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Yaroslav Shramko

Dr. Yaroslav Shramko, Department of Philosophy,
State Pedagogical University, Krivoi Rog, 50086,
Ukraine. E-mail: kff@kpi.dp.ua

Saving the time of the library user through subject access innovation : Papers in honor of Pauline Atherton Cochrane. Ed. by William J. Wheeler. Champaign, IL : Graduate School of Library and Information Science, University of Illinois, 2000. 217 p. ISBN 0-87845-108-0 (pbk.)

Introduction

This collection of essays was published on the occasion of Pauline Atherton Cochrane's seventieth birthday, to celebrate her fifty years of dedication to the field of library and information science. The authors, Professor Cochrane's collaborators or former students, are among the most eminent in our field.

In his introduction, editor William J. Wheeler sets the tone for what will follow. His description of Pauline's contribution to the improvement of subject access to information through cataloguing, indexing and abstracting, is an admiring tribute to the different facets of an exceptional personality. Wheeler emphasizes her human, intellectual and pedagogical qualities, her ability to wed theory and practice, and to recognize in her teaching the enormous potentialities of computerization while respecting the human contribution. He notes her wealth of contacts, her implication in the work of committees dealing with the most

current subjects, and of course her professionalism which she has impressed upon her students. Marcia J. Bates adds the testimony of a researcher who, at the beginning of her own career, found in Pauline a model and a mentor in the particularly un-welcoming male world of the time. Her testimony increases this touch of rather rare warm humanity in the world of academic publishing, and it predisposes the reader to an attentive reading.

The eight authors are, in order of appearance of their text: Robert Fugmann, Bjorn Tel, Donald King, Raya Fidel, Linda Smith, Karen Drabenstott, Vinh-The Lam and Eric H. Johnson. Each one of them obviously enjoys this opportunity to quote from Pauline Atherton Cochrane's seminal works. Professor Cochrane's curriculum vitae, which appears just before the index compiled by Sandra Roe, allows the reader to measure the diversity and wealth of her realizations.

Analysis

The following review is structured around this reviewer's personal favourites, associations of ideas, and own interests.

Robert Fugmann's text, by its density, the length of its bibliography, and the depth of its reflections on the absolute importance of quality in an indexing language and of rigour in its use by indexers, would deserve its own critical review. In "Obstacles to progress in mechanized subject access and the necessity of a paradigm change", Fugmann describes at length the obstacles that need to be overcome if quality access to documents is to be provided: the dominance of the positivist perspective in information science, as illustrated by experiments of the Cranfield type, the false law of an inverse relation between recall and precision, the inadequacy of the criteria of consistency and multiplicity of access points (which should be replaced by that of predictability of concept representation), and the reluctance to consider the evolutionary character of information systems. Fugmann summarizes faults which he has denounced several times already: the lack of categorization and structure in the vocabulary, the absence of notation for non lexicalized concepts, and the syntactical gaps present in most documentary languages (a lot could be learned from the practice of back-of-the-book indexing). While he recognizes the importance of involving users in system design and maintenance, he warns against some of their evaluations and of their preferences. His scepticism with regard to the mechanization of cognitive

processes as complex as those of reading and text interpretation is justified, as is his proposal to adopt a change of paradigm in information science, leading toward hermeneutic phenomenology. One will note, however, that he remains vague as to the means to study the process of human indexing, and the tools that can assist it. The systems described as examples reflect an ideal situation that one is not likely to encounter in the current context of proliferation of digitized texts and of increasing multidisciplinary: a delegated search, an artificial language in a domain in which the terminology is standardized, a professional environment in which the task of indexing receives consideration and monetary support. Besides a few of Fugmann's punchy remarks on the absence of progress or of important contributions in the field for the past 30 to 40 years, the reader will appreciate being reminded of important questions, and enjoy the denunciation of prejudices which are still very much alive as of today.

In "Web search strategies", Karen M. Drabenstott advises the millions of Web users on how to get the best out of full text searching. Following a reminder and an illustration of six basic strategies designed for the search engines available on the first database servers, and a description of recent variants such as citation indexing strategies, she examines new search approaches adapted to the Web and using tools such as directories, search engines for specific subjects, and meta-engines. Wondering about the precise searching behaviours of our users, she would have to conclude that, on the basis of the small number of available users studies focussing on Web searching, natural language seems to be working quite well. Drabenstott then proposes new strategies, without boolean operators, that are more adapted to modern search engines; in the book, their description is accompanied by funny illustrations. Examples of the new strategies are: the "Shot in the dark strategy", "The Bingo! strategy", the "Everything but the kitchen sink strategy", etc. This is a lengthy contribution (47 pages with the bibliography), very practical, simple, determinedly turned to the ultimate users, but which turns out to be instructive even for the information professional.

Linda C. Smith, in "Subject access in interdisciplinary research", wonders whether new information technologies can truly facilitate the task of the increasing number of users who conduct interdisciplinary searches. This type of search has traditionally been difficult in databases characterized by different missions and policies, more or less artificial disciplinary

divisions, terminological variety, and heterogeneousness of documentary languages. Smith presents three types of solutions: "mapping vocabularies", search tools, and current and future searches. She demonstrates the complementarity of automatic and human interventions to reconcile vocabularies at the morphological, syntactic and semantic levels, and discusses approaches used to increase the compatibility of various languages: the use of an intermediate lexicon or switching language, of a microthesaurus or a macrothesaurus. Smith insists on the necessity of designing end-user thesauri that take into account the vocabulary of users and that are organized and made available in user-friendly fashion. Her presentation of tools already available, whether they were developed automatically or with substantial human input, includes DIALINDEX and Web of Science. Smith also describes several successful vocabulary matching projects for searching online catalogs, the Unified Medical Language System (UMLS) Metathesaurus, as well as the remarkable work of the Getty Vocabulary Program. She reminds us that a portal accompanied by one or several indexes is another way to group related documents. The author then reviews the results of very recent research aiming at reconciling several controlled indexing and searching vocabularies, indexing vocabularies and users vocabulary, controlled vocabularies providing access to structured data and vocabularies used to describe poorly organized Web resources. More research is needed to design this global environment in which barriers between various resources will be abolished. Too little is known of the problems encountered by interdisciplinary researchers, and on the meaning of words within various discursive universes. Thesauri must be adapted to the context of their use, and we must see to it that they integrate various cultural points of view into a perspective of true multilingualism. Finally, research on information visualization must be intensified to facilitate navigation and subject retrieval in digital libraries. Concise, well structured, well informed, Linda Smith's contribution is a broad panorama of different solutions offered by technology and by human intellectual efforts to satisfy the needs of researchers in interdisciplinary domains.

Concern for the end user is also apparent in Raya Fidel's paper: "The user-centered approach: How we got here". Speaking from experience, the author explains what is the user-centered approach, why it is necessary, and how it can be implemented with the help of computer technology. The clarification of the

meaning of main concepts connected with needs, searching behaviour, and information use is followed by an enumeration of the main characteristics of users studies. Fidel describes the research instruments: questionnaires, interviews, and observation. Variables observed and correlated in the first research projects looking at users behaviour are listed. This text summarizes the main results of research projects which examined searching behaviours in OPACs for certain groups of users. A short bibliography supplements the text.

In "Enhancing subject access to monographs in on-line public access catalogs : Table of contents added to bibliographic records", Vinh-The Lam first reviews the work of Pauline Cochrane and colleagues in the framework of the Subject Access Project (SAP) in 1978, and then the efforts of emulators worldwide, notably in Australia and in Sweden, to improve significantly the efficiency of subject access to monographs and composite works by adding to the records selected extracts from tables of contents and/or indexes. These are supplied in separate files by the Library of Congress, and can be acquired at low cost from a vendor. Unfortunately, because they are scanned and converted to SGML, the extracts become polluted with irrelevant data, as Cochrane predicted would happen if human intervention were eliminated. A small research project conducted by the author in the catalogs of two Canadian libraries shows a considerable increase in recall when tables of contents (TOCs) are available. Evaluative studies on a larger scale are now needed to confirm, among other things, levels of users satisfaction.

Two very personal testimonies, especially the first, send the reader back to the beginnings of the electronic information era.

First, that of Bjorn Tell: "On MARC and the nature of text searching: A review of Pauline Cochrane's inspirational thinking grafted onto a Swedish spy on library matters". Recalling his personal experiences, meetings and collaborations, he shares with us the adventure of the passage from punched cards to the MARC format, much too complex in his opinion, the birth of the KWIC indexes and their subsequent improvements, notably in the ABACUS project (AB Atomergi Computer-oriented system), the first SDI (selective dissemination of information) services, the belief in the usefulness of automated text processing for thesaurus construction as well as for retrieval in specialized domains, the studies of the potentialities of a combination Universal Decimal Classification

(UDC) - free keywords, the publication of the *Handbook for Information Systems and Services*, written by Professor Cochrane at UNESCO's request, the SAP and its continuation in Irene Wormell's project.

With the text of Donald W. King, "Blazing new trails : In celebration of an audacious career", it is the excitement of the first statistical system evaluations that is revealed, with the pioneer work of Pauline Cochrane, the first researcher to involve real users in the design of indexes and information systems. A review of work conducted with her at the American Institute of Physics to analyze periodicals, to develop and to standardize indexing methods and vocabularies with the cooperation of authors, and to evaluate systems, is completed by a bibliography of published reports difficult to locate nowadays. The same goes for the evaluation of the potential of the Universal Decimal Classification (UDC) for computerized retrieval and the development of the interactive system Audacious, as well as for the development and the evaluation of SUPARS (Syracuse University Psychological Abstract Retrieval Service). Debates on what it is advisable to measure, where recall and accuracy are concerned for example, are more current than ever with Internet and "digital libraries".

The book closes on a text which opens fascinating perspectives for subject retrieval in distributed databases indexed with heterogeneous languages and policies. In "Objects for distributed heterogeneous information retrieval", Eric H. Johnson describes the experimental IODyne system developed at the University of Illinois. Due to its object oriented approach, users will be able to query simultaneously multiple types of databases through a transparent interface, and get the best out of each one of them without having to settle for the lowest common denominator.

Conclusion

The collection of papers brought together by William J. Wheeler does justice to the person he wanted to honour, and it certainly fills all expectations generated in his introduction. Through all these substantial contributions, a common concern for facilitating the task of the user is obvious, from first projects set up in the early sixties to what is now being planned for the future. The inspiring work of Pauline Cochrane is omnipresent. Just like Professor Cochrane's career, the texts in this collection are varied as to their subjects and as to the methodologies, theoretical and pragmatic, they describe. If they appear sometimes

contradictory, all are well informed and absolutely current even when they describe events that happened fifty years ago. All reflect their authors' beliefs and enthusiasm.

This book will be very appreciated by all of those who are in the business of disseminating information, whatever its form. Students and professors will find there a rich source of information, and multiple themes for fascinating debates. The index will help them exploit its multiple facets.

Suzanne Bertrand-Gastaldy

Prof. Suzanne Bertrand-Gastaldy, École de bibliothéconomie et des sciences de l'information, Université de Montréal, Case postale 6128, Succursale Centre-ville, Montréal, Québec, H3C 3J7, Canada. E-mail: suzanne.bertrand-gastaldy@umontreal.ca

AITCHISON, Jean, GILCHRIST, Alan, BAWDEN, David. **Thesaurus construction and use : a practical manual**. 4th ed. London : Aslib, 2000. 218 p. ISBN 0-85142-446-5 (pbk).

Preamble

At the very start this reviewer should declare an interest: an affectionate partiality for the first edition, published in 1972. Predating the first national or international standards for thesaurus construction, that invaluable and concise booklet explained very clearly how a thesaurus should be designed and structured. Practical advice such as: "Use a thesaurus card or form for the recording of the terms selected . . . The form should be made out in duplicate . . . so that a copy may be filed and kept under each broad subject group to which it may be assigned," (p. 70-71) illuminated the systematic way of working which was, and remains, fundamental to sound thesaurus construction. In 1972, of course, there was no such thing as the personal computer to ease the business of card filling and filing.

Twenty-nine years later, having progressed to its fourth edition, the book has fully earned its reputation as a classic. Most readers of this review are probably familiar with one or more of the past editions. As well as noting key strengths, therefore, we

should look at how the content has adapted with the times.

The Core of the Manual

The core strengths of the book are in describing (a) the product — principally a monolingual thesaurus — one is trying to build, and (b) the best way to set about the task. After the major thesaurus standards emerged, the chapters on design, structure and content were substantially remodelled to follow and interpret their recommendations, in particular those of ISO 2788 (= BS 5723), ISO 5964 (= BS 6723) and ANSI/NISO Z39.19. Unsurprisingly, since both Aitchison and Gilchrist were active members of the standards committee most influential in developing the British and International Standards, the "remodelling" has involved considerable expansion but not contradiction of the earlier advice. Topics such as the choice and form of terms, specificity and compound terms, and basic thesaural relationships are very fully covered, with helpful elaboration on what is in the standards.

Forty-one pages are devoted to describing the huge variety of types of layout and display that may be found in conventionally published thesauri. For the first-time student, this chapter is a challenge, because it is hard to grasp the subtleties of the different ways in which the alphabetic and systematic sections of one thesaurus may inter-relate. But for the person who is seriously trying to design a reader-friendly and feasible layout for his own user group and circumstances, the collection and discussion of sample pages amply repays study. The disappointment in this chapter is that there are only two pages devoted to screen displays, despite the extensive, almost bewildering, variety that may be found among today's electronic thesauri. The ratio of 41:2 is a slightly unfair comparison, since parts of the descriptions of conventional displays do also apply to the electronic medium. Nonetheless, more could have been done to bring out the special opportunities as well as constraints presented by the screen, powered by the computer behind it.

Moving on to construction techniques, the authors take us right through from defining the subject field to checking the final product with experts. Their recommended method is intellectually impeccable. However, its roots in the paper-based era are rather too visible, as in the advice: "The display is written out, showing indenting and indicating ..." (p. 153) Perhaps "written out" was just a slip of the pen, or the