processes: analyses of language deficits subsequent to (mostly focal) brain disease and functional Magnetic Resonance Imaging (fMRI) in health. A recent Compass article by Fedorenko and Kanwisher (FK, 2009) observes that these methods group together data from many individuals through methods that rely on variable anatomical landmarks and that results in a murky picture of how language is represented in the brain. To get around the variability problem, FK propose to import into neurolinguistics a method that has been successfully used in vision research—a method that locates functional Regions Of Interest (fROIs) in each individual brain. In this note, I propose an alternative perspective. I first take issue with FK’s reading of the literature. I point out that, when the neurolinguistic landscape is examined with the right linguistic spectacles, the emerging picture is not murky, but rather, stable and clear, parsing the linguistic brain into functionally and anatomically coherent pieces. I then examine the potential value of the method that FK propose, in light of important micro-anatomical differences between language and high-level vision areas and conclude that as things stand the method they propose is not very likely to bear much fruit in neurolinguistic research.

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