

Kurzweil, R. (1999). *The age of spiritual machines: when computers exceed human intelligence*. New York: Penguin.  
 Maugham, W. S. (1944). *The razor's edge: a novel*. New York: Doubleday.

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***Sorting Things Out: Classification and Its Consequences***; G.C. Bowker, S.L. Star (Inside Technology); MIT Press, Cambridge, MA, 1999, xii+ 377 pp, \$29.95, ISBN 0-262-02461-6 (alk. paper).

*Sorting Things Out: Classification and Its Consequences* is a reasoned and passionate analysis of the relationships of categorization and classification systems to their broad socio-cultural and socio-political contexts. Its general views are that no classification system is (or, indeed, can be) an “objective” construct that resides outside the social and intellectual circumstances of its creation and use and that the classifications that result from these circumstances exert nearly invisible influence on, and have profound consequences for, a society’s and an individual’s life and fate. These ideas are starting to become widespread in the literatures of the various fields of the information sciences, and *Sorting Things Out* brings strong arguments to bear in support of this position.

The introduction (“To Classify Is Human”) and an introductory chapter (“Some Tricks of the Trade in Analyzing Classification”) demonstrate the importance of classification in cognition, in language, and in daily life. The authors suggest four themes that can provide analytical tools to help us read classification systems with increased critical understanding and interpret them as primary expressions of their underlying political and social values. These themes are: Ubiquity; Materiality and Texture; Indeterminacy of the Past: Multiple Times, Multiple Voices; and Practical Politics.

After these introductory points and the development of these four analytical tools, the book is divided into four sections: “Classification and Large-scale Infrastructures”; “Classification and Biography, or System and Suffering”; “Classification and Work Practice”; and “The Theory and Practice of Classification”. The first three sections provide detailed analyses of different formal classification systems in support of the basic argument. The major systems analyzed in these three sections are the *International Classification of Diseases (ICD)*, *Diagnostic Standards and Classification of Tuberculosis*, the racial categories contained in the various iterations of the Population Registration Act in South Africa under apartheid, and the *Nursing Interventions Classification (NIC)*. Throughout, multiple brief or extended examples from other formal and informal classification systems are called upon to illustrate specific points.

The last section, Chapters 9 and 10, draws some theoretical conclusions from the evidence in the previous sections. Chapter 9 (“Categorical Work and Boundary Infrastructures: Enriching

Theories of Classification”) emphasizes the multiplicity of classifications and the equally multitudinous memberships of individuals in communities of practice that create and use the classification systems. Chapter 10 (“Why Classifications Matter”) argues that the power of classification systems has not been sufficiently recognized in previous work and urges us to continue research along the path the authors have sketched out.

*Sorting Things Out* has important implications for information processing and management and for the traditional and emerging information professions in general, but these implications are not addressed specifically or in detail. Readers of *Information Processing and Management* need to study this book carefully, both for what it includes and for what it omits from its analysis of classification systems as social and political artefacts. For example, *Sorting Things Out* deals almost exclusively with the social meaning(s) of classification systems and neglects discussion of their structural principles and properties. This omission is analogous to discussing how a natural language contains and conveys meaning without acknowledging the role of syntax in meaning. How technically rigorous is the classification system? What syntactic devices does it possess, if any, for combining and/or refining class contents? Are class names non-ambiguous? What are the criteria for assigning something to a certain class? The answers to these questions and others like them lead to consequences for the users of the system and, therefore, for the society from which it arose and which finds it useful.

These questions about structure in classification systems lead to a discussion of the role(s) of individuals in creating and applying classifications. *Sorting Things Out* emphasizes the social axis of classification systems without examining the complexities involved in individual actions in regard to the systems. How do individuals decide whether an instance(s) of a thing belongs in a class? How similar to the things already in a class does a new thing have to be in order to become a member and how do individual classifiers decide issues of similarity and non-similarity? The authors describe the multiplicity of social roles (and therefore of formal and informal classification systems) in which individuals participate, but do not consider the consequences of mistakes that individuals make in regard to the system and how these mistakes may influence the future fate of the system. What, indeed, counts as a “mistake” in applying a classification system? To take an example from *Sorting Things Out*, if an individual chooses to wear inappropriate clothing (p. 287), is it a mistake or a deliberate flaunting of the social conventions that determine which kinds of dress are appropriate for certain occasions? Implicit in this question is that of how societies change, and implicit in the range of possible answers is the issue of how and when classification systems of all kinds change. Today’s classificatory mistake may be tomorrow’s social orthodoxy. It would be instructive, for example, to study how the typology of “insanity” used for the architectural design of the Glasgow Lunatic Asylum in 1807<sup>1</sup> developed into the *Diagnostic and Statistical Manual* (DSM) in use today. Did this development constitute an evolution or a revolution in society’s perception of mental illness? For the purposes of those involved in information work, detailed description and analysis of the role(s) of individuals and change in the creation and use of classification systems is required for the design of information services and systems.

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<sup>1</sup> Markus, T.A. *Buildings and Power: Freedom and Control in the Origin of Modern Building Types*. London: Routledge, 1993. p. 21, Fig. 1.9.

Another central question for providers of information services and systems is how the social analysis of classification systems relates to the development and use of classification systems for information or for documents of any kind (e.g., texts, paintings, performances of musical scores, the symbol systems of mathematics and physics, etc.), in any kind of information environment, in any kind of natural or artificial language. Information and/or documents may be classified for retrieval for any purpose that human beings can devise. It is vital that information professionals understand that classification systems are not innocent, objective or naïve. It is also vital to discover what to do with that knowledge. Once the invisible assumptions, errors and omissions of classification systems have been exposed, how can the multiplicity of possible and potential vantage points be integrated into the structure(s) and meaning(s) of social, information and/or documentary classifications? Some research is being done on this question,<sup>2</sup> but much more remains to be done.

These issues – the structure of classification systems, the role(s) of individuals in applying and changing the systems, the specific technical and social features of documentary and information classifications – are some of the questions that need to be addressed by the information community. That they are raised in a review of *Sorting Things Out* is not a criticism of the book. It is an attempt to illustrate what kind of work is needed to relate the authors' arguments about the circumstances of the creation and use of social classifications to the creation and use of classifications in the work that information professionals do for the benefit of users. *Sorting Things Out* articulates a fascinating ethical vision for the future of classification systems that has not been fully described in this review. The book's broad scope lacks the concentrated focus that would be needed for immediate application to the varied problems implicit in information work, but this breadth creates an opportunity for others to explore and extend the analysis at a more specific level.

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<sup>2</sup> For example, Schmitz-Esser, W. Thesaurus and Beyond: An Advanced Formula for Linguistic Engineering and Information Retrieval. *Knowledge Organization*, 1999, 26(1), 10–22; and Olson, H. A. and Ward, D. B. Feminist Locales in Dewey's Landscape: Mapping a Marginalized Knowledge Domain. In *Knowledge Organization and Information Retrieval, Proceedings of the 6th International Conference on Classification Research*, 16–18 June, 1997, London. The Hague: FID, pp. 139–143.