

Preface

This book has its origins in my leaving applied physics in 1969 to teach at a small college and ponder the foundations of physics without pressure, even if with limited time caused by a heavy teaching load. Richard Feynman had lectured weekly during the two years I spent at Hughes Labs in Malibu, after graduating from Engineering Physics at Cornell. I had considered switching to theory at Cornell and was discouraged from doing so by visiting Hans Bethe, their ranking theorist. Feynman reawakened my love of and confidence in pursuing the foundations of physics. I felt, however unworthy it was, that he and I were kindred spirits. He searched his whole life for a new path into post QED physics and encouraged me to also do so, through his lectures.

That was a long time ago and much has happened to my career but I never gave up the quest. Now I am old and it is time to leave the insights I have gained to the next generation of mavericks to push forward. My most admired physicist is Dirac, for he seems more than anyone to have a creative spirit that pioneered so many new ideas on the foundations, even if he was a weird person. He would have loved this book I am sure, as would Feynman. I started out thinking that complex numbers fit non-relativistic quantum physics, then why not a larger number system for relativistic physics? I avoided the literature on such things fearing that I would wind up where Feynman was, and he had not found the answer. He showed us Maxwell's equations in Pauli matrices and I knew electrons obeyed laws in the extension to Dirac matrices, so I tried to generalize these number systems and see what equations I could find. I reinvented many wheels in the years that followed and wasted a lot of time doing so, but it kept me independent in outlook. That is perhaps why I have succeeded where others have failed, if I indeed have—with my weird ideas of multi-mass and extended Lorentz combined with absolute motion.

It has been a lonely vigil with no one really thinking I had the talent to do anything so basic that would be worth anything. I thank my old professor Jack Garrison and old friends Stan Klein and Larry Caroff for moral support over the years. In more recent years, I have gained some appreciation and encouragement from the physicists John A. Wheeler, Max Jammer, Egon Marx, Geoffrey Dixon, Kuni Imaeda, S. Chandrasekhar, Bill Honig, Fritz Rohrlich, and Sidney Drell. Akhlesh Lakhtakia has also been very helpful. I owe much to the pioneering mathematician/physicist Louis Kauffman for his efforts and advice in getting this book published by World Scientific. He even looked tolerably on Maheum, which I cannot leave out. The world needs that outlook a lot more than it needs a better understanding of quarks, which may follow from the rest of

this book. My kids suffered a lot for this work too, as I was not there for them enough. I hope they can forgive me for that. Perhaps the world will make something wonderful of all this that will restore karma there. Both of my wives have been very understanding and they let me work hard all these past decades. Without their encouragement, I could not have finished all this. Some good better come of this work, considering the shared pain it has caused.

I wish to thank Michelle Boudreaux for her excellent typing; also Ms. H. M. Ho and her staff at World Scientific for their diligent efforts to bring this book to you, the reader. It is a bit silly in parts, but then so am I, so it is appropriate. I hope the young people can relate to it and find inspiration and guidance in it—on many fronts! Their future is rather bleak it appears to us old timers, who have gluttonously consumed all the resources of the planet. I hope there will be time and money for some of them to continue to pursue the study of the foundations of the world. It is not important, but so satisfying and awe inspiring. I look at the complicated mathematics of QED, which matches measurements so accurately, and it just overwhelms me. How can the world be so precise and mathematical? Why is it so and why does it all exist at all? These are the *important* questions but they cannot be answered. So we content ourselves with the search for more of the mathematical *details* of the design instead. It is a search for God in a sense, even though a hopeless one. We can never know the deep inner workings of the subnuclear world. But we can have some fun and wonder in the quest. To all the people who thought I was crazy to try such thinking over the years, may I say the last laugh is really great!

Lake Charles, Louisiana, February 1996