Natalie Phillips, professor of English, specializes in 18th-century literature, the history of mind, and cognitive approaches to narrative. She is a leading figure in the emerging field of literary neuroscience, pioneering a series of interdisciplinary experiments that use neuroscientific tools, such as fMRI and eye tracking, to explore the cognitive dynamics of literary reading.

**HISTORY OF MIND IN EIGHTEENTH-CENTURY LITERATURE**

Dr. Natalie Phillips’s work focuses on the history of distraction in eighteenth-century literature such as Eliza Haywood’s “The History of Betsy Thoughtless,” Lawrence Sterne’s “Tristram Shandy,” and the poetry of Pope and Swift. Her current book project, entitled “Distraction: Problems of Attention in Eighteenth-Century Literature, 1750-1820,” traces the literary history of the mental state we now know as distraction. She argues that evolving theories of focus in the Enlightenment redefined models of cognition and narrative, transforming how writers portrayed the fictional mind and how they sought to capture their readers’ attention. Reading eighteenth-century literature in terms of distraction complicates our traditional story of the novel’s genesis. It reveals not simply an attempt to represent middle-class readers, but an ongoing struggle to get their attention. Distraction uses cognitive science as a framework to interweave the history of mental states, the history of science and the history of literary form, a framework that allows for distinctions between different cognitive types of distraction, such as mind wandering, scattered focus, divided attention, and selective blindness, thus achieving a more complex account of distraction’s literary history.

**LITERARY NEUROSCIENCE**

In addition to her research on eighteenth-century literature, Dr. Phillips’s interest in interdisciplinary work has inspired collaboration with scientists in the field of cognitive science. Broadly, this interdisciplinary focus...
aims to draw out the ways in which literature and cognitive science are mutually enriching fields. Literature has much to say about the history of cognition, and studying reading habits with the tools of cognitive science indicates that core skills in the liberal arts have immense cognitive complexity and exercise the brain in crucial ways.

Dr. Phillips began her work on literary cognition during her Ph.D. at Stanford, with special thanks to a Geballe fellowship and an ACLS-Mellon post-doctoral fellowship at the Stanford Humanities Center. There, she worked with an interdisciplinary group of scholars (Bob Dougherty, Franco Moretti, and Samantha Holdsworth) to design an fMRI study that explores the cognitive relationship between close reading and pleasure reading. Subjects of the experiment read portions of Jane Austen’s “Mansfield Park” inside of the fMRI, which produces images of blood flow to the brain as well as tracks eye movement as the subjects are reading. Each subject read a portion of the novel in a deeply absorbed way, similar to what we do when we read for pleasure, and then close read another portion of the novel in a more critical way, paying attention to structures like plot, characterizations, setting, and voice. Data analysis for this fMRI study is in progress, with results being analyzed even now.

Yet even the study’s early results have surpassed expectations. Excitingly, individuals from both the pilot experiment and the final study are demonstrating surprisingly strong cognitive differences between close reading and pleasure reading—differences that have proved far more widespread than expected. While one might have expected to see pleasure centers activating for the more relaxed style of reading, and regions associated with work, attention, and cognitive load at work for literary analysis (particularly the executive functions in the dorsolateral prefrontal cortex), the whole brain scans are showing a far more complex picture with significant, almost global, activations across a range of cognitive regions.

In addition to this study, Dr. Phillips is developing a study on the narration of trauma and its effect on empathetic response in collaboration with Duke University; a study on cognitive responses to rhythm in collaboration with the Timing, Attention and Perception Lab (TAP) and Music Cognition group at MSU, led respectively by Devin McAuley and Leigh VanHandel; and a study on distraction and digital reading in collaboration with Stanford University, Lund University and Umea University in Sweden.

THE DIGITAL HUMANITIES AND LITERARY COGNITION LAB (DHLC)

Dr. Phillips also leads the English Department’s new DHLC, which she founded in the fall of 2012 along with her colleague, Dr. Stephen Rachman. The lab’s mission is to cultivate projects that deal with literature and the history of cognition, use an array of digital technologies for the presentation of knowledge and literature, and share a general commitment to an interrogation of the ways that knowledge is produced in the digital age. Current working groups include: Literary Neuroscience, History of Mind, and Digital Humanities; scholars in the lab thus work in a variety of fields, creating projects that range from developing online pedagogy strategies to studying the history of empathy in the nineteenth century. The lab’s mission is also to model new interdisciplinary methods and frameworks: its members include undergraduate and graduate students in fields as diverse as neuroscience, education, philosophy of mind, English, and professional writing. More information about the DHLC’s people and current projects can be found at http://dhlc.cal.msu.edu/

COGNITIVE, EVOLUTIONARY, AND COMPUTATIONAL MODELS OF THE MIND

As part of her broader interdisciplinary work, Dr. Phillips has been involved in this initiative at Michigan State, where she is helping to lead a branch on “Language, Music, and the Arts.” This cross-college collaboration seeks to bring together scholars at MSU who do brain-related research across a variety of disciplines including neuropsychology, engineering, artificial intelligence, computer science, literature, and fine arts. Recently, the Mind-Brain Initiative held two colloquia, “New Frontiers in Cognitive Evolutionary and Computational Models of Mind,” where participants crafted a broad vision for integrating cutting-edge research on the mind and brain across fields to produce better models for learning-based algorithms and artificial intelligence.