

Preface

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The information revolution has changed the world profoundly, irreversibly and problematically, at a pace and with a scope never seen before. It has provided a wealth of extremely powerful tools and methodologies, created entirely new realities and made possible unprecedented phenomena and experiences. It has caused a wide range of unique problems and conceptual issues, and opened up endless possibilities hitherto unimaginable. It has also deeply affected what philosophers do, how they think about their problems, what problems they consider worth their attention, how they conceptualise their views, and even the vocabulary they use (see Bynum and Moor 1998 and 2002, Colburn 2000, Floridi 1999, and Mitcham and Huning 1986 for references). The information revolution has made possible fresh approaches and original investigations. It has posed or helped to identify new crucial questions and given new meaning to classic problems and traditional topics. In short, information-theoretic and computational research in philosophy has become increasingly innovative, fertile, and pervasive. It has already produced a wealth of interesting and important results. This *Guide* is the first attempt to map systematically this new and vitally important area of research. Owing to the novelty of the field, it is an exploration as much as an introduction.

As an introduction, the twenty-six chapters in this volume seek to provide a critical survey of the fundamental themes, problems, arguments, theories and methodologies constituting the new field of *philosophy of computing and information* (PCI). The chapters are organised into eight sections. The introductory chapter offers an interpretation of the new informational paradigm in philosophy and prepares the ground for the following chapters. The project for the *Guide* was based on the hermeneutical frame outlined in that chapter, but the reader may wish to keep in mind that I am the only person responsible for the views expressed there. Other contributors in this *Guide* may not share the same perspective. In the second section, four of the most crucial concepts in PCI, namely *computation*, *complexity*, *system*, and *information* are analysed. They are the four columns on which the other chapters are built, as it were. The following six sections are dedicated to specific areas: *the information society* (computer ethics; communication and interaction; cyberphilosophy and internet culture; and digital art); *mind and intelligence*

(philosophy of AI and its critique; and computationalism, connectionism and the philosophy of mind); *natural and artificial realities* (formal ontology; virtual reality; the physics of information; cybernetics; and artificial life); *language and knowledge* (meaning and information; knowledge and information; formal languages; and hypertext theory); *logic and probability* (non-monotonic logic; probabilistic reasoning; and game theory); and, finally, *science, technology and methodology* (computing in the philosophy of science; methodology of computer science; philosophy of IT; and computational modelling as a philosophical methodology). Each chapter has been planned as a self-standing introduction to its subject. For this purpose, the volume includes an exhaustive glossary of technical terms.

As an exploration, the *Guide* attempts to bring into a reasonable relation the many computational and informational issues with which philosophers have been engaged at least since the fifties. The aim has been to identify a broad but clearly definable and well delimited field where before there were many special problems and ideas whose interrelations were not always explicit or well understood. Each chapter is meant to provide not only a precise, clear and accessible introduction but also a substantial and constructive contribution to the current debate.

Precisely because the *Guide* is also an exploration, the name given to the new field is somewhat tentative. Various labels have recently been suggested. Some follow fashionable terminology (e.g. “cyberphilosophy”, “digital philosophy”, “computational philosophy”), the majority expresses specific theoretical orientations (e.g. “philosophy of computer science”, “philosophy of computing/computation”, “philosophy of AI”, “philosophy and computers”, “computing and philosophy”, “philosophy of the artificial”, “artificial epistemology”, “android epistemology”). For this *Guide*, the philosophy editors at Blackwell and I agreed to use “philosophy of computing and information”. PCI is a new but still very recognisable label, which we hope will serve both scholarly and marketing ends equally well. In chapter one, I argue that *philosophy of information* (PI) is philosophically much more satisfactory, for it identifies far more clearly what really lies at the heart of the new paradigm. But much as I hope that PI will become a useful label, I suspect that it would have been premature and somewhat obscure as the title for this volume.

Because of the innovative nature of the research area, working on this *Guide* has been very challenging. I relied on the patience and expertise of so many colleagues, friends

and family members that I wish to apologise in advance if I have forgotten to mention anyone below. Jim Moor was one of the first people with whom I discussed the project and I wish to thank him for his time, suggestions and support. Jeff Dean, philosophy editor at Blackwell, has come close to instantiating the Platonic idea of editor, with many comments, ideas, suggestions and the right kind of support. This *Guide* has been made possible also by his farsighted faith in the project. Nick Bellorini, also editor at Blackwell, has been equally important in the last stage of the editorial project. I am also grateful to the two anonymous referees who provided constructive feedback. Many other colleagues, most of whom I have not met in real life, generously contributed to the shaping of the project by commenting on earlier drafts through several mailing lists, especially hopos-1@listserv.nd.edu, philinfo@yahogroups.com, philos-1@liverpool.ac.uk, philosop@louisiana.edu, and silfs-1@list.cineca.it. I am grateful to the list moderators and to Bryan Alexander, Colin Allen, Leslie Burkholder, Rafael Capurro, Tony Chemero, Ron Chrisley, Stephen Clark, Anthony Dardis, M. G. Dastagir, Bob Di Falco, Soraj Hongladarom, Ronald Jump, Lou Marinoff, Ioan-Lucian Muntean, Eric Palmer, Mario Piazza, John Preston, Geoffrey Rockwell, Gino Roncaglia, Jeff Sanders and Nelson Thompson. Unfortunately, for reason of space, not all their suggestions could be followed in this context. Here are some of the topics left out or only marginally touched upon: information science as applied philosophy of information, social epistemology and the philosophy of information; visual thinking; pedagogical issues in PCI; the philosophy of information design and modelling; the philosophy of information economy; lambda calculus; linear logic; fuzzy logic; situation logic; dynamic logic; common-sense reasoning and AI; the hermeneutical interpretation of AI. J. C. Beall, Jonathan Cohen, Gualtiero Piccinini, Luigi Dappiano and Saul Fisher sent me useful feedback on an earlier draft of the Glossary.

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