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On the relationships between information theories and their computing implications

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A Review of Antonio Badia's *The Information Manifold: Why Computers Can't Solve Algorithmic Bias and Fake News* (MIT Press, 2019). 352 pages.

Keywords: information theories, algorithms, disinformation

Do not let the sub-title of this book fool you. While later chapters of the volume indeed focus on algorithmic bias, this is an immensely valuable volume also to scholars more interested in the concept of information and its related discourses. I would, in fact, dare to say that its first 200 pages contain the best

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Persistent identifier: <https://doi.org/10.23978/inf.88993>

current analysis of how “information” is and has been discussed within the more computer-science oriented disciplines. Badia does an outstanding job at describing how thinkers such as Fred Dretske (e.g., 1981), Luciano Floridi (e.g., 2011), and others analyse the constraints and variations of the concept, as well as in providing solid critiques of their viewpoints.

It is already in the preface that the author acknowledges that he comes from a certain scientific background, has not engaged with all relevant theories, and has not read all of them. As a result, the book seems at times very computing-oriented. While the occasional library and information science researcher gets mentioned (Marcia Bates being the best known of the very few names), and their ideas utilized well, it is obvious that the author would have benefited immensely from being informed by the information definitions of authors such as Michael Buckland (1991; 2018), Peter Ingwersen and Kalervo Järvelin (e.g., 2005), and Tom Wilson (e.g., 1999). Peter Checkland and Sue Holwell at least get a brief quotation, if outside of their primary areas of contribution to information conceptualization and theory (e.g., Checkland & Holwell 1998). These small observations nevertheless set Badia apart from other, more famous authors such as Luciano Floridi (e.g., 2019), who in their publications appear to be much more interested in citing their own earlier work than in engaging with library and information science’s numerous contributions – despite supposedly discussing the very nature of the concept of information. Badia’s dip into information studies here may be brief, but it is used really well as a tool to discuss the ideas of computer scientists, in a critical yet positive fashion.

As for the last hundred pages, the book delves deeper into computational issues. This may be somewhat alien to many information studies scholars, but Badia manages to explain the challenges in a very clear way. While I do not agree with all of his views on how surrogate measurements are better than no measurements (Badia opens this problematic discussion himself, by saying that some metrics on universities’ qualities and rankings are better than none at all), in general, the work is impressive in the way it opens up computational problems, such as issues of Big Data use, to a wider public. Near the end, however, Badia forays back into human issues, such as behavioural economics and the scientific method. That section is surprisingly shallow, at least for someone versed in the discourses, and seems out of place, being presented after the computational problems. Nevertheless, this is a rather small flaw in an otherwise excellent volume that will hopefully make its way to the reading lists of many information scholars.

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