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PREFACE

This book is intended as a guide to quantum mechanics for the philosophical philosopher. Quantum mechanics is a rich source of philosophical insights about the nature of individuals and of properties, about supervenience and emergence, about determinacy and indeterminacy. This is not to say that physics holds all the answers. Quantum mechanics is not really slippery territory. Multiple interpretations of its basic mathematical formulation are possible, with very different implications about the nature of the world. In general, any philosophical issue of the form "Quantum mechanics entails X" is likely to be false. But despite the lack of definitive answers, quantum mechanics is very important to metaphysics, because of the way it broadens the range of metaphysical possibilities, because of the way it challenges our classically rooted intuitions, and because of the way it reshapes metaphysical debates by exposing us to completely unimagined ways.

There are many things that this book is not. It is not a user's guide to quantum mechanics. Physicists need no help from philosophers like me, and the business of using quantum mechanics goes on largely independently of foundational metaphysical concerns. It is not a physics textbook. While I explain the basic bones of the theory and a couple of variations, my exposition of the physics is limited to what I need to get the philosophical points across. There are plenty of good physics textbooks out there, some of which I mention along the way. It is not a polemic, or at least not in favor of one interpretation of quantum mechanics over the others, or an attempt to construct a new interpretation. There are plenty of good critiques of these genres out there, too, many of which I mention.