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Mr. Dewey's Classification, Mr. Cutter's Catalog, and Dr. Hitchcock's Chickens*

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Weaknesses in logic and limitations ("bias") in the Dewey Decimal Classification represent operation in universal classification systems of Goedel's Proof and Heisenberg's Uncertainty Principle. In cataloging, there has been undue emphasis on consensus instead of research in making codes and standards. Some ignored but pertinent research is mentioned: citation studies, shortcomings of bibliographies, changes in areas of user dissatisfaction as a result of automation, and types of user behavior patterns. Possibly significant research by nonlibrarians is noted. Serious devotion to research, beginning with the etiology of bibliography, should be more productive in the long run than code revision based on interminable discussion.

THE TITLE OF THIS PRESENTATION has some elements of mystery which will be cleared up gradually. The reader, I am sure, is familiar with Mr. Melvil Dewey's classification, a system that is going into its second century with renewed vigor, looking for new worlds to conquer. Mr. Charles Ammi Cutter's catalog is also familiar to you, and much of what I intend to talk about will relate to it.

Dr. Edward Hitchcock's chickens are a different matter. Hitchcock was a Congregationalist minister, who, about 1821, was experiencing such serious health problems that he resigned his church appointment and retired to Amherst College to teach natural history for the few remaining months of his life. His remaining months turned out to be a bit longer than expected, and he finally passed to his reward in 1863,

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approximately 498 months later. In the natural history field, his interests turned to geology and he became one of the outstanding American pioneers in the field during the mid-nineteenth century. Dr. Hitchcock, like most geologists, spent a good deal of his time in the field, specifically the Connecticut River valley, where he studied the red sandstone formations of the Triassic period of Mesozoic time. This sandstone, in its originally muddy state, was trod upon by various kinds of dinosaurs. The dinosaur footprints dried out in the sun and then were covered by other deposits left by succeeding floodwaters. The later deposits and the original footprinted mud turned to stone and left a record which may still be seen.

The tracks looked like those of giant birds in that they were three-toed. Since they were first thought to be footprints of some kind of extinct birds, these "birds" were popularly called "Hitchcock's chickens." In one of the more interesting tracks found by Hitchcock, both feet of the "chicken" had "slid some distance in the soft material after which the creature suddenly sat down, the end of its backbone having made a distinct impression."¹ The "tail" was most unbirdlike. Eventually the creature was found to be a two-legged dinosaur.

At this point, probably almost every reader has assumed that I am going to relegate Mr. Dewey's classification and Mr. Cutter's catalog to oblivion, along with the extinct dinosaurs. However, no such action is intended. Instead, I shall carry the geologic, or more correctly, the paleontologic, history a bit further, in terms of recent research, to set a background for what comes later.

Modern research has revealed that while reptiles are cold-blooded and have to be warmed by the sun to become active, a number of dinosaurs were warm-blooded—internally heated. In other words, they were not reptilian. It is from this branch of the Mesozoic flyers that birds are derived. Dinosaurs (the term means terrible lizard) have been unlizarded.² Some of them were warm-blooded. And this warmth may be a clue to their sudden disappearance when the climate changed drastically. The pure reptiles are still with us—virtually unchanged—but only those warm-blooded types that were highly motile—the ones that could fly away—survived.

The points I wish to make with this preamble are two: first, that versatility (mutability or the presence of many different forms) is necessary for survival over a long period of time, and second, that research is an activity that constantly reinterprets the past as well as the present, in both cases for improvement in chances for survival. Increased knowledge leads to better understanding of factors playing parts in operational environments.

Classification

Which brings me back to classification and cataloging. Some kind of classification is inherent in everything we do. We cannot communicate without a common base of classified objects, entities, actions, and what have you. Our very language is a working classification system with a

fantastically intricate collection of relationships as its basis. Both the grammar and the syntax are patterned and regulated in ways which are as yet imperfectly understood. One of the interesting features of the *British National Bibliography's* indexing system PRECIS is the degree to which it is dependent upon the indexer's intuitive understanding of language. Modern thesauri ("thesaurus" meaning classified index) are highly functional without syntactical relationships so long as they are confined to a well-defined subject or collection of clearly related subjects. The problem of putting all subjects together in a single indexing system has not yet been solved in a satisfactory manner. Further, synonymy, metaphor, and other problems relating to meaning turn individual subject clarity into confusion or worse. The development phase of trying to work without attention to meaning (semantics) appears to have come to an end. Even the people working in purely automatic classification, like Karen Sparck Jones, realize that some of the hard questions may be unanswerable.³ On the other hand, without versatility, there would be no valid research, and even the apparently unsolvable problems in automatic classification may be chipped away bit by bit so that they gradually become less formidable.

In this setting, I shall not discuss Mr. Dewey's classification specifically. Instead, I shall comment briefly on two matters that apply to classification systems in general. The first is Kurt Goedel's famous Proof which applies to logical systems of all kinds. Goedel's Proof, somewhat oversimplified, says that while you can make an apparently perfect logical argument or deductive proof, every such argument itself is based on assumptions which you cannot prove. You cannot prove the axioms with which you start.⁴ This does not throw logic out the window, but it does focus attention on the premises. In classification, it means that you cannot make a perfect system based on deductive logic. This applies to Mr. Dewey's classification and many others.

The second matter concerns Werner Heisenberg's Uncertainty Principle, which Jacob Bronowski calls the "principle of tolerance."⁵ What it says, also somewhat oversimplified, is that if you know where something started, in what direction and with what speed it is going, then you cannot at the same time know exactly where it is. If you know where it is, then you do not know where it began, where it will end, and probably at what speed it is traveling. In classification, this means that if you want a reasonably comprehensive system, you have to put boundaries on it.⁶ For the most part, the boundaries are subject, language, place, and time. If you want to make a universal classification, you must allow for limits and imperfections relating to subject, language, place, and time. In uncertainty terms, we know where we are now, but we have to freeze that *now* to a specific point in time in order to describe it. This means that time always has to be in the past. We know that there has been a past. Our assumption of a future is based solely on empirical evidence.

Subjects are handled more easily if taken one at a time, as the proliferation of thesauri has demonstrated. The attempt to re-fit place and

language to suit 1976 standards serves the present at the expense of understanding the past. Boundaries take the form of biases with regard to subject, place, and language in Mr. Dewey's classification. These were almost certainly an integral factor in its success. When these boundaries began to be altered, a disproportionate number of problems arose. The same thing is happening with the Library of Congress Classification.

The Uncertainty Principle is a natural law. It is not a man-made law, and no amount of cudgeling of brains will change its effects. We have, therefore, to work with it rather than against it. Such an approach requires a good deal more than merely replacing what is outdated with the modern equivalent. It requires a series of time slots, each with its own applicable subjects, languages, and places.

Cataloging and the Catalog

Turning from classification to cataloging, we come to an area where very little empirical work is available. In some ways this has been an unglamorous subject. It has been approached in a legalistic rather than a scientific manner, with rules, rules, and more rules, almost all derived by consensus reached through discussion which has been more or less logical. The results are much closer to man-made law than is the case in classification, where natural law and apparently human social and intellectual development in the anthropological sense have been operating to a considerable degree.

The amenability of such law making to local interpretation has caused considerable difficulties in interlibrary cooperation, cooperative cataloging, and networking. The question raised in each situation, from cataloging submitted to the *National Union Catalog* or in networks operating through the Ohio College Library Center or in similar situations, is: "How do we make *those other libraries* contribute copy we can use without fixing it up?" The answer so far seems to be: "Use the *National Union Catalog* or Ohio College Library Center contributed items as proof that the work exists, but do the original cataloging to standards yourself."⁷ This, of course, guts the whole program of cooperative cataloging so far as cutting down on labor-intensive tasks is concerned. "To standards" usually means those represented by the current rules and/or Library of Congress work.

The problem is basically one of standards. Here several schools of thought are operating. One is a school that says the standards as represented by the current rules, whatever they are, are too high. The catalog is just a finding tool. So, off and on we have had various short forms proposed, used, and dropped.⁸ The catalog as "just a finding tool" suffers from blurred vision. That is, it finds too many different works undifferentiated, and the probability of false drops in searches becomes too high to be borne. We are in a hurry for the wrong answer. The patron is in a hurry, but for the right answer. Between the two is a happy medium—a maximal probability of right answers.

Another school of thought assumes a mythological user. This is a

chimeralike creature whose outlines take on the proportions the myth-maker wants it to have. The catalog as such a user's convenience suffers from the hiccups. With due apologies to Mr. Cutter, who said the catalog should serve the convenience of the public, there are users and users and users and users. Any one person may be several different types of user at different times. We have seen a good many user studies, few of which have been particularly enlightening, mostly because of inadequate methodology. Evaluation studies have foundered on the rocks of user identification, user expectation, user values, user background, user satisfaction, and other relatively intangible qualities. The whole area of user study is still in its neonatal stage.⁹ Perhaps we may say that the question of user study may be likened to a multiheaded dragon. At the least we can identify it as an area badly in need of research.

Another school of thought, not uncommon at present, is the one that assumes we are working with a blank slate. To this school, the catalog is a product of amnesia. That is, nothing that has been done previously has any validity or basis in fact, and therefore should be ignored or changed at will or simply discarded, closed off, tossed out.¹⁰ These people were born yesterday, have no roots, no antecedents, and no sense of time. If they were vigorously exploring, investigating, and studying the environment from which they sprang full-blown, their industry would be commendable and they might indeed make ideal research personnel because of their lack of bias due to adherence to the past. Unfortunately, this is true in a distressingly few cases, so that we see a sort of latter-day nihilism, where the baby has been thrown out with the bath water because it was wet. The result is dryness, in every sense of the word. It is somewhat disturbing to read that at the Ohio State University, with an on-line abbreviated catalog since 1971, only 3,000 searches for known items were recorded on it in 1974.¹¹ Surely, if one were to include staff use of the catalog, the figure would be more like 3,000 per month than per year. It is clear that we need valid figures on use of the catalog, both by staff and by public.

A less extreme school of thought labors in the vineyard in order to graft onto the basic stem as many varieties of branches as can possibly be accommodated. Anything that sounds acceptable is acceptable on the grounds that anything that will graft offers something for somebody. The resultant tree is about what one would expect when the rule of "all things to all men" is paramount. Nobody likes it.

The Need for Research

So, after all these horrible examples, what is the ideal catalog?

Nobody knows. The reason nobody knows is that there has not been a series of planned, systematic, objective, empirical studies to find out. We have had Mr. Cutter's opinions, Mr. Lubetzky's logic, lots of input by consensus, but very little research. What research there is has mostly been ignored.

It has been ignored for two main reasons. The first is that a very

large proportion of it appears outside the standard library periodicals. Much of it is in information science publications. This oddity lends support to the view that information science is the discipline underlying library science as chemistry underlies chemical engineering.¹² This is not a view to which I subscribe, but on the surface there is some justification for it.

The second reason research has been ignored is that it appears in dissertations and advanced monographs. Some of these require a degree of erudition not possessed by many librarians. Very few have been adequately reviewed by competent reviewers.¹³ Any librarian who thinks himself to be in the forefront of the profession in his chosen area should be able to read and understand the research at the cutting edge of that area. Library science is a profession, but is it a discipline? There is, as yet, little reason to consider it so.

At this point, I wish to return to my dinosaur example. The dinosaurs were long believed to be oversized reptilians. Only recently has research revealed the existence of warm-blooded varieties. I suggest that in cataloging we have come to the point where we can and must undertake the kind of research that will put a firmer foundation under the subject. Not that cataloging is reptilian—far from it—but there are other valid ways besides discussion and consensus for determining how to catalog, and some of them might very well lead us into a discipline.

Looking over the minutes of meetings of various parts of the Cataloging and Classification Section, it is clear that, with respect to code revision, we are in a methodological rut. Since 1876 we have had codes in 1908, 1949, 1967, and what looks like another apparently coming in 1978.

But the problems, whether you read commentary in the 1890s, the late 1930s, the 50s and 60s, or at present, have a very familiar ring. The attempted solutions have mostly been dropped, and much of what is being used presently looks remarkably like the 1908 code. Some librarians who have not changed their codes to suit every breeze have managed to survive almost as well as those who are into the latest thing. Or so it seems. We cannot demonstrate this one way or the other. Some people who complained last year about the *ISBD(M)*: *International Standard Bibliographic Description for Monographic Publications*, received an answer from the RTSD Board which said, in effect, "You cannot prove that *ISBD(M)* does all these detrimental things you claim."¹⁴ But the board could not prove it did *not* do these detrimental things, either. Or even that it did advantageous things. There just is no sound evidence available as yet.

The key to the whole problem of code revision is that we cannot demonstrate that this way or that way is better or more effective than any other way. We lack the empirical data. Currently some of the most popular changes run counter to what the research results we have so far do demonstrate. For example, what does the tremendous body of literature connected with citation analysis and citation indexing indicate? None of this was included in the reading list for code revision committee mem-

bers, yet it is some of the most vital information available in answer to a set of questions concerning a large body of users: Why do people cite? How do people cite?

Sociologists of science have amassed evidence to show that a researcher makes his discoveries and findings publicly available in return for the reward of personal recognition.¹⁵ The discoverer, creator, or author of a definitive work or seminal study expects to exact intellectual toll in the form of citation from his peers and from those who follow in time. The reward system operates to ensure that this happens. Bibliography and cataloging cannot ignore the forces which lie behind all this publication effort. The causal factors—the etiology—of bibliographic description are rooted in the reward system. This is one reason for ambivalence toward corporate entry. We would rather honor a person than an organization. Using a title without very tightly attaching the name of its author, editor, or compiler is cheating.¹⁶ The person who did the work is being deprived of his reward. Even when there is also a monetary reward, as in the case of a copyright fee, the author still has his eye on fame. Why do people write?

Considerable research is now going on concerning possible uses and information to be derived from studies of citation indexing, cocitation, coauthorship, networks of citations, networks of authors, networks of publications, and cycles in all of these. Bibliographies, various book indexes, library catalogs, and review articles are used for input, as well as journal article citation indexes. In this respect, sociologists are interested in behavior of groups of people while information scientists tend to investigate the growth and dissemination of subject knowledge. Librarians should be interested in both. Catalogers can help by clearly labeling all information for ease in access and by not leaving out helpful data because of an excess of zeal in serving only those members of society in their immediate vicinity. Any library may possess the sole copy of a work.¹⁷

In addition to why citations are made and how, there are more questions. What kinds of citations appear most frequently? What works are most frequently cited? What kinds of works are they? How do citation patterns function over time and space? Are there large numbers of books and articles in journals in your library which are totally uncited? I remember that one of the most significant books used for my dissertation had been in the University of Pennsylvania for almost 100 years. I had to slit its pages in order to read it. Are uncited items necessarily substandard?

Citation studies should not be left to sociologists and information scientists. We know very little about the practices of our best customers, the humanists. One pattern for systematic investigation of citations has been outlined in a completely nonmathematical, nonstatistical, and quite useful dissertation written at Berkeley by Theodora Hodges.¹⁸

Or, in different vein, take the example of a simple rule whose implementation in practice can lead to lack of uniformity: in dealing with

personal authors, enter under the most frequently occurring form of the name used on their works. The decision in this case and similar ones should not be left to the individual cataloger. There are institutions which have most of the works of authors who use varying forms of their names. "Best known" can be interpreted as "most frequently occurring"¹⁹ and the simple process of counting will yield a definitive decision in a goodly number of cases. Lists of such decisions should be available to all catalogers. A more complex type of decision making is used by Nancy Williamson in analyzing entry in bibliographies compiled by non-librarians.²⁰ The code book alone for this type of analysis runs to almost fifty pages because there are so many variables involved in entry.

Many librarians will remember a phase in cataloging when it was seriously proposed that the catalog be simplified and its detail taken over by subject bibliographies. However, there is no standard bibliographic description for bibliographies. Some of the poorer ones are pretty skimpy on data, especially multiple entry points. Cross-referencing and cross-listing are just as expensive in a bibliography as in a catalog. Of the 167 English literature bibliographies analyzed in detail by Professor Williamson, 33 percent did not have indexes, 41 percent did not use cross-references, and 11 percent used cross-references only in the index, if there was an index. This probably helps explain why the notion of using bibliographies instead of full catalogs did not get very far.

We hear a considerable amount of talk about new media requiring new means of presenting bibliographic data—mostly in technological terms. We do not hear much about the *expectations* of users in connection with new media. To give one example: we now have on-line bibliographies available via cathode-ray tube terminals connected to machine-readable data bases. We know to some extent who uses these data. With OCLC, for instance, catalogers are users of the first resort. Other kinds of librarians use the terminals as they are able to do so. When the terminals are made available to the public in libraries, they get some use, but so far there seems to be no queuing problem. Often the terminal just sits there, winking its little green eye. So the mountain has come to Mohammed in this respect, but Mohammed has not rushed to the mountain. Some years back, Stephen McCarthy commented that with Medline terminals in hospitals, medical staff could quickly find a listing of what they needed, but getting their hands on the material was another matter.²¹ The solution of one problem—compilation of subject bibliographies—gave rise to another problem—fast access to the material given in the bibliography. One of my students got a fine bibliography on thermography in a short time, but finding the actual works took almost six months. The pressure point, which used to be determining what is available, has turned into one of accessibility. While we are concerned with choice and form of entry in innumerable situations and how to code parts of an entry with various spacings and punctuations, our long-suffering library patrons are still wondering when they are going to be

able to lay hands on what they now know they want.

For the truth of the matter is that it does not make very much difference which rules we use, provided they have been set up as a standard. Rules, laws, customs are all social in origin. Whatever style is formally adopted will be followed by the vast majority. If you measure the resultant social conformity, you will get certain identifiable graphs and equations. The individual sets of factors which make up the patterns can vary, but the general pattern will not. Thus the plotted curves for usage of the 1908, 1949, 1967, and any other official cataloging codes, past, present, or future, will be similar.²² What we should be looking for are behavioral patterns of the same type among various groups of users. I have already mentioned the citation type. There undoubtedly are other social patterns representing different sets of values for different groups. This is what our critics from the public libraries have been trying to tell us. Tagging such as ISBD punctuation or special entry to suit the needs of the National Serials Data Project may be just so much garbage to the user who has not been programmed to accept it. There probably are a number of behavioral patterns in the bibliographic jungle about which we know nothing as yet. Studies, especially those on library effectiveness undertaken by non-librarians, have been based on assumptions regarding the behavior of users which are not familiar to most working librarians. Before we commit ourselves to one form or another in rule making, we should investigate some of these notions.²³ One of the most interesting innovations in the area of user expectations is the "information quality control" system developed by Hesung Koh at the Human Relations Area Files at Yale University.²⁴ The user is given sufficient data to enable determination of the coverage, reliability, intellectual level, and scope of the material he consults so that he does not have to waste his time going through stacks of documents of no earthly use to him. It is in this direction that we should be going, rather than belaboring minutiae in the rules for cataloging. In my opinion, it would be no great loss if we let the current rule making be the last, declaring a moratorium for at least ten years. By then we might have amassed sufficient research developments to ensure that every change would be a demonstrated improvement, made for good reason. Particularly, quasi-standards should be thoroughly investigated.²⁵ If a discipline is defined by the nature of its problems, then library science must be the discipline to end all disciplines. We have more problems per square head than almost any other field.

And so, in conclusion, may I also suggest that we borrow the motto of the Royal Society of London: "Nullius in verba"—nothing in words. (Interpreting seventeenth-century parlance into twentieth-century idiom, "Don't tell me how systems function. Show me.") Eva Verona has made a comprehensive critical analysis of corporate authorship problems, which, of necessity, also covers most of the problems of personal authorship.²⁶ Nicely spread before us, we have the legalistic/logical puzzles, arguments, actions, and suggested reconciliations or solutions. Now we

need a little army of empirical evidence, obtained from a multitude of external sources as unobtrusively as possible, marched up to support us in determining which possible future courses are most likely to coincide with the expectations and requirements of those who use our collections. Gradually the shrillness of argument based on "experience" should be replaced by demonstrable "facts of life." In the beginning, we may only be able to prove "what every cataloger knows," but eventually we should discover principles which will make it possible to proceed into areas about which we now have only the foggiest notion.

We may start by uncovering the etiology of bibliography. What are the causes, sources, and reasons behind the various formats we encounter? What exactly are these formats? Why are they still used? What function do they perform? What social factors affect them—such as the reward system and others? Instead of saying to our younger members, our recalcitrant networkers, our *NUC* contributors, "Do this, do that," we should be able to say, "This is done because . . ." or "That is done because. . ." We owe it to ourselves to emerge from our latter-day scholasticism, complete with disputations, and enter an age of enlightenment, so necessary for developing a true discipline.

Mr. Dewey's classification, Mr. Cutter's catalog, and the warm-blooded descendants of Dr. Hitchcock's "chickens" who fly in our midst have managed to survive the test of time remarkably well. The true value of all three is being made apparent through on-going research. Ignoring such research is done at our peril. How many more code revisions do we have to live through before we stop talking and get to work?

REFERENCES

1. The original plate may be found in Edward Hitchcock, *Ichnology of New England: A Report on the Sandstone of the Connecticut Valley, Especially of Its Fossil Footmarks* (Boston: W. White, 1858), supplement (1863). Reproduced (with quoted description) in William J. Miller, *An Introduction to Historical Geology with Special Reference to North America* (4th ed.; New York: Van Nostrand, 1937), p.300.
2. Adrian J. Desmond, *The Hot-blooded Dinosaurs: A Revolution in Paleontology* (New York: Dial, 1976).
3. Karen Sparck Jones, *Automatic Keyword Classification* (Hamden, Conn.: Archon Books, 1971), p.17, 23, 80, 238-39.
4. Ernest Nagel and James R. Newman, "Gödel's Proof," *Scientific American* 194: 71-90 (June 1956). After reading Eva Verona's carefully reasoned analysis of the concept of corporate entry, the suspicion arose that Gödel's Proof could cover the logic applied to cataloging as well as to hierarchical classification. Cf. Eva Verona, *Corporate Headings: Their Use in Library Catalogues and National Bibliographies; A Comparative and Critical Study* (London: IFLA Committee on Cataloguing, 1975), p.8-43.
5. Jacob Bronowski, *The Ascent of Man* (Boston: Little, 1973), p.366-67.
6. This was suggested to me by Fleming Fallon. He has a somewhat different interpretation of the boundaries.
7. This problem has surfaced in connection with OCLC and, more recently, was discussed in a session of the Executive Committee, Cataloging and Classification Section, Resources and Technical Services Division, American Library Association.

- See "Minutes" of the section's 1976 Midwinter Meeting, 19 January 1976, p.3-7 and appendixes A and B.
8. The literature on short forms of cataloging is voluminous. A few samples suffice to show its range: Susan G. Akers, *Simple Library Cataloging* (Chicago: American Library Assn., 1927), many reissues; Lucile M. Morsch and Herman H. Henkle, "Simplified Descriptive Cataloging at the Library of Congress," *ALA Bulletin* 36:403 (June 1942); Marie Louise Prevost, "Simplification and the Code," *Library Journal* 67:154-57 (15 Feb. 1942); Olivia Faulkner, "Discontinuance of Short Form Cataloging," *Library of Congress Information Bulletin* 22:468 (3 Sept. 1963); and Daniel Gore, "In Hot Pursuit of FASTCAT," *Library Journal* 97:2693-95 (1 Sept. 1974).
 9. J. Farradane, "The Evaluation of Information Retrieval Systems," *Journal of Documentation* 30:195-207 (June 1974); Tefko Saracevic, "RELEVANCE: A Review of and a Framework for the Thinking on the Notion in Information Science," *Journal of the American Society for Information Science* 26:321-43 (Nov./Dec. 1975) and in *Advances in Librarianship* (New York: Academic Press, 1976), v.6, p.79-138; Rowena W. Swanson, "Performing Evaluation Studies in Information Science," *Journal of the American Association for Information Science* 26:140-56 (May/June 1975); and Rowena W. Swanson, "Design and Evaluation of Information Systems," *Annual Review of Information Science and Technology* (Washington, D.C.: American Society for Information Science, 1975), v.10, p.43-101.
 10. A rather good example of the "blank slate" viewpoint may be found in statements by several library directors in *The Future of Card Catalogs: A Report of a Program Sponsored by the Association of Research Libraries, January 18, 1975* (Washington, D.C.: Association of Research Libraries, 1975), 67p. The projected closing of the Library of Congress catalogs has received the most attention, much of it based on misconceptions. The most authentic statement is probably that of John C. Rather, "The Future of Catalog Control in the Library of Congress," *Journal of Academic Librarianship* 1, no.2:4-7 (May 1975). Rather has also contributed a balanced statement—"Transition to the Automated System"—in *The Library of Congress as the National Bibliographic Center: Report of a Program Sponsored by the Association of Research Libraries, October 16, 1975* (Washington, D.C.: Association of Research Libraries, 1976), p.52-53. For another view, see J. McRee Elrod, "Is the Card Catalogue's Unquestioned Sway in North America Ending?" *Journal of Academic Librarianship* 2:4-8 (March 1976). So far no test has been run in parallel to show what will be gained or lost by switching to an on-line computer catalog. Theoretically all the qualities claimed for the on-line system should be possible. Practically, current on-line operating systems offer only a fraction of card catalog capabilities.
 11. Mary Kay Daniels Canning, "The Catalog: Its Nature and Prospects," *Journal of Library Automation* 9:63-64 (March 1976), section on "The Electronic Catalog," summarizing speech of Hugh Atkinson, director of libraries at Ohio State University.
 12. Except in conversation, such views are usually implied rather than explicitly stated. Manfred Kochen's *Principles of Information Retrieval* (Los Angeles: Melville, 1974) covers the basis for much of the intellectual activity in libraries. See especially p.xv, 2-5, 9, 63-88, 117-19, 134, 142-44, 165-170. Saracevic's work on relevance (see reference 9) also has implications for fundamental work in library science, cf. particularly p.82, 86, and 126ff in the *Advances in Librarianship* version.
 13. Compare, for example, a review of Kochen's *Principles of Information Science* by Masse Bloomfield in *Sci-Tech News* 30:16 (Jan. 1976) with a communication by Russell C. Coile, "Principles of Information Retrieval" [Letters to Editor], *Journal of Documentation* 31:298-301 (Dec. 1975).
 14. Cf. American Library Association, Resources and Technical Services Division, Board of Directors, "1975 Midwinter Meeting Minutes," exhibits 1, 2, p.12-15; Cataloging and Classification Section Executive Committee Meeting, "1975 San Francisco Annual Conference Minutes," p.2-6, appendix A, p.20. Apparently exactly the same action occurred at the Catalog Code Revision Committee Meeting of 15 January

1975. See *Library Resources & Technical Services* 19:280-81 (Summer 1975).
15. Robert K. Merton, *Social Theory and Social Structure* (Glencoe, Ill.: Free Pr., 1957); Bernard Barber and Walter Hirsch, eds., *The Sociology of Science* (New York: Free Pr., 1962); Warren Hagstrom, *The Scientific Community* (New York: Basic Books, 1965); Norman W. Storer, *The Social System of Science* (New York: Holt, 1966); Robert K. Merton, "The Matthew Effect in Science," *Science* 159: 56-63 (5 Jan. 1968); and Diana Crane, *Invisible Colleges: Diffusion of Knowledge in Scientific Communities* (Chicago: Univ. of Chicago Pr., 1972). These works form an introduction to the sociological background of scientific research. Much work has been and is still appearing in this area. It should be noted that most of these authors include sociology as a "science." A more historical view has been presented in A. J. Meadows, *Communication in Science* (London: Butterworths, 1974), chap.2.
 16. The entry problem has been discussed at great length for decades in articles, reviews, and news items. In serials, the exchange between Spalding and Howard provides an example: C. Sumner Spalding, "ISBD (S) and Title Main Entry for Serials," and Joseph H. Howard, "Main Entry for Serials," together in *Library of Congress Information Bulletin* 33:A229-32 (22 Nov. 1974). Various tentative decisions on current cataloging practice appear both in the Library of Congress' *Cataloging Service* and in the section "Progress on Code Revision" in *Library Resources & Technical Services*. None of these decisions are yet standards. *Library Resources & Technical Services* contains an interesting series of articles on serials cataloging, reflecting many points of view (19:293-348 [Fall 1975]). Experimental and empirical studies include: Ben-Ami Lipetz, *User Requirements in Identifying Desired Works in a Large Library* (New Haven, Conn.: Yale University Library, 1970), 121p. (ED 042 479); several studies by Manfred Kochen and associates: *Journal of Documentation* 26:230-49 (Sept. 1970), *Information Storage & Retrieval* 6:363-81 (Dec. 1970), *Journal of the American Society for Information Science* 22:337-47 (Sept./Oct. 1971); Arthur Maltby, "Measuring Catalogue Utility," *Journal of Librarianship* 3:180-89 (July 1971); Richard Palmer, *Computerizing the Card Catalog in the University Library: A Survey of User Requirements* (Littleton, Colo.: Libraries Unlimited, 1972), p.19-48, 83, 109. A study on how to structure a catalog or index "using other measures of content relatedness in addition to, or in place of, index terms," and without reference to standard entry codes, may be found in Donald B. Cleveland, *A Geometrical Model for Information Retrieval* (Ph.D. dissertation, Case Western Reserve University, 1973; Ann Arbor, Mich.: University Microfilms, 1974, No. 74-10779), p.ii-iii, 58-60. A discussion of empirical or quantitative studies relating to quality may be found in Richard H. Orr, "Measuring the Goodness of Library Services: A General Framework for Considering Qualitative Measures," *Journal of Documentation* 29:315-32 (Sept. 1973). See also Verona, *Corporate Headings*, p.11.
 17. William E. McGrath and Sam Dyson, "Regional Interlibrary Loan: An Old Idea, a New Tool and a New Dimension," *RQ* 13:293-98 (Summer 1974); abstract in *Library Resources & Technical Services* 20:279 (Summer 1976).
 18. Theodora Long Hodges, *Citation Indexing: Its Potential for Bibliographical Control* (Ph.D. dissertation, University of California, Berkeley, 1972; Ann Arbor, Mich.: University Microfilms, 1973, No. 73-16787).
 19. Verona, *Corporate Headings*, p.156, suggestion 4a.
 20. Nancy Williamson, "Cataloguing and Bibliography: A Comparative Study of Their Interrelationship as Seen through Their Principles and Practices" (Ph.D. dissertation, Case Western Reserve University, 1977).
 21. Dr. McCarthy's observation was conveyed orally to the author in 1972, but it has repeatedly come up in Association of Research Libraries discussions, most recently as expressed by Warren J. Haas, cf. *The Library of Congress as the National Bibliographic Center* (Washington, D.C.: Association of Research Libraries, 1976), p.4, 5. See also Michael Buckland, *Book Availability and the Library User* (Elmsford, N.Y.: Pergamon, 1975), which addresses the general subject in a dif-

- ferent context. An analogous situation pertains in medicine, where medical care has become so effective in general that patients and their families expect much more of it in specific instances, cf. David S. Rubsamen, "Medical Malpractice," *Scientific American* 235:18-23 (Aug. 1976). Of course, there are both positive and negative aspects other than greater expectations on the part of users. These include increased use of the library, greater productivity of staff, overburdening of staff, etc., cf. Judith Wagner, Mary Fishburn, and Carlos Cuadra, *On-Line Impact Study: A Survey Report of On-Line Users, 1974-1975* (Santa Monica, Calif.: Systems Development Corp., 1975), p.16-18.
22. Ann M. S. Fox, *The Amenability of a Cataloging Process to Simulation by Automatic Techniques* (Ph.D. dissertation, University of Illinois, 1972; Ann Arbor, Mich.: University Microfilms, 1973, No. 73-9934), *passim*; Phyllis A. Richmond, "Research Possibilities in the Machine-readable Catalog, Including Use of the Catalog to Study Itself," *Journal of Academic Librarianship* 2:224-29 (Nov. 1976).
 23. Statements by a non-librarian operating under a notion of the library relatively alien to practicing librarians may be found in A. D. Booth, "On the Geometry of Librarians," *Journal of Documentation* 25:28-42 (March 1969). So far, "library effectiveness" studies tend to be based on the viewpoint that circulation of materials is the most important function of the library, cf. Paul Kantor, "The Library as an Information Utility in the University Context: Evolution and Measurement of Service," *Journal of the American Society for Information Science* 27:100-112 (March/April 1976); William B. Rouse, "Optional Resource Allocation in Library Systems," *Journal of the American Society for Information Science* 26:157-65 (May/June 1975). Librarian versus non-librarian views, even considering only circulation, may be seen by comparing Kantor with an article by Betty Young, "Circulation Service—Is It Meeting the User's Needs?" *Journal of Academic Librarianship* 2:120-25 (July 1976). Part of Kantor's evidence (p.102) supports Young's hypothesis. Operations-research-oriented work has a tendency to concentrate on the measurable and ignore such realities as extra- and intramural politics, personalities, motivation, and above all values and expectations of the humans involved. For an introduction to this orientation, see *Operations Research: Implications for Libraries: The Thirty-fifth Annual Conference of the Graduate Library School, August 2-4, 1971*, ed. by Don R. Swanson and Abraham Bookstein (Chicago: Univ. of Chicago Pr., 1972), 160p.
 24. Hesung C. Koh, "HABS: A Research Tool for Social Science and Area Studies," *Behavior Science Notes* 8:172-73, 191 (1973).
 25. Paul Fasana, "Serials Data Control: Current Problems and Prospects," *Journal of Library Automation* 9:19-33 (March 1976), and his "AACR, ISBD(S) and ISSN: A Comment," *Library Resources & Technical Services* 19:333-37 (Fall 1975).
 26. Verona, *Corporate Headings*, *passim*.

AMERICAN NATIONAL STANDARD

The American National Standards Institute announces the publication of A39.24-1976, the *American National Standard System for the Romanization of Slavic-Cyrillic Characters*. Copies are available from the Institute, 1430 Broadway, New York, NY 10018, at \$3.50.

"The Tyranny of Distance" and Other Australian Acquisitions Problems*

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Drawing on six months of experience as assistant acquisitions librarian at the Australian National University Library and a search of the literature, the author discusses four acquisitions problems unique to Australian libraries: (1) distance, which dictates average supply times of four and five months for British and U.S. books respectively; (2) customs restrictions; (3) the "Empire Rights Agreement"; and (4) copyright regulations. Until librarians "Down Under" may obtain literature from other countries with more speed and without censorship or restrictions as to what edition may be purchased from whom, they are to be commended for acquiring materials as readily as they do.

ACQUISITIONS PROBLEMS in Australian libraries dealt with in this paper are concerned mainly with procuring books—not with book selection or collection development. The combination of problems described seems to be uniquely Australian. Indeed, they are not problems which acquisitions librarians in the United States experience. Source materials for this essay are three: (1) the author's six-month experience as the acting assistant acquisitions librarian at the Australian National University Library (ANU) in Canberra, Australia, from 16 January through 4 July 1975; (2) a detailed search of the literature; and (3) facts gleaned from correspondence which is cited later.

The Australian National University is a blend of two institutions: the research/postgraduate Institute for Advanced Studies, which has developed from provisions set forth in the Australian National University Act of 1946, and the undergraduate School of General Studies, which began in 1929 as Canberra University College and joined ANU in 1960.

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In 1974 ANU's enrollment was 5,564 students (873 postgraduates and 4,691 undergraduates); the academic staff numbered 886; there were 3,271 general support staff. The ANU Library, founded in 1948, contained 585,000 volumes in 1973; its full-time staff numbered 174 in June 1975.¹ Because ANU includes within the Institute for Advanced Studies the primary research facilities for the Australian government, ANU receives more Commonwealth funding for books and serials than does any other Australian university.²

The author's experience, then, was in an atypical Australian library. The problems encountered, however, are not atypical, for the literature reflects that they apply to most Australian libraries. The four acquisitions problems discussed here are those connected with (1) distance, (2) customs, (3) the Empire Rights Agreement, and (4) copyright.

Distance

In 1966 Blainey used the phrase "tyranny of distance" to describe certain problems of Australia's history, particularly that of the ironic effect of distance on development in the Antipodes. For example, the dream of establishing another Singapore to deal with the end of the Indonesian archipelago remote from British trading ports caused Ft. Dundas and Ft. Wellington to be established in 1824 and 1827. Ft. Dundas was just north of what is now Darwin; Ft. Wellington was 200 miles eastward. It was hoped that these forts would strike up a profitable trade with the Indonesians who visited the north Australian shore annually to harvest trepang, the long sea slug which they traded to the Chinese and the Dutch in exchange for manufactured goods. The British government ordered the forts abandoned in 1829, just when the eastern one seemed on the verge of successful trade with the Indonesian trepang fleets. Why?

The British government's premature decision to abandon Raffles Bay reflected the delays in communication with such a remote place. For it was on the basis of a report written at Raffles Bay in October 1827 that Britain decided to withdraw, and the order to withdraw did not reach Raffles Bay until August 1829; and in those twenty-two months the prospect of success had drastically increased. The trading fort was abandoned because London believed not one Indonesian had visited it. In fact, for the two summers preceding its closure a large fleet of prosas had made visits.³

This example points out in a graphic way just what havoc distance can play with communication.

Australian libraries are thousands of miles away from their two main sources of books: Britain and North America. This distance magnifies any of the aggravating supply problems that acquisitions librarians the world over encounter in varying degrees (problems like postal strikes, currency fluctuations, and time-consuming paperwork). At best an Australian library can expect to receive a book twelve weeks after it has been ordered. Available statistics from the University of Queensland library indicate that the average time required for the library to

obtain a book from its major British dealer in 1974 was 118 days. The average time required to obtain a book from its major U.S. dealer was 149 days.⁴ One can imagine the reaction of the patron—especially the patron who has just come from Britain or North America and has never before experienced such supply gaps. One can also appreciate the slowness with which the Australian librarian would receive out-of-print catalogs or verification and cataloging tools such as *British National Bibliography*, *Cumulative Book Index*, or the *National Union Catalog*. The 1973 Australian university library reports summarized in the December 1974 issue of *Australian Academic and Research Libraries* lament the slowness of supply, stating that Australian libraries should not accept the “idea that we are in no better case than our predecessors of a hundred years ago, except that we can post our orders abroad by airmail.”⁵

What is being done to overcome this “tyranny of distance”? In order to receive some most-needed journals more quickly, the Australian National University Library acquires approximately 100 journals on an airmail basis—a most expensive solution.⁶ The National Library of Australia has just begun its own series of MARC tapes, incorporating data from the LC MARC tapes, which are sent airmail, thereby enabling such data to be available to Australian libraries more quickly than they can obtain verification tools by seamail. Some bookdealers are making concerted efforts to supply materials more quickly than ever. The Dutch Australian Book Depot Pt. Ltd. now has certain Dutch books, including Elsevier and North Holland titles, shipped, under a special arrangement with the Dutch postal authorities, via KLM Airlines to Melbourne as soon as they are published. National Library Service, Inc. of Norwalk, Connecticut, is seeking a method of sending U.S. titles by air freight to Australia at a less expensive rate.⁷ B. H. Blackwell Ltd. in England is presently conducting an experiment of supplying selected periodicals by Accelerated Surface Post (ASP) to one Australian institution.

In June 1975, ASP offered delivery in Australia in fourteen to eighteen days from date of dispatch in the United Kingdom for about £.70 per pound. This price may seem steep, but it is considerably better than regular air-freight rates from England to Australia, which at the time were approximately £1.00 per pound—in a minimum of twenty-pound units.⁸ The latest information received reflects another increase. As of 22 November 1976, the ASP cost is £.93 per pound.⁹ These costs reflect mailing charges *only*. Any handling charges would be extra. In his 4 November 1975 letter, Blackwell's C. P. Tyzack points out that “The experiment with journal subscriptions continues and the only conclusion we have reached is that we are not sure what conclusions to draw.”¹⁰

Customs Problems

Prior to 1968, each Australian state set its own censorship regulations. This resulted in varying degrees of repression, as described by Australian bookseller Roger Page:

. . . we had some claim to being the most censor-ridden country in the English-speaking world. Such situations could arise when *The Group* was freely available in all States except Victoria, where the authorities were careful to state that the book was not banned; you merely risked police action and imprisonment if you distributed it. The resultant hysterical publicity meant that a book which normally would have sold a few hundred copies in Australia, sold instead in many thousands, both by interstate mail order and over the counter when the book circulated freely in Victoria again.¹¹

In 1968 the federal authorities were authorized to approve books coming through customs. However, the states still "retain the right to prosecute the publishers and distributors of books they consider obscene."¹² This prosecution could presumably be directed toward librarians as well. Thus, the situation in Australia today is that repressive censorship legislation exists in some states, although the past two federal Australian governments have presented a very liberal attitude on this topic.¹³

All importers (including libraries) are required to list for the Literature Section of the Customs Office in their state all books received without invoice and to submit invoices for all other books received.¹⁴ Thus, the ANU Library Acquisitions Department sends a copy of each invoice for imported books to the Customs Office in Canberra each month. The invoices, if approved (and they all were during the author's six-month stay), are rubber-stamped and returned to the library to be retained as proof that the books are legal imports. The customs officer examining the book (or its title on an invoice) passes the book if he is satisfied that it is not objectionable or if he knows it has been cleared at another point of entry. If he knows it is already under review, he can hold it pending a federal decision. If he has serious doubts about a title, he refers it to headquarters in Canberra. The final decision on a title belongs to the Minister for Customs, who may wish to act on the advice of the National Literature Board of Review.¹⁵ A conscientious customs officer not familiar with the titles he reviews may inadvertently question quite innocent books. One bookdealer was seriously asked to defend the import of twenty copies of Pope's *Rape of the Lock*. Another bookseller records that *Fun in Bed* (pastimes for bedridden youngsters) and even the children's book *What Katy Did* have been closely scrutinized because of their names.¹⁶

Censorship within some states does continue, as is evidenced by the twentieth annual report of the Queensland Literary Board of Review, which states that sixty-seven publications, including *Playboy* and *Fanny Hill*, were banned during the year. According to the report, such censorship is necessitated by the "virtual abandonment by the Commonwealth of threshold censorship, resulting in a large inflow of publications which by community consensus over the years have been refused entry into this country." The only hopeful fact here is that the number of banned publications had decreased from ninety-three the previous year.¹⁷

Empire Rights Agreement

A neo-colonial system referred to as the "Empire Rights Agreement" (ERA), or the "British Publisher's Trade Market," has resulted from an agreement among British publishers to buy reprint rights to a U.S. book only if given the exclusive right to market that title in a large area of the old empire as well as in the United Kingdom itself.¹⁸ This agreement was amended about three years ago as a result of negotiations between the Australian Book Publishers Association and the British Publishers Association, so that Australian publishers may now buy Australian rights from U.S. publishers.¹⁹

Effects on a library attempting to obtain such books are severe. Suppose a library places an order with an Australian supplier for a U.S. book. The supplier dispatches his order to the appropriate U.S. publisher, who cancels the order because he has sold the rights to a British or Australian publisher. The Australian supplier then reorders from the appropriate Commonwealth publisher if known (in several cases the identity of the publisher who has purchased reprint rights has not been clear) and notifies the ordering library of the situation. The Commonwealth publisher may very well report that his edition of the book is not yet published, so that the Australian supplier then orders the title from a U.S. supplier and notifies the ordering library of the situation.²⁰ This means three orders and much time taken for one title. One Australian supplier estimates that somewhere between 200 and 250 orders per week are being returned to him because the publishers from whom he ordered them cannot legally supply them for resale in Australia.²¹ Such statistics represent not only fantastic overhead required by the bookdealer for reordering and reporting, but also rather poor service for the ordering library. To avoid this problem a library could opt to go directly to a dealer in the country of origin in every case, but (1) currency exchange required by such a process is not reasonable for some libraries, (2) such ring-around-the-rosy is not always necessary to obtain a U.S. imprint, (3) in fact, the Australian dealer may have the desired title in stock and if he does, supply will be immediate, (4) by using an Australian bookdealer, a library can avoid customs-clearance problems, and (5) it is not sound business practice always to circumvent a local bookdealer whose service in all other facets is at least equal to that of a foreign dealer.

Copyright

Two acquisitions problems are created by the Australian Copyright Act, which came into effect 1 May 1969. They are concerned with (1) reproduction of books and (2) the closed market.

Australian copyright protection "expires fifty years after the death of the author in the case of published works or fifty years after the first publication in the case of works which were not published before the death of the author. . . . The Copyright Act . . . makes it an infringement if a substantial part of a protected work is reproduced."²² In 1974

an Australian Equity Court justice ruled that the University of New South Wales breached the Copyright Act by allowing a photocopy reproduction of "The Americans' Baby," a ten-page short story, to be made on a coin-operated machine.²³ Such a decision has many implications. The immediate effect at the ANU Library seemed to be the extreme care with which acquisitions personnel went about obtaining reproductions of books within copyright. If the most reasonable means of acquisition of a British or Australian title was by reprography, written permission was obtained from the author before the title was copied. The written statements granting copying permission are on permanent file in the Acquisitions Department.

Under provisions of the Australian Copyright Act an Australian warehouse may become entitled to the exclusive rights to supply a title to Australian booksellers. "All orders from booksellers to the overseas publisher will be referred back to the local warehouse. The prices charged from the local warehouse may bear no relation whatsoever to the published prices in the country of origin. The local warehouse may be an independent Australian company, or it may be partly or wholly owned by the overseas publisher."²⁴ For example, the 1973 *Subject Guide to Books in Print* cost A\$37.85 if purchased through the Australian distributor Cheshire Publishing Pty. Ltd. in Melbourne, while the book was retailing in the United States at A\$29.96.²⁵ Thus, it cost A\$7.89 more for a library to purchase it through the proper Australian warehouse rather than through a U.S. dealer. Another example: an Australian citizen may import a title costing A\$2.39 from a British publisher or bookseller and pay only A\$2.59 (list price of A\$2.39 plus A\$.20 postage), whereas the Australian bookseller must pay the Australian list price (based on a schedule of prices usually bearing no direct relation to the British list price) of A\$4.70 minus a 40 percent discount, or A\$2.82. Thus, the bookseller's customer—or indeed a library—can buy a book at a lower price than the bookseller himself can.²⁶

Can we find any promising developments in Australia to ease the librarians' problems arising from the Empire Rights Agreement and the closed market? On 19 April 1974 a public conference was held in Sydney to discuss whether the Australian Copyright Act of 1968 should be amended to allow the importation and distribution for the purpose of trade both the U.S. and U.K. editions of a book. The conference, attended by authors, publishers, booksellers, librarians, and government officials, was sponsored by the Attorney General's Department.²⁷ As a result of this meeting, the government has established a special committee of interested parties to collect more facts and to assess the size of the problem.²⁸

To summarize, four major acquisitions problems faced by Australian librarians relate to distance, customs, the Empire Rights Agreement, and copyright. It is to be hoped that advances will be made so that librarians and bookdealers "Down Under" may obtain literature from

other countries with more speed and without censorship or restrictions as to what edition may be purchased from whom.

REFERENCES

1. Marion T. Reid. "Comparison of Acquisitions Functions and Statistics in the Australian National University Library and the Louisiana State University Library" (Canberra: June 1975), p.1-2.
2. Ibid., p.4.
3. Geoffrey Blainey, *The Tyranny of Distance: How Distance Shaped Australia's History* (Melbourne: Sun Books, 1966), p.83-88.
4. K. A. R. Horn, "Australian University Library Reports 1973," *Australian Academic and Research Libraries* 5:151 (Dec. 1974).
- 5: Ibid.
6. Clare Redmond, Australian National University Library, letter to Marion T. Reid, 15 November 1975.
7. Martin B. Berke, president of National Library Service, Inc., conversation with Marion T. Reid, 7 October 1976.
8. C. P. Tyzack, Blackwell Ltd., letter to Marion T. Reid, 11 June 1975.
9. C. P. Tyzack, letter to Marion T. Reid, 22 November 1976.
10. C. P. Tyzack, letter to Marion T. Reid, 4 November 1975.
11. Roger Page, *Australian Bookselling* (London: Andre Deutsch, 1970), p.123.
12. Ibid., p.124.
13. F. D. O. Fielding, Letter, *Library Journal* 99:1741 (July 1974).
14. Page, *Australian Bookselling*, p.124.
15. Ibid., p.127-28.
16. Ibid., p.124.
17. "A Nation of Voyeurs," *Australian Library Journal* 23:413-14 (Dec. 1974).
18. James Bennett, James Bennett Pty. Ltd., letter to Marion T. Reid, 11 December 1975.
19. M. G. Zifcak, "Whose Books? The View from 'Down Under,'" *Publishers Weekly* 206:105 (23 Sept. 1974).
20. Johanne Stubbins, "Closed or Open Market," *Australian Library Journal* 23:217 (July 1974).
21. James Bennett, "Difficulties of a Library Supplier," *Australian Library Journal* 23:222 (July 1974).
22. D. C. Pearce, "Photocopying and Copyright," *Australian Library Journal* 22:6 (Feb. 1973).
23. "University of New South Wales Found Guilty of Copyright Breach," *Library Journal* 99:2924 (15 Nov. 1974).
24. Bennett, "Difficulties," p.220-21.
25. "Bowker Books Dearer," *Australian Library Journal* 23:118-19 (April 1974).
26. Bennett, "Difficulties," p.220.
27. Zifcak, "Whose Books?" p.104.
28. Ibid., p.107.

BALLOTS—The View from Technical Services

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BALLOTS (Bibliographic Automation of Large Library Operations using a Time-sharing System) is presented from the viewpoint of the Stanford University Libraries as a user of the system. The effect of automation on technical and public services is considered, with emphasis on the human and organizational changes involved in the library's move to a radically new way of life over a four-year period.

IN ASSESSING DEVELOPMENTS in library automation, it has long been fashionable among "experts" to denigrate the "housekeeping" aspects of bibliographic data management. Yet without housekeeping, without orderly and accessible files, our libraries would be nothing but a chaotic jumble of books and other materials. This may be compared to a gourmet who believes that only the eating is important, and who fancies that cooking expertise, accurately recorded recipes, and well-maintained equipment are dispensable ingredients. Such a gourmet is not likely to experience a great number of pleasant meals, for housekeeping is the foundation of service excellence, whether the field is gastronomy or bibliography. Without it neither materials nor data can flow freely and neither the reference and retrieval nor delivery responsibilities of the library can be carried out effectively.

The system described here is based on the belief that efficient housekeeping is the first step in providing effective library service. In describing BALLOTS (Bibliographic Automation of Large Library Operations

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using a Time-sharing System) support of technical and public services, this article concentrates on detailed aspects of technical services and some aspects of public services, with consideration given to human and organizational changes. The history of BALLOTS, its hardware and software components, elements of its design philosophy, and a brief summary of its impact on the library have been treated in an earlier paper.¹

Following an introductory discussion relating to scope and language coverage and to functions, files, facilities, and terminal locations, the design decisions and constraints in the development of BALLOTS are discussed from a technical point of view, with regard to the human factors involved and through a consideration of the procedural factors and changes. The new environment is presented and a few words added on current and future developments.

Scope and Language Coverage of BALLOTS

The BALLOTS system, now in its fifth year of production, began as the major processing system for the Stanford University Libraries. BALLOTS is an integrated technical processing system with additional broad support capabilities for public service (e.g., reference) and networking. As of this writing, its data base exceeds 750,000 records and is growing at a rate approaching 200,000 records per year, inclusive of Library of Congress (LC) MARC records and Stanford cataloging. For ordering and cataloging, it is estimated that BALLOTS currently covers 99 percent of Stanford's processing load, which ranges from about 50,000 to 60,000 titles annually.

Except for manuscripts, the BALLOTS system accommodates all types of library materials whose bibliographic records are in the roman alphabet or have traditionally been romanized at Stanford. The language coverage of BALLOTS is typical of that in a large research library. Nearly half of the items processed at Stanford are in languages other than English. The data base is particularly rich in Slavic and Western European language records. *In toto* more than 100 languages are represented. The approximate distribution of languages currently entering the BALLOTS data base at Stanford is as follows:

English	59.1%
Romance	19.5%
German	11.7%
Slavic	7.1%
Other	2.6%
Total	100.0%

Functions, Files, and Terminal Locations

BALLOTS maintains four machine-readable, on-line files:

1. MARC File (MARC). Includes all LC MARC records from 1 January 1972 to date (except for May-August 1972).²

2. Catalog Data File (CDF). Includes all titles processed in the BALLOTS system.
3. In Process File (IPF). Includes all titles on order or received but not cataloged; also includes desiderata and "stop" (do not order) records.
4. Reference File (REF). Includes cross-references, explanatory references, and scope notes. Serves also as an authority file.³

Of these four major files all but MARC are "transaction driven," i.e., subject to local update, addition, and deletion. In principle and in fact the MARC File is subject to change only from update records supplied by the Library of Congress. It is not possible for a local user to alter permanently any record in the MARC File.⁴ Only a copy of the MARC record may be modified and inserted into an appropriate transaction-driven file. BALLOTS retains all incoming MARC records whether or not they match a Stanford original cataloging record.

Through these files the following major functions and facilities are supported:

1. Data base maintenance (including cross-references)
2. Searching and retrieval
3. Firm orders
4. Standing orders (including serials and terminal sets)
5. Approvals, blanket orders, gifts, exchanges
6. Receiving (full or partial)
7. Claiming (automatic or on demand)
8. Cancelling (automatic or on demand)
9. Out of print procurement
10. Decisions *not* to purchase and reasons therefore
11. Standing search requests (SSRs) for MARC records
12. Cataloging
13. Forms printing (including catalog cards and spine labels)
14. Detection of operator error through on-line edits
15. Off-campus file access through TYMNET or shared lines
16. Individual item control through the processing cycle
17. Reserve book processing
18. Catalog maintenance
19. References and scope notes

As of this writing Stanford has installed twelve CRTs in technical services, and two in public services—one each at reference desks in the Main Library and the Meyer Memorial (undergraduate) Library. One each is in the Collection Development Program and the Government Document Department for searching and ordering; one has been installed solely for training. One is in the law library and one each is on order for the medical and business administration libraries. Three more terminals are on order to support reference and public service in the education, engineering, and music branch libraries. Approximately 125 persons in seven different Stanford library units use a BALLOTS termi-

nal routinely during the work day for periods ranging from a few minutes to several hours.

Design Constraints and Design Decisions in the Development of BALLOTS

A major constraint in any system design is the local environment and resources available: human and intellectual resources, financial support, space, and computer software and hardware.

In human resources, the library had the advantage of an experienced and dedicated staff. The library administration, the department chiefs, and supervisors were uniformly and vigorously supportive of the automation effort. While the library staff displayed the normal anxieties accompanying any major challenge, they responded with energy and enthusiasm as the system gradually became a working reality.

In the financial area, the university was extraordinarily fortunate in obtaining federal and non-federal grants for development work.⁵ But during a seventeen-month hiatus in external funding the university itself invested a substantial sum of money—nearly \$300,000—to continue the development work.

In computer software Stanford has been active for some time. Because IBM time-sharing software did not function efficiently on the IBM 360/67, Stanford developed a number of special programs for the IBM 360/67. After eight years of operations, the 360/67 was replaced with a 370/168, also a time-sharing computer. This machine now provides expanded storage capacity at lower unit costs, improved response time, and supports many more terminals than the 360/67.

Many features of the BALLOTS system attempt to take account of user needs, particularly at the point of user-machine interface.⁶ A specific review of basic design decisions will assist in understanding the rationale for certain system features. Design decisions can be categorized into (1) those affecting overall systems (i.e., technical considerations), (2) human factors, and (3) procedural considerations and change. Each of these major categories is detailed below.

Technical Considerations

Reliability. The first requirement was a reliable and dependable system with a rapid turnaround for products and services: the new system would have to provide no less service than the manual system it replaced. As one example, for many years Stanford has maintained a three-day card reproduction and filing cycle. Although such a cycle is somewhat more expensive than weekly or monthly batching, it has consistently prevented accumulation of a filing backlog and assured that cards would always get into the catalog at virtually the same time books reached the shelves. To have extended this cycle beyond three days would have represented a reduction in service which the library administration did not wish to tolerate. Daily card production was therefore early established as a system requirement. In its final realization, the library was actually

able to cut its former three-day cycle down to two days. All forms except spine labels are printed in the computer facility's overnight batch service and delivered to the library the next morning. (Spine labels are printed daily near the Binding and Finishing Unit, where an IBM 2741 type-writer terminal is installed with a Se-Lin device.)

Multilibrary Environment and Shared Cataloging. A multiple library environment is essential for networking. To develop this concept, Stanford's undergraduate facility, the Meyer Memorial Library, was selected as the first unit to implement the concept of independent, library-specific files.

Since 1965 the Meyer Library book catalog has been produced as a typical batch job: keypunch input, edit lists, and master file on tape, with complete printed editions at one, two, and finally three-year intervals. In between editions, the complete catalog was supplemented by cumulations. By 1975 the file contained some 95,000 records consisting of distinctive, brief entries following the style described by Johnson.⁷

In 1973 it was agreed to convert the Meyer file programmatically to the BALLOTS internal format so that the entire Meyer data base could be made available for on-line searching. Additionally, it was essential to have an on-line file to implement the undergraduate reserve processing function. Conversion and file building was accomplished in 1974 and in 1975; final editing and correction was carried out by students working at CRT terminals. Successful completion of this conversion task demonstrated the ability of the BALLOTS system to accommodate a data base originally designed for another purpose.

Although the Catalog Data File actually contains all titles cataloged through the BALLOTS system, it is possible upon command to search *only* the Meyer subset of the Catalog Data File. This has the effect of permitting a network library to search a private file of its own holdings, while providing the option of *also* searching all catalogued titles wherever they may be held. Thus the multiple library environment supports not only an individual library machine-readable catalog but also a type of union catalog function.

In November 1976 BALLOTS implemented its "shared cataloging" module publicly; network users can now retain on-line their own records constructed either from records already in the file or from original data entry. With this implementation it also became possible for users outside of Stanford to interact with an entire screen of data (i.e., complete record as an entity) instead of only one data element at a time.⁸ Through these new facilities the BALLOTS system permits all of its users to share and exchange bibliographic records.

Considerations of Data Base Integrity and Maintenance. The power and flexibility of a computer-aided processing system need to be closely controlled to avoid bibliographic chaos. All operators have considerable editorial power available at the terminal. But it must not be so easy to alter records that change can be accomplished at whim, or accidentally. To preserve the integrity of the final bibliographic record, it was speci-

fied that once an item had been cataloged its record would be "locked" against further routine change at the terminal.

To accommodate changes mandated by local policies or necessitated by internal LC decisions (e.g., updates, new choice of entry, etc.), or to correct errors, a special "maintenance" function exists. This function is protected by a special account number and keyword, both accessible only to a small number of library operators responsible for maintenance work. Requests for changes are submitted in writing to these operators.

It is possible for maintenance staff to void a record completely, i.e., wipe it out. However, for each item voided a complete record of the transaction is automatically printed out and delivered to the appropriate assistant department chief for a final review. This useful precaution affords additional protection. In four years of production approximately one hundred cataloging records have been voided in the course of normal maintenance.

The Role of MARC and ISBD. As in many other library automation development projects originating in the 1960s, Stanford University made some initial decisions based entirely on local priorities and requirements. In their own context and time these decisions were proper and justifiable, but their rationale can no longer be defended as the national scene moves rapidly toward standardization. One of these decisions was not to use all the MARC subfield codes—essential for book catalog production—in Stanford's internal format. Another was not to employ diacritical marks. The rationale behind these exclusions was simply that not only would they have been expensive to implement but it was also known that they were not essential for library operations at Stanford.

Stanford already had had substantial operating experience with a successful book catalog for its undergraduate library. The costs of book catalog production were well known and the idea of a book catalog for the research library had early been rejected as financially impractical. Also, Stanford's data base design for its existing book catalog did not require the complexities of MARC.

As for the diacritical marks and special characters, Stanford had traditionally employed only a few of them, despite the fact that nearly half its processing load represented titles not in English. Although ten diacritical marks had been employed in the Meyer Memorial Library book catalog (in addition to the usual special characters, e.g., @, #), it was soon realized that even in this application they were not required. In short, no evidence had been discovered that the lack of diacritics would keep users from finding books. Finally, Stanford examined the incremental cost of inputting, proofreading, and revising records with a full character set and in the full MARC format and concluded that the extra effort was at that time not cost justifiable in its own environment.

Later, the extraordinarily rapid development of networking made nationwide adoption of the full MARC format and the full character set imperative. Accordingly, Stanford reviewed and revised its decision

and made the BALLOTS system fully compatible with both MARC and ISBD(M) (*International Standard Bibliographic Description for Monographic Publications*) in the spring of 1976. To support input and display of the full character set, a new programmable terminal, the Zentec 9003, was selected, delivered, and installed in 1976.⁹

Human Factors

Variety of CRT Screens and Formats. From the human viewpoint, the most advantageous screen display is a familiar object—an LC printed card. Accordingly it was decided that the initial display of results from any search would be in LC card format, regardless of the source, status, or completeness of the data. The wisdom of this decision has been clearly evident in the staff's immediate understanding of the data on the screen and in their ready acceptance of the system as a whole. Now that the staff is completely familiar with the system, the first display has been changed to a brief, LC-like record. (The full record is immediately displayable on command.)

Beyond the traditional LC card format, it was decided to provide other display formats for different purposes. For editing or input the LC card format would obviously be totally unsuitable. And for check-in of ordered items, one generally does not require bibliographic notes and tracings. A total of twenty-one screens—twelve for display and searching and nine for input—have been provided; each is tailored to a particular use. The screen formats and their mnemonic names are as follows:

Screens for Searching		Screens for Input/Update	
ACQ	Full acquisition display	BC1	Bibliographic control input
BIB	Bibliographic display—first	BI1	Bibliographic input
CAT	Cataloged holdings display	BI2	Additional bibliographic input
CON	Bibliographic control display	HH2	Holdings input
GS1	General system	HU1	Holdings update
LON	Long bibliographic display	OR1	Order input (for entering business and administrative data)
PAR	Partial record display	RI1	Reference input
REF	Full reference display	RP1	Reserve processing input
REM	Remainder of bibliographic data display	RX1	Acquisition matrix (for posting files for receipt, claims, reports, etc.)
SHO	Short data display		
SII	Search inquiry		
SIZ	Search continuation		

For editing and input, bibliographic data are presented in tabular format for ease of entry. For order entry, bibliographic and business data are input on separate screens. When an outstanding order record is displayed, these two types of data are clearly segregated on the same screen, much as they are on a printed purchase order form. But more

importantly, it is possible in any function to select any other legal screen format as desired. For example, if, upon receipt, insufficient bibliographic data exists on the short form screen to determine a match, a simple command (LON) will result in display of the full bibliographic record.

The Concept of "Main Line" Work Flow: Protocols and Prompted Commands. Simply defined, "main line" refers to those steps in a normal processing sequence, i.e., those not subject to "branching."¹⁰ To simplify use of the system, one of the most important decisions was to establish a "main line" of data flow and design the system to prompt the next most likely command, yet still permit the operator to alter that command as circumstance might require. One of the benefits of this decision is that operators can branch to exception procedures almost routinely, as they are never compelled to follow a pre-established processing sequence. It is always possible to divert from the normal path whenever this is required. Nor do operators have to remember what to do next for routine work. This concept of main line flow begins at the functional level. Each function (e.g., ordering, receiving, claiming, etc.) has its own normal main line of flow.

The variety of allowable paths through a function, including all permitted deviations from the normal, is designated as a series of "protocols." Protocols are defined as formal, "legal" sequences of actions and commands; in other words, they represent all possible legal steps within a given function. Attempts to go outside of the permitted sequences always result in display of diagnostic error messages. If a system is conceived as a maze, then the protocols tell which pathways are not deadends.

Next in the concept of main line flow is the "command level." Within each function there is a series of allowable commands valid within that function. An attempt to issue a command outside the prescribed protocols results in an error message. For example, it is impossible to order a book in the "cataloging function." In cataloging, an attempt to call up the OR1 screen for order entry will result in display of an appropriate error message.

Each command in a given function is associated with a follow-on command representing the next most likely action if normal routines are to be followed. This next most likely command is automatically prompted for the operator. For example, in the receiving process, the normal steps are as shown in Table 1. Following the third step in the process, the process would normally be restarted by initiating the FIND command for another item.

By definition it is not necessary to key prompted commands; they appear in the correct place on the screen. It is only necessary to press the SEND key to activate a prompted command.

At any point in a cycle, the operator may "override" a prompted command. Following the previous example, if it is necessary to examine the full bibliographic record for an outstanding order, the operator

TABLE 1
SEQUENCE OF NORMAL STEPS AND COMMANDS IN THE RECEIVING PROCESS

Step Number	Step Description	Command Used	Next (Prompted) Command
1	Search for the record and verify that the item in hand matches the outstanding order	FIND	RX1
2	Post the file	RX1	ENT (short for ENTER)
3	Enter the posted record into the computer processing stream	ENT	COMMAND? (system prompt equivalent to: "What do you wish to do next?")

simply overtypes the prompted RX1 command with LON and reviews the total record. But once this is done, the next prompted command will still be RX1—the screen needed to do the receiving. If still dissatisfied upon seeing the full data, the operator remains free to override once again and issue new commands for other purposes, e.g., updating or correcting bibliographic data, deciding to accept the book anyhow as a "non-purchase order" (NPO) item, or posting reports from vendors. Finally, if everything about the transaction is seen to be wrong, the operator can retry or start a wholly new transaction by issuing the CANCEL command.

Abbreviated Commands and Command Chaining. All BALLOTS commands are based on single natural-language expressions, e.g., FIND, DISPLAY, ENTER, CANCEL. All may be abbreviated to convenient, three-letter equivalents: FIN, DIS, ENT, CAN, and so forth.

The experienced operator looks ahead and may exercise the option of skipping certain screen formats in a given transaction. For example, in receiving it may be immediately apparent that the full bibliographic record, not a brief version, must be examined, perhaps because complex serial information is discernible in the piece. To save keying and computer time, and to avoid display of unwanted screens, the operator may elect to issue commands in a single, unbroken sequence to provide the following services: (1) search and find a given record and (2) display it in an input format so that it may be modified. Thus, although two commands will be issued, both will be typed on a single line and sent to the computer as if they were one. Command chaining is also used by experienced operators to skip over unwanted or unnecessary intervening steps or screens. Combinations of command chaining are limited only by the ingenuity of the operator and the system of protocols which of course permits only legal commands issued in logical sequence to be acted upon.

Mnemonic Tags. Early in the design process, it became clear that a decision would have to be made about how to identify content designa-

tors. Although the numerical MARC tags might have been used, alphabetical mnemonics were selected on the principles that (1) they would be easier to remember and (2) staff training would be greatly simplified. Both of these reasons proved sound; old and new employees found little or no difficulty in learning the mnemonics. There are approximately 250 mnemonics in the BALLOTS system; the significance of roughly 98 percent of these is virtually self-evident. The following are some examples of typical mnemonics compared with their corresponding MARC numerical tags:

Data Element	BALLOTS Mnemonic	Corresponding MARC Tag
Main entry, personal name	MEPN	100
Main entry, corporate name	MECA	110
Date	D	260 \$c
Size	SZ	300 \$c
Local call number	CAL	none
Title statement	TST	245 \$a
Language	L	008 (positions 35-37)
International Standard Book Number	ISBN	020

A similar arrangement is used for MARC input at the Library of Congress, where the alphabetical mnemonics are also translated into numerical tags by computer.

On-Line Error Detection through Immediate Editing of Input. The creation of clean data with a minimum of errors and a simple means for correction were deemed essential requirements for a computer-supported technical services system. Therefore it was decided to make maximum use of the computer's ability to detect errors at the point of input. For this purpose extensive on-line editing is built into the BALLOTS system. This works particularly well with fixed-field data or required information, for example, book fund account number, shelving location, language of text, and the like.

The on-line edits also detect illegal combinations of data. For example, it is impossible to tell BALLOTS to build a record without a title statement. Nor would it be possible to construct a record with two main entries.

Similarly, it is impossible to indicate that an item is being obtained through a purchase order (mnemonic: PO) while at the same time specifying a deposit account number (mnemonic: DAN). The presence of PO as a data element value normally triggers printing of a billing instruction on the purchase order form—a message that is clearly inapplicable to deposit accounts. Should a deposit account number also be

inadvertently specified, the machine detects the erroneous combination and requires the operator to take corrective action.

There are approximately 100 error codes in BALLOTS. As long as error codes are displayed on an input format, it is impossible to exit from a transaction without either correcting the mistakes or cancelling the transaction altogether.

Flexible Searching from Many Access Points. How to access the machine-readable files formed another important decision point in the design process. Authors and titles are sometimes garbled or misspelled on book purchase requests or in vendor catalogs. Large research libraries deal with titles originating in countries where the book trade is still in its formative stages or where national bibliographic data are either unavailable or uncertain. The requirement for flexible indexing resulted in immediate rejection of the search key method, which is dependent upon both accuracy of data and certainty of their sequence.

The seemingly intractable problem of establishing entries for conferences and corporate bodies suggested that it might be desirable to provide a type of access especially calculated to ease this difficulty.

In the end, there evolved seven different approaches to searching, each working through indexes:

1. Personal name search: name in full or truncated form, normal or inverted sequence, with full forenames or initials.
2. Title word search: all significant title words available for searching independently of word sequence, save an exclusion list of common words (e.g., "bulletin"). Truncation possible.
3. Corporate or conference name search: ability to search corporate bodies or conferences and symposia by any parts of their names, dates, or places independently of the sequence of such parts (exclusion list applies). Truncation possible.
4. LC card number.
5. Internal identification (ID) number (for titles in the BALLOTS REF, IPF, or CDF files).
6. LC or Dewey call number (for titles already cataloged in BALLOTS).
7. LC subject heading search (for titles already cataloged in BALLOTS): full or truncated search.

Using "and," "or," and "not" logic the operator can also combine any of these access points in an appropriate manner. For example, one can search in a single step for an author and a title, a corporate body and a title, etc. A well-formulated personal author/title search results in a single match in a very high number of cases; of course multiple matches are more likely with corporate bodies, especially government agencies. Multiple matches can be minimized by selecting words that are relatively uncommon. In the case of multiple matches, the operator has three options: (1) reviewing each record individually, (2) further narrowing the search by adding more qualifiers, or (3) reformulating the search from scratch.

Catalogers and reference librarians considered it highly desirable to support both class number and subject heading searches. Both these capabilities can be used in original cataloging to provide the cataloger with ready access to similar works cataloged under the same subjects and class numbers. It is thus possible to browse through the shelflist for assistance in classifying materials.¹¹ Reference librarians can use the same capabilities to assist patrons in locating items related to their interests. This type of searching is available to all libraries participating in the BALLOTS shared cataloging service. Given sufficient financial support, class number and subject heading searching is extendable to the MARC File.

The International Standard Book Number (ISBN) is recorded as a matter of course but for several reasons is not presently available as an access point for searching. First, it was discovered that ISBNs printed on blurbs, brochures, and advertisements were characterized by an inordinately high incidence of error. During input operations, a BALLOTS-supported check digit routine immediately called these errors to the operator's attention and locked the screen. Originally, this edit was intended as a protection against the operator's mistranscribing the ISBN. The high frequency of erroneous ISBNs in printed source data was not anticipated. Since there was no way of knowing the correct number, the routine to carry out the check digit calculations was disabled. Other reasons for not providing ISBN as an access point for Stanford at this time are: (1) most of the books which have the ISBN arrive at Stanford on blanket or approval order and can be searched more reliably by LC card number or author/title, and (2) the remainder of the books come from countries where use of the ISBN has not yet developed or is in its infancy.

In a network environment it is planned to provide ISBN access in order to support member libraries' acquisition work. (Libraries relying on ISBNs derived from Library of Congress data will face negligible error incidence because LC transcribes from sources more reliable than publishers' blurbs or advertisements.)

Cascaded Search. In functions where multiple files are available, searches are automatically "cascaded" from one file to the next in a pre-determined ("default") sequence, without the need to re-input the search. In ordering, the first search is against the Reference File to determine if a different entry should be searched; if not, the Catalog Data File is searched to determine whether a copy of the book is already in the library; if not, the In Process File is searched to determine whether a copy is already on order; if none is on order, the MARC File is searched. If no record is found, the Catalog Data Files of other libraries can be searched, with Stanford generally specifying other research libraries first.

A BALLOTS cascaded search automatically stops at the first file containing a record corresponding to the search. The cascaded search can be continued through the remainder of the files if the operator issues a RESUME command.

Procedural Considerations and Changes

Multiple Bibliographic and Physical Items. The ability to process partial shipments of multivolume sets or multiple-copy orders was considered of paramount importance, as complete shipments, particularly of terminal sets, are relatively rare in large academic libraries and may not even be commonplace in other libraries. This situation led to the design of an important BALLOTS feature: the ability to check-in and catalog individual items in an order while retaining a record of pieces still awaiting receipt.

To implement this feature a computer program "explodes" a single notation of a multiple-item order into a series of individual items. At the time of order, the operator need enter only a single, compact notation, e.g., 2:v.1-5&7-9. This example indicates that two copies each of volumes 1-5 and 7-9 were ordered; the In-Process File record resulting from this order will display sixteen line items. The format used for receiving or claiming the order will allow an individual input area for each item, so that some may be received, others claimed (if necessary), and so on.

The same principle is applied to cataloging multiple items: e.g., if some items ordered have not been received at the time of cataloging, the rest may be cataloged and the acquisition records for the other items retained. Similarly, it is possible in the maintenance function to indicate that a cataloged volume has been withdrawn from the library collection or reported missing by the Circulation Department.

This same capability also permits receiving parts of a set not originally specified in an order (e.g., volume 10 in the above example) or of whose existence the library was previously unaware. There is "free form" space to designate receipt of additional material, whether it be part, supplement, addendum, fascicle, etc. Thus it is possible to receive sets with more physical than bibliographic volumes or to accommodate unforeseen changes in the publication pattern.

Paper Handling Simplified and/or Eliminated. The elimination of paper files—particularly files of flimsy paper—was considered an important objective, since such files are both difficult to maintain and frustrating to use. Since most of the transactions would have to take place at a terminal, it seemed that the bold step of relying completely on an on-line In Process File would be worth the risk. A printed list would have meant more paper handling, out-of-date information, and more time consumed. Therefore, the terminal is the only window into the In Process File.

In order work, purchase order forms are printed on a two-part form, with both parts going to the vendor; one of these is to be returned as a report or inserted in the ordered item. Needless to say, the staff has been gratified to have filing in the order file eliminated. Furthermore, the multiple search points provided by BALLOTS have immeasurably extended access to this file, inasmuch as the staff is no longer dependent upon the concept of a single-entry order file, which often had inaccurate

data derived from faulty bibliographic information supplied by vendors or patrons.

Because copies of certain forms no longer had to be filed, the forms themselves could be designed around their data requirements rather than a filing cabinet size. The purchase order form is the size of a tabulating card; the second copy which is returned by the vendor is discarded soon after material is checked in, or, if containing report data, is used to post the In Process File. The catalog data slip (a worksheet for editing) needed to be much larger than the traditional 3 inch by 5 inch size. A 5½ inch by 8½ inch size was selected.¹² The catalog data slip is forwarded to the Binding and Finishing Division for selection of appropriate bookplates and to communicate other useful data. It is finally discarded when all processing is completed.

A second simplification of paperwork occurs in mailing orders: all purchase orders are computer sorted by vendor prior to printing. The computer also prints an address coversheet for each batch of orders going to a vendor; these are arranged to fit window envelopes. Addresses for the vendors accounting for 90 percent of the orders are stored in the computer and need not be entered at the terminal.

A third simplification occurs in the claiming function. Claims can be issued automatically or "forced," i.e., issued on demand. Claiming cycles can be reset to account for unpredictable external factors such as strikes or the decision to postpone a publication date.

Finally, it became possible to issue all major order transaction documents—purchase orders, claims, and cancellations—on a universal form which is overprinted with the correct heading by the computer. This simplified forms inventory as well as loading of the computer printer.

Piece Control through the Processing Cycle. To assist in retrieving items still in process but urgently needed by patrons, it was decided to incorporate some form of piece control in BALLOTS. While the design team concluded that it was impractical to track every movement of an item, it did seem feasible to record in the computer every major "work station," including a given cataloger's desk, through which material passed. Every item in process is assigned a code indicating its location, e.g., Distribution Center, LC Processing Unit, Original Cataloguing (with initials of cataloger), Holding File (awaiting MARC or other LC copy), and Bindery. This facility has been of great assistance in easing the frustrations usually accompanying book hunts.

Standing Search Requests (SSRs). Books held for LC copy represent a considerable investment standing idle as well as a deprivation of materials to the public. Various schemes have been devised to ameliorate this problem (e.g., recycling the search at intervals or placing a copy of a process slip in a file to await arrival of a depository card). This problem seemed ideal for the computer, and accordingly, a specification in the BALLOTS design was the establishment of Standing Search Requests (SSRs).

To establish an SSR, the user enters a search for MARC data. If

none is found, the operator instructs the computer to repeat the search during a prespecified period of time determined by the operator. During this period the computer will automatically search the MARC File at regular intervals to determine whether authoritative LC bibliographic data have arrived. Upon arrival, a notice is printed and the original request is purged. If at the end of the specified time nothing has been found, purge notices are printed and the standing search is automatically terminated. The library then has the option of reestablishing the standing search or sending the material for original cataloging.

To forestall the problem of incorrect LC card numbers, it is possible to enter a standing search specifying both the LC card number and an author/title search, connected by the "or" operator.¹⁸

BALLOTS also provides an aid to supporting manual standing searches against data in the LC depository file. For titles not yet in the scope of MARC, a 3-inch-by-5-inch slip is generated from data taken from the book itself. Such slips are interfiled in the depository file (by title) to await arrival of a matching LC card.

Merging of Automated Searching and Ordering. One significant procedural change occurred almost immediately: searching and ordering turned into one unified operation as the latter activity immediately followed the former directly at the terminal. To take advantage of this convenient capability, related manual activities (e.g., searching in the card catalog or printed bibliographies) had to be batched and well organized ahead of time.

The New Environment

Evolutionary Change in Policies, Procedures, and Organization. No automated system can be successful without taking into account human factors and the work environment. Every large organization has a micro-social structure which changes at a much slower rate than external (macro) technologies.¹⁴ To avoid a mismatch between the human being's lesser rate of adaptability and technology's more rapid pace, successful change must be evolutionary. In recognition of this fact, it was decided to establish as a firm policy criterion that procedures and organizational structure would have to remain relatively stable during the first implementation of automation. In fact, the BALLOTS system was explicitly designed with enough flexibility to support either continuance of existing procedures, radical change, or something in between. This flexibility has permitted the system to be easily understood and accepted by the staff and has greatly simplified the process of change itself by facilitating user feedback to modify system features.

BALLOTS was not implemented as a total system at one time, but in eleven stages or modules. At the end of two years the full system was in use and consideration could be given to major changes. The first such change was physical and resulted in consolidation of the acquisition and cataloging departments into a single location, with the movement of material arranged to produce a straight-through workflow. The two depart-

ments remain under independent leadership. Close proximity of acquisition and cataloging (which were formerly on separate floors) has greatly facilitated inter- and intradepartmental communication and assisted the staff in understanding that technical processing is a unified process. Hence it has facilitated implementation of staff exchanges within technical services and stimulated exchanges between technical and public services.

Currently under consideration is a new procedure which follows from the physical consolidation—Process In Receipt (PIR). Through PIR, materials having MARC copy will be fully processed immediately upon receipt and forwarded to the Binding and Finishing Division for marking without passing through the Catalog Department. Concurrently the library is also considering the possibility of a proposed "Centralized Searching Unit" to unify searching procedures, which heretofore have been relatively independent in the two departments and have also been carried out in the Collection Development Program.¹⁵ It is expected that many other changes, both organizational and procedural, will occur over the next several years, perhaps culminating in a unified technical services department. However, at the present time there appears to be no compelling reason to unify these departments under a single department head.

Experience with Training, Supervision, and Management. The initial experiences in training, supervision, and management were characterized by trial and error. For training, there was no published documentation for comparable systems and no similar models. A number of the other major systems differed significantly from the scope and style of BALLOTS, which during its formative stages was being developed for CRTs and on-line operations: Northwestern University Library used typewriter terminals and the University of Chicago's system was still largely batch oriented.

As modules were implemented one after another, the original BALLOTS/library team which had developed a given module also prepared the training materials and conducted the training sessions for the module. This procedure was followed for each of the first ten modules implemented. Although the total system became more complex as new modules were added, the staff readily absorbed new knowledge and picked up additional modules relatively easily. The most difficult module was undoubtedly the recently implemented MARC/ISBD facility, an eleventh module. The module for standing orders was also somewhat difficult. The least complex were those for processing out-of-print and reserve materials, both of which affected only a few staff members in highly specialized functions.

Although it was clear from the start that it was desirable to appoint one person to coordinate all training activity, this was difficult to accomplish in a large system having users in several different units of the library. Further, the system was evolving at the same time that it was being used. At one point the concept of a "training officer" was formu-

lated but rejected because of concern that such a designation would weaken the authority and responsibility of unit supervisors. This weakening had already been observed earlier when the BALLOTS staff contributed the major training effort. The final solution was to appoint one person in a staff capacity with the title "training coordinator." The training coordinator's major responsibilities are to train supervisors, give basic training to new employees, prepare and edit training documentation, and conduct essential training workshops. Supervisors remain responsible for knowing full details of their specific areas of the system, for assigning tasks to individual employees, and for continuing training in the details of operations. Provision of one terminal dedicated solely to training and located in a non-public area is also expected to contribute to improved training. Appointment of the training coordinator has contributed markedly to improved understanding and utilization of the system, and has produced significantly increased consistency and efficiency throughout the library system.

Terminals were at first clustered in the acquisition and catalog departments. Acquisition then had four terminals and catalog had seven. Clustering was beneficial for initial training, but, in between new modules, proved disastrous for production. Very quickly the clusters produced a "coffee klatch" atmosphere with a consequent decline in throughput. Additionally, it was found that operators began to ask each other technical questions instead of looking to their supervisors or checking available documentation. This sometimes resulted in misinformation being disseminated.

An integral part of the physical move described earlier was a decision to "de-cluster" the terminals. Each now stands within an attractive, acoustically treated partition. Each such cubicle is a more or less private work area where an operator can do the job with a minimum of distraction.

Following the successful relocation, the entire BALLOTS training program was evaluated through a series of small group meetings of all system users at Stanford—then approximately 100 persons. System users met in groups of four or five led by a knowledgeable person to exchange information and enumerate problem areas and deficiencies in training procedures, training materials, and other documentation. From these sessions came the decision that the library should take over development of all new or revised in-house (user) documentation and conduct a series of educational sessions to review thoroughly all the points brought up in the small group meetings. The training coordinator took over these responsibilities. As of this writing completely revised training materials are in press.¹⁶

Another outcome of the documentation and training review was the decision to spread BALLOTS expertise still further by (1) involving additional staff in further development work and (2) holding all supervisors—rather than just a handful of design experts—responsible for all procedural training, supervision, and operations germane to their

specific assignments. Department chiefs were trained first; they in turn trained the major supervisors, and the latter trained all the other staff in an attempt to assure that the system was fully understood at all levels and to preserve appropriate management-employee relationships¹⁷

Networking: Current and Future Developments and Needs

With current support from the Council on Library Resources and the National Endowment for the Humanities, development of a new file design is underway. The new design will eliminate the need to store multiple copies of the same cataloging record to accommodate bibliographic variations of member libraries in a network. Its aim is to store one copy of the body of a record prepared in accordance with the *Anglo-American Cataloging Rules* along with individual variations associated with the name of the "owning" library. Associated with this new record design will be software which will enable each library to reconstitute its own records on a CRT exactly as they were input, and at the same time enable each network library to observe how any other network member created that same record.¹⁸ This facility is expected to promote greater standardization in cataloging and also to result in improved economy of storage for shared cataloging.

Yet to be implemented is an automated authority file to supplement the Reference File currently available.

With support of the California State Library, a networking version of BALLOTS has been implemented in seven county/city library systems throughout California. Designated PLAN (Public Library Automation Network), this system provides its users with BALLOTS capabilities for cataloging and reference support. The PLAN network can be used with nearly any typewriter or CRT terminal, which may be connected to the computer through TYMNET, a commercial telecommunications network.¹⁹ Five of the seven libraries are using PLAN to create magnetic tapes in the MARC format for use in batch-oriented book and fiche catalog production systems; one is using PLAN to produce catalogs cards and one is placing its terminal in a public service area for direct use by the patron.

With the signing of a contract in the spring of 1976 by the University of California at Berkeley, a second major research library has been brought into the BALLOTS system. BALLOTS is also expected to play a significant operational role in the recently established Berkeley-Stanford Cooperative Research Library Program. CRT terminals have also been installed at other University of California campuses, notably Los Angeles and Davis.

Currently there are more than eighty research, academic, public, and special libraries utilizing the BALLOTS system in the United States, Canada, Mexico, and Europe. Participation by other libraries will produce a significant and high-quality data base for all BALLOTS users and will continue to bring BALLOTS unit costs down. These and other

networking developments will be reported in the *BALLOTS Newsletter*.²⁰

With approval of the Provost's Office, the University Libraries, and the Stanford Center for Information Processing (SCIP), the BALLOTS Center was formed early in 1976. The BALLOTS Center is a unit of SCIP whose purpose is to centralize all BALLOTS services within a single cost center. Another function of the center is to acquire raw computer power from SCIP and provide to its users services priced in terms of bibliographic rather than computer units. Essentially the BALLOTS Center is responsible for coordinating all aspects of BALLOTS for all potential users, including Stanford.

Over the next several years, the BALLOTS Center is expected to evolve by stages into an entity completely independent of Stanford, running its own computer facilities, and governed by a body representative of its users.

REFERENCES

1. Project BALLOTS and the Stanford University Libraries, "Stanford University's BALLOTS System," *Journal of Library Automation* 8:31-50 (March 1975).
2. Some categories of records, e.g., juvenilia and medical titles, were excluded until 1 February 1975. After that date all MARC records were added weekly in order to support networking in all types of libraries.
3. The REF file is not an automated authority *control* file but does provide limited authority information.
4. The BALLOTS Center programming staff has the capability of correcting errors in faulty records, but because of volume, it is impractical for the BALLOTS Center to correct typos in MARC data on a regular basis.
5. From 1967 to 1971 BALLOTS received \$1,168,890 from the U.S. Office of Education. From 1972 through 1977 the Council on Library Resources and the National Endowment for the Humanities has provided funding of \$998,800.
6. Wayne E. Davison, "Designing the BALLOTS User Interface," in *Proceedings of the American Society for Information Science* 10:43-44 (1973).
7. Richard D. Johnson, "A Book Catalog at Stanford," *Journal of Library Automation* 1:13-50 (March 1968).
8. For full particulars, see the *BALLOTS Newsletter* 2, no.3:1-2 (Nov. 1976).
9. As of this writing the Zentec 9003 does not actually display the full MARC character set. The Zentec 9003 is being field upgraded in 1977 to give it this capability, which is expected to be implemented by the time this paper appears.
10. "Branching" in process flow occurs whenever the operator faces a decision, i.e., there is more than one alternative path for an action. The conventional indication of branching in a flow chart is the diamond-shaped decision box.
11. As of this writing, call numbers displayed for browsing are not sorted, but if the truncation is not excessive, a sufficiently small subset of records is available for convenient browsing.
12. In practice this size has proven to be too small and is likely to be changed to 8½ by 11 inches.
13. In practice this is not done at Stanford because the incidence of erroneous LC numbers is too small to make the extra computer cost of the compound search worthwhile. Since most foreign books within the scope of MARC lack LC card numbers anyhow, an author-title standing search is customary.
14. The introduction of a computer into an institution's work environment is a far more drastic change than, say, an internal reorganization. The latter may affect

- only one unit, whereas the computer is likely to affect the entire organization. It is in this context that it is attempted to distinguish "micro" from "macro" changes.
15. Book selection is administered by an assistant director for collection development, with four full-time curators and their support staff. Additional selection work is done by branch librarians and others having subject expertise. The Collection Development Program operates under the guidelines in *Book Selection Policies of the Libraries at Stanford University*, compiled by Peter A. Johnson and edited by E. M. Grieder (Stanford, 1970).
 16. Karen Bendorf, *Stanford BALLOTS User Guide* (Jan. 1977), 130p.
 17. The training coordinator is responsible for initial basic training in BALLOTS plus any retraining deemed necessary. Supervisors are responsible for those procedural aspects of BALLOTS specific to implementing a given function, e.g., in what sequence an operator should perform a task, or what account numbers to assign.
 18. Of course through the BALLOTS Shared Cataloging module it is currently possible for libraries to see their records exactly as they enter them, but a separate copy of each complete record is stored to accomplish this. The new file design will eliminate unnecessary duplication of identical data.
 19. Many types of terminals may be attached to the BALLOTS system to support search-only or full cataloging services.
 20. The *BALLOTS Newsletter* may be obtained without charge by writing to: BALLOTS Center, SCIP-Willow, Stanford University, CA 94305.

A SURVEY ON TELEFACSIMILE USE IN LIBRARIES IN THE UNITED STATES

The Library of Congress Photoduplication Service announces the availability of volume two of the American Library Association, Resources and Technical Services Division, Reproduction of Library Materials Section's Micro-File Series. *A Survey on Telefacsimile Use in Libraries in the United States* by Hans Engelke of Western Michigan University reports on the effectiveness of telefacsimile use for interlibrary loan functions in 1975. This substantial document came about as a result of a questionnaire prepared by the RLMS Telefacsimile Committee and sent to all state libraries. Comparisons are made on the speed and cost of telefacsimile devices versus telephone and teletype as means of transmitting interlibrary loan requests. Appendixes contain pertinent documents received from participating libraries.

This report is available on one sheet of positive, silver halide microfiche for \$4.50. Unbound electrostatic positive prints are available for \$19.00. Both of these prices include postage. Orders and inquiries concerning this title should be addressed to the Library of Congress, Photoduplication Service, Department C, 10 First St. SE, Washington, DC 20540. Checks should be payable to the Library of Congress Photoduplication Service.

Two earlier items issued in this series which are also available from the Library of Congress Photoduplication Service are: *Current State of Catalog Card Reproduction, Volume I* (22 papers: microfiche, \$7.50; unbound electrostatic positive prints, \$23.50); and *Current State of Catalog Card Reproduction, Volume I, Supplement 1* (9 papers: microfiche, \$4.50; unbound electrostatic positive prints, \$12.00). Additional information describing these two publications can be found in circular 195 issued by the Library of Congress Photoduplication Service.

Cataloging: OCLC Terminal Plus Printer

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Procedures of a system using a Texas Instruments 733 hard-copy thermal printer in conjunction with an OCLC terminal are described, and advantages are listed regarding the use of the printer versus on-line cataloging. Statistics are presented relative to searching procedures and percentages of titles found in the data base. A comparison of this method with the former one using LC cards is included.

GEORGIA STATE UNIVERSITY (GSU), Atlanta, Georgia, an urban university with approximately 18,000 students, is a member of the Southeastern Library Network (SOLINET) and through this network participates in the Ohio College Library Center (OCLC). Three terminals were installed in January 1975 and GSU changed from using Library of Congress (LC) catalog cards to on-line cataloging. The library catalogs approximately 25,000 titles per year.

At GSU the cataloging and clerical functions have been separated for twelve years. Prior to adopting the OCLC system, catalogers cataloging from LC copy or copy of other libraries found in the *National Union Catalog* indicated changes needed on the copy. Catalogers responsible for original cataloging prepared rough drafts of process slips, from which clerks prepared, revised, and filed the catalog cards. Preprofessionals were utilized as much as possible, some performing original cataloging.

Upon receipt of the OCLC terminals, preparation was made to have preprofessionals catalog directly at the terminals whenever LC copy was available. At this time OCLC was experiencing very slow response time because it had not yet received its Sigma 9 computer. Because of the slow response time and because catalogers were now performing both cataloging and clerical functions, it quickly became apparent that an additional preprofessional cataloger would be needed to handle the same workload as had been handled before with LC cards, and that possibly another terminal might be needed.

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An experiment was conducted with one title which required an extended search. An "extended search" occurs whenever there are more entries satisfying a given search key than can be displayed at one time. The steps of an extended search include (1) input of the search key, (2) a computer response indicating the extent of the entries in the data base which satisfy the inquiry, (3) a response by the operator, which yields (4) indication of more specific entries in the file, on the basis of which (5) the operator may request further expansion of an entry. This fifth operation is repeated until the appropriate entry is found. For example, a search for the Second Quarto of *Hamlet* using the search key "Shak, Haml" brings the reply that there are more than fifty entries and an inquiry concerning desire to continue the search. An affirmative response may produce a list of entries such as:

1. Shakespeare, William. Hamlet. 8 (representing eight entries under this form).
2. Shakespeare, William. Hamlet. 28 (representing twenty-eight entries under this form).
3. Shakespeare, William. Hamlet. Illus. by Jack Wolfgang Beck. 1972.
4. Shakespeare, William. Hamlet. P 16 (representing sixteen entries under this form qualified in some way by the letter "P", perhaps for editor).
5. Shakespeare, William. Hamlet. S 4 (representing four entries qualified in some way by the letter "S").

A request for a display of number 4 will produce a listing of sixteen records. It may then be necessary to look at each one of these sixteen records to determine if one of them represents the item being searched.

The title in the experiment, which required four steps for satisfaction, was searched at five different times during the day on five different days. The variation in computer response time for the five searches is shown in Table 1. Although response time has improved, at times it is still very slow and extended searches can take as long as five minutes. As the data base grows, extended searches become more frequent and it becomes increasingly important to have someone other than a cataloger responsible for locating the copy.

A possible solution was the use of a printer which would deliver hard copy. Catalogers could use this copy as they had used cataloging copy in the past. Clerks (hereafter designated "terminal operators") could handle the work at the terminal. The following benefits were projected from the use of the printer:

- Saving professional catalogers time by eliminating the necessity of
 - adapting copy at the terminal
 - performing extended searches to locate entries
- Saving terminal time by
 - eliminating on-line cataloging
 - reducing the time spent in copying main and added entries, subject headings, and call numbers of cataloging of librар-

TABLE 1
COMPUTER RESPONSE TIME

Step	Range of Response Times		
1	15 seconds	to	2 minutes
2	25 seconds	to	7 minutes
3	3.5 seconds	to	4 minutes, 38 seconds
4	1 second	to	42 seconds

ies other than LC, which had to be verified in the card catalog, etc.

- Minimizing the frustration of the clerks who had to write this information in longhand
- Providing for smoother work flow in checking authority files
- Providing more flexibility in work flow in training and revising
- Permitting cataloging to continue when the terminals were down
- Assuring better quality control
 - in revising catalogs
 - in teaching new catalogers
- Providing a record of what had been entered on the terminal, which could be retained until cards were received—a valuable asset since at one time all the cataloging input into OCLC on one day had been lost

Printers attached to terminals at the GSU Computer Center, which had been observed some months earlier, promised the type of capability needed. The Computer Center was contacted, and because of its interest and cooperation, a printer was found which would interface with the OCLC 100 CRT Terminal at a price compatible with our budget. A Texas Instruments 733 KSR Terminal with RS 233 Interface 70 was acquired and has proved eminently satisfactory.

The T.I. 733 is a thermal printer with upper- and lowercase letters which prints ten characters to the inch and six lines per inch vertical. The noise level is minimal. Although the printer will print at ten, fifteen, and thirty characters per second, at the higher speeds some characters are lost. The GSU printer is set at fifteen characters per second. At this speed the first character on the left side of the screen in the second and succeeding lines of a field which has more than one line does not print. This letter is filled in by hand by the operator. The loss of this character has not been a problem since experience has shown that most entries have only one such line. (The most recent model of the terminal does not omit this character in printing.) Some diacriticals are printed and others are replaced by letters; e.g., "h" for an umlaut and "p" for a cedilla. This also has not proved to be a problem for GSU. The cost of the printer is approximately \$1,500, but it can be leased for \$70 to \$115 per month depending on the length of the lease. Paper comes in rolls 300 feet in length, and only the amount required for a given entry

is used, representing a saving compared to paper used in some other printers which comes only in 8½-by-11-inch sheets. Cost of a roll is approximately \$5.00. This printer cannot be used to produce spine labels.

With the printer installed, various statistics were collected to determine the amount of work which could be performed in various categories. All incoming titles were searched on the terminal. Of 3,624 titles, 2,240 were found to have LC cataloging (61.5 percent), 640 to have cataloging of other libraries (17.6 percent), and 759 were not in the data base (20.9 percent). The number of titles which can be searched and printed is approximately 25 per hour.

Samples of the work of six catalogers cataloging from LC cataloging revealed a range of 8.75 to 18 titles per hour. Consequently a minimum requirement of at least 60 titles per day was set for a cataloger cataloging from LC copy. For several years GSU has had such minimum requirements, which are set lower than the lowest figure in the sample in order not to place an undue burden on the individual and because persons are not likely to maintain the pace set in a sample for an entire day or over several days.

Samples of the work of five different catalogers cataloging with copy from other libraries revealed an average time per title of 18.24 minutes, and a minimum requirement of 18 titles per day was established for this type of copy. These catalogers also revise filing in the card catalog and shelflist.

GSU checks very closely the cataloging of other libraries. Main and added entries are verified in our catalog and at times in the *National Union Catalog*. Subject headings are verified in the LC subject heading list and the descriptive cataloging is also checked. At times subject headings and class numbers are changed. An analysis of the cataloging of 391 titles from 115 libraries in March and April 1975 reveals the following changes made:

- Different main entry, 13 titles
- Item added to main entry heading (e.g., author's birth date or subdivision of a corporate body), 46 titles
- Different added entries, 55 titles
- Changes in form of added entries, 59 titles
- Change or addition to series entry, 87 titles
- Change in descriptive cataloging, 292 titles
- Different class number, 136 titles (includes all titles for which an LC class number was not available or was changed)
- Different Cutter number, 139 titles
- Different subject heading, 82 titles
- Change or addition to subject heading, 47 titles

Only six titles (1.5 percent) were accepted with no change. Policies were revised in an effort to accept more of the cataloging of other libraries, and by June the rate of acceptance without change had risen to 9.5 percent.

For several years the minimum requirement for original cataloging

has been five titles per day in addition to revising filing in the card catalog or shelflist. It was found that even though original catalogers must tag their copy for input, the rate of five titles per day could still be met. A copy of the input form used is shown in Figure 1.

TYPE	GOVT	PUB	LANG	SOURCE	ILLUS	REPR	CONF	PUB	CTRY	DAT	TP
M/F/B			INDX	MOD REC	FESTSCHR	CONT	DESC	INT	LVL	DATES	
LC											
cd no	010	þ	þ								
Cat											
source	040	þ	þ								
ISBN	020	þ	þ								
Lang	041		þ								
CI no.	090	þ	þ								
Hold	049	0	0								
Dewey	082	þ	þ								
LC no.	050		þ								
ME	1										
Un ti	240		þ								
Title	245		þ								
Edit	250	þ	þ								
Impr	260		þ								
Coll	300	þ	þ								

Figure 1
Input Sheet for Original Cataloging

Procedures were established whereby incoming titles are searched and sent on to catalogers with the print copy included for those titles in the data base. For those with copy, the cataloger indicates the changes to be made directly on the copy. Original catalogers re-search all titles not found earlier in the data base just before cataloging, in an attempt to prevent duplicates (two entries in the data base for the same book) and in order to have an opportunity to revise the work of the clerks and to locate titles which present problems of entry. Following determination of the class number, books are shelflisted by clerks prior to inputting

copy at the terminal, and those for which original cataloging must be input are re-searched again as a final check to prevent duplicates. Clerks make changes indicated on the copy or input original cataloging and revise their own work.

Samples of the time required by six operators to input records altered in some way from the record in the data base revealed an average time per title ranging from 2.23 to 3.5 minutes, with four titles requiring more than 3 minutes. In order to allow for variations in response time, a minimum requirement of 5 minutes per title was set for inputting such copy.

Samples of the time required for inputting original cataloging ranged from 7.4 to 12 minutes per title, and a minimum requirement of no more than 15 minutes per title was set.

After input of the cataloging information at the terminal, typists prepare call number labels and any necessary author/title labels for pamphlet binders and cross-reference cards. Samples of twenty-five titles showed a range of 34 to 50 minutes for the twenty-five titles, and a requirement of twenty-five titles in 60 minutes was established.

A record of the cataloging input is held with a 3×5 process slip. This file is arranged by date of input and then by call number. When cards are received, the record is pulled and matched with the shelflist. Any necessary instructions are completed and the cards are scanned in order to spot errors. Since the work of the operators at the terminals and the majority of the catalogers is not revised, a record of the number of errors made is kept in order to maintain quality control. A record of all errors is kept, including typographical errors and items as minor as a period at the end of a second series statement, as well as more critical ones such as an error in the birth date of a personal author. Errors are corrected at the terminals when possible, and error reports are sent in for the others. Separate records of errors made by catalogers and terminal operators are kept. Percentage-of-error rates for four months are shown in Table 2, and Table 3 presents data on the kind of errors. The percentage rates were figured on errors per title, i.e., one error per title, two errors per title, etc., rather than the total number of errors possible in any one entry. For example, a title which includes 500 alphanumeric characters presents the possibility of 500 errors by a cataloger and 500 errors by a terminal operator, for a total of 1,000 errors which could

TABLE 2
PERCENTAGE-OF-ERROR RATES

	April	May	June	July
Terminal operators	5.61	2.13	1.36	2.27
Catalogers	7.38	3.81	1.88	2.42
Terminal operators and catalogers combined	12.99	5.94	3.24	4.69

TABLE 3
PERCENTAGE OF MAJOR AND MINOR ERRORS

	April		May		June		July	
	Major	Minor	Major	Minor	Major	Minor	Major	Minor
Terminal operators	49	51	58	42	39	61	25	75
Catalogers	43	57	58	42	55	45	32	68

possibly be made. If the percentage of errors was figured on the total number of errors possible for each title, the rate would be far lower. The decline from April to June is probably due to the fact that catalogers and operators became more familiar with the system. Error rates have remained at 4-5 percent.

Any group of 100 titles, then, would require the amounts of time shown in Table 4 to process according to the minimum requirements. (In practice, most catalogers and clerks exceed the requirements, so that the operational times are less than those shown.) The figures do not include time devoted to shelf preparation.

TABLE 4
PROCESSING TIMES

Kind of Cataloging	Cataloging Hours	Clerical Hours
LC copy (61 percent)	8	5.08
Other libraries' copy (18 percent)	8	1.5
Not in data base (21 percent)	33.6	5.25
Total	49.6	11.83

The advent of the printer clearly enabled GSU to reduce the amount of time required to process books (Table 5).

A quantitative determination of saving of cataloging time has not been possible because of resignations and training of new personnel. The time needed to catalog with LC copy remains the same, but the situation with regard to copy from other libraries is much better, because OCLC copy from other libraries is much fuller and received much sooner than copy in the *National Union Catalog*. Before OCLC the rate for cataloging these titles was five per day; this has been increased to eighteen.

In April 1975, costs of the operation under SOLINET were compared to the costs of the previous operation, resulting in hypothetical costs for the annual workload of 25,000 titles as shown in Table 6. The earlier "salaries" figure is for the period July 1974 through June 1975 and reflects the dropping on 1 January of three clerical positions and the upgrading of eight others because of the additional skills required.

TABLE 5
CLERICAL PROCESSING TIME FOR 100 TITLES

Item	SOLINET/OCLC	Before SOLINET/OCLC
Production of cards with copy (79 percent of titles)	1 day*	
Production of cards with LC cards (60 percent of titles)		2 days
Production of cards for titles other than those with copy	.54 day	2.14 days
On-line searching and printing	.5 day	
Searching for LC cards, filing cards, and shelving to wait for cards		.25 day
Total	<u>2.04 days</u>	<u>4.39 days</u>

* "Day" is defined as eight hours.

TABLE 6
HYPOTHETICAL CATALOGING COSTS FOR 25,000 TITLES

Item	Before OCLC	After OCLC	Change
Salaries	\$244,829	\$234,996	-\$9,833
Supplies	\$15,000 (est.)	\$14,850 (est.)	-\$150
LC cards	\$13,000 (est.)	\$150 (est.)	-\$12,500
Magnetic Selector Typewriter	\$2,400	\$2,400	0
Terminal and modem continuing costs	0	\$4,884	+\$4,884
First-time use charges	0	\$18,825 (est.)	+\$18,825
OCLC catalog cards	0	\$6,800	+\$6,800
Printer	0	\$840	+\$840
Total	<u>\$275,229</u>	<u>\$284,095</u>	<u>+\$8,886</u>

Costs for both OCLC and LC cards are based on eight cards per title. The requirement for the Magnetic Selectric typewriter still exists because OCLC cannot produce cards for all items, e.g., phonograph records, serials, maps, etc. "First-time use charges" are the principal charges for the use of the OCLC system. This charge is assessed the first time a library uses a record in the data base for cataloging, whether that record is from LC or has been input by another library. There is no charge for the items a library inputs, either from LC copy or original cataloging. The cost given is based on the assumption that 75 percent of the items to be cataloged would already be in the data base and therefore there would be a first-time use charge on 18,750 titles. The "printer" figure represents twelve-months' rental. The costs given do not include the following one-time costs:

Terminals (3, at \$3,700 each)	\$11,100.00
Modem installation	\$137.50
Programming fee for cards	\$160.00
Total	\$11,397.50

Also not included are the SOLINET initial membership fee and dues.

Under SOLINET/OCLC perhaps the most important factor is that cataloging information is available sooner. Under the previous system no book was held longer than three months to wait for cards, and approximately 80 percent were cataloged within five weeks of receipt, including those for which LC had indicated that cards were not available. Approximately 8 to 12 percent were held the entire three months, depending on the efficiency of LC's Cataloging Service Division. Under SOLINET/OCLC no titles are held to await cataloging by LC or other libraries, and it takes no book longer than two weeks to be cataloged, while approximately 83 percent or more are cataloged within one week. The processing of the titles after cataloging is at present requiring no longer than one week, a shorter period than before because the delay occasioned by waiting for LC cards has been eliminated. Although the system is more expensive, it is clear that service to the patron has been improved to a marked degree.

PRESENTATION ON GPO SALES PROGRAM AT DETROIT

A comprehensive view of the Government Printing Office Sales Program will be presented at the Detroit Conference of ALA on June 21. The program was initiated by a request from the Federal Documents Task Force of the Government Documents Round Table of ALA.

GPO's presentation will encompass agency initiation of a publication, processing and printing, the decision and mechanics of placing a publication on sale, merchandising and promotion, as well as retailing through GPO's system of bookstores. Special emphasis will be placed on how orders are processed, and what happens when a publication either has sold out or is undergoing lengthy revision.

Topics to be discussed include subscription problems and their solutions, deposit account orders, college bookstore orders, expected time frame on orders, bookstore assistance, unavailability of publications, and many other areas of concern.

Speakers include William J. Barret, deputy assistant public printer (Superintendent of Documents), Government Printing Office; David Farber, director, Office of Publication, Department of Commerce; James L. Payne, superintendent of planning service, Government Printing Office; Jeanne Isacco, chief, Records Branch, Documents Sales Service, Government Printing Office; and John Beadle, chief, Order Division, Documents Sales Service, Government Printing Office.

Alphabetical Arrangement and Subject Collocation in Library of Congress Subject Headings

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Beginning with Cutter, theorists of subject headings have conceded that certain elements of systematic arrangement in the dictionary catalog are inevitable; yet the fact that no specific guidelines have ever been developed for the determination of the extent to which subject collocation at the expense of specific and direct entry should be allowed has resulted in the many irregularities and inconsistencies now existing in the Library of Congress Subject Headings.

Introduction

SPECIFIC ENTRY, the underlying principle for subject headings in a dictionary catalog, was first expounded by Cutter: "Enter a work under its subject-heading, not under the heading of a class which includes that subject." The example given is: "Put Lady Cust's book on 'The cat' under Cat, not under Zoölogy or Mammals, or Domestic animals; and put Garnier's 'Le fer' under Iron, not under Metals or Metallurgy."¹ This rule, claims Cutter, "is the main distinction between the dictionary-catalog and the alphabetico-classed."²

The Vatican code of 1948, which has been described as "for many years the best and most complete statement of American cataloging practice,"³ restates this principle in these terms: "Works are recorded under their specific subjects, and not under the names and designations of the classes and disciplines to which they belong."⁴

It would appear from these statements that the difference between the alphabetico-classed catalog and the dictionary catalog in the treat-

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ment of the subject *Cats* represents a choice between **Zoology** and **Cats** as the subject heading. Such is clearly not the case, for in an alphabetico-classed catalog, the heading for a book on cats would presumably be **Zoology—Mammals—Domestic animals—Cats**, and not **Zoology** alone. In terms of the degree of specificity, there is really no difference between this heading and the heading **Cats**. The difference lies in the entry element. As Coates has pointed out:

The difficulty and confusion in Cutter's thinking about subject headings arises from his intermittent failure to distinguish between the criteria applicable to a complete subject heading on the one hand and to an entry word on the other. . . . He fails to distinguish two separate stages in subject cataloguing a work for the alphabetico-specific catalogue. The first stage is the naming of the work's specific subject, the second is the selection of a particular part of a compound name to serve as entry word.⁵

There is no real difference in the first stage, i.e., the naming of the work's specific subject, between the alphabetico-classed catalog and the dictionary catalog. The major difference lies in the arrangement of the headings. In the alphabetico-classed catalog, headings are arranged to a large extent according to their subject relationships. Each heading begins with the broadest term that encompasses the specific subject. In the dictionary catalog, subject relationships are abandoned in favor of the alphabetical arrangement for the sake of ready or direct access. The difference in the arrangement of these two kinds of catalogs results from the different entry words for the same subject headings. Haykin has attempted to clarify this point:

In effect the headings for a given topic in an alphabetico-classed and a dictionary catalog are equally specific. The difference lies in the fact that in the former the specific topic is the last element in a complex heading, whereas in the latter it is named directly; what distinguishes the subject heading in a present-day dictionary catalog from other forms is that it is both specific and direct.⁶

In an alphabetico-classed catalog, the subject *Cats* is filed under **Zoology** with other headings in the same subject area; in the dictionary catalog, the subject *Cats* is filed under **Cats**, possibly between the headings **Catoquina Indians** and **Caucasian languages**.

In abandoning the collocation of related subjects, the dictionary catalog seeks to provide the advantage of "facility of reference"⁷ which Cutter cites as the primary object of the dictionary catalog. An alphabetico-classed catalog is usually accompanied by an alphabetical index. The dictionary catalog combines the subject entries and the index, thereby saving the user seeking direct access one step in subject retrieval.

Each kind of catalog has its own distinctive advantages. As Cutter recognizes, the objective of the dictionary catalog is "to show at one view all the sides of each object; the classed catalog shows together the same side of many objects."⁸ At the same time, he also recognizes the disadvantages of the dictionary catalog:

The systematic catalog undertakes to exhibit a scientific arrangement of the books in a library in the belief that it will thus best aid those who would pursue any extensive or thorough study. The dictionary catalog sets out with another object and a different method. . . . Its subject-entries, individual, general, limited, extensive, thrown together without any logical arrangement, in most absurd proximity, . . . are a mass of utterly disconnected particles without any relation to one another, each useful in itself but only by itself.⁹

Pettee echoes Cutter's views concerning the relative advantages and disadvantages of the direct entry:

The superiority of the alphabetical subject catalog over the classed catalog rests not only upon its direct access to specific subject matter without the intermediary of an index to a classification scheme, but also upon its ability to collect material from different fields under a topical name, and this is its supreme claim to distinction.

Its disadvantage is, of course, that the alphabetical dispersion of topics makes it impossible to assemble logically related material brought together in a linear classification scheme.¹⁰

In the dictionary catalog, in order to achieve the benefit of direct access, the advantages of the alphabetico-classed catalog, namely, displaying systematic subject relationships, must be abandoned. Nonetheless, in the course of the development of the dictionary catalog in this country, there has been a constant desire, particularly in the earlier days when users were still accustomed to the classed catalog, and recurring intermittently in later times, to have the best of both worlds. The recognition of the advantage of quick reference has often been coupled with the desire to maintain the advantage of the classed catalog of having related subjects grouped together. Many headings which are characteristic of an alphabetico-classed catalog have been introduced into the dictionary catalog. This phenomenon is manifested in *Library of Congress Subject Headings (LCSH)*, the standard list used by most of the libraries in this country. Angell has analyzed the source of the development:

For the most part, the subject headings used in these catalogs [of the Library of Congress] derive from statements of "objects" and "means" formulated by Charles Ammi Cutter in his *Rules for a Dictionary Catalog*. . . . While the early officers were in accord with Cutter and the majority of United States libraries in rejecting the classified or alphabetico-classed catalog in favor of the dictionary catalog, they were unwilling to contemplate the dispersion of headings that could follow from full adherence to Cutter's rule of specific entry, at least in its application to compound headings. They preferred to combine elements of a dictionary and a classified arrangement. The fact that the Library's subject headings began as a mixed system opened the door to inconsistent decisions as the catalog grew.¹¹

The cost of the compromise is the consistency and predictability of the forms of headings. The advantages of the dictionary catalog cannot be combined with those of the classed catalog, for if a heading is entered under a broader term leading toward the specific term for the subject in-

volved, then the heading is no longer direct. As Coates has pointed out:

Specific alphabetical entry designed to give the enquirer immediate access to his subject . . . is incompatible with the assembly of entries on related subjects. The alphabetic-specific catalogue arranges headings by their affinities of spelling, the classified and the alphabetic-classed forms arrange their entries by affinities of meaning.¹²

Inconsistent forms in *LCSH* have resulted from the fact that there have not been any rigorous rules or guidelines concerning the extent to which headings which are characteristic of an alphabetic-classed catalog can be introduced into the list, in other words, specific rules concerning the entry element.

The remaining portion of this paper examines two categories of headings in *LCSH*, inverted headings and headings with subdivisions, which represent modifications of the principle of specific entry, and discusses the consequent problem of maintaining consistency in the forms of headings.

Inverted Headings

When a subject heading consists of a single noun, there is no question about entry element. When the heading contains more than one word, the question arises as to which of the terms is to be used as the entry word. Strictly speaking, subject headings in a dictionary catalog based on the principle of specific entry should be entered directly according to the natural word order, e.g., **Life insurance** or **Theory of knowledge**. However, such has not always been the case. From the earliest stage of the development of the dictionary catalog, it has been found desirable to invert certain headings so that they will be filed under a term other than the first in the phrase according to natural word order. In *LCSH*, many headings are inverted, with the substantive noun brought forward, e.g.:

Insurance, Life

Knowledge, Theory of

However, this practice is notoriously inconsistent. Not all phrase headings (including adjective-noun headings and prepositional phrase headings) are inverted. There is no specific guideline, and very few discernible consistent patterns, for inverted headings. In most cases, there is no way to predict the form of a phrase heading in *LCSH*, e.g.:

Bessel functions

Functions, Abelian

Abelian groups

Groups, Continuous

In adjective-noun headings containing national adjectives, certain patterns based on subject categories have been discovered.¹³ However, the subject criterion does not seem to apply to the majority of phrase headings containing other adjectives, e.g.:

Agricultural chemistry

Biological chemistry
Physiological chemistry

but

Chemistry, Clinical

Chemistry, Medical and pharmaceutical

Chemistry, Organic

The rationale for inverted headings has been explained by Haykin:

When it is desired to bring the noun in an adjectival heading into prominence, either in order that it may appear in the catalog next to other headings beginning with that noun, or because the adjective is used simply to differentiate between several headings on the same subject, the inverted type of adjectival heading is used.¹⁴

Mann, while advising to "use inverted headings only when necessary," offers the rationale for this form:

A problem arises if a term such as pathological psychology is used. The general heading *Psychology* will lose all the books which deal with this subject in its application to medicine, because the two groups will not be filed together. In such a case, the term may be changed to bring the new subject into relation with the main subject heading to which it belongs; in other words, a term must be found which will allow the special application of the topic to be grouped with the main subject. Such headings are called "inverted headings." They are adopted when it seems desirable to keep classes together to maintain a somewhat logical arrangement. . . .

Several good reasons for grouping the various aspects of a subject in the dictionary catalog warrant the use of inverted headings. Such an arrangement (1) brings books on related aspects of a subject together; (2) it results in a grouping that is frequently different from the classified arrangement on the shelves; and (3) it relieves readers of the trouble of searching in a number of places in the catalog to find related topics.¹⁵

The reason given in these statements for inverted headings is to bring related subjects together. However, in practice, when some but not all of the phrase headings are inverted, the advantage of subject collocation is only partially realized, e.g.:

Insurance, Disaster

Insurance, Life

Insurance, Social

but

Disaster relief

Life insurance trusts [cf. also Trusts, Industrial]

Social insurance courts

While the inverted form groups different kinds of insurance together, it separates various aspects of the same kind of insurance.

Looking back, one finds that this practice has been sanctioned by Cutter¹⁶ himself: "Enter a compound subject-name by its first word, inverting the phrase only when some other word is decidedly more significant or is often used alone with the same meaning as the whole name." The advantage of the "noun rule" is subject collocation. Cutter

recognizes that "to adopt the noun (the class) as the heading is to violate the fundamental principle of the dictionary catalog" and that "the specific-entry rule is one which the reader of a dictionary catalog must learn if he is to use it with any facility; it is much better that he should not be burdened with learning an exception to this, which the noun rule certainly is." To invert a phrase heading in order to bring the noun forward is a concession to the alphabetic-classed catalog. Nonetheless, Cutter's misgivings about violating the principle of specific entry were evidently overruled by his policy of the "convenience of the public."

Since not all headings containing more than one word are to be inverted, there remains the question of when to invert. Cutter has attempted to provide some guidelines. Concerning the order of words in headings containing more than one word, he discusses three options¹⁷:

1. "We can consider the subject to be the phrase *as it reads*, as **Agricultural chemistry, Survival of the fittest.**" Cutter's objection to this form is that "it may be pushed to an absurd extent" in headings containing a noun preceded by an adjective. He offers an example:

A man might plausibly assert that Ancient Egypt is a distinct subject from Modern Egypt, having a recognized name of its own, as much so as Ancient history, and might therefore demand that the one should be put under *A* (Ancient) and the other under *M* (Modern) and similar claims might be made in the case of all subject-names to which an adjective is ever prefixed, which would result in filling the catalog with a host of unexpected and therefore useless headings.

The interesting words in this statement are "unexpected" and "useless." They are evidently used in reference to users who were accustomed to the classified arrangement. A user acquainted with the rule of specific and direct entry should not find the headings **Ancient Egypt** and **Modern Egypt** unexpected, since they are distinct subjects and are presented in the natural word order. In the same paragraph, Cutter hastens to add: "Nevertheless the rule seems to me the best if due discrimination be used in choosing subject-names."

2. "We can make our entry . . . under what we consider the most significant word of the phrase, inverting the order of the words if necessary; as . . . **Species, Origin of the**, the word *Origin* here being by itself of no account; **Alimentary canal**, *Canal* being by itself of no account." This form is reminiscent of catchword titles. The objection to it, Cutter sees immediately, "is that there would often be disagreement as to what is 'the most important word of the phrase,' so that the rule would be no guide to the reader. But in connection with (1) and as a guard against its excesses (2) has its value."

3. "We can take the phrase *as it reads* . . . but make a special rule for a noun preceded by an adjective . . . *first*, that all such phrases shall when possible be reduced to their equivalent nouns . . . ; and *secondly*, that in all cases where such reduction is impossible the words shall be inverted and the noun taken as the heading, as **Chemistry, Agricultural; Chemis-**

try, **Organic.**" The objection to this rule is that "it would put a great many subjects under words where nobody unacquainted with the rule would expect to find them," e.g., works on the **Alimentary canal** would hardly be looked for under **Canal**.

As a final solution, Cutter offers his noun-rule quoted earlier: "Enter a compound subject-name by its first word, inverting the phrase only when some other word is decidedly more significant or is often used alone with the same meaning as the whole name." Nonetheless, he recognizes immediately that this "combined rule" will not solve all the problems. On the contrary, it often compounds them. Cutter concedes that "this rule is somewhat vague and that it would be often of doubtful application." Subsequent application of the noun rule in *LCSH* bears out Cutter's misgivings.

Cutter distinguishes between the adjective-noun heading in which the noun is the name of a class and the adjective indicates a subdivision (e.g., **Comparative anatomy** and **Capital punishment**), and the adjective-noun heading where the adjective implies a subject and the noun indicates the aspect in which the subject is viewed (e.g., **Ancient history** or **Medieval history**, i.e., a historical study of the ancient world or the Middle Ages). However, in determining the forms of headings in *LCSH*, this distinction has not been used as a criterion.

The lack of rigorous criteria for determining which headings are to be inverted has resulted in a great deal of inconsistency in form. In spite of repeated efforts of writers since Cutter, no clear, viable guidelines for determining entry element have yet been developed.

The Vatican code¹⁸ offers the following guidelines for adjective-noun headings:

The adjective usually precedes the noun in English when it conveys the specific sense, while it follows the noun when it only qualifies a concept that is already specific in itself, or indicates a minor variety or division.

In practice, it is difficult to perceive how this rule would apply in the formation of the group of headings related to chemistry cited above.

For prepositional phrase headings, the Vatican code provides these rules:

384. a. Prepositional phrases which represent a distinct concept are usually retained in their common form.

Conflitto di leggi **Conflict of laws**

Piante nell'arte **Plants in art**

Padri della chiesa **Fathers of the church**

384. b. The words are inverted when the first word represents a vague and indistinct concept, while the second term indicates a specific topic.

Animali, Leggende e **Animals, Legends and**

racconti di **stories of**

Discendenza reale, **Royal descent, Families of**

Famiglie di

It is not clear why the words "legends" and "families" in these examples

should be considered to represent "vague and indistinct" concepts. They may be considered general and broad, but not more so than the term "animals." Nor do these rules provide clearcut guidance in determining the form of a heading such as **Directors of corporations**.

Conceding that "uninverted phrase headings are to be preferred, since they represent the normal order of words and it can be reasonably assumed that most readers would not look under the inverted form," Haykin offers this criterion for inverting headings:

However, phrase headings in inverted form are used when the first element in effect qualifies the second and the second is used in the catalog as an independent heading. The inversion is then equivalent to subdivision, but is used in place of subdivision to preserve the integrity of the commonly used phrase.¹⁹

In practice, Haykin's statement has failed to provide a clearcut guideline to the extent of ensuring a reasonable degree of consistency in form, for example, in *LCSH*:

Knowledge, Theory of

but

Profession of faith [Faith being an independent heading in the list]

Granting that inverted headings are necessary, Coates proposes a criterion for choosing the most significant term as the entry element based on "the word which evokes the clearest mental image."²⁰ He concludes that "images of things are simpler, more readily formed, more accessible to memory than images of actions." However, he immediately recognizes the difficulty in applying this criterion to headings containing two or more equally concrete things, as in the case of double noun phrases.

Harris proposes the criterion of word frequency, suggesting that in an adjective-noun combination, "the less common of the two words might be regarded as best specifying the subject."²¹ Unfortunately, it has not been demonstrated how this criterion is to be applied in establishing new subject headings.

In order to ensure consistency in form, much more rigorous rules concerning when or whether to invert phrase headings must be developed. In most of the discussions on this subject in print, the linguistic and semantic criterion plays the major role. In practice, the subject criterion discussed above seems to also play a significant role in *LCSH*.

Subdivisions

Cutter has not provided specific rules for subdividing a subject heading. In *LCSH*, subdivisions are used extensively. The main explanation for subdivision of a subject heading is that it serves as a device for subarrangement when a large number of works share the same heading. Haykin states:

Subdivision is distinguished from qualification in that it is ordinarily used not to limit the scope of the subject matter as such, but to provide for its arrange-

ment in the catalog by the form which the subject matter of the book takes, or the limits of time and place set for the subject matter.²²

Mann has also stated earlier:

The tendency to group under one subject heading all books in a given field is desirable up to a certain point, but such a procedure will lead to a day of reckoning when the entries under that caption become so numerous that it is difficult to differentiate between titles. When this happens the subject must be subdivided.²³

However, Coates disagrees with this reasoning. He calls Haykin's argument of subdivision as a device for subarrangement "a mere play upon words." Coates explains:

In the alphabetical subject catalogue the degree of subject specification and the mechanics of arrangement are simply two aspects of a single operation. One decides upon a particular heading and by the same token determines the position of the entry in the catalogue.²⁴

Most of the LC headings with subdivisions, although resembling an alphabetico-classed catalog in form, are not classed entries in essence. In general, a classed entry consists of a string of terms beginning with the broadest term, and each term contains the one following it. It represents a hierarchy based on the genus-species or thing-part relationships. In *LCSH*, the subheadings, with a few exceptions to be discussed later, are not subclasses of the terms preceding them.

Haykin discusses four types of subdivisions: form, local, period, and topic. Form and period subdivisions raise relatively few questions, since they are not independent entities and one must concede the main subject before considering the form and period aspects.

Topical subdivisions most closely resemble the forms used in an alphabetico-classed catalog. Haykin clearly recognizes this and states: "That subject catalogs, as a matter of fact, contain headings subdivided by topics is evidence of a lack of a clear understanding of the purpose of the alphabetical subject catalog and of the distinction between a specific heading of the direct type and an alphabetico-classed heading."²⁵ In certain cases, as Haykin points out, headings with topical subdivisions "resemble alphabetico-classed headings in their outward form only. Actually they employ the form of subdivision by topic only where the broad subject forms part of the name of the topic and a convenient phrase form sanctioned by usage is lacking."²⁶ For example, the relationship between the main heading and the topical subdivision in the headings **Heart—Diseases** or **Agriculture—Taxation** is not that of genus-species or thing-part, which is typical of a classed entry. As Haykin explains elsewhere, "**Construction industry—Taxation** is another way of saying 'taxation of the construction industry,' and obviously not 'taxation as a division of the subject **Construction industry**'"²⁷

On the other hand, a heading with a subdivision of the genus-species or thing-part type is characteristic of an alphabetico-classed catalog.

Haykin's comment on this type of headings is:

The use of topics comprehended within a subject as subdivisions under it is to be avoided. It is contrary to the principle of specific entry, since it would, in practice, result in an alphabetic-classed catalog.²⁸

The following examples from *LCSH* represent the genus-species type:

Shakespeare, William, 1564-1616—Characters—Children

Shakespeare, William, 1564-1616—Characters—Fathers

Wages—Minimum wage

but, on the other hand, we find:

Children in literature

Children in the Bible

Fathers in literature

Retirement income [instead of Income—Retirement income]

Examples of the thing-part type are found in the following LC headings:

Airplanes—Motors—Carburetors

Airplanes—Motors—Mufflers

Airplanes—Wings

The purpose of this form is obviously to group different parts of the airplane together. Again, the problem is in maintaining consistency in similar headings. While "motors" and "wings" are entered as subdivisions under **Airplanes**, "ailers," "flaps," and "tabs," which are also parts of the airplane, are entered directly:

Ailerons

Flaps (Airplanes)

Tabs (Airplanes)

It appears that these classed entries have been introduced into *LCSH* sporadically without sharply defined guidelines which ensure consistency in form and in scope.

Like the period subdivision, geographic subdivision represents a limit of the scope of the main heading, and in itself is not characteristic of the classed entry. However, in the case of indirect geographic subdivision in *LCSH*, the principle of specific entry is definitely compromised. This problem had not occurred to Cutter and was not discussed in his rules at all. Since this form exists in *LCSH*, Haykin goes into considerable detail concerning its rationale:

Indirect subdivision assumes that the interest and significance of certain subjects are inseparable from the larger area—the country or state—or that the study of subordinate geographic areas is best considered as contributing to the study of the larger area.²⁹

Mann has offered a similar rationale earlier:

Indirect subdivision is used by the Library of Congress when it regards the predominant interest in a subject as pertaining to the country or state and when the subject is common to all or most of the localities in the area.³⁰

Again, the goal is subject collocation, at the expense of specific entry.

This is the most conspicuous concession to classified arrangement in a dictionary catalog. The indirect geographic subdivision is characteristic of an alphabetico-classed catalog entry in that geographic elements in the string, e.g., **Geology—Wyoming—Lincoln County**, represent a whole-part relationship. The remarks of both Haykin and Mann reveal the desire to retain subject collocation in a dictionary catalog. Again, the question is whether this can be done without sacrificing consistency in forms of headings.

Haykin³¹ sees immediately the difficulties involved in such arrangements in a dictionary catalog: "there can be no consistency in determining which headings are to be subdivided indirectly and which directly." The general pattern stated by Haykin is that "in general, headings in science and technology, especially broad headings, are subdivided indirectly. . . . On the other hand, headings in law are almost invariably subdivided directly, . . . and headings in the social sciences are generally so subdivided." However, in practice, this subject criterion does not always apply in *LCSH*, and Haykin's statement fails to explain such headings as **Music** (Indirect), but **Art** (Direct).

Now, let us examine whether the indirect geographical subdivision, while representing a modification of the principle of specific entry and hence causing many inconsistent forms, indeed accomplishes the objective of subject collocation. As manifested in *LCSH*, while it groups certain related headings together, it also separates other equally affinitive headings.

The main question here is at which level of geographic divisions to begin the chain. In *LCSH*, the level varies depending on the place involved. For the United States, Canada, and Great Britain, the geographic progression starts with the states, provinces, constituent countries, or territories [introd., p.xii], e.g.:

Music—Illinois—Chicago
—Ontario—Toronto
—England—London

For other countries, the indirect subdivision begins with the name of the country, e.g.:

Music—Germany—Munich
—Japan—Tokyo

Thrown into these different levels of geographic subdivisions are certain exceptions to indirect subdivision, such as:

Music—New York (City)
—Bavaria
—Siberia

With this medley of forms, neither the objective of the dictionary catalog nor that of the classed catalog is fulfilled. With the interpolation of a larger geographic area, direct access has disappeared. On the other hand, subject collocation is not achieved either. Because of the different levels of geographic subdivisions, headings for a subject treated in adja-

cent geographic areas or even within the same area are not necessarily grouped together, e.g.:

Geology—Bavaria

- Colorado—Park County
- Crete
- Delaware—Kent County
- Denmark—Helsingør Region
- England
- Germany—Munich
- Japan
- Kentucky—Bell County
- Newfoundland

By interpolating the name of the state or province, the headings for the geology of various parts of the United States or Canada are interspersed among those for far-off regions; and because certain areas are always used directly after the main heading, the headings for geology of Bavaria and geology of Munich, which is a part of Bavaria, are separated by many entries in the catalog.* A truly hierarchical, or logical, geographic arrangement should begin with the continent, or even the planet, but the dictionary catalog has not quite gone that far. In *LCSH*, the hybrid forms do not achieve a logical hierarchical arrangement.

Furthermore, there is the problem caused by the provision of both direct and indirect geographic subdivisions under the same main heading when used with different topical or form subdivisions, for example:

Local transit—(Indirect)—Finance

[e.g., Local transit—Uruguay—Montevideo (Dept.)—Finance]

Local transit—Law and legislation (Direct)

[e.g., Local transit—Law and legislation—Montevideo (Dept.)]

Either a strictly hierarchical arrangement or a truly specific entry can be easily understood by the user. As *LCSH* stands now, it is questionable whether most users can understand the various arrangements being used simultaneously.

Haykin recognizes the problem and states:

Practice in the Library of Congress has tended increasingly toward direct subdivision. . . . Because of the complications involved in the use of indirect place subdivision and the consequent likelihood of deviations and errors, there is a tendency to dispense with this method.³²

In light of these remarks, it is interesting to note the recent decision by the Library of Congress to discontinue the use of direct geographic subdivision in favor of the indirect subdivision in newly established subject headings requiring local subdivision,³³ in spite of an indication of many librarians' preference for direct entry.³⁴ The decision may have

* LC's recent change of policy [cf. *Cataloging Service* 120:9-11 (Winter 1977), issued after this article had gone to the printer] resulting in entering the first-order political subdivisions of modern European countries indirectly instead of directly after topical subject headings will mitigate considerably the problems discussed here.

been influenced by the capability of the LC MARC retriever to search the machine-readable records by the geographic search key. However, until the problems discussed above can be solved and consistent forms established, the potential of the machine retriever cannot be fully utilized.

Conclusion

The demands of the alphabetico-classed catalog and the dictionary catalog are not compatible. As Foskett has pointed out: "The problem with introducing systematic arrangement into an alphabetical catalogue is that the order is no longer self-evident."³⁵ Each time the dictionary catalog attempts to retain the advantage of the alphabetico-classed catalog, namely, subject collocation, the advantage of direct access is lost. In formulating basic policies of a dictionary catalog, the limitations of this form of catalog in terms of subject relationship must be recognized and a decision has to be made concerning the extent to which compromises should be made for the sake of subject collocation. More rigorous rules concerning when such concessions are to be made are required in order to ensure consistency and predictability.

The irregularities and inconsistencies in *LCSH* cumulated over three-quarters of a century have been attributed to the fact that there has not been a code for developing subject headings similar to the *Anglo-American Cataloging Rules* for descriptive cataloging. While the formation of a new subject headings list based on a logical code yet to be developed is theoretically desirable, it has not been considered economically feasible. The Library of Congress has announced recently that there are no plans at the present time for a radical revision of *LCSH*. Instead, the Library of Congress is proceeding on the presumption that the list will continue to evolve on a time-available basis.³⁶ It is hoped that greater attention will be directed to considering basic principles and forming consistent policies for guiding these periodic revisions of existing headings and the establishment of new subject headings, instead of using as guidelines existing patterns in *LCSH*, which are not always consistent and often incompatible among themselves.

The Library of Congress has announced its expectation of closing its main catalog in 1979 or 1980.³⁷ What better time for an examination of the basic principles of *LCSH*? The closing of the catalog affords once-in-a-lifetime opportunities for substantial changes in the catalog. Some of them are being considered, such as the abandonment of superimposition, which will greatly affect the personal and corporate headings. It appears to be the appropriate time also to re-examine the principles and policies concerning subject headings.

REFERENCES

1. Charles A. Cutter, *Rules for a Dictionary Catalog* (4th ed.; Washington, D.C.: U.S. Govt. Print. Off., 1904), p.66.

2. *Ibid.*, p.67.
3. Paul S. Dunkin, *Cataloging USA* (Chicago: American Library Assn., 1969), p.14.
4. Vatican Library, *Rules for the Cataloging of Printed Books*; trans. from the 2d Italian ed. by Thomas J. Shanahan, Victor A. Schaefer, and Constantin T. Vesselowsky; ed. by Wyllis E. Wright (Chicago: American Library Assn., 1948), p.250.
5. E. J. Coates, *Subject Catalogues: Headings and Structure* (London: Library Association, 1960), p.37.
6. David Judson Haykin, *Subject Headings: A Practical Guide* (Washington, D.C.: U.S. Govt. Print. Off., 1951), p.3-4.
7. Cutter, *Rules*, p.79.
8. *Ibid.*, p.68.
9. *Ibid.*, p.79.
10. Julia Pettee, *Subject Headings: The History and Theory of the Alphabetical Subject Approach to Books* (New York: Wilson, 1947), p.59.
11. Richard S. Angell, "Library of Congress Subject Headings—Review and Forecast," in *Subject Retrieval in the Seventies: New Directions*, ed. by Hans Wellisch and Thomas D. Wilson (Westport, Conn.: Greenwood, 1972), p.143-44.
12. Coates, *Subject Catalogues*, p.26.
13. Lois Mai Chan, "'American Poetry' but 'Satire, American': The Direct and Inverted Forms of Subject Headings Containing National Adjectives," *Library Resources & Technical Services* 17:330-39 (Summer 1973).
14. Haykin, *Subject Headings*, p.22.
15. Margaret Mann, *Introduction to Cataloging and the Classification of Books* (2d ed.; Chicago: American Library Assn., 1943), p.144.
16. Cutter, *Rules*, p.72, 73, 74.
17. *Ibid.*, p.72.
18. Vatican Library, *Rules*, p.257, 260.
19. Haykin, *Subject Headings*, p.23-24.
20. Coates, *Subject Catalogues*, p.50.
21. Jessica Lee Harris, *Subject Analysis: Computer Implications of Rigorous Definition* (Metuchen, N.J.: Scarecrow, 1970), p.67.
22. Haykin, *Subject Headings*, p.27.
23. Mann, *Introduction*, p.146.
24. Coates, *Subject Catalogues*, p.75.
25. Haykin, *Subject Headings*, p.36.
26. *Ibid.*
27. David Judson Haykin, "Subject Headings: Principles and Development," in *The Subject Analysis of Library Materials*, ed. by Maurice F. Tauber (New York: School of Library Service, Columbia University, 1953), p.51.
28. Haykin, *Subject Headings*, p.35-36.
29. *Ibid.*, p.30.
30. Mann, *Introduction*, p.140.
31. Haykin, *Subject Headings*, p.30.
32. *Ibid.*, p.31, 32.
33. "Subject Headings," *Cataloging Service* 114:7 (Summer 1975).
34. Carol R. Kelm, "Highlights of RTSD Activities During the 1974 Midwinter Meeting," *Library Resources & Technical Services* 18:62 (Winter 1974).
35. A. C. Foskett, *The Subject Approach to Information* (2d ed.; Hamden, Conn.: Linnet Books & Clive Bingley, 1972), p.58.
36. "Revision of Existing Subject Headings," *Cataloging Service* 115:23 (Fall 1975).
37. "LC Automation Activities Reported to Library Networks," *Library of Congress Information Bulletin* 34:268 (27 June 1975).

Guidelines for Selecting a Commercial Processing Service

COMMERCIAL PROCESSING SERVICES COMMITTEE
Resources and Technical Services Division
American Library Association

A first draft of Guidelines for Selecting a Commercial Processing Service is presented with the expectation of receiving suggestions from the profession.

Introduction

THE RTSD COMMERCIAL PROCESSING SERVICES COMMITTEE is empowered "to study the role of RTSD vis-à-vis commercial processing services." In attempting to meet this charge, the committee has been engaged in drafting guidelines for a public or college library to use in its selection of a commercial processing firm. The committee feels that these guidelines are, perhaps, too general at this point and the chairperson has spent a considerable amount of time recently in soliciting questions and input concerning the expansion and clarification of the guidelines. The committee has received valuable suggestions. At this juncture it is felt that the work must be made available in its present form to the library profession at large for comment, including suggestions of any key factors which may have been omitted and suggestions regarding format, in order to make the guidelines as helpful as possible to the user, the librarian.

At a program sponsored by the committee in 1974, David Remington addressed the issues in commercial processing services for the library profession. Many of the issues have now been incorporated in the present guidelines. An edited version of the other topics of his presentation follows the guidelines. The committee looks forward to your assistance in developing the guidelines. Comments should be addressed to Dallas R. Shawkey, Chairperson, Commercial Processing Services Committee, Brooklyn Public Library, 109 Montgomery St., Brooklyn, NY 11225.

Manuscript received July 1976; accepted for publication October 1976.

Guidelines

1. How do you decide when you should consider commercial processing services?
 - If you cannot do all or part of your own processing in-house, is commercial processing the only alternative? What about OCLC (the Ohio College Library Center), institutional processing centers in large public libraries, colleges or universities in your area? How does the cost of commercial processing compare with the cost of the current system? From what part of the budget may the cost of commercial processing be taken, if at all?
2. If you decide on commercial processing services, how do you identify what organizations are offering commercial services? How do you contact them?
 - Begin by checking under "Cataloging Services" in the annual *Purchasing Guide* published in *Library Journal*.
3. When you have contacted commercial processors, determine what services are available:
 - Are sets of cards only supplied?
 - Are sets of cards supplied with books based on the library sending book orders to the processor?
 - Can a book order secure books with processing kits (sets of catalog cards, circulation card, pockets, spine labels) unapplied?
 - Can a book order secure books completely processed and ready for the shelves with card sets prepared and ready to file?
 - What standard classification systems are offered? Are standard alternatives offered for types of books such as individual biography, fiction, etc.?
 - What standard subject heading systems are available? Library of Congress subject headings? Sears subject headings?
 - What depth of descriptive cataloging and detail of entry forms are provided?
4. What standard options are available (custom or specially designed services are not considered here)?
 - Alternative call numbers
 - Extra sets or individual cards
 - Different formats for printing the call number on the processing materials
 - Location of book pocket within book (glued)
 - Use or omission of protective book covers
 - Options in location and method of spine labelling
 - Options in the kinds of cards in a set (e.g. providing series cards where represented in a note but not traced; title cards when not traced; extra subject cards; etc.)
5. How are cataloging and processing specifications negotiated and established with the vendor?
 - Is there a written understanding of precisely what can realistically be expected from the vendor?

- What quality assurance measures are taken by the vendor to achieve the specifications you are paying for?
 - Is a vendor willing to provide you with names of libraries and institutions which have dealt with the vendor for services similar to those you wish to have? What are their objective evaluations of the vendor's performance? Be sure to determine from such evaluations precisely what kinds of services and circumstances were involved. Unrealistic expectations on the part of some libraries lead to disappointments.
 - Does the vendor supply you with a sample of books processed in accordance with your specifications?
6. What ACQUISITIONS services are available for books to be cataloged and processed?
- What delivery times are quoted for responses to the library's original order?
 - Have you fully described the kind of book orders you expect to send to a processing vendor?
 - currently published, U.S. trade books?
 - older trade books verified to be "in print"?
 - out-of-print books?
 - paperback books (cataloging problems here)?
 - books published outside the U.S. (what countries? commercially published?)?
 - pamphlets, government documents, societal publications (cataloging problems here)?
 - Do you receive a discount and how does it compare with a regular discount for books bought without processing?
 - Are there additional service charges for procuring certain types of books?
 - Will the vendor limit you to certain types of books your library wishes to acquire preprocessed?
7. What is the CATALOGING authority (i.e. who performed the descriptive and subject cataloging?) offered by the vendor?
- Library of Congress cataloging in all cases (as it appears on the original LC card or in the MARC record, without change)?
 - Library of Congress (LC) cataloging with modifications in descriptive cataloging to cover the book ordered?
 - LC cataloging with modifications as above together with cataloging prepared by the vendor's cataloging staff?
 - What authorities, practices, "house" rules, editions of the Dewey Decimal Classification, etc. does the vendor follow in preparing his own cataloging records?
 - Does the vendor identify the source (i.e. LC, vendor, other source) of the cataloging for each card set supplied?

NOTE: Most central cataloging and processing services, including commercial processors, do *not* update the subject headings, classi-

fication numbers, or descriptive cataloging entries on LC or their own catalog cards or records each time they are used for a library customer. The cataloging is that which was originally created when the book was first cataloged in that edition. It is possible to update cataloging but only on a special custom service basis. Libraries usually are not willing to pay the additional costs for the complex procedures involved in thoroughly updating cataloging records each time they are used. Such custom services are beyond the scope of these guidelines.

8. What methods of SHIPMENT, INVOICING, REPORTING, and handling of the inevitable PROBLEMS are offered by the vendor?
 - How do they fit into your library's system? If there are differences which appear to present problems to you now, can you work with your business office people to adapt (within reason) to the vendor's systems? If not, does the vendor offer alternatives which will NOT affect the quality or timeliness of his service to your library?
 - How will your books be delivered? Parcel post, truck, combinations depending upon size of shipments? What are the estimated shipping times in the vendor's experience?
 - How often will shipments normally be made?
 - How often and in what form will status reports be made on your outstanding orders for processed books? Can you obtain special reports near the end of your fiscal year to assure effective encumbrance and expenditure of funds which might be lost because of delayed delivery or unavailable books?
 - When there are the inevitable errors, what are the specific arrangements for their resolution?
 - return of the book for corrections? who pays the freight?
 - supply of correct processing materials for local application (assuming cataloging errors)?
 - credit allowance for local correction?
 - Is there a particular person in the vendor's customer service office to whom you can communicate ALL your needs?

INTERNAL TECHNICAL SERVICES STATISTICS

The Statistics for Technical Services Committee of the American Library Association, Library Administration Division, Library Organization and Management Section is seeking assistance in the development of three instruments for the collection of internal technical services statistics. Interested individuals and librarians are invited to request a copy of the drafts, indicating which draft(s) they wish to receive: Public, School/Instructional Materials Centers, College and University. The Statistics for Technical Services Committee will evaluate the reactions to the drafts and will conduct an open discussion at the 1977 ALA Annual Conference in Detroit.

Copies of the drafts may be obtained from John Edens, University of Georgia Libraries, Athens, GA 30602.

Issues in Commercial Processing Services

DAVID G. REMINGTON
*The Library of Congress
Washington, D.C.*

Librarians considering the use of a commercial processing service should consider the effects of computerization and the availability of machine-readable records on acquisition and cataloging procedures and the likelihood of receiving completely updated cataloging.

COMMERCIAL PROCESSING SERVICES have been engaged in supplying books in varying degrees of processing completeness to libraries since the late 1950s. Except for Barbara Westby's excellent efforts in providing information and directories in the mid-1960s, little organized attention has been given to bringing about an effective dialogue between the users and vendors who would serve them.¹

The program of 10 July 1974 was significant in at least two ways. It was the first program of the first American Library Association committee concerned by charge specifically with commercial processing services and it marked the first time that representatives of major commercial processing firms participated in a broad-issue program on commercial processing at a conference of the association.

Today, as commercial processing services assume a major role in the processing activities of a large number of libraries, the necessity for effective communication between librarians and vendors is greater than ever. In addition to the items considered in the draft *Guidelines*, it is important for librarians to consider the effect of computerization of procedures on acquisitions and cataloging routines. With regard to the former, it should be noted that most vendors have studied library purchasing practices on a nationwide basis and have expended great effort and expense in an attempt to meet the needs of most libraries in devising their procedures. A library contemplating use of a vendor must review carefully its acquisitions procedures. If they prove to be at variance with the vendor's usual practices, it will be necessary to determine whether they can be readily revised in order to take advantage of the

Manuscript based on paper presented 10 July 1974; revised and accepted for publication October 1976.

vendor's services or whether too many changes or compromises are necessary in order to secure optimum services.

In cataloging, one must remember that commercial services cannot afford to employ professional librarians to reexamine every catalog card or record each time it is used. Cataloging is usually reexamined only when complete recataloging is required. Then or during original cataloging done by the vendor's professional catalogers, updated subject headings, classification numbers, and the latest rules for entry are utilized. Otherwise cataloging prepared at the time of first cataloging is used over and over again. Normally, when errors are found or reported, they are corrected. Further, it is possible to receive completely updated cataloging through special, customized service contracts, but only at such an additional cost as to make the price prohibitive for most libraries. Further, the development of machine-readable cataloging data bases makes it possible to consider the creation of computer authority files for names and subject headings. Access to such centrally maintained files could make possible more authoritative original cataloging, the updating of subject headings, and the provision of reference cards or records for use in local library catalogs.

REFERENCE

1. Barbara M. Westby, "Commercial Processing Firms: A Directory," *Library Resources & Technical Services* 13:209-86 (Spring 1969).

Proposed Amendments to the RTSD Division Bylaws, 1977

The following changes in the RTSD Bylaws will be voted upon at the 1977 RTSD Membership Meeting in Detroit, Sunday, June 19, 8-9:30 a.m. Refer to *Library Resources & Technical Services* 17:458-66; 18:182-84; 19:83-84; and 20:175-76 for the present RTSD Bylaws and the changes since the last full printing.

Article XIII

Sec. 2. Strike out the current wording of Sec. 2 in its entirety, "Editors for Division publications shall be appointed by the Board of Directors. The editor of the Division's journal shall be appointed for a three-year term, renewable for three-year terms by approval of the Board." and insert "The editors of *Library Resources & Technical Services* and of the *RTSD Newsletter* shall each be appointed by the Board for a three-year term. The appointment of each

is renewable for a second three-year term."

Article IX

Sec. 4. Strike out the second paragraph, "Representation of the Division in organizations outside the Division may be authorized by the Association, with the approval of the American Library Association." and insert "The Division may authorize representation of the Division in outside organizations with the approval of the American Library Association."

Progress on Code Revision

FRANCES HINTON
Free Library of Philadelphia

AT ITS SEPTEMBER 1976 MEETING the Catalog Code Revision Committee (CCRC) had its first opportunity to consider a draft revision of the entire chapter on forms of headings for the names of corporate bodies. CCRC decided that a different arrangement of the rules would present them more effectively. As a result, CCRC presented a document to the Joint Steering Committee for Revision of *AACR* (JSC) recommending that certain rules be deleted because they merely repeated provisions already stated and that others be placed in a different, more logical order. The JSC, at its October meeting in Toronto, accepted these recommendations, including that proposing the transfer of rules for geographic names, which are not truly names of corporate bodies, into a separate chapter preceding the one for corporate body headings.

At the same meeting, CCRC examined a proposed rearrangement of the rules for uniform titles, incorporating those for uniform titles of music transferred from the former Chapter 13 of *AACR* 1967. The JSC accepted CCRC's recommendations concerning these also and directed the editor to write the new chapter on uniform titles using the order proposed by CCRC.

Meanwhile CCRC was also reviewing the text of the new chapters of Part I, Description, all of which are based on the provisions of *ISBD(G): International Standard Bibliographic Description (General)*. The technique developed for the presentation of these rules is a general chapter, giving rules that are applicable to all forms of material from machine-readable data files to pet rocks. This is followed by a series of chapters dealing with the problems unique to various special forms of material. The numbering of rules in the special chapters corresponds to that of the general chapter to facilitate the use of both when they must be used together. Another innovation is formal provision for different levels of detail in description, so that any library can select the amount of detail used in describing all or part of its collection.

During this period there has been an increasing demand from the library community for the opportunity to review *AACR*, second edition, before it is approved for publication. The Joint Steering Committee

approved the CCRC proposal for a three-month review period and obtained additional funding to permit this.

Organizations which have participated in the development of *AACR*, second edition, have been offered copies of the draft text to evaluate the adequacy and clarity of its implementation and presentation of the policy decisions made by the Joint Steering Committee. The time frame for review is necessarily constricted because CCRC must process the comments and develop a position regarding them for presentation to JSC as input to JSC's final review and approval of the text for publication.

During this latest series of meetings, a number of substantive matters have been discussed and decisions have been made. The controversial question of the terms to be used as General Material Designations was settled by the agreement to provide both a British and a North American list. The Joint Steering Committee expressed as its position that references were to be made from variant forms of headings, while added entries were to be made to provide for different access points. Both CCRC and JSC accepted the *ISBD(S): International Standard Bibliographic Description for Serials* stipulation that the description of a serial publication is based on the earliest issue rather than the latest available issue. After examining a position paper prepared by the editor on additions to headings, the JSC decided to retain the existing punctuation for personal name headings but to continue the standardized punctuation developed for additions to the names of corporate bodies. A final decision regarding romanization of personal names was that names entered under given name or byname were to be established in the form most frequently used on title pages or in reference sources, but that names entered under surname were to be romanized according to the table selected for the language of the name by the cataloging agency. An optional exception, matching the provision for given name entry, may be applied selectively or across the board by a cataloging agency. Although JSC made certain decisions for the choice of entry for legal materials, it agreed to reconsider its decisions in the light of a survey of legal traditions as they affect entry, made by C. Sumner Spalding at the request of CCRC.

MARIE L. PREVOST AS "THE LIBRARIAN": A QUERY

In my recent editing of Edmund Lester Pearson's column "The Librarian," which appeared in the *Boston Evening Transcript* from 28 March 1906 through 26 May 1920 under his authorship, I encountered a still unresolved problem concerning its continuation after Pearson ceased writing it. From 2 June 1920 through 2 February 1921 it was written by Forrest B. Spaulding. Probably unbeknownst to her colleagues and certainly to John Cotton Dana, who apparently would not have approved, Marie Louise Prevost, of the Newark Public Library, began writing the column on 9 February 1921. How long she wrote the column and whether it was subsequently written by others before it last appeared on 25 March 1936 I have not been able to determine. I would appreciate any assistance readers of *LRTS* might be able to give me in this matter especially in regard to Miss Prevost, the second recipient of the Margaret Mann Citation, in 1952, and long an active member of the Division of Cataloging and Classification. I would be especially interested in hearing from anyone who may have known Miss Prevost personally or who knows of the whereabouts of her personal papers.

*Norman D. Stevens
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RTSD Program Meetings at the 1977 ALA Conference in Detroit

RTSD Membership Meeting

Sunday, June 19, 8:00-9:30 a.m.

Sponsored by RTSD.

An informal coffee hour giving members and friends of RTSD an opportunity to meet and talk with RTSD division and section officers. A short business meeting to include voting on RTSD Bylaws changes and the presentation of the 1977 Esther J. Piercy Award, the CCS Margaret Mann Citation, the RS Scholarship Award, and the "Worst Title Change of the Year" Award will also take place.

Upstairs, Downstairs: Approaches to Selecting, Acquiring, and Processing Microforms

Sunday, June 19, 10:00 a.m.-12:00 noon
Sponsored by the RTSD Reproduction of Library Materials Section and the RTSD Resources Section.

Topics covered will be: acquisitions considerations, procedures for handling microforms upon arrival in the library, and bibliographic control. A summary and question-and-answer period will complete the program.

Subject Heading Control in Catalog Management

Sunday, June 19, 2:00-4:00 p.m.

Sponsored by the RTSD Cataloging and Classification Section.

Speakers: "Introduction" by Edward J. Blume (Library of Congress); "Creating Subject Headings at the Library of Congress" by Mary K. Dewees Pietris (Library of Congress); "Options in Subject Heading Control" by Arlene T. Dowell (North Carolina Central University, School of Library Science); "Com-

prehensive Control—the MIT Experience" by Frances R. L. Needleman (Massachusetts Institute of Technology); "Selective Control in Smaller Libraries" by Lizbeth Bishoff (Waukegan Public Library); "Another View of Selective Control" by Joan K. Marshall (Brooklyn College); and "Subject Heading Management in an Automated System" by Elizabeth Dickinson (Hennepin County Library).

Serials—Directions, Developments, Dynamics

Sunday, June 19, 4:30-6:00 p.m.

Sponsored by RTSD Serials Section.

Topics covered will be: creation of a standard serials holdings statement; work on identification of core serials titles for various types of libraries; the possibility of CIP for serials; and development of a standard serials claim form. A question-and-answer period will complete the program.

Marketing, Selection, and Acquisition of Materials for School Library Media Programs

Saturday, June 18, 2:00-5:30 p.m.

Sponsored by Association of American Publishers/RTSD Joint Committee and ALA American Association of School Librarians.

Open forum for library media professionals, publishers, and wholesalers to discuss the results of a survey concerning the effects of changing budgets, exhibits, review media, space advertising, direct mail promotion, direct sales, catalogs, CIP, ISBN, approval plans, and order placing and fulfillment.

Implementing the Copyright Law

Monday, June 20, 2:00-6:00 p.m.

Sponsored by AAP/RTSD Joint Committee and other ALA units.

Topics covered will be: what librarians need to know about the new law (speaker: Barbara Ringer, Register of Copyrights); responsibilities of librarians, publishers, educators, and other users; uses in elementary and high school, college, and university classrooms, and in public libraries; who handles permissions policies and procedures and how; interlibrary loans; and preliminary findings of the NCLIS King photocopying study.

Commercial Processing Services: Can It Work for You?

Monday, June 20, 2:00-6:00 p.m.

Sponsored by RTSD Commercial Processing Services Committee.

A panel discussion by representatives of children's, university, and public libraries and commercial processors, followed by audience participation.

Institute on Workshop Planning

Sunday, June 19, 8:00 a.m.-4:30 p.m.

Sponsored by ALA Library Administration Division, Personnel Administration Section, Staff Development Committee; Junior Members Round Table; and RTSD Council of Regional Groups.

To assist the 150 participants in planning workshops, selection of formats, and evaluation tools to measure the attainment of goals and objectives. Preregistration required with: Jane E. Marshall, University of Chicago Library, 1100 E. 57th St., Chicago, IL 60637.

Serials Management and Library Education: A Hearing

Monday, June 20, 2:00-4:00 p.m.

Sponsored by RTSD/Library Education Division Committee on Education for Resources and Technical Services.

Two library educators will present what they consider to be the necessary elements to include in courses

on serials librarianship; two practicing librarians will react to these comments. Audience participation will follow.

Preservation: What You Always Wanted to Know about It But Didn't Know Who to Ask.

Saturday, June 18, 2:00-4:00 p.m.

Sponsored by RTSD Preservation of Library Materials Committee.

Panelists on library preservation will discuss significant lessons they have learned in the development of preservation programs. Response to audience questions submitted in advance or from the floor will complete the program.

The Duplicates Exchange Union—How Are We Doing?

Saturday, June 18, 2:00-4:00 p.m.

Sponsored by RTSD Serials Section Duplicates Exchange Union Committee.

A membership meeting for representatives of DEU member libraries.

Speakers: "History of the DEU" by Richard Eggleton; "Benefits of Membership" by Arleen Ahern; "Economics of Membership" by Shirley Tarlton; and "Recurring Problems" by Nancy Myers. A discussion period will complete the program.

Preconference Institute on Collection Development

Tuesday, June 14-Thursday, June 16, 1977

Speakers and small group sessions will discuss formulation of collection development policy statements; the selection process; techniques needed in evaluating selection tools; allocation of funds in support of collection development; and weeding for storage and discard.

Preregistration of 300 participants is required (\$75 for non-ALA members; \$65 for ALA members) before 1 June 1977 with: Carol R. Kelm, RTSD, ALA, 50 E. Huron St., Chicago, IL 60611.

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**LAPT: FILLING THE VOID AND BRIDGING
THE GAP** by Scott R. Bullard

An introductory editorial by **LAPT's** Editor-in-Chief,
explaining the "who, what, where, why
and how" of the new journal.

SERIALS SUBSCRIPTION PAYMENT

LOSSES: AN ANALYSIS by David Walker
Lupton

Describes the way in which serials payment
losses of a medium-sized academic library
were alleviated through study of serials payment
records.

**HOW TO SUCCEED IN PUBLISHING
WITHOUT REALLY TRYING** by Charles Oznot

**HOW TO SAFEGUARD MONEY WITH
PERFORMANCE BONDS** by Thomas M. Schmid
Outlines the advantages and disadvantages of
the use of a bond guaranteeing the refund of a
library's advance payments if a supplier fails to
deliver the materials covered by the prepayment.

**AUTOMATION: A DIALOGUE FOR STONE-
CUTTERS...AND OTHER MASONS** by

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An imaginary dialogue between a traditionalist
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**CURRENT AWARENESS FOR BETTER
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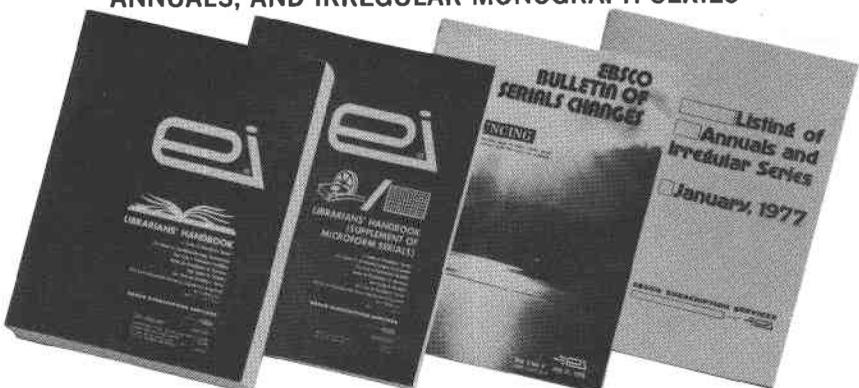
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