Foreword

Philosophy is an evolving, open and critic research field. For these reasons, the philosophy of 21st Century is involved into some of the most fascinating investigations of the whole history of philosophical thinking, that is, computer sciences. This book covers the broad range of philosophical topics on computer sciences, from ethics, to epistemology, AI, information theories, robotics or computational logic, just to quote some fields.

From Thursday 2 to Saturday 4 July 2009 the 7th European Conference on Computing and Philosophy (ECAP09) was held at the Universitat Autònoma de Barcelona, Catalonia. E-CAP is the European affiliate of the International Association for Computing and Philosophy (IACAP, president: Luciano Floridi).

There we were, researchers from all around the world, coming from 20 different countries (United Kingdom, USA, Italy, the Netherlands, Brazil, Canada, Finland, Catalonia, Japan, Kuwait, Turkey, Germany, the Russian Federation, Austria, Spain, Sweden, Finland, Greece, Belgium, Norway, Switzerland, Hungary, France …), young and old, women and men ready for the philosophical analysis of computer science. With an extraordinary call for papers response and an excellent Program Committee, we selected the best research papers from the conference and also included the superb researches of the invited keynotes.

In this book you'll find the last and meaningful results on the philosophical debates of computer science, but not only theoretical debates, but also empirical and interdisciplinary researches.

The present and future of our societies and knowledge are completely determined by computer science. We create machines and programs to investigate into the deep space, to improve our knowledge of the remote areas of our planet, to manage our economies, to make life fun (with games) and easy (domestic robots), to make the war and maintain peace, to keep us on a good health, to communicate between themselves (mobile phones, the Internet,…)… Computer science is around us all throughout our lives and at any situation. Even as an indirect aspect of our day-to-day live, they can affect us (remember the Y2K!).

Technology does not mean the end of philosophy, as many authors all throughout the history have claimed for, especially in recent times. From my humble point of view is completely the opposite situation: we can simulate things with computers (like the cosmological big bang, complex molecular dynamics, artificial evolution…and so on with a large list) that otherwise could not be thought with our brains. Thanks to magnetic techniques (like fMRI, NMR,…) we can look inside the minds and change our ideas about its functioning and the relations between body, mind and environment. Robotics makes possible experimental philosophy. Computer programming allows us to create and verify very complex mathematical proofs. Computer resources are the natural allies of philosophers. In fact, these machines are the result of the own history of philosophy (look at Llull, Leibniz, Boole, Frege, Turing, …). For all

these reasons, Philosophy of Computer Science, with all the possible different sub-fields, is perhaps the only and true philosophy of our days. Western and Eastern philosophers reached some centuries ago the limits of classic thinking and showed that there not so much possibilities when we talk about the world and all its entities. Philosophy of Computer Science is the next step of the adventure of Knowledge. It is the present and the future of the most genuine characteristic of human species: curiosity. Nothing is better than feel the emotion of the discovery of new knowledge. Obviously, we'll assist to mistakes, dead-ends and errors during this process, but these are the essence scientific spirit: to learn from mistakes and be able to look bravely at the limits of our knowledge. We know that we not know but that we will know.

All the authors of this book are at the front line of research in science, technology and human studies. Unexplored and misty territories often lie ahead of us, but we are confident that we'll find enough light to show us the path to shaping a new future and a new knowledge. As Hilbert promised: *Wir müssen wissen*. *Wir werden wissen (We must know. We will know).*

I hope you learn so much as I've learnt from all these exciting researchers. The future is now in your hands.

Jordi Vallverdú
Universitat Autònoma de Barcelona, Spain