

What Constitutes the Neurobiology of Language and Why is it Relevant for Linguistics?

Steven Small

Stanley van den Noort Professor and Chair, Department of Neurology, School of Medicine,
University of California, Irvine

small@uci.edu

This talk will focus on the nature of the neurobiology of language and its relation to other fields of inquiry, particularly linguistics and psychology. The talk will start with a definition of the neurobiology of language and a discussion both of what it is and what it is not. Following this introduction to the topic, the talk will proceed to a brief history of the field, and then the remarkable revolution that has been made possible by non-invasive in vivo measures of brain function in healthy individuals. We will argue that a theory of the neurobiology of language must be informed by linguistics and psychology, but constructed on a biological framework that makes evolution its primary foundation. In this context, we present data from primate audition, motor, and visual circuitry that can be used as a basis for human research. Next we show data from human imaging experiments that illustrate some of the biological bases of sentence comprehension, and finally, we present a novel biological and evolutionary model of human sentence comprehension.