Cataloguing based on Bibliographic Axiology

Mauro Guerrini

Elaine Svenonius, for many years professor of Cataloguing at the University of California, Los Angeles (UCLA), is now professor emerita at the Department of Information Studies of that University. She one of Seymour Lubetzky's closest associates and in 2001 co-edited, with Dorothy McGarry, his collected works under the title *Seymour Lubetzky: writings on the classical art of cataloging*. In *The intellectual foundation of information organization* (Svenonius 2000) the author sums up her thoughts and lifelong studies on the procedures needed to link the documents held by libraries to the users by means of an ad hoc bibliographic language complete with its own syntax, grammar and vocabulary. The work focuses on the research and then on the presentation of the framework and theoretical base (the *intellectual foundation* in the title) underlying the organization and retrieval of information (the *information organization*).

Cataloguing, being a technique mediating between cataloguer, documentary resources and user, is greatly influenced, maybe even determined, by technological developments, while its principles and objectives Svenonius advocates - remain the same:

> « The and practical skill of information organization is a
> function of changing technology, whereas its intellectual foun-

> dation, which encompasses theory, is relatively impervious to change»

and below:

> « The elaborate retrieval mechanisms ... are a product of technology, but technology is not enough.»

When technology changes, the nature and identity of the bibliographic entities change, too; they become more changeable and dynamic, like the integrating resources that are difficult to identify because they are unstable or in flux. Cataloguing is also greatly characterized by bibliographic strategies and politics: Svenonius is quite clear on this, citing as an example the trend towards internationalization, identifying the conflict between the different principles-values of standardization (promoting universal bibliographic control) and of user convenience, a technical problem related to every-day service to the users.

Svenonius asks (and we ask too) whether this is just a technical problem or mainly a political one to be faced, searching for a solution accommodating local needs without giving up the standardization that is a prerequisite for any internationally valid project.

The author explains that *The intellectual foundation of information organization* synthesizes the literature on the discipline, often characterized by excessive technicalities in which the theoretical parts are mired on a bog of rules; her synthesis goes further than a representation of the state of the art. In fact, the work outlines the main issues and disciplinary milestones. It makes clear the body of knowledge that has been developed up to the present and the new concepts that are created; it also shows the various paths open to research.

Therefore the work speaks in terms of generalities, offering a high level presentation meant for librarians, for all scholars interested in information organization and for designers of organization

systems. Cataloguing is analyzed in its basic theoretical aspects with an analytical thinking carried on with a rigorous, cogent methodology. The work deals with all the issues present in the contemporary debate on library and information science. Obviously *The intellectual foundation of information organization* is much more than a didactic essay; it is one of the works defined by Ranganathan in Reference Service as seminal, that is, works that, thanks to the depth of the thinking, open new paths and outline horizons much wider than the ones enumerated in them.

Actually, the intellectual foundation of cataloguing Svenonius refers to, is made up of various elements: an ideology (objectives and principles objectives state what a system is to accomplish, while principles determine the nature of the means to meet the objectives), the formalizations of the cataloguing praxis (e.g., language conceptual framing and relational models), and the knowledge acquired through research (i.e., generalizations): these are the main issues in cataloguing today.

The work takes inspiration from some of the great themes of twentieth century philosophy: Bertalanffy's system philosophy (from this philosophy comes the practice of system analysis, which, in its most general form, is the analysis of an object of study based on viewing it as a system whose various parts are integrated into a coherent whole for the purpose of achieving certain objectives), the philosophy of science, particularly Positivism (with its principle of verifiability) that leads to operational pragmatism:

> « A proposition to be verified must have concepts that can be operationalized, which means interpreted as variables and defined in a way that admits of quantification. To the extent that problems encountered in the organization of information are definitional in nature, solutions to them can be approached by introducing constructive or operational definitions»

and language philosophy (again, logical positivism and analytical philosophy).

This positivism is present in the whole work and in the authors language, sometimes even to an excess. If we can express a criticism of this excellent work, it is its lack of a critical mind, a feature common in naive positivism. The first chapters deal with defining relevant notions like information (the content of a message) and document (information-bearing message in recorded form); we can easily perceive Lubetzkys juxtaposition of the *work* and the *book* in this differentiation between information and document

> « The essential and defining objective of a system for organizing information then, is to bring essentially like information together and to differentiate what is not exactly alike»

Here, too, we can see Lubetzkys functions: to collocate and to locate. The chapters also offer a survey of the theoretical literature on cataloguing mainly Anglo-American from Antonio Panizzi (1841) to Charles Ammi Cutter (1876), from Seymour Lubetzky (1957) to *Functional Requirements for Bibliographic Records* (IFLA 1998).

Svenonius makes a relevant introductory remark: the bibliographic axiology (the objectives of cataloguing) comes before, not after, the bibliographic ontology (the set of entities, attributes and relationships). She sees the user functions in FRBR as an evolution of Cutter's objectives, proposing a set in which the user functions are crossed with Cutter's objectives and the user function to find implies both the function *to locate* (to *find* single documents) and the one *to collocate* (to *locate* sets of documents).

The author pays great attention to the cornerstone of the foundation of information organization: the objective of information retrieval systems. When these objectives are analyzed in an historical perspective, and compared to the technological systems that made it possible to implement them, her thoughts are really en-

lightening, as is the case with her observations on the transition from book catalogues to present day online ones. In hand-written or printed book catalogues, which were used previous to card catalogues, the bibliographic descriptions took the form of hierarchically displayed entries.

> « Under each (main) authors name were listed alphabetically by title the works written by him. The first edition of a work held by the library was described in full. If the library held a second edition, its entry was listed under that for the first as: _____ Another edition. If needed, information that served to distinguish it from the first would be given. If the library held more than one copy of an edition, it was described as _____ Another copy.»

The solution aimed, at least in part, at saving time and money, though its main function was to collocate in a hierarchical structure such entities as works, publications, editions and items. Furthermore, Svenonius notes, in book catalogues

> « relationships of non-hierarchical kinds (that is, other than membership and inclusion) were indicated by cross-references.»

In the transition from book to card catalogues dashed entries were no longer possible because each entry was autonomous; therefore the hierarchical structure, as well as the economy, were lost. Elaborate filing rules were created to compensate for such loss, in order to mimic the previous hierarchical presentation. In the move from card to online catalogues the loss of hierarchical order is even more obvious and the syndetic structure represented by see-also references has not been implemented. The transition to catalogue forms other than book catalogues has worsened the conflict between the finding function (searching for an object) and the collocating function (searching for a set of objects) we see in the card catalogue and even

more in the electronic one; so much so that records designed for one function do not suffice for the other.

The book catalogue allowed an overall view of the catalogue and of the portion of the bibliographic universe it represented; its very accurate representation of the relationships among the bibliographic objects allowed libraries holding rich collections to make their catalogues resemble closely the related bibliography. In today's electronic catalogues the reader cannot have an overall view of the scale of the represented bibliographic universe (as he could in front of a book or a card cabinet), nor of the complexity of the relationships described in it. Instead, information is perceived in a fragmentary way, entry by entry, or entity by entity. The consequences of this vision about the present state of the theoretical outline of cataloguing are enormous: one can ignore it and go on designing models for catalogues based only on the change of medium from paper to card to digital, or one can try to consider it and design projects for a representation that can guarantee an *overall view* of the bibliographic universe to the reader, as the new rules RDA, *Resource Description and Access*, are trying to do.

Another relevant part of the work deals with the study of ontology, that is, of the entities (information entities mandated by the objectives) and of their functions; it advocates the need to define the entities both operationally and conceptually, in order to achieve uniformity and precision in the bibliographic description and to automate some aspects of the information organization. The following chapters deal with the bibliographic languages and with the principles guiding their design users convenience, representation, sufficiency and necessity, standardization and integration with an analysis of their origin, use, internal conflicts and feasibility.

In chapter 6 Svenonius describes *works*; using the language developed since FRBR, this language vocabularydefines entities, attributes

and relationships. The author differentiates derived metadata and assigned metadata: the former provide the means for finding information, the latter the normalization needed to organize it. Svenonius speaks about the role of syntax to disambiguate the vocabulary and to order the bibliographic displays, about the role of semantics to map the readers natural language and the controlled vocabulary of retrieval systems. She also deals with the relationships present in bibliographic languages, analyzing their definitions and functions: membership, inclusion, equivalence, aggregation, sequence and observation. Svenonius devotes a chapter to document languages and uses AACR2 as a basis for examples and problems. Document languages are used to describe the space-time embodiments of information. The traditional data refer to the physicality of documents, how they are produced and accessed:

> «Document description is beset with problems generated by new media like: the problem of classifying these media, which has given rise to the sub-problems of format integration and multiple versions; -the problem of deciding what physical characteristics of non-book media should or can be described in bibliographic records; the problem (brought to the fore by documents in digital form) of how to organize entities that lack essential descriptive attributes, because they are unstable or in flux; and the political and technological problem of creating stable, standard document identifiers.»

Svenonius also gives attention to the theoretical thought on indexing languages and distinguishes two of them: alphabetic subject languages and classificatory subject languages, citing as an example of the former the *Library of Congress Subject Headings* (LCSH) and of the latter the *Dewey Decimal Classification* (DDC); each one is the most frequently used language of its kind. She describes the first steps in designing a subject language: the selection and classification of its vocabulary, and presents the techniques used to implement

them, recalling the most frequent obstacles. She particularly enters into the semantics of subject languages; the structures employed to standardize them, to disambiguate them and to determine the relationships of meaning among them. The devices to disambiguate belong to referential semantics of subject languages and they include equivalence, related term, and hierarchical relationships.

Svenonius then speaks about the referential and relational structures in relation to the possibility of automating them and to the problems incurred in defining and using them. The author then analyzes the syntax of subject languages; after a short historical introduction she expounds on the different types of syntax with a brief synthesis of DDC, LCSH and PRECIS (PREserved Context Indexing System), including the problems one meets when designing a system for subject languages: string of terms, synonomy, citation order, regularity *versus* complexity, pre-coordinate *versus* post-coordinate and natural language *versus* subject language syntax.

Svenonius apprehends in a sharp and original way the heart of the main research topics that distinguish the theoretical concepts on an international level. Thats why this is an essential reference work for those who study in depth these issues and especially the definition of the bibliographic universe, of work, of families of works, of author, of information organization, of bibliographic control, of the principles and objectives of description, semantic aspects included. Therefore it is not amazing that, thanks to this work, we find Svenonius among the few influential authors cited (together with Panizzi, Cutter, Ranganathan and Lubetzky) in the new *International Cataloguing Principles* (ICP), the outcome of a process IME ICC, IFLA Meeting of Experts on an International Cataloguing Code started in 2003 by IFLA and completed in 2009 (IFLA 2009).

The intellectual foundation of information organization legitimately belongs in the great cataloguing tradition because it is the most rele-

vant theoretical work published in the last thirty years. It reminds me of Ákos Domanovszky's *Functions and objects of author and title cataloguing*. A contribution to cataloguing theory for the same rigorous and detailed study and for its reasoning although the cultural environment and reference literature are different, being mainly (but not uniquely) Anglo-American.

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About

The author

Mauro Guerrini
Università di Firenze, Dipartimento di studi sul Medioevo e Rinascimento
Email: mauro.guerrini@unifi.it

Web: http://www.meri.unifi.it/CMpro-v-p-111.htm

The paper

Date submitted: 2010-02-27

Date accepted: 2010-04-13

Links checked: 2010-05-22

Date published: 2010-06-15