

Preface

This book is motivated by the increased importance of interdisciplinary scholarship within the academy and the widely perceived shortcomings of existing knowledge organization schemes (KOSs) in serving interdisciplinary scholarship.

The book reaches a set of very strong conclusions:

- Existing bibliographic classification systems [that is, classifications of works, as in libraries] are organized on a disciplinary basis; as a consequence they serve interdisciplinary research and teaching poorly.
- A novel approach to classification, grounded in the phenomena studied rather than disciplines, would serve interdisciplinary scholarship much better. It would also prove advantageous for disciplinary scholarship. If we can aid all scholars in their search for information, the productivity of scholarship would thus be increased.
- This novel approach is entirely feasible. Various concerns that might be raised can each be addressed. The broad outlines of what a new classification would look like are developed.
- This new approach might serve as a complement to or a substitute for existing classification systems.
- Though the impetus for this novel approach comes from interdisciplinarity, it is also better suited to the needs of the Semantic Web, and a digital environment more generally.

This book thus proposes a novel approach to classification, discusses its myriad advantages, and outlines how such an approach to classification can best be pursued. It should thus be of great interest to scholars of classification research, knowledge organization, digitization, and interdisciplinarity itself. Indeed we hope to encourage a collaborative effort toward the detailed development of such a classification.

Key Features

This is, quite simply, the first book to take interdisciplinary knowledge organization as its central theme. This might seem surprising, given the importance of interdisciplinarity in the contemporary academy. It is even more surprising given that the literature on interdisciplinarity appreciates that finding relevant information is one of the key barriers to interdisciplinarity. The paucity of previous research on interdisciplinary knowledge organization reflects in part the inertia surrounding existing classification systems: those in use in most of the world's libraries were developed many decades ago when neither interdisciplinarity nor digitization was foreseen. It also reflects in part a fear that conceptual ambiguity limits the scope for a truly interdisciplinary approach to classification. In this book, we will discuss how the approach to be recommended might either substitute for or complement existing classification schemes. And we will discuss at length how we can best combat conceptual ambiguity.

The approach that we recommend blends a comprehensive classification with domain-specific classification practices. The book should thus be of interest to advocates of both of these types of research (domain analysis will be explained in Chap. 3, and discussed in detail in Chap. 6).

The logical structure of the book deserves emphasis. Each chapter addresses a coherent set of questions. Later chapters build directly on the preceding analysis. Most importantly:

- Chapter 2 argues that interdisciplinary researchers will want to search by the phenomena and causal relationships studied in a work, the theories and methods applied, and the perspective of the author.
- Chapter 3 then examines what type of classification would facilitate these types of search.
- Chapter 4 reviews some attempts in this direction, and addresses why this type of classification has not already been adopted.
- Chapter 5 describes the feasibility of developing such a classification.
- Chapters 6, 7, and 8 develop strategies for doing so.

The book is thus able to provide a strong justification for a carefully described and novel approach to knowledge organization.

Though the primary focus of the book is on classification systems, the analysis is in places extended to other knowledge organization systems (KOSs) such as thesauri and ontologies (these will also be explained in Chap. 3). The possibility of a comprehensive thesaurus is explored. The classification proposed has many of the advantages sought in ontologies for the Semantic Web. The book will thus be of interest to scholars working in these areas as well.

The authors each bring something unique to this project. Rick Szostak is a scholar of interdisciplinarity (and former president of the Association for Interdisciplinary Studies). He has published several articles in leading journals in information science in recent years regarding the desirability and feasibility of the sort of

classification outlined in this book. Claudio Gnoli and María López-Huertas are scholars of information Science (and recently served respectively as vice president and president of the International Society for Knowledge Organization [ISKO]). Claudio Gnoli has also published many articles arguing for the new approach to classification urged in this book. María López-Huertas has published domain analyses of the interdisciplinary field of gender studies, and thus brings a critical perspective on both domain analysis and the needs of interdisciplinary scholars. Many works of each author are drawn upon in this book.

Audience

The primary audience for the book will be information science professionals. The book should be readily accessible to students in the field but at the same time will offer novel insights to experienced practitioners. It is entirely original in its approach but yet makes use of and synthesizes a diverse literature. It holds out the promise of a collaborative effort to develop novel KOSs. As stressed above it should be of interest to both those who perform domain analysis and those who wish to work toward a comprehensive classification.

The second audience will be interdisciplinary scholars, and especially scholars of interdisciplinarity itself. As noted above, such scholars are keenly aware of the information challenges they face, but unaware that there is a possible solution. They should be interested in the broad contours of that solution, and more generally in how KOSs do and could operate. They will then be able to advocate for the development of appropriate KOSs (see Chap. 10). Moreover we shall argue that the detailed development of such a KOS is best performed in concert by scholars of knowledge organization and scholars of interdisciplinarity: the latter can advise on how best to serve their needs (Chaps. 4 and 9). This book will also develop strategies for interdisciplinary communication that are of direct use to interdisciplinary scholars. And there are lessons along the way regarding clarity in expressing causal arguments, theories, and methods; arguments in favor of a coherent scholarly enterprise linked by interdisciplinarity; and descriptions of the nature of the world we live in such as the theory of integrative levels. We will discuss how interdisciplinarity can benefit from the Semantic Web and how the KOSs proposed in this book may be well suited to this enterprise. Last but not least, interdisciplinary scholars may see parallels between the discourse on domain analysis within information science and the broader debates regarding specialized versus interdisciplinary research in the academy. In sum, interdisciplinary knowledge organization is, as the name suggests, a field in which interdisciplinary scholars and knowledge organization scholars should interact; this book introduces each to the other field in order to facilitate that interaction.

Though ontologies are a KOS they have most often been developed by computer scientists and others from outside the field of information science. The formal structure—precise definitions of terms and stipulation of relationships among these—is hoped to facilitate computer navigation of diverse databases. There are, perhaps unsurprisingly, important parallels between the challenges of communicating across disciplines and across databases developed for different purposes by different agents. And it will turn out that the sort of KOS we recommend in this book serves many of the purposes of ontologies. It is particularly well suited to a digital world, and its structure seems well suited to the needs of the Semantic Web. A third audience for this book, then, is scholars of digitization, ontologies, and the Semantic Web.

Governments, granting agencies, and university presidents routinely both laud interdisciplinary scholarship and seek to facilitate it. And it is widely appreciated that scholars have trouble finding relevant knowledge in other fields, understanding it when they do, and communicating back to all relevant audiences. Our book proposes solutions to each of these challenges. This book shows how we can enhance interdisciplinary scholarship through the improved classification of works and the ideas that these contain. Arguably the development of KOSs suited to interdisciplinarity is the single most important policy innovation for facilitating interdisciplinarity. We will revisit in the concluding chapter how the sort of KOSs advocated in the book should be a goal of public policy. This goal cannot be pursued without detailed knowledge of the shape of the desired KOSs. A fourth audience for this book, then, comprises policy-makers interested in facilitating interdisciplinarity.

Timeliness of This Book

The timeliness of the book should be stressed. It comes at a point in time when:

- There is widespread discussion of how best to facilitate interdisciplinarity.
- Digitization allows works to be classified along multiple dimensions, and thus respond to the information needs of interdisciplinarians (while also better facilitating disciplinary research).
- Importantly, digital publication increases the value of a classification that can guide researchers to related works in other fields (rather than stressing shelf placement of like works).
- Online databases abound but each tends to employ a unique classification. The approach outlined in our book addresses potential solutions to this problem as well.

- More generally there is a widespread concern that the world faces information overload. And the best answer to overload is organization: people need not know everything as long as they know how to find what they need. The sort of classification we advocate should simplify search for the general user as well as the scholarly user.

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