velopment of the conceptual structure. This is backwards. The conceptual structure and the synonym-homonym structure should be developed hand in hand: while terms are arranged first in a coarse and then in a fine classified order, synonyms and quasi-synonyms are brought together. For meaningful decisions on descriptor selection a classified order is essential.

These basic flaws alone would make the book unsuitable as a guideline for thesaurus development. The book contains numerous other errors and bad advice. We will mention here just a few. (1) It is stated that thesauri with a classified main part (as opposed to those using an alphabetical main part) are more or less constrained to monohierarchy. Not so. It is correct that the arrangement in the classified main part can express only a monohierarchical structure (double listing of full entries would not be economical). However, all hierarchical relationships that are deemed useful can be expressed through BT/NT cross-references just as in any other arrangement of the main part. (2) It is claimed (page 158) that there is no known thesaurus which shows multi-word terms under the component words in the main part. There may not be a thesaurus that does so with the same degree of completeness as a KWIC or KWOC index, but there are a number of thesauri that have many such entries in an alphabetical main part, for example, Thesauro-facet, the Preliminary Thesaurus for Documentation on Socio-cultural Problems of Developing Countries, and Library of Congress Subject Headings. (3) In the list of indicators for cross-references and other data elements given in main part entries (page 164 through 166) the column labeled SOE contains numerous mistakes. (4) In part 6 various sample thesauri are described but not really analyzed. In the description of the EURATOM thesaurus the reader is misled through not quite accurate translation: "Accepted terms", which in the EURATOM system are descriptors in the generally accepted sense, is translated to the German equivalent of "accepted non-descriptors". The mistake comes about because EURATOM distinguishes two types of descriptors, "Key words" and "Accepted terms".

The style of the book is shoddy in places, and sentences are replete with unnecessary words such as "in principle" (German: grundsätzlich), another indication that the book is written in a somewhat superficial manner. The author himself says as much in the preface and only claims that "a certain usefulness should not be ruled out".

For the knowledgeable and discerning reader who can separate the wheat from the chaff the book certainly has its uses, but the novice is apt to be led astray. Whoever wants to use this book should pay particular attention to Chapter 7, which is quoted here in its entirety: "Of course one can do everything altogether differently, provided one does it right."   Dagobert Soergel

SERRAI, Alfredo: **Del catalogo alfabetico per soggetti.** Semantica del **rapporto indicale.** (On the alphabetical subject catalogue. Semantics of indexing.) Roma: Bulzoni 1979, 163 p.

In pursuance of the objective of building up theoretical foundations for bibliographic procedures and for librarianship practices, Alfredo Serrai is now facing the most complex and difficult part of a cataloguer's work, namely subject-indexing.

Having discarded as naive the possibility of setting up a body of rules for this operation, the conditions in which it is carried out are investigated. The kernel of the semantic indexing process is the defining of meaning, which, in the light of the modern language and communication theories, is viewed in its relational nature. Subject indexing implies a reduction of the global meaning of the document — which is anything but obvious — and its translation by means of a linguistic formula aiming at serving as a key-link between the searcher and the document. Subject indexing and information retrieval are both made more complex by the absence of a univocal relationship between the concept and its translation into language. The choice of the subject is based on intensional conceptual interpretations and transformations which, through the index, are translated into formula referring to individuals or classes which are of the extensional type. The reader using the catalogue follows the same path in the opposite direction.

After having analysed the operating conditions, the author considers the various subject-indexing stages, and stresses some important distinctions that the librarian should be acquainted with, and that he should comprehensively master, so as to avoid misunderstandings and equivocations: the distinction between *subject* and *object* of the document, that is between the meaning and the signified, between *subject* and *descriptor*, and finally the distinction between *subject* and *discourse*. The analysis of the indexing processes is interwoven with an investigation of the subject indexing theories that started with Cutter, a pioneer wo for many aspects has not yet been exceeded, but who has very often been misunderstood or dangerously simplified.

In Section II of the book, the author rapidly surveys — or rather dismisses — the Italian literature on subject-indexing, from Fumagalli to Revelli through the theories framed by the "Vatican Rules" and the printed "Subject Index" of the National Library in Florence. This is followed by the "Proposal", made by the Author for attempting to solve the problem of the scattering effect of the subject catalogue as well as of the ensuing loss of information, and to anchor subject-indexing to a sound reference framework. Cutter had clearly perceived this need, as proved by his stressing the importance of a network made of downward and upward references, even though he had not managed to put them into practice. Mr. Serrai suggests to anchor subjects to rigorously controlled structures of terms, a sort of microthesauri, bound to become the common reference maps of librarians and researchers; they are the semantic frameworks within which the manifold aspects of knowledge are orderly separated into fields of interest. At the basis there is, therefore, a precise but polyvalent organization that would provide the index with the advantages of the traditional subject-catalogue (easy access, possibility of gathering together the various aspects of a subject) and with those of the systematic catalogue (soundness of framework capable of overcoming the fragmentary nature of the subjects). The major drawback of setting inflexible, pre-established relationships among the composing elements would thus be avoided.

The only regret is that the book suddenly stops here without a more detailed description of the "Proposal"; but by now we all know that Mr. Serrai is not to be expected to provide detailed investigations nor abundant exemplifications; we must thank him for his light-shedding intuitions and for the way in which he spurs our intellectual laziness, thus punishing our widespread tendency to degrade our professionality by mechanically applying, in a tiresome routine, acritically accepted procedures. Maria Cochetti

BSO Broad System of Ordering: Schedule and Index. Third Revision, Prepared by the FID/BSO Panel (Eric Coates, Geoffrey Lloyd, and Dusan Simandl). The Hague: Fédération Internationale de Documentation and the United Nations Educational, Scientific and Cultural Organization 1978. xiv + 102 + 82 p. (FID Publication 564) ISBN 92-66-00564-9.

The BSO Manual: the Development, Rationale, and Use of the Broad System of Ordering. Prepared by the FID/BSO Panel (Eric Coates, Geoffrey Lloyd, and Dusan Simandl). The Hague: Fédération Internationale de Documentation 1979, 157 p. (FID Publication 580) ISBN 92-66-00580-0.

On reading the Manual to the third revision of the *Broad System of Ordering* (BSO), one is distressed that the time and talent of so many distinguished classificationists could have been spent on such an ill-defined project. Why undertake design of a language to meet undefined needs of a hypothetical network of information centers whose users, purposes, and operations are envisioned in the vaguest of terms? To this reviewer, who had no involvement with the project and has the benefit of ten years hind-sight on its beginnings, it seems a dubious enterprise. An indexing language is a solution to a particular set of information problems. It can only be designed and evaluated in a framework, whether the setting be that which produced it or another for which its suitability is being considered. Indeed, to judge by the occasionally apologetic tone of the *BSO Manual*, the panel that prepared it were painfully aware of the vacuum in which they operated and the problems that vacuum created.

The *Manual* includes the origins and history of the project. Briefly, the BSO was the ultimate product, after many metamorphoses, of an attempt to identify or design a switching language for use in scientific information exchange. Switching languages have been investigated as a solution to the problems that lack of standardization in subject description cause in search. Users, whether information specialists or their clients, are forced to formulate separate queries and search strategies for each data base or tool searched – a time consuming and arduous job. A switching language is a common vocabulary into which, in theory, all other systems can be translated by their constructors or users for purposes of networking and international exchange. The first step toward the BSO was the formation in 1967, by the International Council of Scientific Unions (ICSU) and Unesco, of a study group to consider whether any existing classification or indexing language could be used for switching purposes. The Aslib Research Department undertook the study, with negative results. According to the Manual, they complained at the time about the lack of definition of the requirements for the language.

By 1972, the thrust of the study had changed. With Unesco support, the Fédération Internationale de Documentation (FID), the parent body of the Universal Decimal Classification (UDC), set up a Working Group to undertake the less ambitious project of devising a "broad subject ordering scheme intended to function as

a) a tool for interconnection of information systems, services and centers
b) a tool for tagging (i.e. shallow indexing)
c) a referral tool for identification and location of all kinds of information sources and services."

This charge is very unspecific. Operationally, what resulted was a scheme with detail suitable for indexing secondary information sources, rather than documents. But such an operational definition is a statement of scope, not purpose. One can assess the inclusiveness of the scheme on this basis, but not its appropriateness for any particular application. Moreover, there is no analysis of the particular problems of indexing secondary sources or organizations over and above the demanding problem of determining the suitable level of depth and detail for the scheme. For example, at the testing stage it was found that indexers sometimes used the place facet for the country of origin of the tool (e.g. Britain as place in indexing the *British Technology Index*). It was inferred that origin was therefore a useful facet, and it was added as an option. Are there, however, other similar searchable features, such as date of coverage or language of publication, that would also be useful? Should any of this information, usually considered to be in the domain of descriptive cataloging, be carried in the subject notation? Without a known population of users these questions cannot be answered, and for the most part, they apparently were not asked.

The issue of lack of user orientation is most forcefully evident in the "test" of the second edition of the BSO. Sample entries from several organizational directories and guides to secondary sources were sent to volunteers to be indexed. The criteria for success in the field test was achieving a "high" level of indexer consistency, on the grounds that this particular characteristic was important to a switching language (which the BSO no longer was in any original sense of the term). The matching algorithm needed at least the usual degree of painful elaboration, and, as is typical, the consistency found was not very high. After certain additions were made, however, to take account of improvements to be introduced in the third (current) edition, it was predicted that consistency could be as high as 70%. In a leap that left this reviewer speechless, this figure was then taken as being indicative of a possible performance of 70% recall in an operating system. No comparisons were made with any other scheme. If proof were needed that a system cannot be assessed *in vacuo*, it is amply supplied by this exercise. Although the trial did provide information to the panel about indexer's reactions to the scheme, it is meaningless as the performance test it purports to be.

Despite all the negative things to be said about the process, there are positive things to be said about the

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