Book Reviews

Edited by Joseph T. Tennis

Book Review Editor

The Disorder of Things: Metaphysical Foundations of the Disunity of Science by John Dupré. Massachusetts; London: Harvard University Press, 1993, 308p. ISBN0-674-21261-4 (Hb)

Human Nature and the Limits of Science by John Dupré. Oxford; New York: Oxford University Press, 2001, 201p. ISBN 0-19-926550-X (Pb)

John Dupré emphasizes the pluralistic and social aspects of knowledge in his two books *The Disorder of Thing* and *Human Nature and The Limits of Science*. In *The Disorder of Things*, Dupré presents two ideas that for him are closely related: a rejection of the notion that science can represent a single unified project, and a metaphysical assertion that the contents of the world are diverse such that each subject has its own characteristic behavior and interaction. He begins by presenting a comprehensive discussion of the three philosophical doctrines associated with the metaphor of an ordered universe: determinism, reductionism, and essentialism. Dupré interweaves his notion of a universe lacking order throughout this discussion, skillfully presenting abundant evidence drawn from the biology domain to validate his thesis. He concludes that the contents of the world are diverse such that each subject has its own characteristic behavior and interaction. He rejects the notion of "natural kinds" and the unique orderly organization of things that exist and embraces a pluralistic stance. *The Disorder of Things* is organized in four parts: I: Natural Kinds and Essentialism; II: Reductionism; III: The Limits of Causality; and IV: Some Consequences of Disorder. Dupré's discussion in Part I of the book focuses on classification. Discussions in the remaining three parts of the book provide interesting reading related to pluralism. Below is a summary of the key concepts.

In Part I of the book Dupré introduces his theory of pluralism through a discussion of ordinary language and classification. Dupré presents classification in the traditional sense, an orderly, unique and perhaps hierarchical arrangement of things. He argues, as many knowledge organization scholars have before him, that the process of classification is difficult due to the complexity of language and the challenges associated with representing the many social and cultural aspects as well as aspects associated with meaning and purpose. He emphasizes the importance of classification as a lens through which an organism is described completely and argues that the current classification methods used within the biology domain are ineffective in presenting the diversity of meaning associated with an organism. He proposes an alternate method of classification in which cross-classification is used to identify complex relationships. He presents evidence to support such a classification from within the biology domain and argues that there is no place for a unique privileged scheme of classification that assigns everything to a class defined by common possession of the appropriate essence. Here Dupré's discourse regarding classification is all too familiar to those in the knowledge organization domain. The challenges so clearly identified in this chapter are the very challenges that knowledge organization scholars have earnestly examined through the years and are the basis of the philosophical underpinnings associated with faceted classification.

In Part II of the book, discussion turns to pluralism. Here Dupré argues against the belief that the world is composed of a single substance that is common to all organisms. His argument centers on the concepts of materialism and reductionism, which he identifies as the basis for the theory of scientific unity. He concludes this section by refuting these concepts, stating that biology consists of many complex and interdependent entities that cannot be presented through a unified method. He draws upon examples from the sciences of ecology and genetics to support his argument against scientific unity. In parts III and IV of the book, Dupré presents his argument against casual order defending his belief that the occurrence of casual order is not as prominent as alleged. Here, Dupré describes a pluralistic epistemology, as is presented by the later philosophy of Wittgenstein, in which science can be seen in terms of the family resemblance concept. He concludes the book by stating that there can be nothing unique about science because there is nothing common to the various domains of science and science is a human product evaluated only in terms of its contributions to the success of humanity.

In his later work *Human Nature and The Limits of Science*, Dupré reinforces the importance of pluralism through

his discussion of human nature. Dupré begins the book by presenting the bond that exists between humans and science, a bond that humans find essential in providing explanations to natural occurrences and ultimately enhancing human understanding. However, Dupré disagrees with such devotion to science, stating that science alone cannot answer the most complex questions that humans can ask and specifically, questions regarding human nature and behavior. Instead Dupré advocates the combination of empirical knowledge stemming from the sciences with wisdom and insight into human nature, stemming from humanistic studies. Dupré believes that only through such a pluralistic approach can humans understand nature. As in *The Disorder of Things,* Dupré is opposed to the mechanistic and reductionist view of the world in which the world is understood through a detailed analysis of how its components work disregarding the contextual or environmental influences. Dupré believes an understanding of the world stems from a thorough investigation of not only how things work but also what they do and why. This type of understanding incorporates the interaction between humans and their environments including the social context in which humans exist. Dupré opposes the mechanistic and reductionist view that presents humans as machines with distinguishable mechanical sub-units designed to respond to particular features of the environment but ignoring the diversity of human behavior. Dupré believes that it is only the pluralistic approach that provides the key to understanding the genuine autonomy of much of human behavior, for genuine autonomy can only exist in the interaction between humans and society. *Human Nature and the Limits of Science* contains seven chapters however, of particular interest to the knowledge organization audience is Chapter; 2. In this chapter, Dupré illustrates the problematic and controversial grounding assumptions of evolutionary psychology, the belief that natural selection is an engine that directs changes in the frequency of genes towards adaptive end. His arguments opposing this belief center around human language and his belief that humans are ontologically dependent on their social context and that aspects of the mind depend ontologically on the community in which they are embedded. Social context and community is also an important construct within the knowledge organization domain where the meaning of words is examined from the community in which the words and the language are used (Mai 2004) and knowledge is a reflection of communities and the society in which they belong (Hjørland and Pedersen 2005). Similarly, tagging is yet another process where members of a community share their reflections and provide a glimpse of life within a community (Campbell 2006).

Relevance to the Knowledge Organization Domain

The Disorder of Things and *Human Nature and The Limits of Science* make interesting reading for the knowledge organization audience. In both books, Dupré highlights one of the basic tenets of the knowledge organization domain, pluralism, as the lens through which knowledge is viewed and through which all aspects of life including the social and cultural are embraced. In *The Disorder of Things* Dupré challenges the concept of "natural kinds," discovering that an orderly, unique and hierarchical arrangement of knowledge is not easily accomplished due to the complexity naturally inherent in knowledge. Through several examples drawn from the biology domain, Dupré presents a valid defense for the pluralistic representation of knowledge. This theme has been discussed by various knowledge organization scholars but recently, the work of Smiraglia, van den Huevel and Dousa (2011) best highlights the importance of a pluralistic view of knowledge by introducing the concept of a "multiverse of knowledge," where knowledge embodies physical, conceptual and social elements. Also relevant to the knowledge organization audience is Dupré's discussion of the challenges associated with classification, a prevailing discourse in the knowledge organization domain over the years. In *Human Nature and The Limits of Science*, the social aspect of knowledge is highlighted reaffirming one of the basic tenets within the knowledge organization domain and one that has been widely explored by various knowledge organization scholars including Hjørland and Pedersen (2005), Mai (1998, 2009), Campbell (2006), Kwasnik (1999), and Mills (2004).

References

Campbell, D. Grant. 2006. A phenomenological framework for the relationship between the semantic web and user-centered tagging systems. In: Furner, Jonathan and Tennis, Joseph T., eds. *Information realities: shaping the digital future for all: proceedings of the 17th American Society for Information Science and Technology SIG/CR Classification Research Workshop,* 3-8 November 2006, Austin, Texas. Available https://journals.lib.washington.edu/index.php/acro/article/viewFile/12489/10987.

Hjørland, Birger and Karsten Nissne Pedersen. 2005. A substantive theory of classification for information retrieval. *Journal of documentation* 61: 582-97.

Kwasnik, Barbara H. 1999. The role of classification in knowledge representation and discovery. *Library trends* 48 no. 1: 22-47.

Mai, Jens-Erik. 1998. Organization of knowledge: An interpretive approach. In: Toms, Elaine G., Campbell, D. Grant and Dunn, Judy, eds. *Information science at the dawn of the next millennium: proceedings of the 26th Annual Con-*

ference of the Canadian Association for Information Science, 3-5 June 1998, Ottawa, Ontario, Canadian Association for Information Science, pp. 231- 42.

Mai, Jens-Erik. 2004. Classification in context: Relativity, reality, and representation. *Knowledge organization* 31: 39-48.

Mai, Jens-Erik. 2009. Classification in a social world: bias and trust. *Journal of documentation* 66: 627-42.

Mills, Jack. 2004. Faceted classification and logical division in information retrieval. *Library trends* 52 no. 3: 541-70.

Smiraglia, Richard P., Charles van den Heuvel, and Thomas M. Dousa. Interactions between elementary structures in universes of knowledge. In: Slavic, Aida and Civallero, Edgardo, eds. *Classification and ontology: formal approaches and access to knowledge: proceeding of the International UDC Seminar,* 19-20 September 2011, The Hague, Ergon-Verlag, Würzburg, pp. 25-41.

Elizabeth Milonas
Palmer School of Library and Information Science
Long Island University, CW Post
Brookville, New York 11548
emilonas@citytech.cuny.edu

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Editor-in-chief (Editorial office)

Dr. Richard P. SMIRAGLIA (Editor-in-Chief), School of Information Studies, University of Wisconsin, Milwaukee, Northwest Quad Building B, 2025 E Newport St., Milwaukee, WI 53211 USA. E-mail: smiragli@uwm.edu

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Pogorelec, Andrej and Šauperl, Alenka. 2006. The alternative model of classification of belles-lettres in libraries. *Knowledge organization* 33: 204-14.

Schallier, Wouter. 2004. On the razor's edge: between local and overall needs in knowledge organization. In McIlwaine, Ia C. ed., *Knowledge organization and the global information society: Proceedings of the Eighth International ISKO Conference 13-16 July 2004 London, UK.* Advances in knowledge organization 9. Würzburg: Ergon Verlag, pp. 269-74.

Smiraglia, Richard P. 2001. *The nature of 'a work': implications for the organization of knowledge.* Lanham, Md.: Scarecrow.

Smiraglia, Richard P. 2005. Instantiation: Toward a theory. In Vaughan, Liwen, ed. *Data, information, and knowledge in a networked world; Annual conference of the Canadian Association for Information Science … London, Ontario, June 2-4 2005.* Available http://www.cais-acsi.ca/2005proceedings.htm.

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International Journal devoted to Concept Theory, Classification, Indexing and Knowledge Representation

Scope

The more scientific data is generated in the impetuous present times, the more ordering energy needs to be expended to control these data in a retrievable fashion. With the abundance of knowledge now available the questions of new solutions to the ordering problem and thus of improved classification systems, methods and procedures have acquired unforeseen significance. For many years now they have been the focus of interest of information scientists the world over.

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(1) clarifying the theoretical foundations (general ordering theory/ science, theoretical bases of classification, data analysis and reduction)
(2) describing practical operations connected with indexing/classification, as well as applications of classification systems and thesauri, manual and machine indexing
(3) tracing the history of classification knowledge and methodology
(4) discussing questions of education and training in classification
(5) concerning themselves with the problems of terminology in general and with respect to special fields.

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