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In recent decades we have seen the gradual expansion of the use of computers and computing technology in all areas of human life. In the sciences the promise of computers to store, manage, and integrate tremendous amounts of data and information has given rise to new disciplines focused on data and information, and to new interdisciplinary fields such as biomedical informatics, materials informatics, geospatial informatics, and many more.

One increasingly dominant strategy for the organization of scientific information about the world in computer-tractable form is associated with the term “ontology” (or sometimes “ontological engineering” or “ontology technology” or “applied ontology”), understood as meaning (roughly) a controlled vocabulary for representing the types of entities in a given domain.

This strategy has been most conspicuously successful in the field of biology and biomedicine, where its proponents have come to view the task of organizing scientific information as requiring an unusually broad collaboration involving not only computer and information scientists, biologists, and clinicians, but also linguists, logicians, and, occasionally, *philosophers* interested in the study of the basic categories of reality. This book is an introduction to the field of applied ontology thus conceived. It explains the needs which ontologies have been designed to meet, explains what an ontology itself is, and outlines in detail principles of best practice for approaching the task of ontology design. The book also outlines a specific formal or top-level ontology, the Basic Formal Ontology, and provides illustrations of its use.

All three coauthors of this work were trained as philosophers, though all have become involved, in different ways, in applied ontology projects in biomedicine and related fields. All share the belief that philosophical ideas and theories can play an important role in advancing the quality of work in ontological applications, and the chapters that follow are very much a product of this belief. We have used philosophical ideas throughout—though our philosophical colleagues will say that we have sometimes done so incautiously, and certainly with what is for their purposes insufficient detail. What follows is not, however, intended as a contribution to philosophy. It is intended, rather, to form part of what we conceive as the rich, new technical discipline of ontology.