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Review of Leslie Brothers' *Mistaken Identity: The Mind-Brain Problem Reconsidered* (New York: SUNY, 2001)

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Leslie Brothers' latest book is by turns enlightening and frustrating. Her subject here is cognitive neuroscience and biological psychiatry – attempts to understand human psychology in terms of the growing wealth of findings in neuroscience. We've all seen the explosion of interest in this area of science in the years since U.S. President Bush, the Elder, declared the "Decade of the Brain" in 1990. This interest has played out not only in untold shelf-feet of new findings in peer-reviewed journals, but has also dominated the science pages of daily newspapers, the airwaves of radio and television, and the shelves of bookstores as journalists and scientists alike have churned out lay-science material for public consumption. Brothers' short (107 pp), extremely readable monograph is an example of the "Emperor-wears-no-clothes" genre. Her goal here is to offer an antidote to contemporary neuroscientific hubris and to highlight approaches that are currently being overlooked in our rush to (mis)solve the mind-body problem.

Brothers is well-placed to make her arguments. First, she is a trained psychiatrist, having served on the faculty of UCLA's Dept. of Psychiatry for several years, working on the neural basis of social cognition in monkeys. Her 1997 *Friday's Footprint: How Society Shapes the Human Mind* is a thorough and accessible review of recent work in social neuroscience together with her own theories of how primates mediate social interactions. Furthermore, she is now an "independent scholar" (in the parlance of the day) and makes her living in private practice. This gives her the freedom to expose the threadbare costumes of the "emperors" – many of whom are currently powerful movers and shakers in the world of neuroscience and psychiatry – without the normal fears of reprisals when the time comes to collect letters to evaluate academic promotion. In many ways, this is a brave book to write.

Brothers' primary target here is what she calls "neuroism" – the thesis that "the mind can be explained in terms of the individual brain" (3). She is not opposed to naturalistic accounts of mind, per se. Rather Brothers attacks internalist reductions

of mental phenomena to the solipsistic activity of individual brains. She takes a thoroughly externalist approach to the mind/brain problem – derived, in part, from the work of Wittgenstein and ordinary language philosophy. On her picture, mind and mental phenomena result not form the isolated brain and its physiology, but rather from the interaction of brains with other brains, with culture and with the environment more generally. Her attack is on what might be called "neural determinism;" (a term meant to reflect the conceptually-related critiques of *genetic* determinism, for example, in the recent work of Richard Lewontin, Daniel Kelves, and David Moore).

Brothers' critique of neuroism has two parts. First, she argues, following Wittgenstein, that neuroism simply commits a logical mistake. Psychological and neural explanations represent two different language games. Our psychological understanding of ourselves is part of ordinary language and is simply not in the same sort of business as the mechanistic, reductionist language game of neuroscience. There is a fundamental explanatory gap between the two types of account. However, as Brothers lays out in much detail, neuroist scientists consistently fail to recognize the fundamental incongruity of these two different language games and end up pursuing one of three strategies: (1) act as if the gap simply isn't there (chapter 3); (2) acknowledge the gap by strenuously remodeling the psychological grammar, but in the end, reverting to everyday usage (chapter 4); or (3) abandon serious efforts to bridge the gap altogether and play up a sense of mystery instead (chapter 5). In each of these chapters, Brothers singles out the work of prominent neuroscientists and psychiatrists – Antonio Damasio, Joseph LeDoux, Mark Solms, Regina Pally, David Olds, Oliver Sacks, V. Ramachandran – and dissects their written work within the context of her critical framework.

Brothers' second line of critique examines the social impact of neuroism on our culture, and particularly upon the culture of scientists: "Neuroism *naturalizes* ideology: it makes our culturally derived ideas about ourselves seem to come from nature – to be facts about the brain. It thus allows the social arrangements behind ideologies of the human mind to remain hidden .... Thus, as a guide to who we are, neuroism is not only wrong, but it also deeply misleading" (3, emphasis in original). This part of the critique is less well developed – a single chapter is devoted to it – but in many ways, it is one of the most interesting propositions in the book. Brothers draws provocative parallels between the widespread belief in neuroism and the Mystery Cults of the early Christian church, particularly in the way in which a physical object, the brain, comes to take on mysterious and almost magical powers; transforming into a sacred object of cult worship. Also included in this sociological critique of neuroism is an enlightening discussion of the financial conflicts of interests suffered (but rarely disclosed) by prominent psychiatrists and researchers. And, yes, Brothers names names. Hence the bravery cited above. In other places (chapter 6), she tracks down citations found in works by prominent scientists and shows that they often do not in fact support the claims being made.

One imagines that if this book were to become popular, many Powers That Be would not be pleased.

The book is not without its disappointments, however. As a philosopher, my greatest frustration here is that the philosophy is simply out of date. Other than the discussion of Wittgenstein, there are only passing references to other philosophical work (Dennett, Searle, Gold and Stoljar) in the areas of philosophy of psychology and neuroscience. As a result there is no discussion of the late twentieth century debates over the place of folk psychology in a science of the mind. Ordinary language philosophy does not have many contemporary proponents left and for good reason. However, I believe it should be possible, if one were so motivated, to simply jettison the Wittgensteinian motivation for critiquing neuroism and replace it with more modern externalist reasons for opposing it. That would mean that at least some of the examples she finds in the work of scientists would be rendered non-starters though.

The book could also do with a little more in the way of science studies. By focusing so exclusively on the mind sciences, Brothers implies that the problems she identifies are those of the mind sciences alone. One is left feeling the need for some kind of control study. In fact, many of the problems, with neuroscience and psychiatry she discusses – financial conflicts of interest, bias as a result of cultural upbringing, reifying the theoretical entities posited by theories, mistakenly taking metaphorical language literally – can be found throughout the sciences. That isn't to excuse the mind sciences, but rather to show that they are in good company. If anything, Brothers' initial foray into this area shows that there is interesting sociology of science to be done here.

My third frustration with the book deals with how the positive story is handled. If Brothers were a philosopher or a sociologist, one might well expect there to be no positive story of how the science of the mind *ought* to be conducted in such a way as to avoid the problems discussed. However, Brothers is herself a practicing mind/brain scientist and therefore owes us an account of how she successfully avoids the snares which she argues have captured so many others. Her positive account is found in chapter 9, "Social Neuroscience," where she discusses both historical and recent work that attempts to understand the brain in its social context. In a social species such as our own, one important job for our brain is to mediate our standing in (and understanding of) the social network in which we find ourselves. That's all well and good, but having been primed by the critiques of the previous 8 chapters, it is hard not to read this chapter while continually asking about her own use of citations, speculative condensations of previous work, theoretical posits and such. What this chapter lacks is an explicit discussion of those counter-arguments, so as to help the reader see better how to do neuroscience and psychiatry properly.

Of course, the brevity of the book in part, causes all three of these problems. That brevity is itself welcome. I imagine this book would make an excellent addition to undergraduate courses, in that anybody can pick it up and understand it without large amounts of prior knowledge of the subject. Furthermore, it will likely

be an eye-opener to neuroscientists, psychologists and psychiatrists in training; its polemics easily provoking much discussion. For those of us a little further along in our careers, it also has a good time-investment-to-intellectual-reward ratio. *Mistaken Identity* is well-worth checking out.