

Preface

This project started when certain of the language of thought program's central philosophical commitments struck me as ill conceived. It might have ended after several lengthy arguments with Jerry Fodor, but I am more stubborn than he is.

The idea that the mind is computational pervades contemporary cognitive science and philosophy of mind. Within cognitive science, it has become something like a research paradigm. And over the years, I've been very happy with that research paradigm—thrilled, actually. Who would deny that the last thirty or so years have witnessed an amazing beginning for cognitive science? But I must confess that computationalism's philosophical credentials always struck me as weaker than the science behind it. For what is it to say that the mind is computational? We cannot merely assume that if the *brain* is computational, the *mind* is as well. There are substance dualists who accept the former while repudiating the latter, after all. No, we need to reflect on whether the mind is computational even on the assumption that computationalism about the *brain* is promising. Here, philosophers have ventured two sorts of computational approaches to the mind: one that is based on a connectionist, or neural network, approach, and one—the language of thought (LOT)

approach—that takes thinking to consist in the algorithmic manipulation of mental symbols.

Now, I thought to write a book-length exposé of the flaws in connectionist approaches to higher cognitive function, but someone already had (Marcus 2001). And in any case, it struck me that, philosophically speaking, connectionism is actually far better off than LOT, for its leading proponents are at least bona fide computationalists. Fodor, in contrast, is not. So I decided to sit down and ponder the scope and limits of the LOT approach, to determine if it is even a well-conceived computational approach to begin with. In this book, I do not intend to rule out non-computationalist options (e.g., biological naturalism, substance dualism): I trust many readers have arrived at views on this matter; they pick up this book because they find computationalism about the mind to be *prima facie* attractive. Yet even to those who sympathize with the computational approach, LOT seems to be in deep philosophical trouble: in the last several years, numerous cracks have emerged in its conceptual foundations. Its theory of meaning conflicts with its theory of computation; its theory of concepts is too emaciated—too nonpsychological—to be a satisfactory theory of concepts; Fodor's recent books on LOT actually argue that the cognitive mind is noncomputational; and even LOT's conceptual cornerstone—the very notion of a symbol—is poorly understood.

So here, I grapple with these problems, and at the end of the philosophical day, I believe you will find that the LOT I arrive at is quite different from the orthodox philosophical LOT. For the new LOT seeks integration with cognitive and computational neuroscience—indeed, LOT's naturalism requires it. And I repudiate Fodorian pessimism about the capacity of cognitive science to explain cognition. Further, in my hands LOT becomes

a *pragmatist* theory: I argue that LOT couldn't have been otherwise, and that even the mainstream, Fodorian LOT made hidden appeals to pragmatism, while officially embarking on a massive attack on it, quite ironically. Relatedly, I advance a pragmatist version of conceptual atomism: *pragmatic atomism*.

I imagine that you will care about all this if you've signed on to the LOT program. And if you are vehemently opposed to LOT, you may want to know whether the LOT you are opposed to is really one that requires all the philosophical wares commonly associated with it, which you've come to know and hate. I am claiming that LOT is different than you think.

But before I launch into all this, allow me to give credit where credit is due. First and foremost, I would like to thank Jerry Fodor for his many thought-provoking ideas, and for numerous philosophical discussions. I'm afraid he will disagree with much of this book, but I hope my reworking of LOT inspires fruitful lines of inquiry. I am also grateful to the National Endowment for the Humanities for their financial support, to Philip Laughlin at MIT Press for his efficient editing and helpful advice, to Melanie Mallon and Katherine Almeida at MIT Press for their thorough copyediting, and to the audiences at various departments who hosted me at their colloquia in which chapters of this book were presented (the University of Maryland, Washington University at St. Louis, the University of Pennsylvania, Lehigh University, and the University of Cincinnati).

This book drew from several earlier papers of mine: "The Nature of Symbols in the Language of Thought," *Mind and Language* (Winter 2009): 523–553; "LOT, CTM and the Elephant in the Room," *Synthese* (Winter 2009): 235–250; "Fodor's Critique of the Classical Computational Theory of Mind" (with Kirk Ludwig), *Mind and Language* 23 (2008): 123–143; "Direct Reference,

Psychological Explanation, and Frege Cases," *Mind and Language* 20, no. 4 (September 2005): 223–447; "Conceptual Atomism Rethought," *Behavioral and Brain Sciences*, 33, pp 224–225; and "Yes, It Does: A Diatribe on Jerry Fodor's Mind Doesn't Work That Way," *Psyche* 13, no. 1 (Spring 2007): 1–15. I would like to thank the editors and reviewers at these journals for their useful suggestions.

I am especially grateful to Mark Bickhard, Gary Hatfield, John Heil, Michael Huemer, and Gerald Vision. Not only did they give insightful feedback on parts of the manuscript, but they provided valuable practical advice and words of encouragement as well. I am also very grateful to the following people for their helpful comments on certain chapters: Murat Aydede, David Braun, Adam Croom, Matt Katz, Jonathan Cohen, Frances Egan, Michael Huemer, Brian McLaughlin, Carlos Montemayor, Jesse Prinz, Philip Robbins, Andreas Scarlatini, Murray Shanahan, Whit Schonbein, Bradley Rives, Jacob Beck, and Gualtiero Piccinini. The work of many of these people has played a significant role in the development of this book. Kirk Ludwig was also key to this project, to say the least, as he coauthored one of its chapters. I've enjoyed working with Ludwig, and indeed, all of these people, immensely. Needless to say, despite help from such a stellar crowd, I am sure errors have inevitably crept in, and that these are all due to me.

Last but most significantly, I am grateful to my family. I am especially indebted to my mother-in-law, Jo Marchisotto, and sister-in-law, Denise Marchisotto, who watched my young one while parts of the book were being written, and to both my husband and daughter, Rob and Alessandra Marchisotto, who tolerated an all-too-often distracted writer in their midst.