of objects in general, of activities, terms, concepts, subjects and what other items might be usefully classified.

The authors' own contribution towards a theory of numbering is a strong part of the chapter 4, which deals with the problems of commodity cataloguing and the communication of data on commodities in a fundamental way.

The book also contains a chapter "outlook into the future" and one with the conclusions and proposals. Limits of growth, the information needs of developing countries, commodity databank networks, remote shopping by electronic catalogue and television display are some of the subjects covered. A little more consideration might have been given to possible negative consequences of too much computerization and ease of information handling, as well as to methods of coping with the ensuing problems, e. g. of highly transparent computerized markets with little or no damping.

On the whole, the concern, ideas, and work of the authors should be furthered in every possible way. It is hoped that the natural language barriers may not impair the wide distribution the book deserves.

Horst Körner

AUSTIN, Derek: *PRECIS: a Manual of Concept Analysis and Subject Indexing.* London: The Council of the British National Bibliography, Ltd. 1974. X, 551 p., £ 7.00. ISBN 0-900220-42-2.

PRECIS – PREserved Context Index System – is an innovation more nearly related to SYNTOL and the *Thesaurofacet* than to most other modern subject analysis systems. Colleagues who dismiss it as just another rotated or permuted indexing method should take another look. The system has both rotation and permutation factors, but there is much more to it than that.

In the first place, the means used to retain context are solidly based on modern language studies and derived from analysis of English grammar and syntax. Unlike so much work in computational linguistics or other language-plus-computer experimentation, the semantic factor has been given prime consideration.

Secondly, the origin of the system actually lay in a combination of three things: the results obtained under research grants made to the Classification Research Group in the 1960's (in which Derek Austin succeeded Helen Tomlinson as principal investigator), the adoption of the 18th edition of the Dewey Decimal Classification by the *British National* Bibliography, and developments in British MARC. It was impossible to use the old BNB system of chain indexing with Dewey 18 and obvious weaknesses in the subject heading system used by the Library of Congress caused the officers of the *Bibliography* to seek an indexing system that would be applicable to the whole universe of subjects, and at the same time unambiguous, logical and amenable to computerization – no small order. Furthermore, this need was urgent. Obviously the *Bibliography* could not shut down while experimentation took place. Nor could its list, which is arranged by Dewey classes, be issued without means of access via an A–Z index.

Austin and his associates developed the basic PRECIS system well enough to cover the full publication output of the United Kingdom so that in January 1971 the BNB could use it for a three year trial period. By 1974, enough had been learned about the operation of PRECIS on a day-to-day basis to correct major weaknesses and redesign the system for optimum results.

The final version is presented in this *Manual.* PRECIS is a completely open-ended subject analysis system operated with a number of routines which are as a rule, well defined and explained. The system has a very significant back-up definition component: a modified tree structure of Reference Indicators, which covers hierarchical, generic and associative relationships of all terms used to describe content of documents. In addition, synonyms and antonyms, as used in thesauri and subject heading lists, are included. Each index term is given its own Reference Indicator Number (RIN), which is its address in its family tree.

Each record for an item catalogued, classified and indexed for the *Bibliography* has its subject interrelationships collected in a single file document identified by a unique Subject Index Number (SIN). Thus in one place, identified by its own number (SIN), it is possible to find the Dewey Decimal Classification assigned to the document, its Library of Congress Classification number, Library of Congress subject headings, and PRECIS string elements, with applicable Reference Indicator Numbers (RIN). Each such item is identified in turn by the appropriate MARC tag. All of this subject package is available in machine-readable form and accessible through the MARC Process. The possibilities for access to the document through British, Canadian, Australian and American machine-readable catalogues are built-in.

The *Manual* is made for reference purposes, for the indexer with a specific problem to solve. Readers who expect to learn how to do PRECIS indexing by reading the *Manual* straight through from cover to cover will find themselves in difficulty. While the whole system is described in it, and in reasonably logical order, this is not a textbook. It is strongly recommended that the potential user who cannot go to London and take the course at BNB acquire three items. First he should read Austin's descriptive article in the *Journal of Documentation* (v. 30, no. 1, March 1974, pp. 47–102). This should be followed by his Canberra lectures given in November, 1974. If possible, the potential user should try to get a set of the mimeographed material used for the London course because this contains a graded sequence of solved problems and is very valuable employed simultaneously with the *Manual.* Since the *Manual* was published on a priority basis, before a PRECIS primer or elementary textbook, the user, for his own convenience, will probably want to make his own primer or at least a set of quick references to procedure. The actual procedure for producing index entries via PRECIS calls for making one or more title-like statements describing the content of the item being indexed. These are converted into words in a string, each identified by an operator which indicates

its function and triggers the specific computer processes to be used with it. This reviewer found that the greatest problem lay in converting statements into strings because there were several word-defining options available, each producing slight modification, for various situations and the novice has difficulty in picking out the most suitable.

PRECIS is highly dependent on grammar and syntax. The user has to understand the function of each word and how it makes sense in its context. The system is not called "context dependent" without reason. Users who are planning to adapt it for use in languages other than English should be sure they understand how it functions in English. Austin believes that most of the features of PRECIS may be used with other languages intact because PRECIS is founded on the bedrock of language in general. Therefore modifications required for differences in syntax and inflection may be grafted onto the present system. Studies are being undertaken in Canada and elsewhere to determine whether or not this is the case.
It should be emphasized that PRECIS was designed as a computer-based system from the very beginning. Therefore the *Manual* contains codes for translation into machine-readable language, data needed for correct input, flow charts, algorithms, explanations of functions performed by the computer and an input string validation code. Currently PRECIS is used to produce a printed index. Ultimately it should be possible to use it concurrently with MARC as an on-line subject searching system. The amount of data in the base, its built-in interrelationships with other data bases and its accessibility make it a potential source for all kinds of interesting research, including that of a bibliometric nature.

In a book review, it is obvious that only a few highlights can be covered. When there is a second edition, it is recommended that the title-like phrase be given for every example even though the example exists only to demonstrate a procedure and its resultant index entries. This would greatly aid the neophyte indexer, who may have trouble sorting out the various parts of the string. Then the title-like phrases could be collected into an added appendex-index giving each phrase with references to the pages containing examples which illustrate how it is analyzed. In addition, there are a very few places in the *Manual* where problems in explication exist. In, for example, paragraphs 21.3, 21.6 and 21.7, the directions appear to be contradictory. Another minor problem concerns sequencing. The reader who starts on page 1 and follows the rest in order will find places where he is told the topic will be continued later. Since the *Manual* is a reference tool, surely this tutorial tone could be replaced with something like a parenthetical "cf. paragraph χ for further details".

The minor caveats should not deter any potential user. The PRECIS system is one of the most sophisticated to appear in years. Of all the systems produced in the last thirty years and designed to improve the subject analysis of documents, it probably is the most versatile. In general, one may consider it a quantum jump ahead of contemporary competitors.

Phyllis A. Richmond

HICKS, Susanne C.: *Classification research (Australia)*: 1968–1972. Bangalore: Documentation Research and Training Centre 1974. 34 p. $ 3.00. (FID/CR Report No. 15)

It is seldom easy conscientiously to review a brief report of this kind. To begin with, there is the awareness that one is, effectively, reviewing a review. Secondly, as it purports to be a survey of what has been happening in a place or situation in which one was not personally involved, one must to a great extent accept the report *qua* report at its face value: if it states that certain activities were carried out, one believes that they were. What remains to be said? But one must go further, and examine content as well as form. There is internal evidence that this (like most others) cannot present a complete picture, because not all of the possible information has been given to the author to begin with; for the report is based not only on selected published documents, but also on a questionnaire (reproduced as an appendix) of which only 30 copies were returned of the 56 circulated. It is sad to see that schools of library science returned only 3 of the 7 sent to them, though this response was marginally better than that of special libraries, who returned only 2 of 7.

We are told that "dissatisfaction with the existing indexing schemes has led to research in classification in Australia." Among statements on "factors leading to research on classification" there occurs, from the Western Australia Parliamentary Library, the interesting and apparently tautologous statement that "most of the esoteric classification schemes are not suitable for this library" (which suggests the question, which "esoteric" classification schemes *are* suitable?)

"Research" has been fairly generously interpreted here; it includes, for example, modification of existing schemes for use in libraries. The report covers, principally, classification theory; classification systems; subject analysis and subject catalogues; subject headings/thesauri; and secondary research (e. g., work on the DC 18 Law schedule, and geographical divisions in classification schemes, based on understandable dissatisfaction with their treatment of "Australia.")

Inevitably, little detail can be given, so one would like to know more about some of the research outlined here: for example, the faceted scheme ("Design Information File") for the Commonwealth Building Data Service, in which the tables are numbered in one order but recommended for sequence of application (citation order) in another, i. e.: 3. Building part; 4. Materials; 5. Site activities, Tools; 6. Pervasive factors; 1. Address (i. e., geographical division); 2. (a) Building type (b) Functional space. Also, either more or less might have been said about L. Petocz's "Epistemological subject analysis" which, even in the relatively generous outline given, I find largely incomprehensible, and in which what I can comprehend does not seem particularly novel.

Again, if the University of New South Wales's "Classification of music and related materials", for material by and about individuals, has been accurately reported, it seems to consist in using DC 780 as base number, followed by the first three letters of the individual's name, then an alphabetical symbol designating musical form or subject