nodes and links, mostly partially formed and scant in detail, which the author uses to justify her interpretations of the readers' thoughts, knowledge states, perceptions and metaphorical representations of the information being explored. While this is no doubt interesting work, no reliability checks are taken on the interpretation of data by other raters. Instead, the author "assumes an overlap in reasoning between the author and reader that, if quantified, would indicate reasonably high interrater reliability" (p. 37). Reasonable for this author is equated with 72% agreement found in other researchers' unrelated studies, a rather sweeping assumption one might think, given that such a figure really only accounts for 50% of the possible variance between raters and there is no reason to assume these different data sets are even comparable. This is particularly concerning when one feels that some of the author's conclusions are perhaps open to debate.

The general approach leans heavily on the work of Suchman, who performed similar sorts of analyses of users, and brought the perspective of situated action and meaning construction to a larger audience in the HCI field. However, there is little of the originality that made Suchman's work so impressive and at the end of this book one is left with little added knowledge about hypertext design. Instead one gets the feeling of being given a lesson in ethnomethodological analysis for its own sake. While this might be useful for those new to evaluation, or students considering this as an area of inquiry, a cynic might conclude that the methods described here tend more towards endless interpretation than substantive insight.

In all, the book is interesting though irritatingly biased at times (the equation of empiricism in HCI generally with positivism in science is particularly so). It tells us nothing about hypertext that we did not know before but might offer some clues to investigators considering ethnomethodological analysis in this arena. At 280 pages, one might be forgiven for thinking the author took material sufficient for an article and extended it unnecessarily for a book. But in her defense, the nature of the material requires space to be considered fully, it is just that one wonders if quite so much space was required. At nearly $60 it is also not likely to be snapped off the shelves by hungry students. However, in a domain where so little effort is expended analyzing users, and more given to predicting the wonders this technology will yield, we must be grateful for any small measure of real data, and that is precisely what the present book provides.

Milstead, Jessica L. (Ed.). ***ASIS Thesaurus of Information Science and Librarianship***. Medford, NJ: Learned Information for the American Society for Information Science, 1993. 139 pp. $34.95 (ISBN 0938734-80-6).

Reviewed by **F.W. Lancaster**, Professor Emeritus, Graduate School of Library and Information Science, University of Illinois, 501 East Daniel Street, Champaign IL 61820.

This tool is presented in standard (NISO) format, with alphabetical, hierarchical and rotated (KWIC) displays of terms. It contains 1,312 descriptors and 680 use references. Besides terms from the central subject areas, terms from related fields are covered "as warranted by the strength of their relationships to information science and librarianship."

The sources used in compilation are primarily vocabularies (thesauri, glossaries, dictionaries) published earlier, although the editor claims also to have used some sources having more direct literary warrant, such as *Library Literature*, *Information Science Abstracts*, and the *Annual Review of Information Science and Technology*.

One is favorably impressed with the thesaurus on a cursory examination, but a more detailed study shows that it has many faults. First, it contains obvious errors that should have been removed by a careful proofreading. For example, the term *online searchers* has the scope note "Individuals who perform searchers (sic)..." Since commercially available software was used in thesaurus compilation and editing, it is difficult to understand how glaring inconsistencies could have occurred. For example, the term "infomatics" is referred to (USE) *information technology*, yet *infomatics* itself appears immediately below this reference, where it is given a scope note, as well as a BT, Nts, and RTs. Errors of this kind erode confidence in the tool. Since its production must represent a considerable investment on the part of ASIS, it is unfortunate that it was not given a more thorough pre-publication review.

One problem faced by the editor is that, while "librarianship" is more easily defined, "information science" means different things to different people. In general, the thesaurus appears much stronger in the area of technology than in the more behavioral or sociological aspects of information transfer. Consequently, it seems quite unbalanced. For example, the term *personal networking* shows *gatekeepers* as one of its RTs, but where is "invisible colleges," surely a highly significant information transfer term and one that has considerable literary warrant? And why is "pertinence" missing? Even if one is unable or unwilling to make a distinction between "pertinence" and "relevance," the former surely deserves at least a cross reference. The absence of such terms as "invisible colleges," "boundary spanners" (although *bridge agents* is there), "cumulative advantage" and "Pertinence," (together with the presence of such as *pay per view television*, *video games*, *magnetic resonance imaging*, *Hough transformation*, *tomography*, *WYSIWYG* and *look and feel*) indicate that the editor's interpretation of what is implied in "information science" is much different from my own.

The hierarchical structure can also be criticized. This reviewer prefers that the BT/NT relationship be used only for the relationship between a genus and its species and not for the part-whole relationship (e.g., *academic libraries* is a legitimate NT under *libraries* but not under *colleges and universities*) but this is admittedly a very purist view. A more serious problem involves the failure to identify all appropriate levels in a hierarchy. For example, *indexing* has the following NTs: *assignment indexing*, *automatic indexing*, *book indexing*, *database indexing*, *derivative indexing*, *manual indexing*, *name indexing*, *periodical indexing*, *probabilistic indexing*, *string indexing*, and *subject indexing*. But *assignment indexing*, *derivative indexing*, *probabilistic indexing* and *string indexing* (at least in the common usage of these terms) are properly NTs under *subject indexing*, so a more useful hierarchy would be:

Indexing
- Automatic indexing
- Book indexing
- Database indexing
- Manual indexing
- Name indexing

Periodical indexing
Subject indexing
    Assignment indexing
    Derivative indexing
    Probabilistic indexing
    String indexing

While there exist several examples of such imperfectly structured hierarchies, three more will suffice to illustrate the problems:

> Why is *scientometrics* an NT under *infometrics*? Presumably the latter implies "measurement" and "information," although it is not defined in the thesaurus and is not a term for which a well-accepted definition exists. Certainly it is not a BT over *scientometrics*, which does not necessarily relate to measurement of information (e.g. counting scientists can be considered scientometrics but not infometrics).

> *Journals* is given as an NT under *periodicals* (which is treated as a synonym for "magazines") despite the fact that "journal" and "periodical" are commonly used interchangeably. A scope note indicates that the term *journals* refers only to "scholarly journals." But an NT is *electronic journals*, even though many—perhaps most—journals in electronic form are not scholarly. How then does one index a nonscholarly journal issued electronically?

> *Subject headings* is given as an RT under descriptors, rather than an NT, despite the fact that the latter has a scope note "Terms of a controlled vocabulary, authorized for use in indexing." If subject headings do not fit this definition, what on earth are they?

The cross-reference structure of the thesaurus presents another set of problems. First, terms exist which are not linked to any other terms, although obvious linkages exist. *Automata* (which is inexplicably categorized as a "method") is not linked to *robots* (the Dewey Decimal Classification, incidentally, treats robots as kinds of automata). *Lotka's law* is not linked to *productivity* or even *authorship* (due, presumably, to the fact that it is badly defined). *Sociograms* and *sociometrics* are not linked to *personal networking*.

Other terms are redundantly linked at more than one hierarchical level. In general, it is best to link terms by RTs at the hierarchical level (or level of specificity) most appropriate and not at two or more levels. For example, since *scatter* is correctly linked with *Bradford's law*, it is not necessary to also link it with *bibliometrics*, which is a BT above *Bradford's law*.

The most serious problem is that, in the opinion of this reviewer at least, the thesaurus completely fails to achieve one of its stated objectives, namely "to serve as a guide to the terminology of the fields." To do this, it would need to define (by scope notes) terms whose meanings may be unclear, or to disambiguate them through their placement in the hierarchy. But scope notes are few and far between, many scope notes are inadequate, and hierarchical placement is imperfect at times. A few examples:

1. What is the difference between *aging of literature* and *obsolescence*? The former has the scope note "Aging of information content." What, then, is *obsolescence* to be used for?

2. *Grey literature* is a term that often causes confusion. The reviewer has always treated it as a synonym for "fugitive literature," literature that is hard to find. Here, however, it has the scope note "Near-published literature," but what does "near-published" really mean? *Fugitive materials* is treated as a synonym for *alternative publications*, which is very dubious.

3. What does the term *documentary languages* mean? Certainly it is not a term with a well-accepted meaning. It cannot mean *controlled vocabularies* since this term also exists in the thesaurus. (Curiously, *subject heading lists* and *thesauri* are NTs under *controlled vocabularies* but *classification schemes* is not).

4. What does *database indexing* mean? Since, one can argue, all indexing results in the production of a database (in the broadest sense of the term), for what purpose would this term be used?

5. What is the difference between *databases* and *files*? The latter has a scope note and the former does not, but the scope note does not clearly distinguish them. (This raises the issue of why one term is given an SN but another, closely related, is not. Why *files* but not *databases*, *linking* but not *role indicators*, *aging of literature* but not *obsolescence*?)

6. What is *infometrics* (treated as a synonym for "informetrics" and "cliometrics")? Surely this deserves some form of definition. One could argue that *free text searching* is not exactly the same as *natural language searching*, but the distinction must be very fine and it is one that is not useful in practice. If the editor sees a clear distinction, she must exhibit it in the scope notes.

7. How is *depth (indexing)* to be distinguished from *exhaustivity (indexing)*?

Several of the scope notes are not very useful (e.g., *personal networking* is virtually defined as "personal networking") and at least one is quite wrong. *Lotka's law* is given the SN "A rule relating to the number of occurrences of authors' names in a bibliographic database to the number of different authors found in the database." Lotka's law (a bibliometric "phenomenon" rather than a "rule") refers to the *productivity* of authors in a particular field of endeavor. While this phenomenon implies something concerning the distribution of names in some (although not necessarily all) databases, this is completely secondary. The SN, as given, is a very sloppy definition of a bibliometric phenomenon for which a precise definition exists, and ASIS does a disservice to its community by endorsing such imprecision.

Compiling a thesaurus in this field is a thankless job, not only because of its fuzzy boundaries but also because a substantial number of potential users will probably regard themselves as experts on thesaurus construction. The editor is to be admired and congratulated for taking on the task. Without doubt, this is a better tool for indexing the

literature of librarianship/information science than we have had before. Nevertheless, it could be greatly improved.

Note: The Editors and the Book Review Editor feel that this is an extremely important tool in the field, and expect that it will be used for subject access to various LIS collections. With a view to encouraging its continued improvement, we offered the author the opportunity to respond to Dr. Lancaster's comments.

Response to F.W. Lancaster's review of *ASIS Thesaurus of Information Science and Librarianship.*

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First and foremost, I wish to thank Professor Lancaster for his comments on specific terms and relationships. As was noted, this thesaurus is a first edition and is subject to all the defects of any first edition of a reference work. While the creation of the thesaurus was sponsored by ASIS, the editor's role was a completely volunteer effort; therefore it was not feasible to spend all the necessary time to make this initial effort either error free (if that were ever possible) or totally complete. This is not an excuse; it is simply a statement of fact.

The primary resource used in compiling the thesaurus was the indexes to the *Annual Review of Information Science and Technology*, so if there is an overemphasis on technology relative to social aspects of information transfer, as Lancaster claims, this probably represents the emphasis of *ARIST* in the past few years. I certainly will make an effort to achieve a better balance in the next edition.

I will stand by my use of the NISO standard for hierarchical relationships by continuing to treat part/whole relationships in this fashion, but will probably adopt most of Lancaster's suggestions for improving the hierarchical structure of the thesaurus.

Some of the errors referred to in Lancaster's review are spelling errors or minor inconsistencies in format. While these errors are annoying, they do not seriously limit the use of the thesaurus. More serious are errors of term omission. Such terms as "invisible college," "boundary spanners," "cumulative advantage," and "pertinence" will be reviewed for inclusion in the next revision. Like language itself, thesauri are living, growing objects that need to be modified as they are used.

Finally, I would like to ask that readers of this journal contribute their suggestions for future editions of the ASIS Thesaurus. Thirty years elapsed between Clair Schultz's effort and mine, presumably because in the intervening years no one saw the need as a high enough priority to dedicate the many hours of volunteer effort that were required. Lancaster acknowledges that "this is a better tool for indexing the literature of librarianship/information science than we have had before." I hope that members of the profession will join with me in making it even better.