

manifest since the beginning of time.

This is a strange role that Kurzweil casts for himself. He and his colleagues are at the same time merely raw material for an almighty evolution, no different from amoebae cleverly designed to overcome the limits of chemistry, and, at the same time, god-like fulfillers of destiny and creators of the future. One does not need to be David Noble [3] to see strong religious themes sweeping through the book. “We will be software, not hardware” (p.129) could have been uttered by an ecstatic prophet announcing: The final judgment cometh and thou shalt be spirit, not flesh. Interestingly enough, though, in this contemporary eschatological vision, there is no day of reckoning. In best engineering tradition, each problem will be solved, separately, one by one, though in a very quick pace. For Kurzweil, paradise is only thirty years away when “the basic necessities of food, shelter and security are available for the vast majority of the human population” (p.222), and, “a variety of neural implant technology has essentially eliminated the handicaps associated with most disabilities” (p.221). In light of this bright future, any critique can only be irrational, misguided Luddism whose impact, however, “is limited by the level of prosperity made possible by the new technology” (p.196).

The book is characterized by the stark contrast between a highly sophisticated technological vision and a rather obtuse, reductionist and ultimately naive social vision of the use of these technologies. This would be unproblematic were its aims purely technical. But they are much broader. Kurzweil strives “to reflect on the gradual, yet inevitable, emergence of true competition to the full range of human thought in order to comprehend the world that lies ahead” (p.6). Particularly unsettling is the insistence on the evolutionary necessity and inevitability of computer technology which seems motivated, consciously or unconsciously, by the desire to claim credit and, at the same time, disclaim responsibility.

[1] Lanier, Jaron (2000). One Half Of A Manifesto. The Edge (September 25) <<http://www.edge.org/documents/archive/edge74.html>> [28.09.2000]

[2] Moravec, Hans (1999). *Robot: Mere Machine to Transcendent Mind*. New York, Oxford: Oxford University Press

[3] Noble, David F. (1997). *The Religion of Technology - The Divinity of Man and the Spirit of Invention*. New York: Alfred A. Knopf



***Philosophy and computing:
An introduction***

by Luciana Floridi

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Reviewed by Ana Viseu

Department of Human Development and
Applied Psychology, Ontario Institute for
Studies in Education
<aviseu@oise.utoronto.ca>

Luciano Floridi's exploration through the fields of computing and philosophy takes the contours of an epic journey with the author battling to provide the reader with a comprehensive overview of the conceptual relationships between these two traditionally disconnected areas. Floridi is a lecturer in philosophy at Oxford University, and this book constitutes his ambitious attempt to lay the blueprints for a new discipline: Philosophy of information. Thus, this book represents a philosophical introduction to information and communication technologies.

Philosophy and Computing is an ambitious project that simultaneously tries to be simple enough to be introductory, and specialized enough to provide a “critical understanding of the digital age” [p. ix]. This ambiguity of objectives is reflected in the final product, an uneven narrative which lacks internal coherence, not only in terms of logical structure of argumentation, but also because in places it is overly complex—in its many pages filled with mathematical expressions—though elsewhere it assumes the naiveté of a computer amateur. Nonetheless, *Philosophy and Computing* should not be quickly disregarded. As long as the reader is willing to read it in a hypertextual manner it offers interesting pieces and stimulating ideas.

Philosophy and Computing covers a wide variety of themes such as the history of computers and

networks, the storage and organization of information, the creation of an infosphere, and artificial intelligence. However, the author's wish to present an unbiased encompassing introduction drives him to adopt an unsound attitude in issues that require a more incisive treatment. For instance, Floridi starts by arguing that although Internet services share some resemblance with city shops, on the Internet "the streets are free and one can walk wherever one wishes" [p. 65]. However, in the next chapter Floridi contradicts this by stating that the development of the network will give rise to centralized, proprietary systems that "will raise new problems from the regulation of public access to information to massive censorship..." [p. 98]. The disparity of positions defended and their generic character leave the reader wondering where the author stands on such crucial issues.

The book's inconsistency is also demonstrated in the depth of analysis given to different, but equally important, issues. Thus, the author limits himself to a light treatment of issues such as privacy—of great concern to philosophers since they are related to concepts of personhood (Lyon, 1994)—and extends himself in exhaustive mathematical expositions of, for instance, the principles of a Turing machine and quantum computing.

However, if the reader is willing to disregard these contradictions and simply skim through the chapters, *Philosophy and Computing* does offer more than a few interesting arguments. Floridi's approach to the underlying motifs of technological development is original and stimulating. The author argues that behind technological progress is the human desire to save time. The passage from *homo faber*—technologies that restrict the amount of time and energy spent on production—to *homo sapiens*—technologies that economize the time spent on storing, managing and distributing knowledge—is guided by the ultimate goal of reaching the status of *homo ludens*, leisure time.

The analysis and elaboration regarding the philosophical foundations of artificial intelligence is one of the highlights of the book. Here, the author advances a thesis which not only goes against mainstream, common sense discourse, but also inspires further thought. Floridi argues that the future of AI—if it is to have one—is dependent on ontological envelopment. That is, on the "process of adapting the environment to the agent in order to enhance the latter's capacities of interaction" [p. 214]. This is the paradox of AI, and perhaps of the entire "digital revolution": Do we create the new world at our convenience, or do the constraints of digital technologies force us to adapt? Floridi leans towards the second, and maintains that intelligent machines, such as robots that cut the lawn for us will only be ubiquitous when our gardens have a shape that suits their functions. It is us who have to adapt our environment in order to make it "a bit more artificial, a contrived microworld in which objects, properties, relations and events are as narrowly and explicitly defined in advance as possible" [p. 212].

The large scope covered by this book, the totalizing ambitions of its author and the unevenness of the mathematical and philosophical treatments result in a piece of literature that is, at times, difficult to read. The lack of internal argumentative coherence combined with the thick mathematical and philosophical discussions will bewilder a majority of general readers, though those few who are well versed in both fields will feel at home. Nevertheless, for anyone interested in the future of computing and its philosophical implications, the effort to surpass the tension generated by the book's discrepancies will be rewarded with some inspiring reflections.

Lyon, David. (1994). *The Electronic Eye: The rise of surveillance society*. Minneapolis, MN: University of Minnesota Press.