To Vicka

Preface

How do we know which objects are animate and which inanimate? Are computers and robots animate? Some researchers would say that they are nothing more than electronic circuits, but others would assure us that elementary animacy certainly exists in robots. These opposite opinions reflect a fundamental scientific problem: What does it mean to say that a physical body is animate? What test can be conducted to show whether an object is animate?

The term *animacy* implies religious context. Animate objects are those into which the Creator has breathed a soul. Scientists can accept such a notion only if they are able to photograph the Creator at the moment of endowing matter with soul. Science is based on observable evidence rather than on belief. In this book I will adhere to the scientific approach.

I should note that the terms *animacy* and *consciousness* are often used as synonyms. Of course, in doing so we assume that even a spider has some rudiments of consciousness. Also, the words *animate* and *living* are close in meaning; in some languages, a single word comprises both meanings. I will treat these words as synonyms.

My approach is as follows. First, I will devise a philosophy such that consciousness may exist, but without assuming the agency of a Creator. Plato's ontology is essential to this philosophy.

Second, I will propose a hypothesis and test it empirically and experimentally. This testing has taken many years; I have used the work of many different researchers. The analysis of their work is scattered throughout different papers and books of mine. I consider it important to bring these published analyses together in compact form.

The book has three Appendices. In the first one, an introduction to thermodynamics is described; this material is similar to what was published earlier in my book, *The Cosmic Subject*. The second appendix contains a paper from 1965, in which my study of this subject began, and the third one is my paper on animal behavior co-written with Federico Sanabria.