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University Libraries: Standards and Statistics

The ARL-ACRL Standards for University Libraries do not present quantitative standards, but rather place their emphasis on the performance of university libraries. Through the statistical techniques of correlation and regression, discriminant analysis, and principal component analysis it is possible to analyze university library data and to derive minimal criteria that statistically distinguish university libraries from other kinds of academic libraries. These criteria look very much like standards, but still fail to relate library size and resources deployed to library performance.

The ARL-ACRL Standards for University Libraries resolutely eschew numbers. How many books does a university library need? The Standards reply: “A university library’s collections shall be of sufficient size and scope to support the university’s total instructional needs and to facilitate the university’s research programs.” How many staff members? “A university library shall have a sufficient number and variety of personnel to develop, organize, and maintain such collections and to provide such reference and information services as will meet the university’s needs.” How large a budget? “Budgetary support for the university library shall be sufficient to enable it to fulfill its obligations and responsibilities as identified in the preceding standards.” There is a kind of sameness of sufficiencies here, which may seem fuzzy to those who want to know whether a particular library has an adequate budget or enough staff. One is tempted to regard the Standards, in Hegel’s phrase, as the night in which all cows are black. The Standards for College Libraries by contrast appear almost blatant in quantification: A college library should have 85,000 volumes, plus 100 volumes for each FTE faculty member, 15 volumes for each FTE student, etc.; one librarian for each 500 FTE students up to 10,000, one for each 1,000 students above 10,000, etc.; 10 square feet per volume for the first 150,000 volumes, etc.; and so on.

Nevertheless, the Standards for University Libraries offer an argument particularly attractive for these days: that a university library should be judged not by its size in collections or expenditures or staffing but by how well it serves students, faculty, and other academic staff. In fact, unlike the college standards, the University Standards begin with a section on services rather than collections. Whether a student can find the information he needs when he needs it is a more important test of a library, the Standards are saying, than whether the library has attained the more or less artificial goal of some minimum number of volumes. In a way it is this emphasis on services that hinders or precludes the formulation of quantitative standards. Up to the present, library data on system responses to user needs have not been adequate for establishing acceptable quantitative standards. In the remainder of this paper, as we derive what may look like quantitative standards, keep in mind that it is the Standards for University Libraries, in their emphasis on services and performance, that are putting first things first.

ACRL AND ARL STATISTICS

The recent publication of ACRL University Library Statistics for 1978-79, together with the annual issue of ARL Statistics, offers for the first time a body of timely and more or less comparable data on university libraries.

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These two compilations provide data on the libraries of 177 of the 181 U.S. institutions classified by the Carnegie Council as doctorate-granting institutions, as well as data on 19 Canadian university libraries—a total of 196 libraries. There are twenty-two categories of library data concerning collections, interlibrary loans, expenditures, and personnel; data are also reported on enrollments, Ph.D.s awarded, and Ph.D. fields.

As we have seen, the Standards for University Libraries do not present quantitative criteria or levels of excellence to be used as measures of achievement. The ACRL and ARL data, therefore, will not reveal whether this or that library meets accepted quantitative standards. But in certain ways the data can tell us where university libraries are, if not where they should be. We cannot say that a university library has satisfied or failed to satisfy external criteria, but empirically we can describe the quantitative relationships among university libraries in 1978–79. This paper, therefore, discusses some ways in which the data can answer two kinds of questions:

1. What are the relationships among various categories of library and university data—for example, between the numbers of staff and the sizes of libraries in volumes held?
2. Is it possible to distinguish among groupings of libraries and to describe various groupings quantitatively?

Before turning to these questions, however, we need to be aware of two caveats about the ACRL and ARL data.

First, except for the categories concerning interlibrary loans, the data do not necessarily tell us anything about quality of service. It is true that if a scholar wants Kalkar’s Ordbog til det aeldre danske sprog, no doubt a university library with more than a million volumes is the best place to try. On the other hand, it may be that one will find Lolita more easily in a community college than a university library. DeGennaro has pointed out that our statistics are merely measuring degrees of bigness, not availability or accessibility of information. Some attempts are being made to relate size to service, but we are not yet able to claim even feebly that the ACRL and ARL data disclose much about how well our users are served. In the terms of Brown’s recent typology of information about libraries, the data provide measures of resources but not measures of library activities, users, or performance.

Second, although the ACRL and ARL publications are undoubtedly the most useful statistical compilations on university libraries, remember that they are subject to the vagaries that willy-nilly beset data collections. Piternick claimed that the user of those data will rely upon them as the drunk relies upon the street lamp—for support rather than illumination. Even if one does not take so tight a stand, it is at least worthwhile to follow Piternick’s advice that the data ought to be handled with care. With these cautions in mind, we turn next to a discussion of the relationships among categories of data in university libraries.

SIMILARITIES IN UNIVERSITY LIBRARIES: CORRELATION AND REGRESSION

Although the Standards for University Libraries avoid quantitative criteria, an appendix discusses “Quantitative Analytical Techniques for University Libraries.” Among the techniques suggested are ratio analysis and regression analysis. We consider first the use of ratio analysis with the ACRL-ARL data.

A table of various ratios is presented in both the ACRL Statistics (p. 12) and the ARL Statistics (p. 14). What is interesting about these two sets of ratios is how closely, for the most part, they correspond. In both the ACRL and ARL libraries, the median number of professional staff is 25 percent of total staff. In both, the median ratio of professionals to nonprofessionals is 0.5:1. Serials expenditures are 49 percent of library materials expenditures in the ACRL universities and 54 percent in the ARL. In the ACRL, 36 percent of total expenditures is for library materials, in the ARL, 31 percent. Only in the ratio of items loaned to items borrowed is there a striking difference: 1.5:1 in the ACRL, 2.4:1 in the ARL. It is tempting to assume that these ratios offer a firm ground for statements
about university libraries—to conclude, for example, that in universities the ratio of nonprofessionals to professionals is two to one, that about one-third of library expenditures is for materials, that about 50 percent of the money for materials is committed to subscriptions and standing orders, and so on.

But even when we know the high, low, and median ratios, we have no measure of how closely the ratios for individual libraries cluster about the median. For instance, if a library spent 60 percent of its materials budget on serials, is that library significantly out of line with its peers? A measure of relative variability called the coefficient of variation can indicate the utility of the different ratios. This shows whether the values of a ratio in the individual libraries are fairly similar or more widely dispersed. As examples, in the ACRL-ARL data the median ratio of total salaries to total expenditures is .55:1, and the median ratio of nonprofessionals to professionals is 2:1. But the coefficient of variation for salaries to total expenditures is 13 percent, and for nonprofessionals to professionals 34 percent. The former ratio is considerably more informative than the latter. We come closer to conveying a quantitative truth about university libraries when we say that total salaries are about 55 percent of total expenditures than when we say that university libraries have two nonprofessionals for each professional. Ratio analysis is thus a useful starting point in analyzing data. But by itself it leaves us in the dark when we try to assert that this or that ratio is characteristic of university libraries. For a data analysis technique that indicates how accurate our assertions are likely to be, we must turn to correlation and regression analysis.

The appendix to the University Standards contains some comments on regression analysis, and there are descriptions in most statistics textbooks. For the purposes of the following discussion it is worth noting that some of the basic concepts of regression can be grasped through reference to simple geometry. Suppose that we have two variables, or categories of data, such as volumes held and professional staff. If we plot the two variables on a graph (number of volumes along the x axis and professional staff along the y axis), each point will represent the professionals and volumes of one library. The straight line that lies closest to all of the points is the regression line. The general formula for a straight line in geometry is $Y = a + bX$. In our example, professionals ($Y$) = $a + b$ times volumes ($X$). Regression analysis calculates the values of $a$ and $b$ in the formula. Thus, in the most accurate way, the formula describes the linear relationship between two variables. How strong the relationship is (how close the points are to the regression line) is indicated by the coefficient of determination, $r^2$. If the points do not have any measurable relationship to the straight line, $r^2$ equals zero. If the points all lie exactly on the line, $r^2$ equals one. In different terms, $r^2$ measures how much of the variation in one variable is associated with the variation in the other. Where $r^2$ equals one, all of the variation in the first variable can be explained by reference to the second variable.

Consider again professionals and volumes held. For the 196 ACRL and ARL university libraries the regression equation is $Y = 11.84 + .0000274X$; or, prof. staff = 11.84 + .0000274 × volumes. Here $r^2$ equals .86. With a high degree of accuracy, the regression equation describes the relationship between volumes held and professional staff in university libraries. Eighty-six percent of the variation in the numbers of professionals can be accounted for by the volume sizes of the libraries. If we substitute 36,500 for $X$ in the regression equation, $Y = 11.84 + .0000274 \times 36,500 = 11.84 + 1$. Consequently, for each 36,500 volumes, the equation predicts 11.84 (or approximately 12) plus one professional. If a library has 2,190,000 volumes, or 36,500 times 60, then the formula predicts that that library has 12 plus 60, or 72, professionals. The formula is a powerful tool for making a statement about a quantitative relationship in university libraries. It tells us that, in general, university libraries in 1978-79 had one professional for each 36,500 volumes held, added to a base of 12 professionals.

Note that the values predicted by the formula will rarely coincide precisely with the actual numbers of professionals, since the relationship between professionals and volumes is not perfect but rather is characterized by the $r^2$ of 86 percent. Some of the actual numbers of professionals will be less than the formula predictions and some greater. The
difference between an actual and a predicted number of professionals is called a residual. Regression analysis offers a way of characterizing the relative size of individual residuals. For the regression of professionals with volumes, one standard deviation of the residuals is approximately 14. In general, we can expect that about two-thirds of the residuals will be between \(-14\) and \(+14\); and 95 percent of the residuals will fall between \(-28\) and \(+28\) (that is, two standard deviations).

In illustration of the foregoing discussion, consider two university libraries picked at random. In library \(A\), volumes held are 513,036, and the actual number of professionals is 30. In library \(B\) volumes are 1,921,278 and professionals 43. Substituting the volume figures in the formula produces a prediction of 26 professionals for library \(A\) and 65 for \(B\). The formula underpredicts \(A\) by 4 professionals and overpredicts \(B\) by 22. The residual \(4\) is well within one standard deviation of 14. Library \(A\) therefore exhibits a professional staffing fairly typical of university libraries. For library \(B\), on the other hand, the residual of 22 is between one and two standard deviations, or between \(14\) and \(28\).

In this case there is a question whether \(B\) is understaffed in relation to what is typical of professional staffing in university libraries. (It should be noted, however, that there may be local conditions that make the staffing of \(B\) right for its situation. The regression equation tells us that, when we consider size in volumes alone, most university libraries have actual professional staffs within about \(14\) above or below what the equation predicts. But the regression analysis does not consider the multitude of local influences on staff size.)

Just as we can show a relationship between volumes and professionals (one professional for each 36,500 volumes, above a base of 12), so we can discern other relations in the ACRL-ARL data. Some of these are displayed in table 1. The first entry in the table, for example, indicates that, over and above 13,600 gross volumes added, university libraries added one volume for every 33 volumes held. This formula has an associated \(r^2\) of 78 percent. The standard deviation of the residuals (the differences between actual volumes added and added volumes predicted by the formula) is 20,800. (In table 1 the numbers in the regression equations and the standard deviations are rounded, for simplicity. "Total staff" equals professional plus nonprofessional staff.)

The \(r^2\)s in table 1 are the highest that can be achieved (and indeed are very respectable) when we use only one variable to predict another, unless we use less meaningful predictors. For instance, volumes added net will predict volumes added gross with an \(r^2\) of 95 percent. But we do not come away much wiser from learning that, if we have such and such a number of net volumes added, we should have some number of gross volumes added. Is it possible otherwise to obtain higher \(r^2\)s than those in table 1? There are two ways to make the predictions more accurate. First, instead of using just one predictor, we can use two or more in the regression equation. As an example, we have used volumes held to predict professional staff, with an \(r^2\) of 86 percent. Through multiple regression analysis we can predict professionals with the following variables in the equation: volumes held, volumes added gross, microforms, current serials, interlibrary loans and borrowing, total students, graduate students, Ph.D.s awarded, and Ph.D. fields. But here the \(R^2\) is 90 percent—not significantly better than the 86 percent with volumes alone. It has been noted in the past that library variables are highly correlated with each other. The more volumes a library has, the more it has of serials, professionals, expenditures, and so on. As a result, it is hard to make a much better prediction of a variable like professionals with multiple predictors than we can get from one predictor like volumes, because the other predictors cannot add much to what volumes have already contributed.

A second possible method of improving the \(r^2\)s is to divide the ACRL-ARL libraries into smaller groups. This method is suggested by the appendix to the University Standards, following the procedure of Baumol and Marcus. We might, for example, consider the ACRL libraries separately from the ARL libraries. Or we might further divide these groups into public, private, and Canadian libraries, and subject each group to regression analysis. Space does not permit a display of the results of regression with these various groupings. Suffice it to say that, when regression analysis is carried out on these groups, in most cases
TABLE 1
REGRESSION RESULTS FOR SELECTED VARIABLES
IN ACRL-ARL DATA, 1978-79

<table>
<thead>
<tr>
<th>Variable</th>
<th>Regression Equation</th>
<th>$r^2$</th>
<th>Standard Deviation of Residuals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volumes added, gross</td>
<td>1 for each 33 vols. held + 13,600</td>
<td>78%</td>
<td>20,800</td>
</tr>
<tr>
<td>Current serials</td>
<td>1 for each 92 vols. held + 1,000</td>
<td>84%</td>
<td>6,200</td>
</tr>
<tr>
<td>Expenditures for library materials</td>
<td>$15 for each vol. added gross + $360,000</td>
<td>77%</td>
<td>$365,000</td>
</tr>
<tr>
<td>Total library expenditures</td>
<td>$68,000 for each professional + $290,000</td>
<td>91%</td>
<td>$806,000</td>
</tr>
<tr>
<td>Professionals</td>
<td>1 for each 36,500 vols. held + 12</td>
<td>86%</td>
<td>14</td>
</tr>
<tr>
<td>Total staff</td>
<td>1 for each 11,800 vols. held + 37</td>
<td>81%</td>
<td>54</td>
</tr>
</tbody>
</table>

The $r^2$s do not differ significantly from the $r^2$s of the entire ACRL-ARL. The only groups that do display significant differences are the ACRL, where the $r^2$s are lower, and the private universities, where the $r^2$s are higher. (These results point to more variability in the ACRL libraries than in the whole group of universities, whereas the private institutions show greater homogeneity.)

Can the regression equations of table 1, or other regression results, be taken as quantitative standards for university libraries? Can we say that above certain bases university libraries ought to add one volume for each 33 volumes held and spend $15 per volume, that they should have one staff member for each 11,800 volumes held, and that total expenditures should amount to $68,000 for each professional on the staff? Not really. These equations merely indicate what was characteristic of university libraries in 1978-79. They do not tell us whether the resources of the libraries were able to provide as well as possible for the needs of their users. The equations do not permit us to make the leap from what is to what should be.

The equations, moreover, do not necessarily characterize university libraries as distinct from other kinds of libraries. Consider again the equation linking professionals with volumes: one professional for each 36,500 volumes held, plus 12 professionals. When regression analysis is performed on the 1976-77 HEGIS data for the approximately 3,000 academic libraries in the United States, it turns out that the equation for all academic libraries is: one professional for each 34,800 volumes held, plus two professionals, with an $r^2$ of 85 percent. Except for the base of 12 or 2 professionals, there is little difference between the equations for the university libraries and for the entire population of 3,000 U.S. academic libraries. Above a certain base, all college and university libraries seem to have had approximately one professional for each 35,000 volumes. The regression equations of table 1 consequently cannot serve as standards peculiar to university libraries.

In the remainder of this paper we shall consider some of the methods by which university libraries can be differentiated from other libraries, and by which various levels of university libraries can be distinguished.

GROUPINGS OF UNIVERSITY LIBRARIES: DISCRIMINANT ANALYSIS

If we look through the ACRL and ARL data, it is hard to find gaps in the range of data from the smallest library to the largest. Most observers would probably decide that Harvard, at one end of the scales, and possibly U.S. International, the New School, and Rockefeller, at the other end, are somehow different from the other libraries. But between these extremes one finds no quantum jumps from one state of university library to another. Yet it is possible quantitatively to distinguish one kind of university library from another—to find, in other words, that there are statistically distinct groupings among the libraries.

In the investigation of groupings a useful tool is the statistical technique called discrimi-
Discriminant analysis begins with two or more discrete groups—for instance, male and female library professionals. It then analyzes discriminating variables—e.g., salaries, salary increases, rank—to determine which combinations of the data best distinguish between the groups. A result of the analysis is a formula by which, in the present example, we can differentiate males from females on the basis of their salaries, raises, and rank. Once we have the formula, we can use it to classify individuals as male or female. We can then see how much discriminating power the formula offers. It is interesting to note that in university libraries a discriminant formula can sometimes correctly classify 75–85 percent of professionals as males or females merely by reference to their salaries and raises—an indication of the salary differentials between men and women in libraries.

For present purposes, perhaps the first obvious question to put to discriminant analysis is whether the ACRL libraries comprise a group statistically distinct from the ARL libraries. We need to test a set of variables to determine whether some combination of the variables can discriminate between the ACRL and ARL. Previous analysis has shown that, of the twenty-two variables reported in the ARL Statistics, only ten are necessary to characterize library size and resources deployed. This analysis has been replicated for the ACRL-ARL data with the same result. The ten variables are:

- volumes held
- volumes added, gross
- microforms
- current serials
- expenditures for library materials
- expenditures for binding
- total salaries
- other operating expenditures
- professional staff
- nonprofessional staff

These ten variables can therefore be used as the discriminating variables.

Discriminant analysis finds that the greatest differentiation between the ACRL and ARL occurs when five variables are in the discriminant equation: volumes held, volumes added gross, microforms, expenditures for library materials, and professional staff. The equation based on these five variables correctly classifies 94 percent of the libraries as either ACRL or ARL. Only five ARL libraries are misclassified as ACRL, and six ACRL libraries as ARL. Discriminant analysis thus tells us that there is a remarkably strong statistical distinction between the ACRL and ARL libraries. If we have a few items of data from a university library—volumes held, volumes added, microforms, and so on—we can predict with 94 percent certainty whether that library belongs to the ARL or ACRL.

Are there any other discrete groups that allow similar accuracy of classification? Another obvious set to try is the Carnegie Classification groups. The ACRL-ARL data are for the libraries of those institutions termed doctorate-granting institutions by the Carnegie Council. The council further subdivides these institutions into research universities and doctorate-granting universities. Can we use library data to distinguish between these two kinds of universities? The answer from discriminant analysis is that only 80 percent can be classified correctly. That is, from library data we can predict with only 80 percent certainty whether parent institutions are research or doctorate-granting universities. Similarly, library data permit us to classify correctly as public or private only 75 percent of the institutions. Other possible groupings are based on enrollments or degrees awarded or Ph.D. fields. Can library variables distinguish between institutions with greater and lesser numbers of graduate students? In other words, is there a correspondence between library size and number of graduate students? We can divide the 196 ACRL-ARL institutions into two groups with median enrollments, Ph.D.s awarded, or Ph.D. fields as the dividing points between the groups. Then we can use the library variables to determine how distinct the groups are. The results from discriminant analysis are all significantly lower than the 94 percent correct classification of libraries as ACRL or ARL.*

*Segmenting the data of a continuous variable like enrollments and then performing discriminant analysis on the resulting groups is a procedure open to some criticism. It is followed here merely because it points simply to some basic results that can be confirmed by more abstruse statistical techniques.
These results are not surprising. Over the years the chief criterion for ARL membership has been library size, and so the distinction between the ARL and ACRL is based on library variables. The distinction between other groups like the Carnegie groups is based on university variables. Library variables are much more closely correlated with one another than with measures of university size, like enrollments and degrees awarded. Through a statistical technique known as canonical correlation we can compare the ten library size variables with the university size variables. It turns out that at most 78 percent of the variation in library size is associated with variation in university size, and vice versa. Up to a point we can understand library size by examining the parent institutions, but about one-quarter of the variation in library size cannot be accounted for by university data. We find, moreover, that the strongest relations are between library size and graduate enrollments, and to a lesser extent, Ph.D.s awarded. Total students and Ph.D. fields have little relation to library size. The college library standards relate collection size and library personnel to numbers of students and faculty. For university libraries, however, there are statistical reasons why library variables concerning collections, expenditures, and staff need to be related to each other, rather than to university data.

Discriminant analysis thus points to the following conclusions. There is a strong statistical distinction between ARL and ACRL libraries. This distinction is firmer than that between other groups based on university characteristics such as enrollments or degrees awarded. From library data we can tell whether a given library is part of the ARL or ACRL, but we cannot tell as much about the university to which the library belongs. Should we conclude further that the ARL group represents a different kind of library from the ACRL? The answer must be no. As shown at the beginning of this section, in the entire range of ACRL-ARL data there are no obvious jumps from one level to another. The ACRL merges into the ARL. Discriminant analysis allows us to say that ARL libraries as a whole are distinct from ACRL. What is needed is a method of determining how similar individual ACRL libraries are to ARL and vice versa. The following section examines this problem.

**Differences Among University Libraries: Principal Component Analysis**

The preceding analysis suggests that it is valid to measure the quantitative characteristics of either the ACRL or the ARL libraries and then to compare the libraries of the other group by these measurements. The technique that we shall use for these comparisons is principal component analysis, a variant of the statistical procedures called factor analysis.15

Principal component analysis begins with a set of variables such as the ten library size variables listed above. It derives a weight, or component score coefficient, for each variable according to how similar or dissimilar the libraries are in respect to that variable. For example, the ACRL-ARL libraries are most alike in the total salaries they pay, and consequently total salaries have the highest component score coefficient. The libraries exhibit the greatest variability in microforms, which have the lowest weight. These coefficients or weights are then multiplied by the data for each library to produce a component score for that library. The scores thus represent no more than a sum of the data from each library on its collections, expenditures, and staffing, weighted in accord with the ways in which the libraries are similar or different. They are simply mathematical transformations of the data for each library.

It is interesting, however, that as a whole the scores are approximated by a standard normal curve or a bell-shaped curve. In this kind of curve or distribution the midpoint (that is, the mean and the median) is zero. Most of the values fall between +2 and -2, a distribution that permits useful probability statements. For example, in any standard normal distribution approximately 84 percent of the values is greater than -1, 95 percent than -1.65, and 99 percent than -2.33.

We can use the probability feature of the component scores to describe similarities and differences among the ACRL and ARL. Suppose that we calculate scores for the ARL. Then the whole range of scores indicates ARL library size and resources deployed. If a li-
Library shares the essential quantitative features of the ARL members, the chances are 95 percent that the component score for that library will be above \(-1.65\), and 99 percent that it will be above \(-2.33\). In different terms, there is only a 1 percent probability that a library similar to the ARL libraries will score below \(-2.33\).

In illustration, we compute component scores for the ARL and then, using the same formula, calculate scores for the ACRL libraries. These scores are displayed in table 2. Note that the scores for ARL libraries range from 3.05 to \(-1.91\), in an approximately normal distribution, and the ACRL scores from \(-.42\) to \(-7.17\). Forty-seven ACRL libraries score lower than \(-2.33\).

How should these scores be interpreted? In

### TABLE 2

**Principal Component Scores of University Libraries, 1978–79 (from ARL Component Score Formula)**

<table>
<thead>
<tr>
<th>Library Group</th>
<th>Library Score</th>
<th>Library Group</th>
<th>Library Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Harvard ARL</td>
<td>3.05</td>
<td>50. South Carolina ARL</td>
<td>- .32</td>
</tr>
<tr>
<td>2. Calif., Berkeley ARL</td>
<td>2.18</td>
<td>51. Connecticut ARL</td>
<td>- .33</td>
</tr>
<tr>
<td>3. Yale ARL</td>
<td>2.12</td>
<td>52. Syracuse ARL</td>
<td>- .34</td>
</tr>
<tr>
<td>4. Indiana ARL</td>
<td>1.97</td>
<td>53. Missouri ARL</td>
<td>- .35</td>
</tr>
<tr>
<td>6. Toronto ARL</td>
<td>1.91</td>
<td>55. Tennessee ARL</td>
<td>- .36</td>
</tr>
<tr>
<td>8. Stanford ARL</td>
<td>1.80</td>
<td>57. Western Ontario ARL</td>
<td>- .39</td>
</tr>
<tr>
<td>10. Texas ARL</td>
<td>1.62</td>
<td>59. Utah ARL</td>
<td>- .40</td>
</tr>
<tr>
<td>11. Michigan ARL</td>
<td>1.62</td>
<td>60. Wayne State ARL</td>
<td>- .41</td>
</tr>
<tr>
<td>12. Columbia ARL</td>
<td>1.54</td>
<td>61. Laval ACRL</td>
<td>- .42</td>
</tr>
<tr>
<td>13. Cornell ARL</td>
<td>1.47</td>
<td>62. Nebraska ARL</td>
<td>- .51</td>
</tr>
<tr>
<td>14. Wisconsin ARL</td>
<td>1.40</td>
<td>63. Arizona State ARL</td>
<td>- .51</td>
</tr>
<tr>
<td>15. Minnesota ARL</td>
<td>1.03</td>
<td>64. Temple ARL</td>
<td>- .52</td>
</tr>
<tr>
<td>16. British Columbia ARL</td>
<td>.96</td>
<td>65. Louisiana State ARL</td>
<td>- .52</td>
</tr>
<tr>
<td>17. Chicago ARL</td>
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<td>66. Texas A&amp;M ARL</td>
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</tr>
<tr>
<td>19. Rutgers ARL</td>
<td>.83</td>
<td>68. Purdue ARL</td>
<td>- .56</td>
</tr>
<tr>
<td>20. Florida ARL</td>
<td>.76</td>
<td>69. Cincinnati ARL</td>
<td>- .56</td>
</tr>
<tr>
<td>21. Virginia ARL</td>
<td>.72</td>
<td>70. Iowa State ARL</td>
<td>- .56</td>
</tr>
<tr>
<td>22. Princeton ARL</td>
<td>.72</td>
<td>71. Boston ARL</td>
<td>- .58</td>
</tr>
<tr>
<td>23. Pennsylvania State ARL</td>
<td>.66</td>
<td>72. Joint University ARL</td>
<td>- .60</td>
</tr>
<tr>
<td>24. Northwestern ARL</td>
<td>.63</td>
<td>73. Brigham Young ARL</td>
<td>- .65</td>
</tr>
<tr>
<td>25. Ohio State ARL</td>
<td>.59</td>
<td>74. SUNY-Stony Brook ARL</td>
<td>- .67</td>
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<tr>
<td>26. Pennsylvania ARL</td>
<td>.54</td>
<td>75. Emory ARL</td>
<td>- .67</td>
</tr>
<tr>
<td>27. Calif., Davis ARL</td>
<td>.51</td>
<td>76. Ottawa ACRL</td>
<td>- .71</td>
</tr>
<tr>
<td>28. New York ARL</td>
<td>.46</td>
<td>77. Colorado ARL</td>
<td>- .71</td>
</tr>
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<td>29. Arizona ARL</td>
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<td>78. Massachusetts ARL</td>
<td>- .72</td>
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<td>79. Rochester ARL</td>
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<td>32. Georgia ARL</td>
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<td>81. Miami ARL</td>
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<td>.27</td>
<td>82. Calif., Irvine ACRL</td>
<td>- .81</td>
</tr>
<tr>
<td>34. Duke ARL</td>
<td>.26</td>
<td>83. Calgary ACRL</td>
<td>- .81</td>
</tr>
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<td>35. SUNY-Buffalo ARL</td>
<td>.21</td>
<td>84. Howard ARL</td>
<td>- .82</td>
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<td>36. Iowa ARL</td>
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<td>85. Manitoba ACRL</td>
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</tr>
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<td>86. Brown ARL</td>
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</tr>
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<td>38. Houston ARL</td>
<td>.14</td>
<td>87. Oklahoma ARL</td>
<td>- .90</td>
</tr>
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<td>39. Kansas ARL</td>
<td>.11</td>
<td>88. Queens ARL</td>
<td>- .91</td>
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<td>40. Maryland ARL</td>
<td>.08</td>
<td>89. Oregon ARL</td>
<td>- .91</td>
</tr>
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<td>41. McGill ARL</td>
<td>.03</td>
<td>90. North Carolina State ACRL</td>
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</tr>
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<td>42. Calif., San Diego ARL</td>
<td>.02</td>
<td>91. New Mexico ARL</td>
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</tr>
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</tr>
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<td>46. VPI &amp; SU ARL</td>
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<td>95. SUNY-Albany ARL</td>
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<td>47. Calif., Santa Barbara ARL</td>
<td>-.17</td>
<td>96. McMaster ARL</td>
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<td>97. Wisconsin, Milwaukee ACRL</td>
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</tr>
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<td>49. Washington State ARL</td>
<td>-.31</td>
<td>98. Dartmouth ARL</td>
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<td>Group Score</td>
<td>Library</td>
<td>Group Score</td>
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<tr>
<td>-------------------------</td>
<td>-------------</td>
<td>-------------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>100. Tulane</td>
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<td>180. Pacific</td>
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<td>132. Claremont</td>
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<td>181. Missouri, Rolla</td>
<td>-5.40</td>
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<td>134. Arkansas, Fayetteville</td>
<td>-2.27</td>
<td>183. New School</td>
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<td>135. Toledo</td>
<td>-2.28</td>
<td>184. Rockefeller</td>
<td>-6.50</td>
</tr>
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<td>136. New Mexico State</td>
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<td>185. United States Intl</td>
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</tr>
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<td>187. Mississippi</td>
<td>*</td>
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<td>139. Northern Green State</td>
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<td>188. Montreal</td>
<td>*</td>
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<tr>
<td>140. Clemson</td>
<td>-2.37</td>
<td>189. New Bruns., Fredericton</td>
<td>*</td>
</tr>
<tr>
<td>141. George Washington</td>
<td>-2.41</td>
<td>190. North Dakota State</td>
<td>*</td>
</tr>
<tr>
<td>142. Indiana State</td>
<td>-2.45</td>
<td>191. Ohio</td>
<td>*</td>
</tr>
<tr>
<td>143. North Carolina, Grnsboro</td>
<td>-2.45</td>
<td>192. St. Louis</td>
<td>*</td>
</tr>
<tr>
<td>144. Missouri, Kansas City</td>
<td>-2.46</td>
<td>193. SUNY-Binghamton</td>
<td>*</td>
</tr>
<tr>
<td>145. Loyola, Chicago</td>
<td>-2.52</td>
<td>194. Western Michigan</td>
<td>*</td>
</tr>
<tr>
<td>146. Marquette</td>
<td>-2.52</td>
<td>195. Windsor</td>
<td>*</td>
</tr>
<tr>
<td>147. Hofstra</td>
<td>-2.53</td>
<td>196. Yeshiva</td>
<td>*</td>
</tr>
</tbody>
</table>

*Missing data for these libraries preclude the calculation of component scores.*

In statistics it is customary to take a 95 or 99 percent cutoff point for rejecting a given hypothesis. In the present case we might select the more inclusive 99 percent, with a corresponding score of -2.33. Then we should say that libraries that score below -2.33 probably do not share the library size characteristics of the ARL libraries. Statistically, it is likely that the libraries with scores above -2.33 are a different kind of library from those with scores below -2.33. What is characteristic of the ARL libraries in collections, staffing, and expenditures is shared by 138 university libraries with scores above -2.33, but is lacking in the 47 libraries with scores below -2.33. This number, -2.33, therefore serves as a minimum threshold for the majority of university libraries.

The component scores are a sum of the data for ten variables. Consequently, differ-
ent combinations of data can produce the same score. One library that has, for example, a large number of volumes and few serials can have the same score as another library with fewer volumes but more current serials. To provide a clearer picture of what the −2.33 threshold implies, however, we can mathematically transform −2.33 into a value for each of the ten variables. These transformations are shown in table 3.

The “dividing lines” of table 3 can be interpreted in this way: If the numbers of volumes held in ARL libraries are transformed into approximately a standard normal distribution, a value of −2.33 corresponds to 600,000 volumes. We should expect that 99 percent of libraries like the ARL libraries would have 600,000 volumes or more. When we find 39 libraries (20 percent of all university libraries) with fewer than 600,000 volumes, we have to conclude that these are statistically different in kind from the ARL-like university libraries in respect to numbers of volumes held. Thus, 600,000 volumes serves as a minimum, dividing the major group of university libraries in respect to numbers of volumes held. Thus, 600,000 volumes serves as a minimum, dividing the major group of university libraries from the other libraries; and similarly for the other nine variables. It would be wrong to argue that the 39 libraries with fewer than 600,000 volumes are somehow not university libraries. They are, in fact, as much as the other 157, the libraries of institutions classified by the Carnegie Council as universities. What can be concluded, however, is that from a statistical standpoint there is an overriding probability that a library must have at least 600,000 volumes in order to share the essential quantitative characteristics of most university libraries.

In arriving at these conclusions, we began by using the ARL libraries as a base from which to measure university library characteristics. Obviously, we could in the same ways use the ACRL as a base. In this case the rank order of libraries in table 2 would remain about the same. But approximately the first 34 libraries (from Harvard through Duke) would have scores greater than 2.33. We should then say that these 34 libraries are statistically different from the other ARL and ACRL libraries. But it is not clear what this statement would imply: that there are university libraries, and then there are some 30 superlibraries? The implications of table 2 seem more reasonable: that most university libraries, from Harvard through ACRL libraries, share the same kinds of quantitative characteristics; but libraries in the lower end of this range increasingly assume the features of smaller institutions, such as college libraries.

UNIVERSITY LIBRARY STANDARDS?

Tables 1 and 3 together offer what seems very much like quantitative standards for university libraries. For example, table 1 shows that the typical university library has

<table>
<thead>
<tr>
<th>Variable</th>
<th>Dividing Line</th>
<th>No. of Libraries below Dividing Line</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volumes</td>
<td>600,000</td>
<td>ACRL 40% No. 39 54% ARL 0%</td>
</tr>
<tr>
<td>Volumes added, gross</td>
<td>24,000</td>
<td>ACRL 41% No. 38 44% ARL 1%</td>
</tr>
<tr>
<td>Microforms</td>
<td>425,000</td>
<td>ACRL 55% No. 54 38% ARL 3%</td>
</tr>
<tr>
<td>Current serials</td>
<td>6,000</td>
<td>ACRL 38% No. 36 42% ARL 0%</td>
</tr>
<tr>
<td>Expenditures for library materials</td>
<td>$620,000</td>
<td>ACRL 42% No. 41 33% ARL 0%</td>
</tr>
<tr>
<td>Expenditures for binding</td>
<td>$30,000</td>
<td>ACRL 33% No. 32 42% ARL 1%</td>
</tr>
<tr>
<td>Total salaries</td>
<td>$890,000</td>
<td>ACRL 38% No. 37 45% ARL 1%</td>
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<tr>
<td>Other operating expenses</td>
<td>$110,000</td>
<td>ACRL 45% No. 43 37% ARL 0%</td>
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<td>Professionals</td>
<td>23</td>
<td>ACRL 37% No. 36 48% ARL 0%</td>
</tr>
<tr>
<td>Nonprofessionals</td>
<td>46</td>
<td>ACRL 48% No. 47 40% ARL 0%</td>
</tr>
</tbody>
</table>
twelve professionals plus one professional for each 36,500 volumes held. In most ACRL-ARL libraries the actual staffing is within fourteen professionals of what this formula predicts. The formula prediction minus fourteen is therefore a minimum for most university libraries. That is, professionals equal volumes divided by 36,500, plus twelve, minus fourteen, or vols./36,500 - 2. From table 3 the typical university library has at least twenty-three professionals. We can therefore say that, as a minimum, the number of professionals needs to be (1) at least equal to volumes/36,500 - 2 and (2) no less than twenty-three. Table 4 displays some of these minima.* On the average about 10 percent of the ARL libraries and 38 percent of the ACRL, or 25 percent of all university libraries, are below each of these levels.

Are the minimal levels of table 4 at last the elusive quantitative standards for university libraries? Certainly they are empirical criteria that point to what was characteristic of university libraries in 1978-79. We might even say that, if a library does not want to fall below 1978-79 university library levels, it must satisfy the criteria of table 4. But the criteria in a way represent the lowest permissible statistical thresholds. The 75 percent of university libraries that have surpassed these lower limits would rightly feel cheated (or worse) if they were told that they could have expenditures for library materials equal to only $15 per volume added, minus $5,000, or professionals equal to only vols./36,500 - 2. These are not standards in the sense of goals that most libraries should strive to achieve. More importantly, the criteria also fail to reveal whether the collections, expenditures, and staffing of table 4 are sufficient "to support the university’s total instructional needs and to facilitate the university’s research programs."

We have not yet arrived at a means of comparing these criteria with measures of library activities, users, and performance.

At this point one may feel somewhat like the dreamer of Piers Plowman, who through 7,303 lines of poetry seeks for what he should do to win salvation, and in the end learns that the search must begin again. University libraries that wonder what they ought to do to be saved will not find the answers in table 4. They must look for and measure what is necessary to give users what they need when they need it. But that search will be considerably more arduous and time-consuming than the one described here.

References


<table>
<thead>
<tr>
<th>Category</th>
<th>At Least Equal To:</th>
<th>And No Fewer Than:</th>
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<td>600,000</td>
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<td>Volumes</td>
<td>Vols./92 = 5,200</td>
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<td>Added, gross</td>
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<td>Current</td>
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<td>Serials</td>
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<td>Expenditures</td>
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<td>for library materials</td>
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are not issued in as timely a manner: at the time of writing, the latest data available even on computer tape from the National Center for Education Statistics were for 1976-77 (although the 1978-79 data became available in January 1981).


13. Stubbs, ARL Library Index, 9-10.

14. Because of the lognormal tendencies of the ACRL-ARL data, we use logarithms of the data, rather than the raw data, in these statistical analyses. For comments on the lognormal nature of library data see Allan Pratt, "The Analysis of Library Statistics," Library Quarterly 45:275-86 (July 1975).


Towards the Development of a Library Management Information System

This paper outlines an approach, with both widespread implications and specific practical steps, for assembling some of the data that library administrators now require in order to make libraries operate more effectively. These data have not been assembled in the past because the costs in staff time alone have been and continue to be prohibitive for most institutions.

One major impediment to effective library administration is the lack of a comprehensive management information system (MIS). Some investigators in this area seem to have become fascinated with the potential value of various elusive and fugitive library statistical measures, but they have given little attention to the operational systems that would be required to assemble these data. The proposal outlined here stresses the need for a total systems approach, based upon standardized terminology, machine-aided data collection, and customized computer processing and reporting as well as systematic training and documentation.

After the proposed MIS is developed, it can be offered to subscriber libraries by a bibliographic utility or network system at variable rates determined by input data volume, processing times, and output report requirements.

INTRODUCTION

One of the persistent problems in academic library planning and decision making is obtaining an accurate picture of exactly what is going on within the library. We are used to keeping counts of our operations, but we are seldom comfortable with the accuracy, timeliness, or completeness of this data once assembled. All libraries have some kind of statistical data system, but I would venture to say that in few libraries is the system considered adequate. Some reasons for this unfortunate situation are presented in this paper along with a general outline of an improved system and the steps that may be necessary for its realization.

THE NEED

Investigators have repeatedly decried the lack of needed data to conduct research in library operations.1-2 Doubtless the problem exists in many areas, but there are signs that we now have the knowledge and the tools required, and that it may be an appropriate time for the initiation of specific projects within certain organizations to address the overall need. That need was concisely summarized by Urquhart in a paper that was suitably addressed primarily to service considerations:

Nowadays we must recognize the need to quantify the problems of librarianship so that management can plan their policies on a rational basis. There is a particular need to develop measurement techniques which can be used to describe library processes, and provide management with up-to-date information. Such techniques must operate within three restraints:

- they must be inexpensive to operate;
- they must not interfere with existing services;
- they must provide reproducible results.3

One hopeful sign is the growing professional interest and publication in the area of

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library measurement and evaluation. Fifteen years ago this kind of work was being done on the outside, and confined typically to university operations research departments. Now it is beginning to form a widening stream in our professional literature, and as indicated by the 1980 ALA Preconference on Library Effectiveness, much of the quantitative work is now being done within the profession by library practitioners and library school faculty members. 4

Whereas a few years ago, the requirements and processes for generating library statistical data were largely external to the library, the situation has begun to shift. Now there is both a high degree of need and matching technical capability for developing sophisticated statistical records within each academic library. This is not to say that individual librarians will now become operations research experts, but that through the marriage of newer conceptual developments in library measurement and computer processing we can now accomplish that which could not be done before. This will become clearer as we examine long-standing obstacles to statistical record keeping. But first we need to outline a conceptual model for library data to support administrative decision making.

A CONCEPTUAL MODEL

In most statistics committee discussions and in the published literature, we continue to speak of library measurement in terms of isolated tallies of individual items and events occurring within a library. Our thinking has remained fixed on the relatively narrow issue of how to define and report several limited categories of measurement. In addition, those categories of data, collected for purposes of local operational control and national reporting, tend to have very little relationship to those which are called for or utilized in empirical research studies. The reason for this lies in the absence of a broad conceptual model of library data that can be used in the development of a detailed statistical data system applicable to a wide range of operational planning, reporting, and research purposes.

The models which need to be constructed include both verbal and graphic descriptive and explanatory models as well as mathematical and statistical models. It would be as serious a mistake to rush into the premature construction of the more precise quantitative models as it would be to avoid quantification when it becomes possible. In any complex organization where there are many variables which must be considered in the resolution to any problem, it is necessary to become specific and quantitative about the factors which must be changed. 5

In order to develop such models we must turn our attention to the key decision-making issues about and within the library. Our question must be, "What data is needed in order to derive more timely, reliable, and far-reaching decisions?" Doubtless there are also other decision-making criteria that should be considered, and those might be best addressed within a special task force of library administrators representing a sampling of major library organizational types. Numerous writers have pointed out the necessity for administrators to be involved at the outset in the establishment of goals and objectives for the development of an MIS. 6 Unfortunately, this critical and most difficult first step is frequently overlooked or delayed beyond the point at which the system design has become frozen in its basic data structure and organization.

The conceptual model that seems to be required here is a set of integrated, decision-related data categories appropriate to the overall administration of a library. An abbreviated example of such a data set for an academic library is outlined in appendix A. This illustrative example is suggested as a monthly planning report to senior-level administrators. Other more or less detailed reports might be useful at other intervals for different purposes.

For an MIS to be detailed in coverage and broad in application, it is imperative that the data categories be precise and well defined. Fortunately, the process of developing many of the fundamental terms, definitions, and relationships has been effectively begun in the work done so far on the National Center for Educational Statistics (NCES) Handbook of Standard Terminology for Recording and Reporting Information about Libraries. The long and complicated history of this important document is summarized in the 1980 Bowker Annual. 7 The introduction to the Handbook points to the required expansion
of our vision from microscopic counting activities to overall management and decision-making concerns:

This Handbook describes basic management information useful in academic, public, school, and special libraries. An underlying premise of the Handbook is that all types of libraries have a common set of functions, purposes, and resources which outweigh the differences in setting, size, or organizational goals. The data base is built upon a common set of terms related to those common functions, purposes, and resources, while accommodating and providing for those terms unique to each type of library. 8

As indicated above, it should now be possible to proceed towards the development of a generalized MIS that addresses the needs of academic, public, special, school, and other types of libraries. The examples and allusions in this paper are drawn largely from the academic library scene, but that simply represents this writer’s experience and bias. Other related and compatible examples (in terms of an integrated, multitype library MIS) could be offered to illustrate the application to other types of libraries.

One benefit of an overall conceptual model is to allow a detailed specification of the data to be collected at the level of individual library operations, which can later be grouped and regrouped into regional and national summaries and profiles. As of yet, we don’t have this kind of data-handling capability in libraries, and we are not likely to achieve it until we have thought our decision-making needs through in terms of a comprehensive MIS, over and above the need for consistent rules in the counting of minute items and events.

Characteristics of the Model

A number of library investigators have described statistical measures and related interpretations useful in evaluating library performance and effectiveness. 9 During the past several years, there has also been extensive study and effort directed towards the standardization of library statistical terminology. These efforts will be discussed later. What is now needed is the combination of broad management reporting concepts with the detailed technical description of library measurement parameters. Again the NCES Handbook appears to be the most ambitious effort in this direction to date. One of the early NCHEMS reports that led to the development of the Handbook summarized its seven major data categories as follows:

. . . the data contained in the management information system describes the environment, the overall resources, and the programmatic activities of the library. The environmental data of the library includes information which describes the external setting of the library, the internal organization of the library and the target group served by the library. The overall resources of the library include four major types of data: collection resource data, human resource data, financial data and facility resource data. Finally the data concerning programmatic activities organizes the library into major activity or functional areas. For each of these, a series of measure categories are used to describe and evaluate the activity of the library. These measures describe revenues/expenditures, personnel, facilities, activities, users, and outcomes/performance of each of the activity areas. 10

Two useful features of the Handbook in its current form are a data classification and hierarchical coding scheme. These, in combination with a glossary of all terms employed, will enable the administrator to specify precisely the type and level of data to collect and report in order to compile a comprehensive, quantitative description of an individual library.

When the re-edited version of the NCES Handbook is ready for field review, librarians should be thinking in the broadest possible terms about uses, permutations, and combinations of the data. Other categories that we have tended to overlook in the past, but which should increasingly occupy our attention, are indexes and output or performance measures. We are familiar with some useful applications of index numbers in reporting publishers’ price changes and national economic trends, but it seems possible to conceive of “the construction and use of index numbers” 11 also in some areas of library resources and operations. One of these may be the profiling and shorthand description of library collections and user response rates. We already have indexes for retrieval efficiency 12 and the technical services cost ratio, 13 but we haven’t been able to include these research-oriented measures in a library MIS. Now that we have examples and case histories of the application of MIS in business and university
environments, it seems feasible with network resources to apply such systems in libraries. In the ALA Preconference on Library Effectiveness, there was an outline of a quite advanced design for an MIS in a public library. Drawbacks with such localized system developments are that they are costly, and in addition, it is unlikely that they will be compatible for transfer to other library settings.

Cost is a consideration, and the MIS must have a reasonable cost compared to its worth. The economics of information systems requires constant balance between the value of the information carried in the system, and the cost of designing and operating it.

Of course if the development of a generalized MIS is long delayed, it is quite likely and even feasible for a library to develop its own, using some of the NCES Handbook data categories and definitions. Certain flexible and user-oriented software packages, such as MARK IV, SCRIPT, and FOCUS, are now available and can facilitate the writing of the requisite computer programs. Another option is the use of an “electronic worksheet” program such as VISICALC which is now available on many microcomputers.

Terminology

The problem with terminology has impeded the development of a generalized library MIS in the past. It seems now that there is well-grounded hope for progress in this area. Librarians will doubtless settle their terminological confusions and disputes if there are short-term, positive benefits in doing so. One such benefit will be the ready availability of the kind of statistical tabulations and output reports proposed here. Another major incentive to agreement will be the adoption of the new standards for library statistical terminology being considered in 1980-81 by the American National Standards Institute (ANSI Committee Z39.7).

The committee is working on a draft standard that contains 482 categories of library data. This compares to only 31 items in the Association of Research Libraries annual statistics, and 70 items in the LIBGIS survey form. The ANSI standard is now being developed in coordination with the NCES Handbook revision process. Concerted effort is being applied to assure that measurement terms and their definitions cover a broad range of conventional and potentially innovative measures. Terms must be given precise delineations so there is little question about what item counts are to be included with a category. As an example, the definitions used for government documents and microforms in most current statistical surveys are insufficiently precise. Built into the design of the terminology must be the possibility of combining atomic and molecular terms (and tabulations), either on input or in processing. This is necessary in order to customize data collection forms and output reports to meet the requirements of different types of libraries. For example, it is possible to specify media and microform types in great detail, but for certain users or certain reports, aggregate or generic tabulations may be more useful.

Organizational Considerations

For years, there have been manifold ALA committees humming with projects directed towards the rationalization of library statistical terminology and concepts. Beyond this, there have been numerous committee efforts to support the definition, collection, analysis, and reporting of specific new measurement categories. One example has been the innovative work of the ALA Committee on Statistics for Reference Services, which produced, under the direction of Katherine Emerson, several new publications, conference programs, and training activities related to the measurement of reference transactions. Despite the effort of many hard-working people, it took this committee several years of intense work to arrive at acceptable definitions of directional and reference transactions. Additional effort and time was expended in trying to insert these new “standardized” terms into nationally distributed data collection forms. It was a major victory to get the categories incorporated as cells in the LIBGIS reporting forms for academic libraries. After this was done, and the filled-out forms started coming back from the field, it became apparent that librarians were still unclear about the purpose, definition, and relationship of the reporting categories.

The point of all this is not simply to belabor the obvious fact that national committee activities grind exceedingly slow, even when favored with superior leadership and expert
participation. Rather, it is to suggest that far-reaching change in library statistical reporting may have to follow a different path and implementation strategy than in the past.

Once the concepts, terminology, and categories have been developed by professional committees and project research groups, they are usually reviewed in the field, and finally revised for publication. There is probably not much that can be done to shorten these time-consuming editorial and review processes until computer conferencing is more widely available.

It has also been customary to rely upon the federal government to implement library statistical standards through the collection and summarization of data supplied by individual libraries. This process has resulted in protracted delays in the publishing of results and in the modification of categories and terminology as described above. Further, the existing process of national reporting has been a separate, add-on function for most libraries, not yielding timely operational data that can be used for internal planning and control. That is, the data collected and ultimately reported in national summaries has not been skimmed efficiently off the top of a constantly updated database of detailed library measurements. Rather, it has been generated ad hoc, under pressure of external deadlines and constraints. The process has been additionally exacerbated by frequent organizational and personnel changes within the Office of Education (now Department of Education).

On the other hand, the bibliographic utilities are not subject to these forces, and the task of library data handling is central to their overall mission. Likewise, they have daily and direct operational involvement in individual libraries, which provides them with the information and motivation required to design and maintain an effective MIS. It is hoped that after the above handbook and standards have been published, the definitions and specifications for library statistics will be sufficiently explicit for the bibliographic utilities to begin to address the problem of implementation within a new subsystem of their current network-based catalog systems.

IMPLEMENTATION

The essential thesis of this paper is that what is now required to translate the studies and projects cited above into practical results is a complete, off-the-shelf MIS that a library administrator could purchase and install in any library. Like most generalized, commercial software and utility programs, such a system should be designed in a standardized and modular form, so that libraries of different types and sizes could select only those elements that suit their particular needs. If this is done on the basis of the conceptual model proposed earlier, it will be feasible for libraries to disregard data of certain types and at certain levels, and yet remain compatible within a system of broad regional and national coverage. Also, since the model has been thought through on the basis of the items and tasks shared by many individual libraries, the use of the MIS should assure enhanced planning, accountability, and operational control within each library.

When one thinks about the development of the OCLC system, beginning as it did with the early premise that each library should be able to select or maintain its own catalog card print format, the parallels with the needed MIS are recognized. If the statistical report formats are highly flexible, then each library can still devise reports that reflect its own particular needs. Since tables and graphs can be computer printed, there would be a saving in specialist skills and staff time at the individual library level. Like the catalog system on which it is modeled, the statistical data system would soon become so necessary and cost-effective that libraries would be unable to avoid the terminological standardization and uniform reporting that it will exact. By the same token, the provision of frequent, comprehensive, and up-to-date statistical reports will vastly enhance the decision-making and budget analysis capabilities of administrators at all levels.

What is proposed here is that the MIS be designed and installed as a subsystem of one of the existing network-based computer systems, such as OCLC, RLIN, or WLN. In terms of developmental difficulty, the system should present much less complexity than the cataloging subsystems already developed.

Two of the persistent problems in setting up and maintaining an MIS are (1) deciding who counts what and (2) assuring that the daily counts are fed on a scheduled basis to a central collection point. Counting goes on in most library departments, but in order to as-
sure consistency and total coverage and to eliminate overlap, it is necessary to assign responsibility for specific data to appropriate departments and sections within the library. As an example, recently acquired microforms might be counted either in the acquisitions department (where they are received), the cataloging department (where they are processed), or the media department (where they are stored and serviced), but it is redundant and wasteful to have them counted in several departments as many libraries now do.

Input processing should be simplified on standardized, machine-readable reporting forms (mark-sense, optical scanning, etc.) that can be easily filled out at service desks and other points of activity. Forms can be collected and sent periodically for batch machine processing. Alternatively, data might be periodically keyed into a central computer through a general communications terminal.

Output reports should be highly flexible, allowing individual departmental as well as total library summaries on both a month-to-month and annual basis. It should be possible in the institutional profile or system specification to delete or combine various counts, cross-tabulations, percentages, rankings, and other computations. Modular and flexible report formats and statistical computations are necessary in order to adapt to changing local and national reporting needs.

Often, the prime reason that required statistical reports are not forthcoming is that there is insufficient staff to process or recombine the raw data already available but dispersed or inaccessible in various office files.

Each user would contract with the vendor for the level and amount of detailed processing and reporting required within the individual library. The specifications for processing of the data would be drawn up in a manner comparable with the OCLC profile now used to determine card format and other characteristics for each member library. Some available data cells could be left unspecified (distinctly not a possibility with the current LIBGIS forms) so that each library might assign some new measurement parameters that may be experimental, customized, or otherwise unique to its own particular operations, holdings, and services.

As with any computer system for the processing of library operational data, there will be a need for extensive documentation and training. Adapting the system to a given library's needs would be roughly analogous to the procedure now involved in writing an OCLC user profile. There will be a need for a comprehensive user manual explaining the system, terminology, and all procedures, with detailed examples. It will also be desirable to include practical guidance in the application of different sampling techniques to library data in the training sessions to be offered in subscriber libraries. While it is not feasible to collect certain types of activity and performance data on an ongoing basis, experience indicates that this is not required, since most library statistical activity measures tend to be very stable over time. Since fairly large samples are generally available, random or sampling errors are usually easy to avoid.\textsuperscript{19}

\textbf{Future Research}

An expanded range and depth of library statistical data could be used for research purposes. We need data that can assist in constructing simulation models of individual libraries and distribution models of regional and national resources. Such data are required to plan a truly effective national library network. Generally, if librarians and researchers have been able to assemble the kinds of comprehensive data proposed here, it has been only episodically with significant summaries and interpretations limited to annual and usually less frequent reports.

For an example of the benefits that effective data and analysis can provide, one need only look to Baumol's fundamental work on library economics.\textsuperscript{20} This important study was based upon the Office of Education's Library Statistics of Colleges and Universities: Fall 1968,\textsuperscript{21} and the annual statistical summaries of the Association of Research Libraries. The study is one of the most fundamental, empirically based analyses of library growth and cost trends available anywhere in the literature. Unfortunately, the data on which it was based was five years old at the time of publication, and there has been no comparable long-range interpretation of longitudinal data for libraries since 1968.

As regards the further elaboration of library data analysis based upon the use of the NCES Handbook, there are several topics on
which future research is needed:

The basic areas which need additional work are: implementation of the suggested system in a wide variety of libraries; monitored testing of school and special library components; development of methods to measure the results of reserve sharing and networking; development of methods to record data on the agency roles of state and national libraries; and the development of adequate performance and outcome measures for all kinds of library services.22

A distinction about the availability and use of input versus output data seems appropriate here. Almost all historical data that has been assembled on academic libraries has been of the input nature, i.e., number of books held, dollars spent, staff available, etc. Increasingly, our funding authorities and accrediting agencies are asking for data on the educational outcomes of these costly resource investments. As enrollments drop and resources diminish, it becomes more important for administrators to provide evidence of the impact and results of expenditures. The MIS proposed here could, because of its flexibility and operational simplicity, make it feasible for many libraries to collect operational and performance data on an ongoing basis. By the same token, it is unlikely that this kind of data will ever be generated on a very wide scale if the procedures for processing the primary input data remain as they are now: rudimentary and inefficient.

We now have the operational capability of constructing comprehensive statistical summaries for libraries of all types. Once such a database has been assembled, it is interesting to speculate on the types of theoretical and policy studies that could then be pursued. One that fascinates this writer would be a study of branch units in academic libraries. Various configurations of academic libraries could be examined, while testing cost/benefit factors in highly centralized versus other more decentralized organizations. Given that this is one of the most resource intensive and poorly documented areas in academic library organization and management, the results could be quite interesting.23

REFERENCES

APPENDIX A

DECISION SUPPORT SYSTEM SUMMARY REPORT*

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<th>SERVICES</th>
<th>This month this year</th>
<th>This month last year</th>
<th>Y-T-D this year</th>
<th>Y-T-D last year</th>
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SERVICES

Information and Instructional Services
Questions answered (Directional, reference, research, etc.)
Tours and attendance
Classes offered and attendance
Bibliographies prepared
SDI notifications
Outside contacts
Database searches

Special Collections
User count
Reference and research questions
Materials paged

FACILITIES

Space Utilization
Shelving (linear feet)
- Expansion space available
- Additions:
  - Reference collection
  - General collection
  - Serials Collection
  - % utilization
Seating
- Total available
- Sample use counts
- % utilization
Faculty studies
- Reservations
- Sample use counts
- % utilization

COLLECTIONS

Collections Growth
Print Materials Added
Books — Volumes
Serials issues
U.S. documents
State and local documents
United Nations documents

Nonprint Materials Added
Microfilm rolls
Microfiche
Microcards
Cassettes
Audio
Video
Phono discs
Kits

Materials Withdrawn

Total Items Added to Collections
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<th>Budgeted</th>
<th>Expended to date</th>
<th>Expended this month</th>
<th>Current balance</th>
<th>% utilized</th>
</tr>
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<tbody>
<tr>
<td><strong>Personal Services ($)</strong></td>
<td></td>
<td></td>
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<tr>
<td>Faculty</td>
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<tr>
<td>Library assistants</td>
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<tr>
<td>Part-time employees</td>
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<td>Total savings</td>
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<tr>
<td><strong>Departmental Allocations for Hourly Employees ($)</strong></td>
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<td>Administration</td>
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<td>Collections development</td>
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<td>Technical services</td>
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<td><strong>Acquisitions Expenditures ($)</strong></td>
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<td>Books</td>
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<td>Direct order (Faculty, library, etc.)</td>
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<tr>
<td>Standing order</td>
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<td>Serials</td>
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<tr>
<td>Departmental allocations</td>
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<tr>
<td>(Anthropology, biology, . . . etc.)</td>
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<tr>
<td>Cost per item purchased</td>
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<tr>
<td>Dept. personal expenditures/items purchased</td>
<td></td>
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</tbody>
</table>
The Information of Needs of Historians

This article reports the results of a survey of historians in different fields of history. It includes information on the formats from which they get their information, where they find relevant references, and how they use materials in foreign languages. The results are compared with those found in other surveys and with citation studies.

Although scholarly communication has only recently been recognized as a branch of research in its own right, interest in what scholars use and how they find out about it goes back many decades. Librarians realized early that in order to build their collections intelligently they needed to know the answers to such questions, and that answers had to be more than impressionistic.1 With the phenomenal increase in volume of publication, the financial constraints libraries have suffered and the sharp cutback in some kinds of publishing, especially book publishing, attention to all phases of scholarly communication has expanded greatly.

Attention has not, however, been evenly distributed: the natural sciences were the earliest and are still the most frequently studied fields. An imbalance was produced by greater availability of government funding in the natural sciences and the pressing nature of their problems: currency is crucial and the spectacular increase in quantity of publication appeared first in these fields. But the potential for improvement of bibliographical control and the recognition that the social sciences and humanities also have informational problems have attracted more work in these areas. This article is part of the effort to redress the balance.

Various approaches have been used to study information habits. The most common are the citation and the user study. Each contributes something different to our understanding of a field: the citation study shows what the writer has actually used; the user study reports the impressions of the information consumer. Each has drawbacks. Citation studies can only analyze what is actually cited, which is usually only a small portion of what is used. Citation studies cannot show relative importance among sources. Surveys depend upon an individual's memory, which may be faulty. All methods are limited to studying what the scholar has already discovered; they must work with what he has seen, not with what he ought to have seen.

Some research has been conducted that is either relevant to historians' information use or deals with it directly. Two British surveys, the Bath University project on social scientists2 and a survey of humanists done at the University of Sheffield,3 included historians, but the Bath survey limited itself to economic historians. In the United States, the Joint Committee on Bibliographical Services to History conducted a small survey of historians that produced some limited results in the late 1960s.4 A serial use survey studied information patterns of social scientists at the University of Illinois from a slightly different perspective.5 Two articles, one of social science citation studies6 and one of humanities use studies,7 summarized work that had been done and provided comparative data, although, interestingly, both excluded history. The study of the humanities obviously considered history a social science, the study of the social sciences considered it one of the humanities. There are at least two citation studies of history, one of American history8 and one of English history.9

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This article is based upon a questionnaire sent to 767 historians listed in the Directory of American Scholars for a book just completed on historical periodicals. The primary purpose of the questionnaire was to ask for information on historians' use of and attitudes toward periodicals. Additional information on other aspects of their information-seeking habits was also sought, on the assumption that you might just as well bother people for more as for little. The questionnaire used many of the same questions asked by the Bath University group, so that comparable results would be obtained. When the questionnaires that could not be delivered were subtracted from the total, the response rate was close to 50 percent. They were divided into subject groups (table 1) and all responses were organized by these groups.

The respondents and the nonrespondents were very similar in nearly all respects. With an occasional exception, such as an underrepresentation of European history scholars among the respondents, the distribution of specializations was very similar. They come from similar institutions; by coincidence 13.4 percent of respondents and 13.4 percent of nonrespondents are at universities considered to have the top twenty-five graduate programs in history. In both groups, the remainder are predominately at other universities and colleges, but there are also some who are employed by historical societies, archives, and branches of the United States government. There are, too, some who are not employed. The likeness of employing institutions is important because it means that library services available to the two groups are also reasonably alike.

There are, however, two characteristics that are somewhat different. One of these is age. Younger historians were more likely to respond. The age distribution for respondents was 31-40 years old, 30.2 percent; 41-50, 31.1 percent; and 51 or over, 36.6 percent. For nonrespondents the percentages were 17.0 percent, 26.3 percent and 56.7 percent. The two groups also differed in scholarly productivity. Of the respondents, 50.4 percent had written at least two books, five articles, or four articles and one book. Only 44.1 percent of the nonrespondents had done so.

The effect of these differences on the results of the survey cannot be stated with total assurance. Are, for instance, older scholars better trained bibliographically than younger ones? The older historians were graduate students during a time when graduate programs were smaller and offered more individual attention. Librarians' professional attitudes, on the other hand, have changed considerably over the past decades and there is a good chance that the younger historians were exposed to more bibliographical instruction. One result of these differences that does seem clear, however, is that the respondents tended to be more active library users. Their greater productivity and their relative youth indicates this. Younger historians still have their way to make in the scholarly world, a way that is made through publication.

Table 1 illustrates an important fact about history that greatly influences the information-seeking patterns of historians: history is really an umbrella term covering a wide variety of specializations that have little in common with each other but their method. As the Behavioral and Social Sciences Survey put it: "History is no different from other intellectual disciplines in having

<table>
<thead>
<tr>
<th>Subject</th>
<th>Number of Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States Topical*</td>
<td>31</td>
</tr>
<tr>
<td>United States Colonial Period</td>
<td>31</td>
</tr>
<tr>
<td>United States Nineteenth Century</td>
<td>29</td>
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<tr>
<td>United States Twentieth Century</td>
<td>27</td>
</tr>
<tr>
<td>United States General</td>
<td>43</td>
</tr>
<tr>
<td>Art/Architecture</td>
<td>20</td>
</tr>
<tr>
<td>Miscellaneous†</td>
<td>14</td>
</tr>
<tr>
<td>Music</td>
<td>10</td>
</tr>
<tr>
<td>Science/Technology</td>
<td>13</td>
</tr>
<tr>
<td>Europe General</td>
<td>16</td>
</tr>
<tr>
<td>Great Britain</td>
<td>21</td>
</tr>
<tr>
<td>Continental Europe‡</td>
<td>16</td>
</tr>
<tr>
<td>Eastern Europe§</td>
<td>13</td>
</tr>
<tr>
<td>Medieval</td>
<td>19</td>
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<tr>
<td>Classical</td>
<td>7</td>
</tr>
<tr>
<td>Far East</td>
<td>14</td>
</tr>
<tr>
<td>Middle East</td>
<td>6</td>
</tr>
<tr>
<td>Africa</td>
<td>5</td>
</tr>
<tr>
<td>India</td>
<td>2</td>
</tr>
<tr>
<td>Canada</td>
<td>3</td>
</tr>
<tr>
<td>Oceanic</td>
<td>1</td>
</tr>
<tr>
<td>Latin America</td>
<td>19</td>
</tr>
</tbody>
</table>

*For Example, United States social history, United States diplomatic history.
†Includes such specialties as oral history, archaeology, children.
‡Includes Germany.
§Includes Austria-Hungary.

*The questionnaire was financed by a grant from the Spencer Foundation.
to fulfill several roles at once; but it is more multifarious and hence more divided than most.”12 Another fact that has profound implications for their information seeking is that every subject has its historical aspect. This is perhaps best explained with a specific example using periodicals. If, for example, a historian is interested in the ecclesiastical history of seventeenth-century Somerset, he can expect to find related material published in professional scholarly historical journals (the general and those devoted exclusively to British history), those that publish local history of Somerset, and church and religious periodicals. As if that were not enough, articles can also appear in general-interest periodicals, since history is considered suitable fare for the average man. The bibliographic control over these four streams is by and large organized separately into (1) bibliographies or indexes that list scholarly historical publications, (2) those that cover local history, (3) those that concern church materials, and (4) those that are used for general, nonscholarly periodicals. Books present similar problems. The divisions are not absolute (occasionally one can find a bibliography devoted to seventeenth-century Somerset ecclesiastical history), but they do exist and tend to be similar in most fields of history.

The historians queried were asked to rate on a scale of one to five (five indicating most used) their use of a variety of formats in their current research. Next, they were asked to identify the two most convenient and the two least convenient formats. They were then asked to briefly explain why the formats were inconvenient. The results are summarized in table 2.

Many of these results need no comment, but the lack of use of newer forms of media by historians is striking, if not surprising. Books and periodicals are used most heavily because these are where historical research usually appears.13 As several respondents pointed out, little relevant information is available in, for example, film or videotape. This is, of course, perfectly true if one is talking about the Renaissance, but even in areas such as twentieth-century United States history, where some relevant material could be found, historians are generally not interested in using it for research. The only exceptions to this group are the art historians who use pictorial sources and the music historians who use tape or other sound recordings. Another exception to the general evenness of response was in the area of government documents. All varieties of United States historians used them more than those in other kinds of history. This is doubtless a function of the greater availability and better organization of United States government documents compared to those of other countries.

The explanations for why they found certain formats inconvenient were extremely illuminating since the answers often gave information about attitudes toward the library, work habits, and assumptions about scholarship. Several said that convenience was irrelevant; they would use whatever they needed to use—an admirable but probably unusual research habit. Each format presents its own set of problems, but the responses to

TABLE 2

<table>
<thead>
<tr>
<th>PHYSICAL FORMATS</th>
<th>Average Use</th>
<th>Most Convenient</th>
<th>Least Convenient</th>
<th>Rank Order of Use in Bath Survey*</th>
<th>Rank Order of Use in Stieg Survey</th>
</tr>
</thead>
<tbody>
<tr>
<td>Periodicals</td>
<td>4.26</td>
<td>251</td>
<td>6</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Books</td>
<td>4.47</td>
<td>282</td>
<td>-</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Manuscripts</td>
<td>3.66</td>
<td>28</td>
<td>94</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Research reports</td>
<td>2.16</td>
<td>16</td>
<td>28</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>Theses, dissertations</td>
<td>2.75</td>
<td>11</td>
<td>90</td>
<td>9.5</td>
<td>6.5</td>
</tr>
<tr>
<td>Newspapers</td>
<td>2.97</td>
<td>23</td>
<td>59</td>
<td>9.5</td>
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<tr>
<td>Government publications</td>
<td>2.75</td>
<td>21</td>
<td>25</td>
<td>6.5</td>
<td>6.5</td>
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<tr>
<td>Microcopies</td>
<td>2.86</td>
<td>17</td>
<td>111</td>
<td>14</td>
<td>5</td>
</tr>
<tr>
<td>Maps</td>
<td>2.10</td>
<td>2</td>
<td>17</td>
<td>13</td>
<td>9</td>
</tr>
<tr>
<td>Films (pictorial)</td>
<td>1.37</td>
<td>-</td>
<td>30</td>
<td>18</td>
<td>12</td>
</tr>
<tr>
<td>Other pictorial (e.g., photographs)</td>
<td>2.11</td>
<td>7</td>
<td>25</td>
<td>15.5</td>
<td>18</td>
</tr>
<tr>
<td>Tape recording or sound recording</td>
<td>1.55</td>
<td>2</td>
<td>31</td>
<td>17</td>
<td>10</td>
</tr>
<tr>
<td>Videotape</td>
<td>1.19</td>
<td>1</td>
<td>42</td>
<td>19</td>
<td>13</td>
</tr>
<tr>
<td>Computer printouts</td>
<td>1.51</td>
<td>6</td>
<td>37</td>
<td>12</td>
<td>11</td>
</tr>
</tbody>
</table>

*Several formats were included in the Bath survey that were not included on this survey of historians. These included other physical formats (ranked fourth), collections (fifth), colleagues (tied for sixth), conferences (eleventh), and radio and television (sixteenth).
maps, films, pictorials, tape recordings, and videotape will not be discussed separately here. For the most part, those who found those forms least convenient did not explain why. It is probable that they do not use them often enough to provide good reasons for their decisions.

Microfilm, on the other hand, produced an outburst of response, some of which can be called impassioned. The most common reasons cited for the inconvenience of this heavily used format were related to eyestrain and equipment. As one historian of early modern France said, “I hate microfilm—it makes me seasick to read it and bother my eyes. Librarians, gung ho for microfilms, rarely read the damned stuff.” Another pointed out, “For every serious scholar eyes are too important and too susceptible to damage and fatigue to have to use backlit and poorly screened film.”

The cluster of equipment-related reasons had several facets. There is dislike of equipment per se, a feeling that it is an interposition between the scholar and his material. There is resistance to the fact that microfilm must be used in the library during library hours; it is plain that historians feel they have a right to work at home or in their offices. They do not find existing arrangements satisfactory: there is not enough space, and equipment is poor and always breaking down. Difficulties arise from the format: the film is not always of adequate quality (one historian referred to maddening dust spots and scars on the film); it provides only one exposure and one angle on problematic manuscript readings (this from a medieval historian); and, most often in this group of complaints, the fact that it is a roll. On a roll it is difficult to locate a single reference and the general custom of having endnotes rather than footnotes is particularly annoying. One historian expressed himself eloquently on this theme: “Microfilm has finally brought us full cycle to Alexandria. Having given up scrolls because we could not handle them (and did not want to handle them after indexing), we must now crank to the end of the scroll, back again, then back and forth.” Another concurred; he would not endorse the displacement of the codex by the scroll. Several historians expressed the feeling that microfilm is fine for collecting data, but research is something more. The equipment and the format inhibit analysis and reflection. A number of scholars referred to the poor indexes and guides to microform sources. The art historians had a particular complaint: illustrations do not reproduce to their satisfaction. A historian of modern Germany wrote a paragraph that covers many of these points and provides food for thought:

Microfiche or microfilm is a pain to send, to find, to index and to reproduce. Libraries are making a major mistake by throwing out books in favor of filmstrips which are always deteriorating, readers breaking down, etc. Beware of the engineers! Card catalogues are far superior to online terminals, since human error is correctable in them!

The users of microfilm were analyzed by age to see if older historians had a greater reluctance to use this relatively new form. In fact, historians in the 51 or older category actually use microform somewhat more readily than their younger colleagues: their average use is 2.93 as opposed to the general average of 2.86. Like the younger historians, they do not let the fact that they find it inconvenient stop them from using it. It was noticeable that a number of historians who checked microform as one of their least convenient formats also circled the five for most used.

Manuscripts, the second most inconvenient format, present a very different set of problems. The largest of these is inevitable and derives from the uniqueness of manuscripts: they are located in only one place. A music historian spoke for many when he said, “They are located where I am not located.” This problem is shared by all to a greater or lesser extent, including American historians. (A Colonial American historian pointed out that he was in Utah but the manuscripts he needed to consult were in Virginia.) Only rarely does microfilm provide a feasible alternative. Many scholars referred to the need for time and money. There is no doubt that the lack of both is a real obstacle to many historians. Manuscripts can also be difficult to read. (One European historian argued, however, that they are also fun.) Manuscripts can be difficult to locate. Guides and indexes are not considered adequate. And, once these obstacles are overcome and the scholar is actually with his material, there can be problems resulting from inadequate service. One American historian spoke of his need to use board of education and village government
records, which were in the charge of people unaccustomed to serving the needs of serious researchers. Such difficulties are most acute in foreign repositories. One art historian mentioned a limit of three manuscripts per day and Russian historians struggle under even worse handicaps. It is difficult to gain access to Russian archives and yet the historian must, since Soviet institutions are rarely cooperative in making material available by mail.

The major problem with theses and dissertations, on the other hand, is the difficulty of obtaining them. Other difficulties arise from the fact that they, like newspapers, are often made available in microform, but those problems have already been discussed. Scholars attributed some of the difficulty in getting theses and dissertations to poor indexes, but more frequently they mentioned the mechanics of the process. University Microfilms has not solved the problems of theses and dissertations; historians find the arrangement both slow and costly. There are also important dissertation-producing institutions like Harvard, which do not participate in the Xerox (University Microfilms) plan. Several older historians, in fact, mentioned that the older system of depending on interlibrary loan had been preferable. As usual, those who need foreign materials have an even harder time. Often they cannot get what they need at all. And even if the scholar is successful in getting his desired dissertation, it often proves not worth the trouble. (This complaint was unique to this format.)

Newspapers, long a favorite source of information, also present major problems of procurement. According to the historians, they lack guides and especially indexes. They are practically never at the individual's own library or even, in the case of foreign newspapers, in the United States. When they are held, they are apt to be in an inconvenient location, like a storage library. They are "uncomfortable" to handle since they are bulky and tear easily.

The problems with other formats can be treated more briefly. With government publications, the usual difficulty mentioned was indexing. They are considered poorly indexed and even after a document is identified, the system of arrangement (presumably by Superintendent of Documents number) is too complicated for the scholar to use on his own. Multimedia require equipment, and, as far as computer printouts are concerned, few historians have been trained in their use. One remarked that with his brain and training he couldn't handle them and must rely on others' interpretation. A few have obviously made the effort—one historian, for example, wanted to learn to program—but most seem simply to ignore the computer.

A problem that cuts across the various formats and was mentioned distressingly often is that of interlibrary loan. Interlibrary loan is particularly important to historians with their need of access to a wide range of material. The British survey of humanists found that two-thirds of the humanists' projects used interlibrary loan and that historians were most likely to use it. A disturbing dissatisfaction with it was revealed. Too often it is painfully slow—if an item can be obtained at all. Its restrictions can also cause difficulties. One Colonial American historian spoke of having waited five months to get something and then being allowed one week to read through 5,000 pages of handwritten court records on microfilm.

Another major area of inquiry was how historians discovered relevant published information. On the same scale of one to five, the respondents were asked to rate the various methods both for usefulness to their current research and for keeping informed on what is currently being published in their fields (table 3). Given the opportunity to indicate other sources, several mentioned published announcements, bookstores, and conferences.

Table 3 reveals much about the work habits of historians. For example, they do not have a well-developed invisible college as do scientists, but depend primarily upon printed sources of information.* The absence of an invisible college can be attributed to two factors: the lack of institutional arrangements to develop contacts, which is closely related to

*The Bath survey found a very interesting difference between Oxbridge social scientists who relied on an informal network and others, most noticeably those in colleges of education, who did not. In this survey, those at universities with the top twenty-five graduate programs were more likely to consult with colleagues at their own institutions on their research than other historians, but were no more ready to discuss or correspond with acquaintances elsewhere.
money, and the relative unimportance of currency. Historians’ sources remain relatively traditional: books, journals, and bibliographies. Their methods are also unsystematic: that book reviews rank as high as they do as sources of useful research references is indicative. It is also in their use of book reviews that historians differ most markedly from social scientists. It must be painful to librarians that consulting them is so rarely considered useful, although both the Bath and the Illinois survey found that librarians ranked at the bottom for social scientists, too. Why this sorry state of affairs? In fact, it seems more likely that historians simply do not consult librarians, rather than when they consult them they get unsatisfactory results. One historian said that, even though he ranked consulting the librarian at two in both research and current information columns, when he consulted a librarian he got five-plus help.

The historians’ lack of use of abstracts and indexes is further evidence of their unsystematic approach. One can only agree with the Bath survey: “Researchers certainly use fewer bibliographical tools than would be helpful to them, and do not make the systematic and frequent use of abstracting tools required to ensure good coverage of their topics and at the same time to minimize the possibility of missing important material.” The survey of English humanists reached a similar conclusion: there are a few scholars who appeal for better guides and bibliographies, but there is generally little consideration of information services or wish for them. The Illinois social science faculty also avoided subject bibliographies and secondary information sources, preferring to rely on bibliographies and footnotes in journals or books to find references. The results of a question asking which indexing and abstracting services they had used for their current research suggest that use may be even less than indicated in table 3. For example, why did so many American historians claim to have used Historical Abstracts, which contains no material on American history? The results of the indexing and abstracting question are tabulated in table 4.

For a librarian, the most startling result of this question has to be the heavy use of the Readers’ Guide. Worthy as it is, much as we cherish it, the Readers’ Guide is not an index to scholarly material. Until 1978 the only scholarly historical journal it indexed was the American Historical Review; in 1978 the index dropped even that. Some use of the Readers’ Guide can be accounted for if it is used as a source of primary material, but this applies only to United States topical and twentieth-century historians. Unquestionably this result must be seen as a tribute to effective library orientation by school librarians—and the failure of university librarians to extend the scholars’ knowledge.

Some of the response to this question cannot be shown in table 4. A number of historians went out of their way to say that they never used indexes or abstracts; many considered them irrelevant. Only one individual said that his nonuse was probably because he never learned how. The questionnaire allowed space for the respondents to write in other indexes or abstracts. A few took the opportunity to do so and for the most part their choices covered a very wide range, from P.A.I.S., the Revue d’Histoire ecclésiastique...
TABLE 4
INDEXING AND ABSTRACTING SERVICES USED FOR CURRENT RESEARCH

<table>
<thead>
<tr>
<th>Service</th>
<th>AHL</th>
<th>BHI</th>
<th>HA</th>
<th>Hum Ind</th>
<th>IBZ</th>
<th>RC</th>
<th>SSCI</th>
<th>Soc Sci Ind</th>
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<tr>
<td>United States Topical</td>
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<td>5</td>
<td>3</td>
<td>10</td>
<td>2</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>United States Colonial Period</td>
<td>16</td>
<td>2</td>
<td>6</td>
<td>8</td>
<td>11</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>United States Nineteenth Century</td>
<td>17</td>
<td>1</td>
<td>9</td>
<td>7</td>
<td>13</td>
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<td>United States Twentieth Century</td>
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<td>13</td>
<td>5</td>
<td>20</td>
<td>7</td>
<td>10</td>
<td></td>
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</tr>
<tr>
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<td>9</td>
<td>23</td>
<td>4</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Art/Architecture</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>3</td>
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<td>Latin America</td>
<td>2</td>
<td>6</td>
<td>6</td>
<td>113</td>
<td>66</td>
<td>28</td>
<td>132</td>
<td>45</td>
</tr>
<tr>
<td>Totals</td>
<td>86</td>
<td>15</td>
<td>113</td>
<td>66</td>
<td>28</td>
<td>132</td>
<td>45</td>
<td>73</td>
</tr>
</tbody>
</table>

Abbreviations used:
AHL America: History and Life
BHI British Humanities Index
HA Historical Abstracts
Hum Ind Humanities Index
Hum Soc Sci Ind Social Sciences Index
IBZ Internationale Bibliographie der Zeitschriftenliteratur
RG Readers' Guide
SSCI Social Sciences Citation Index

and Recently Published Articles to OCLC, Dissertation Abstracts, and the New York Times Index. Only four groups emerged with any strong preference for an index or abstract: the art historians with RILA (Répertoire international de la littérature de l’art), the music historians with RILM (International Repertory of Music Literature), the historians of science with the Isis bibliography, and the Latin American historians with the Latin American Handbook.

This result, together with table 4, makes it clear that historians find most useful (and use) those sources that are directly targeted to their interests. This conclusion is supported by their response to a question asking which of the periodicals they subscribed to they found most useful. The journals for which a clear preference was shown were those with a relatively limited subject scope: the Journal of American History was favored by all groups of American historians except by the Colonial historians who preferred the William and Mary Quarterly; the Hispanic American Historical Review was the favorite of Latin American historians; the Journal of African History of African historians; the Journal of Asian Studies of Far Eastern historians; and the Slavic Review of East European historians. The only exception to this pattern was the British historians: their preference was for the American Historical Review, a general journal that pays no special attention to British history. These responses indicate, too, that very highly specialized journals are not the most valued. Even historians whose research specialty had a journal rarely chose it, preferring the more general. These reactions can be explained because what historians value most in their journals are the book reviews. By showing how historians approach their craft, these responses also provide important evidence on how information systems must be organized if the historian is to be reached.

The question on indexes and abstracts made an effort to find out which sources the historians found troubling and the nature of the trouble. Little useful information was obtained on the second part and the conclusion is inescapable that these scholars do not use their sources very critically. It also suggests that they would have more complaints if they understood them better or used them more
often, as it was the most heavily used formats that elicited the most complaints. The two indexes that the highest percentage found difficult to use were the Internationale Bibliographie der Zeitschriftenliteratur and the British Humanities Index, figures that must be attributed to unfamiliarity. The two indexes that the highest percentage found difficult to use were the Internationale Bibliographie der Zeitschriftenliteratur and the British Humanities Index, figures that must be attributed to unfamiliarity. The Internationale Bibliographie der Zeitschriftenliteratur is a perfectly straightforward dictionary index and, although a German publication, has instructions in English and cross-references from English terms. There is nothing particularly noteworthy about the British Humanities Index. The Social Sciences Citation Index, on the other hand, which is genuinely complicated, ranked only third. There was, in addition, a suspicious disparity between America: History and Life with which 17.4 percent reported difficulty and Historical Abstracts with which only 11.5 percent of the users claimed difficulty. The two sources are organized in an almost identical fashion.

The historians were asked to assess the relevance of abstracts compared to simple author and title entries as references for their research. The results of this question speak for themselves (table 5). It should be noted, however, that their opinion seems to have changed, or at least become more definite, in the last decade, perhaps because the creation of America: History and Life and Historical Abstracts has familiarized them with abstracts. When American historians were surveyed in the late 1960s few requested annotations of citations and most stated that they did not consider such evaluations useful.

Table 6 presents the results of a question in which the historians were asked how often they accidentally discovered material for their current research by various means. There was one respondent who said that accidents shouldn’t happen in well-planned research, but most seem to have experienced them. The most striking feature of table 6 is that it confirms the absence of an invisible college. It shows yet again that historians work in relative isolation with only a rudimentary informal communications network. It also shows that although they depend on printed sources, they seldom frequent bookstores, perhaps because scholarly bookstores are few and far between.

The group was also asked how important it was for their research that they know very soon after publication what is published. Table 7 suggests that it is more important than has hitherto been assumed.

Another cluster of questions related to foreign languages. The scholars were asked which languages they read, if they attempted to read regularly the literature relating to their field in those languages, and how they dealt with references in foreign languages. Not surprisingly, language requirements notwithstanding, the majority (58 percent) of historians do not attempt to keep up with research published in foreign languages. A surprising number do not even read languages that would seem indispensable. There are Middle Eastern historians who know no Arabic, East European scholars who do not read Russian. At that, they do better than the British social scientists, only one-third of whom regularly scanned foreign language material. The only exceptions to this pattern were the various European historians—medievalists, French historians, German, Russian, etc.—and the Latin American historians. How valid the response was, however,

### Table 5
**Value of Abstracts**

<table>
<thead>
<tr>
<th></th>
<th>About the Same</th>
<th>Somewhat More Satisfactory</th>
<th>Much More Satisfactory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stieg survey</td>
<td>23.7%</td>
<td>46.4%</td>
<td>29.9%</td>
</tr>
<tr>
<td>Bath survey*</td>
<td>19%</td>
<td>40%</td>
<td>41%</td>
</tr>
</tbody>
</table>

*The Bath survey also had a category worse than author-title entry that accounted for 1% of the total.

### Table 6
**Accidental Discovery**

<table>
<thead>
<tr>
<th></th>
<th>Rarely or Never</th>
<th>Occasionally</th>
<th>Frequently</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wandering along library shelves</td>
<td>37</td>
<td>179</td>
<td>108</td>
</tr>
<tr>
<td>Scanning current periodicals</td>
<td>8</td>
<td>152</td>
<td>173</td>
</tr>
<tr>
<td>Looking up a given reference and spotting something else</td>
<td>16</td>
<td>153</td>
<td>151</td>
</tr>
<tr>
<td>Receipt of offprints</td>
<td>171</td>
<td>114</td>
<td>31</td>
</tr>
<tr>
<td>In book shops</td>
<td>184</td>
<td>117</td>
<td>22</td>
</tr>
<tr>
<td>In conversation with colleagues</td>
<td>44</td>
<td>201</td>
<td>78</td>
</tr>
</tbody>
</table>

### Table 7
**Currency**

<table>
<thead>
<tr>
<th></th>
<th>Very Important</th>
<th>Moderately Important</th>
<th>Not Very Important</th>
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</thead>
<tbody>
<tr>
<td>Stieg survey</td>
<td>40.7%</td>
<td>47.8%</td>
<td>11.5%</td>
</tr>
<tr>
<td>Bath survey</td>
<td>46%</td>
<td>39%</td>
<td>15%</td>
</tr>
</tbody>
</table>
must be in some doubt. It was extremely rare that any historian of any kind subscribed to a foreign periodical. This means that historians are dependent upon library copies, a fact that has to cast doubt upon the regularity of their keeping up. The same groups that claimed to keep up with research published in foreign languages were also an exception in that they tended to have less reluctance to look up references in the languages they knew. Other historians expressed greater hesitation.

The results of a question that asked how the individual dealt with a reference to an item in a language he did not read are shown in table 8. There was no obvious difference among the various groups of historians.

The final question on languages inquired if the historian felt that his research had been restricted or constrained in any way because of the language problem. As can be seen in table 9, in all categories few did.

These results, like most of the results of this survey, must be interpreted in the light of a definition of research. Given that most doctoral degree programs in history still retain a language requirement, it is fair to say that, in the abstract at least, historians consider foreign scholarship important. Yet their practice has to raise serious questions for the librarians of hard-strapped research libraries. With the exception of European and Latin American historians, they seem to make little use of materials in foreign languages and, what is more, rarely miss it.

The final question asked what, if any, special information problems had arisen in the course of their present research. For convenience, these responses can be divided into those problems for which the librarian can provide assistance and those over which he or she has no influence. In this second category are problems such as lack of time and money for research, distance from a good research library, lack of knowledge of a language, and the fact that needed material doesn’t exist or that it is of questionable reliability. Few historians were as philosophical as the scholar who commented about information gaps and missing points of view: “I suspect that this troubles every scholar who deals with noteworthy topics.”

There is however, one category of nonexistent material toward which librarians and archivists do bear a measure of responsibility. One nineteenth-century American historian had found the destruction of the original census returns a real handicap. A social historian, interested in social science data, finds that much is being destroyed after it is used for the purpose for which it was originally collected. Another historian considered the wholesale cancellation of subscriptions very harmful if it is continued and a threat to all scholars.

Other library and information problems the historians cited were restrictions on physical access, such as failure to declassify documents, lack of guides of all kinds, ranging from bibliographies of newspapers to guides to individual archival repositories, and, frequently, interlibrary loan. A Far Eastern historian finds the bibliographic control over nonroman alphabet languages inadequate and a Latin American historian felt that American libraries lacked people with enough linguistic skills to handle research requests. On the whole, these special problems were very similar to those found by the Bath study. British social scientists most commonly complained of physical access to and availability of information, published or unpublished.

From this survey it is clear that there is one group that has information problems requiring special consideration: the historians in small colleges. There are many, and many of them are making a real effort to carry on research. Yet, it is an inescapable fact that

**TABLE 8**

<table>
<thead>
<tr>
<th>Try to Get Translated</th>
<th>Search for Summary or Abstract</th>
<th>Try to Get Gist on Own</th>
<th>Ignore</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stieg survey</td>
<td>30.3%</td>
<td>21.7%</td>
<td>34.7%</td>
</tr>
<tr>
<td>Bath survey</td>
<td>15%</td>
<td>30%</td>
<td>27%</td>
</tr>
</tbody>
</table>

**TABLE 9**

<table>
<thead>
<tr>
<th>RESEARCH RESTRICTION BECAUSE OF LANGUAGE PROBLEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
</tr>
<tr>
<td>------</td>
</tr>
<tr>
<td>138</td>
</tr>
</tbody>
</table>
research needs go far beyond the capacities of small college libraries. Ultimately, the solution to their problems will be the realization of the goal of NCLIS: equal access to information for all Americans. In the meantime, however, for those who do not have convenient access to a research library there is no happy solution available. In the words of one historian, "When you are at a small college, almost everything has to come on loan," and another completed that with the statement, "Interlibrary loan is a very poor substitute for a well-developed collection." The unsolicited comments of those in this position revealed a strong sense of frustration.

The information obtained in this survey can be related to that found by the two citation studies in history. On the question of the formats from which the historian gets his information, it generally confirms and often explains what Jones, Chapman, and Woods found about English history. Books are most heavily used, followed closely by serials. They suggest, and it would not conflict with these findings, that periodical use is increasing. Theses and newspapers are relatively little used. There is greater contrast with the McAnally study, perhaps because patterns of research have changed since the sources for his data were produced. He found, for example, fairly heavy use of newspapers and considerable, though declining, use of government publications.

Another topic covered here that Jones, Chapman, and Woods touch on is foreign language. They found very little use of materials in any language other than English by those who wrote of English history. The situation is less certain in the case of American history, but McAnally's table, analyzing by place of publication, certainly suggests a similar lack of use of non-English language materials.

Jones, Chapman, and Woods make some extremely interesting observations on the dispersion of journal titles. They suggest that, although historians use a very wide range of journals, they concentrate their use on a much smaller proportion of the literature than has hitherto been supposed. They find that 75 percent of all journal needs can be satisfied by 25 percent of the titles cited. This survey had no question that could confirm or disprove this suggestion, but both the subscription patterns and index use of the respondents hint that they are probably right. The subscription patterns undoubtedly confirm, however, that they are right when they say that the range of journals used depends on the period and type of history studied.

It is always easier to describe a problem than to find a cure, and the findings presented in this article are no exception. Both historians and librarians have to feel embarrassment over the picture that emerges. But how can these behavior patterns be changed? Historians and librarians will have to work hard and work together.

One first step must be some fundamental changes in historians' attitudes. To begin with, they must recognize that there is a problem. Too often professors grade their students solely on what use has been made of material, rather than take into account relevant material that has not been found. The budding scholar is hardly ever required to use what ought to be the tools of his trade nor does he often become conscious of potential inadequacy. Only in rare instances, such as on his dissertation or when he submits an article to a refereed journal, can a scholar hope to receive such criticism. And even then it is not automatic. The dissertation adviser must himself be aware that something is missing that cannot be solved by "taking a look at Jones's book," and the referee must know the literature of the subject.

Other, more specific manifestations of the problem are easier to deal with. In the use of foreign language materials, for instance, there is a fairly simple change that would undoubtedly help: requiring a higher standard of competence in graduate school. Too many language examinations require only a passing familiarity rather than the ability to use a language effectively.

Courses in research methods present an ideal opportunity for teaching a student the bibliography of his field. Schools that do not require such a course of their history graduate students should, and existing courses that do not have a bibliographic component should be altered to include one.

The primary responsibility for solving the problem must, however, be taken by the librarian. Ultimately, we are talking about library use and this is the librarian's domain. No one should know better the information
sources to be commanded. Promoting library use is a central tenet of our professional faith. Bibliography is our professional expertise.

The first step, again, is acknowledgment that there is a problem. As Jones, Chapman, and Woods concluded their citation study, “. . . librarians ought not to be complacent about the type of service they provide for historians. Perhaps the fact that academics often distrust the ability of the librarians to provide the service they require is an unconscious recognition that they are not receiving the service they need from today's libraries.”

Once the librarian decides to change these conditions, it becomes necessary to consider ways and means. Here, academic librarians can learn from their colleagues in other types of libraries. Urban public librarians have made efforts to reach a large group of non-users, and special librarians are generally considered to be the most successful at helping their patrons. What urban public and special librarians have in common is aggressiveness. Neither waits for the patron to come to the library. Both are actively involved at all stages in the seeking and use of information. They place a greater emphasis on finding out what the patron thinks he needs (and providing it), regardless of library traditions, than do academic librarians. Both attach great importance to providing the information in the format most convenient to the user.

Academic and research librarians can also profit by intensifying some of their existing efforts. Most colleges and universities have at least some program in bibliographic instruction. Through properly designed bibliographic instruction programs future scholars can learn to use information resources effectively. A bibliographic instruction session may also have unintended side effects: the faculty member who chooses to sit in while a librarian provides such instruction to his or her class may pick up something useful for his or her own work.

The existence of library committees and the involvement of faculty with book selection provide other, less direct, opportunities to increase scholars' understanding of the problems and potentials of libraries. Committees can be used as a forum; the book selection process presents many occasions for conveying information. Both develop personal contact, not a particularly innovative or exciting method, but one that can be extremely effective. Just knowing someone to turn to in an institution makes it less intimidating—and we must remember that for uninitiated users libraries can be very intimidating.

Another factor that can be important in altering the character of the scholar's use of the library is the educational background of the librarian. It must be recognized that in order to provide effective reference service to scholars, subject knowledge is as crucial as professional knowledge, or perhaps subject knowledge is an integral part of professional knowledge. This is not to say that a librarian needs to have a Ph.D. in German history to help a German historian, but he does need to be a scholar in his own right as Jacques Barzun urges. To be considered a scholar, he must have a strong subject background in a related if not the same field, and a good general education. The spread of bibliographers with in-depth subject knowledge is a hopeful sign of change in this area, as is the increasingly common practice of requiring advanced subject work for other types of librarians in research libraries.

When all the evidence is added up, it is clear that too often historians fail to use existing sources of information. Their reasons for this are various: the historian may know that something exists but be unwilling to make the effort to use it; he may know it exists but be unable to obtain it, or he may be unaware that it exists. Whatever the reason, however, the final result is the same: a less good book or article is written, a less good class is taught than could be. Knowledge has suffered.

References

2. Bath University Library, "Investigation into Information Requirements of the Social Sciences" (Research Report 1: Information Requirements of Researchers in the Social Sciences [June 1971]).
3. Cynthia Corkill and Margaret Mann, Inform-


16. Bath University Library, p.91.


A Survey of Academic Librarians and Their Opinions Related to Nine-Month Contracts and Academic Status Configurations in Alabama, Georgia, and Mississippi

This study reports the findings of a survey of 267 academic librarians conducted in Alabama, Georgia, and Mississippi. Demographic and institutional characteristics and opinions of librarians with and without faculty status were studied. Publication, research, and proposal development activities and their relationship to the promotion of academic librarians was examined. Opinions on nine-month contracts, faculty status, and a comparable system that recognizes the unique nature of responsibilities of librarians were sought. The majority of the academic librarians, including those with faculty status, agreed with the statement that a comparable system would be a preferable mode of advancement.

INTRODUCTION

Academic status for librarians is of intense interest in the South as in other parts of the country. However, except for a study conducted in Kentucky,¹ very limited information on the attitudes of librarians in the South is available. The issue of faculty status and the benefits and responsibilities (equal and unequal) it bestows upon librarians has been widely discussed in the literature. In the seventies, new configurations and fresh approaches to academic status, such as the effects of collective bargaining on faculty status, were explored.² However, the question most basic to the issue still needs clarification: the acceptance of the uniqueness of academic librarianship as a profession within the framework of higher education.

For librarians working in universities and colleges, the question of academic status is an important one. The development of the Association of College and Research Libraries (ACRL) guidelines in 1972 reflected the profession's concern about this issue.³ Several surveys to collect data on professional librarians and gather information about their attitudes toward faculty status have been conducted in different parts of the country.⁴ The questions of salary,⁵,⁶ length of contract,⁷ peer review,⁸ and library education⁹ have been discussed. Systems parallel to “faculty status” have been effectively developed and reported.¹⁰ The survey reported below was an attempt to gauge the characteristics and opinions of academic librarians in the tri-state area of Alabama, Georgia and Mississippi.

Prabha Sharma is assistant professor of bibliographic and subject specialist for history and political science, University of Alabama Library, Huntsville. The author wishes to gratefully acknowledge the assistance of Dr. Gerald C. Wheelock, professor of rural sociology, Alabama A&M University, in the use of the SPSS, in the statistical analysis of the data, and for his encouragement throughout the course of this study. Computer analysis expenditures were provided by the library at the University of Alabama in Huntsville.
THE QUESTIONNAIRE

In May 1980, letters were sent to directors of forty-four academic libraries in Alabama, Georgia, and Mississippi, requesting the names of librarians (those with a MLS) at their institutions. A self-addressed, stamped envelope was enclosed for their responses. The institutions were selected from the American Library Directory (ALD) 1980 and included all four-year institutions. The home institution of the author was excluded from the survey. Responses were received from thirty-two directors. Written reminders were received from thirty-two directors, which yielded the names of professional librarians at eight more institutions. One director wanted a clarification of the term "academic librarian." That was provided, but no names were forwarded. In addition, one large private and two large public universities in the tri-state area did not supply the names of their librarians. After the written reminder, a phone call was made to the private university and the response received stated that "a heavy work load and intensive planning period" prohibited the participation of its librarians in such a survey. The reply also stated that its librarians had neither faculty status nor tenure but were undergoing review of their classification scheme. However, documents pertaining to librarians were provided. At one of the two public institutions, the written reminder and follow-up phone call elicited the response that it was not its policy to disclose the names of its librarians. However, since both the above-mentioned institutions and their librarians were listed in the ALD, the ALD was used as the source for names of the academic librarians. Lack of response to the written and phone queries and no listing in the ALD for individual librarians precluded the librarians at the second public institution from participation in the survey.

The survey instrument was mailed to the 416 identified librarians in June of 1980. Again, a self-addressed, stamped envelope was included. Of the 416 questionnaires, 178 were mailed in Alabama, 157 to Georgia, and 81 to Mississippi. A total of 271 (55 percent) of the questionnaires were returned. Four were unusable.

On receipt of the 267 questionnaires, a manual search was conducted in order to pursue the written comments and to categorize the areas of specialization pursued by these librarians at the graduate level. The questionnaire was exploratory in design. No assumptions were made with regard to the relative importance of the independent variables (demographic characters) in responding to the opinion questions (dependent variables).

FINDINGS

Frequency Analysis

Demographic and Institutional Characteristics. The typical academic librarian in the tri-state area is female, forty-two years old, married, and the remuneration derived from her work is her household's main income. She holds the MLS degree with no additional graduate-level training. Typically, she is a member of the state and Southeastern Library Association, has one or more supervisors between her and the director, has a twelve-month contract, and works on a different and/or more flexible schedule than 8 a.m. to 5 p.m. to accommodate night and weekend work (table 1).

Table 1 summaries the generalized frequencies of such characteristics. Among the respondents, 33.7 percent were male. Nearly all respondents were more than twenty-five years old and most were between twenty-five and thirty-four. A fairly large proportion (41.6 percent) were single. For 28.1 percent of the respondents, their salary is their supplemental income. Approximately 13 percent of the professional librarians working within the tri-state area do not have the MLS and nearly 36 percent have either M.A., M.S., sixth-year or a doctoral degree. Ten percent of the academic librarians in this region hold a doctoral degree. During graduate work, only 25 percent had written a thesis. Over one-half of the respondents did not write a thesis or report during their graduate studies, or, if they did, they failed to respond accordingly. Compared with 33 percent ALA membership reported in a Southern California study in 1973, 11 45.3 percent of the tri-state academic librarians were members of ALA. Thirty-three percent of the respondents also belonged to other state, regional, or national library organizations.12 These included membership in professional organizations in their subject of specializa-
### TABLE 1
DEMOGRAPHIC AND INSTITUTIONAL CHARACTERISTICS OF ACADEMIC LIBRARIANS IN ALABAMA, GEORGIA, AND MISSISSIPPI (N = 267)

<table>
<thead>
<tr>
<th>Demographic Characteristics</th>
<th>Percent</th>
<th>Demographic Characteristics</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Respondents by state</strong></td>
<td></td>
<td><strong>Thesis (cont.):</strong></td>
<td></td>
</tr>
<tr>
<td>Alabama</td>
<td>46.3</td>
<td>Neither</td>
<td>26.6</td>
</tr>
<tr>
<td>Georgia</td>
<td>33.7</td>
<td>No answer</td>
<td>25.5</td>
</tr>
<tr>
<td>Mississippi</td>
<td>20.0</td>
<td><strong>Memberships</strong></td>
<td></td>
</tr>
<tr>
<td>( % of total/category)</td>
<td></td>
<td>Amer. Lib. Assn.</td>
<td>45.3</td>
</tr>
<tr>
<td>Public/Private</td>
<td></td>
<td>Southeast. Lib. Assn.</td>
<td>59.2</td>
</tr>
<tr>
<td>Public institutions</td>
<td>86.1</td>
<td>State Lib. Assn.</td>
<td>78.3</td>
</tr>
<tr>
<td>Private institutions</td>
<td>13.9</td>
<td>Other (professional)</td>
<td>33.7</td>
</tr>
<tr>
<td><strong>Personal</strong></td>
<td></td>
<td><strong>Occupational</strong></td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td>Work type:</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>33.7</td>
<td>Technical service</td>
<td>32.6</td>
</tr>
<tr>
<td>Female</td>
<td>66.3</td>
<td>Public service</td>
<td>45.3</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td>Administrative service</td>
<td>15.7</td>
</tr>
<tr>
<td>Under 25</td>
<td>1.1</td>
<td>Delineation difficult</td>
<td>6.4</td>
</tr>
<tr>
<td>25–34</td>
<td>33.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>35–44</td>
<td>25.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>44–55</td>
<td>20.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>55 or older</td>
<td>18.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No response</td>
<td>0.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marital:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>57.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>41.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No response</td>
<td>0.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salary(ies):</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Main income</td>
<td>68.9</td>
<td>Twelve-month</td>
<td>91.8</td>
</tr>
<tr>
<td>Supplemental</td>
<td>28.1</td>
<td>Nine-month</td>
<td>3.0</td>
</tr>
<tr>
<td>Half and half</td>
<td>1.9</td>
<td>Other</td>
<td>4.9</td>
</tr>
<tr>
<td>No response</td>
<td>1.1</td>
<td>No response</td>
<td>0.3</td>
</tr>
<tr>
<td><strong>Educational</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MIS:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>87.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>None/no answer</td>
<td>12.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other degrees*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None/no answer</td>
<td>64.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MA</td>
<td>6.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MS</td>
<td>17.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sixth-year</td>
<td>2.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ph.D.</td>
<td>9.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thesis:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thesis</td>
<td>25.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Report</td>
<td>22.8</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*See table 2 for information related to specialization.

The largest percentage (45.3 percent) of the respondents were public service librarians; these were followed by technical service librarians (32.6 percent). Fifteen percent of the respondents were administrators, of which 11.6 percent identified themselves as directors of libraries. One third of the librarians reported to the director, while more than half were stratified under one or more supervisors, who in turn reported to the director. Only 3 percent of librarians indicated that they had a nine-month contract while almost 5 percent had contract configurations other than nine- or twelve-month duration. Nearly 47 percent worked on a standard 8 a.m. to 5 p.m. schedule, while most had a more flexible schedule to accommodate night and weekend work.

The largest percentage (44.9 percent) of those surveyed worked on campuses with FTE of 10,000 or more and 31.8 percent had twenty-one or more professional colleagues. Almost 40 percent of the librarians worked in academic libraries that are staffed with ten or fewer professional librarians.

Areas of Specialization. Respondents who have pursued graduate work other than or in
addition to the MLS indicated their subject specialization. Such responses were manually recorded and grouped into eight broad disciplines. The results obtained are presented in Table 2. In decreasing order, the largest number of specialists were trained in education, followed by literature and languages, humanities (history, music), life sciences, and library science (at sixth-year or Ph.D. level). Three respondents (1.1 percent) indicated their specialization as social sciences, law, and public administration, respectively. Only one (0.4 percent) of the 267 respondents specialized in a physical science.

Characterization of Faculty Status and Its Perceived Benefits. Respondents included librarians with and without faculty status. In addition, many of the respondents were at institutions where the question of faculty status for librarians is being studied for change. Several librarians in this state of uncertainty apparently decided to shelve the questionnaire rather than respond to it. Interestingly, there were some institutions from which “no return” occurred. This probably was a factor in the less than expected rate of response, which could not be remedied by providing a self-addressed, stamped envelope to facilitate dispatch.

The question “Do professional librarians have faculty status at your institution?” was one of the most crucial questions asked. It forced an important dichotomy on numerous questions that followed. Of the respondents, 82.4 percent answered yes to this question while 17.6 percent gave a negative answer (Table 3). The latter was a much smaller group but it provided a unique opportunity to study their perception of faculty status.

Table 3 summarizes the responses of both groups—those librarians with faculty status and those without faculty status.

Seventy-six percent of academic librarians with faculty status held the rank of assistant professor or had a lower rank. Only 5 percent of librarians with faculty status did not respond to the question asking them to state their rank. Among librarians without faculty status, 34 percent did not respond to the question concerning their rank. Of the remainder, 25.5 percent were in the ranks of Librarians III and IV.

Librarians with and without faculty status have differing perceptions of benefits derived from their respective systems. A large percentage of librarians with faculty status preferred tenure and salary as their most important benefits. Librarians without faculty status perceived salary as the main benefit of their system. Apparently, tenure without faculty status is perceived to be almost unattainable. Annual leave was also identified by 17 percent of the librarians without faculty status as an important benefit derived from the system while 9.5 percent of the librarians with faculty status identified sabbatical leave as the first-ranked benefit derived from their system.

The results of this questionnaire clearly document the enormous ambiguity that exists in the perception of librarians with regard to the relationship between publications and promotion. Parallel questions were asked of both groups of librarians about the number of publications required for promotion from one rank to the other. An overwhelming 95 percent or more respondents with and without faculty status gave no responses when asked if one to three, four to six, or a greater number of publications was needed for promotion. Many indicated that publication was not a definite requirement for promotion, while several commented that the actual number of publications needed for promotion was not known. This raises numerous questions concerning the relationship between promotion and publication: are there real publication requirements for academic librarians in the tri-state area? If there are, are they so ambiguous with so many exceptions that a specific publication requirement is not an applied rule? Is the publication requirement a mere hollow stick attached to a

TABLE 2

Specializations of Academic Librarians in Alabama, Georgia, and Mississippi at MA, MS, Sixth-Year, or Doctoral Degree Level (N = 267)

<table>
<thead>
<tr>
<th>Area of Specialization</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>MLS, no other degrees</td>
<td>64.0</td>
</tr>
<tr>
<td>Education</td>
<td>9.4</td>
</tr>
<tr>
<td>Literature and languages</td>
<td>7.5</td>
</tr>
<tr>
<td>Humanities (history, music)</td>
<td>6.4</td>
</tr>
<tr>
<td>Life sciences</td>
<td>5.6</td>
</tr>
<tr>
<td>Library science</td>
<td>4.5</td>
</tr>
<tr>
<td>Social sciences</td>
<td>1.1</td>
</tr>
<tr>
<td>Law, public administration</td>
<td>1.1</td>
</tr>
<tr>
<td>Physical sciences</td>
<td>0.4</td>
</tr>
</tbody>
</table>
### TABLE 3
SUMMARY OF RESPONSES FROM INSTITUTIONS WHERE LIBRARIANS HAVE AND DO NOT HAVE FACULTY STATUS (%)

<table>
<thead>
<tr>
<th>Item</th>
<th>Responses from Institutions with Faculty Status (N = 220)</th>
<th>Responses from Institutions without Faculty Status (N = 47)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Do professional librarians have faculty status at your institution? (N = 267)</td>
<td>Yes 82.4</td>
<td>No 17.6</td>
</tr>
<tr>
<td>2. Your rank?</td>
<td>Professor 5.0</td>
<td>Librarians I 17.0</td>
</tr>
<tr>
<td></td>
<td>Assoc. prof. 14.0</td>
<td>Librarian II 23.4</td>
</tr>
<tr>
<td></td>
<td>Assist. prof. 42.3</td>
<td>Librarian III 14.9</td>
</tr>
<tr>
<td></td>
<td>Instructor 33.2</td>
<td>Librarian IV 10.6</td>
</tr>
<tr>
<td></td>
<td>No response 5.5</td>
<td>No response 34.1</td>
</tr>
<tr>
<td>3. In your opinion, rank the benefits derived by librarians in your system?*</td>
<td>Tenure 39.1</td>
<td>Tenure 2.1</td>
</tr>
<tr>
<td></td>
<td>Salary 37.3</td>
<td>Salary 38.3</td>
</tr>
<tr>
<td></td>
<td>Sabbatical leave 9.5</td>
<td>Sabbatical leave 2.1</td>
</tr>
<tr>
<td></td>
<td>Annual leave 5.5</td>
<td>Annual leave 17.0</td>
</tr>
<tr>
<td></td>
<td>No response 8.6</td>
<td>No response 40.5</td>
</tr>
<tr>
<td>4. Does your system offer the possibility of tenure for librarians?</td>
<td>Yes 29.8</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No 42.6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No response 27.6</td>
<td></td>
</tr>
<tr>
<td>5. Number of publications required for promotion to the next rank?</td>
<td>1–3 for promotion to next rank 55.65%</td>
<td>1–3 publication to next rank 20.0%</td>
</tr>
<tr>
<td></td>
<td>No response/none 95</td>
<td>No response/none 75.0%</td>
</tr>
<tr>
<td>6. Is research publication necessary for promotion/tenure for librarians?</td>
<td>Yes 18.6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No 75.9</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No response 5.5</td>
<td></td>
</tr>
<tr>
<td>7. Are promotion criteria for librarians same as for other faculty members?</td>
<td>Yes 36.4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No 36.3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Promotion criteria unknown 27.3</td>
<td></td>
</tr>
<tr>
<td>8. Rank the factors taken into consideration for promotion*</td>
<td>Peer evaluation 38.3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Service to univ. 8.5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Service to comm. 4.3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Publications and research 2.1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No response 46.8</td>
<td></td>
</tr>
<tr>
<td>9. Are salaries for librarians same as for other faculty members?</td>
<td>Comparable 23.6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>At least less by $1,000 64.1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>At least more by $1,000 6.8</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No response 5.5</td>
<td></td>
</tr>
</tbody>
</table>

*Only the frequencies of respondents ranking each of the categories as their first choice are reported here.

promoted. Within the same group 38.3 percent of the respondents ranked peer evaluation as the most important factor in promotion consideration, and 8.5 percent listed service to the university as the next factor taken into consideration. The possibility of achieving tenure was responded to affirmatively by 30 percent of the non-faculty status respondents (table 3, item 4), but only one respondent (2.1 percent) perceived it to be a clear benefit of her/his system (table 3, item 3). Could this imply that although tenure is offered under these circumstances, it is rarely possible to attain? Or as stated earlier, is sal-
ary the prime benefit derived from a non-faculty status position? Of the librarians without faculty status, 47 percent indicated that faculty status was rescinded within the last ten years.

Of the librarians with faculty status, 64 percent either responded negatively to the query as to whether promotion criteria were the same for them and teaching faculty, or indicated that promotion criteria used were not known. Only 18.6 percent of the librarians responded in the affirmative to whether research and publication were necessary for promotion and tenure. The question of publication is discussed in greater detail in the next section. Finally, 64.1 percent of the academic librarians responded that, in their opinion, librarians with rank similar to classroom faculty received pay lower by at least $1,000 or more per year than did their classroom faculty counterparts.

Research and Publication Activities. Several questions were included in the questionnaire to obtain an insight into the "scholarly" activities of professional librarians in the tri-state area. The results obtained are summarized in Table 4 and offer an interesting insight into the working sphere of the academic librarian. Using bivariate analysis, it was found that 22 percent of the librarians were involved in one or more types of measurable scholarly publication activity (called "some pub" in Table 4). Of these, the most common activity undertaken was "research" publication followed by publication of book reviews.

It was interesting to note that during the last year (the year before the questionnaire was administered) nearly 20 percent of the respondents participated in the development of research proposal(s). Forty-two percent indicated that such proposals were funded. This nearly two-to-one success rate in funding would be regarded as quite a good track record among experienced academic grant seekers. If this finding comes close to reflecting the actual grant-seeking prowess of the academic librarian, it should serve as a statement of encouragement for the 80 percent who indicated that they did not undertake any such proposal development activity.

On the other hand, it was disturbing to note that less than 15 percent of the librarians are given any release time for either proposal development or for research and publication. This inequitable situation (as compared to that of teaching faculty) underscores the problem of publishing for academic librarians perhaps more clearly than any other reason.

Responses to publication requirements and proposal development were subjected to bivariate analysis by classifying them according to the position and rank held. These responses were subdivided into two groups: respondents with and without faculty rank (data not presented in tabular form). Rank played a significant role in the affirmative responses to questions relative to the numbers of papers presented, and numbers of proposals developed and funded. According to the "position" variable, directors engaged in a significantly higher proportion of such activity than did librarians in the other two categories (Table 4).

A greater number of interactions were noted when publication and proposal devel-

**TABLE 4**

<table>
<thead>
<tr>
<th>Item</th>
<th>Type of Activity</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Books published (up to 2)†</td>
<td>3.4</td>
</tr>
<tr>
<td>2.</td>
<td>Book reviews published (up to 8)†</td>
<td>7.5</td>
</tr>
<tr>
<td>3.</td>
<td>Literature review or bibliography published</td>
<td>4.1</td>
</tr>
<tr>
<td>4.</td>
<td>Research publications (up to 7)†</td>
<td>15.3</td>
</tr>
<tr>
<td>5.</td>
<td>At least one publication in items 1 to 4 (some pub)</td>
<td>22.9</td>
</tr>
<tr>
<td>6.</td>
<td>Presentations at professional meetings (up to 5)†</td>
<td>12.0</td>
</tr>
<tr>
<td>7.</td>
<td>Research proposals developed (up to four)†</td>
<td>19.5</td>
</tr>
<tr>
<td>8.</td>
<td>Research proposals funded (up to four)†</td>
<td>8.3</td>
</tr>
<tr>
<td>9.</td>
<td>Release time available for:</td>
<td>12.0</td>
</tr>
<tr>
<td></td>
<td>a. Proposal development:</td>
<td>14.2</td>
</tr>
<tr>
<td></td>
<td>b. Research and publication:</td>
<td></td>
</tr>
</tbody>
</table>

*Only affirmative responses for each type of activity are presented here.*

†Generally, 70 percent of the responses for each of the categories above had one such item published, presented, or developed.
opment activities were divided according to academic rank among those with faculty status. As expected, the higher the academic rank, the greater the affirmative response to publication and proposal development activity. To obtain an overview, all of the responses to publication-related activities (number of books, book reviews, research papers, literature reviews, and bibliographies published) were pooled, and a new category called "some pub" was created to obtain the total number of people who engaged in at least one such activity. For "some pub," significant positive associations with rank were noted. Among librarians without faculty status, no significant differences were noted for any of the publications and proposal development activities. This clearly indicated that either such research-related endeavors were not a definite requirement or that such activities were equally carried out among all of the ranks.

The Key Opinion Questions

Toward the end of the questionnaire three key questions/statements were asked to assess the opinions of academic librarians on these issues. These questions are numbered statements 1, 2, and 3, respectively, and are shown verbatim. The overall frequency responses are summarized in table 5.

Nearly 63 percent of the librarians responded affirmatively to the question as to whether "a nine month contract for librarians would better enable them to pursue research interests" (statement 1). Approximately half of the respondents agreed with the statement that "faculty status with its requirement for research and publications places unrealistic demands on librarians for their advancement" (statement 2). "A comparable system which recognizes the nature of the work for librarians and offers them benefits of job security" (statement 3) was considered preferable by 64.4 percent of the librarians for their advancement. Only 14.6 percent of the librarians surveyed disagreed with statement 3. Others were either undecided (15.4 percent) or chose not to respond (5.6 percent) As is evident, a "comparable" system was the clear choice of most librarians.

Interestingly, over 64 percent of the librarians with faculty status agreed with the use of

| TABLE 5A |
| Responses to Key Questions/Statements Related to Length of Contract and Faculty Status (N = 267) |

<table>
<thead>
<tr>
<th>Statements</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Statement 1. &quot;Do you think a nine-month contract would better enable librarians to pursue research interest?&quot;</td>
<td>Yes (62.9); No (26.2); No response (10.9)</td>
</tr>
<tr>
<td>Statement 2. &quot;Faculty status/rank with its requirement for research and publication for promotion places unrealistic demands on librarians for their advancement.&quot;</td>
<td>Agree (49.4); Disagree (24.0); Undecided (21.0); No response (5.6)</td>
</tr>
<tr>
<td>Statement 3. &quot;A comparable system which recognizes the nature of the work and responsibilities for librarians and offers them benefits of job security and advancement is preferable for librarians.&quot;</td>
<td>Agree (64.4); Disagree (14.6); Undecided (15.4); No response (5.6)</td>
</tr>
</tbody>
</table>

| TABLE 5B |
| Cross Tabulation of Responses Between Statement 2 and Statement 3 (% Responses) |

<table>
<thead>
<tr>
<th>Statement 3</th>
<th>Agree</th>
<th>Disagree or Undecided</th>
<th>Row Total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Statement 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agree</td>
<td>86.3</td>
<td>13.7</td>
<td>53.0</td>
</tr>
<tr>
<td>Disagree or undecided</td>
<td>46.6</td>
<td>53.4</td>
<td>47.0</td>
</tr>
<tr>
<td>Column Total</td>
<td>67.6</td>
<td>32.4</td>
<td>100.0*</td>
</tr>
</tbody>
</table>

*N = 247. Excludes 20 who failed to respond to either or both statements (2 and 3). Chi-square = 42.5; df = 1; significance = 0.000; gamma = 0.76.
a comparable system. An analysis of their attitudes and opinions regarding their preference for such a system would be quite revealing. It is believed that publication requirements for promotion and the recognition of the uniqueness of the academic librarian's job responsibility would play a major role in such a preference.

Statements 2, and 3 were the two most important opinion questions. A cross tabulation of responses (table 5, part B) exhibited that 86.3 percent of respondents who agreed with statement 2 also agreed with statement 3. Statistically, such commonality of response was very highly significant and had a very high magnitude of association.

Numerous bivariate analyses were conducted to identify particular demographic and institutional parameters (independent variables) that prompted agreement or disagreement with the three statements (dependent variables) (table 5). The significant interactions among the variables are summarized in table 6. The size of the student body and the number of librarians in a given academic library exerted the most significant influence on the preference for a nine-month contract. Generally, librarians at smaller institutions preferred such a contract more than those at larger institutions.

Statement 2 received significantly greater agreement among librarians without faculty status. In addition, thesis, position, and academic rank also had a significant effect on the response to this statement. Librarians with faculty status at lower levels of rank agreed more with statement 2. The higher the rank, the less was the agreement with statement 2. In the "some pub" category, the synthetic variable showed very highly significant association with statements 2 and 3 and in this study became a very important independent variable. A greater number of librarians with no publications agreed with both of these statements and showed one of the highest magnitudes of association.

The Attitude Index

Further scrutiny of the data prompted compression of the two major dependant variables, statements 2 and 3, into one. This synthetic variable was called Attitude Index (AI). Justification for such data reduction was based on two observations: the very high association between statements 2 and 3 (table 5, part B); and the significant effect of faculty status (an independent variable) on statements 2 and 3. It was therefore logical to expect that if faculty status could be used to control the other demographic and institutional variables in a bivariate analysis, it could reveal previously hidden relationships within the faculty status subsample.

An agreement category with the Attitude Index was computed by pooling the responses that agreed with both statements 2 and 3. A disagreement category was computed by pooling those responses that agreed with only one or neither of the two statements. This resulted in the agreement of 110 respondents and the disagreement of 130 respondents with the AI.

A significantly higher percentage of librarians with faculty status in the lower positions, working in public institutions and on large campuses (over 5,000 FTE) with large professional staffs, agreed more with the AI. A significantly larger number of librarians with one or more publications (some pub variable) disagreed with AI. Among librarians without faculty status, position was the only variable that significantly affected the AI (table 7).

Summary

This survey has presented the personal, educational, and occupational characteristics of academic librarians in Alabama, Georgia, and Mississippi. More women than men work in the academic library profession and provide the main income for their households. Membership in state and regional library organizations is common. A twelve-month contract is prevalent. Tenure and salary are perceived as the top-ranked benefits. Two areas of ambiguity are the relationship of the number of publications linked to promotion and the length of service required for promotion. A majority of those responding indicated a preference for a comparable system of academic status different from the traditional faculty status structure, but also one that offers the benefits of job security and advancement. Faculty status, rank, and publication activity exerted significant influence upon the agreement or disagreement with this statement.
# TABLE 6

**PERCENT AFFIRMATIVE RESPONSES TO THE FACULTY STATUS STATEMENTS BY SIGNIFICANTLY ASSOCIATED INSTITUTIONAL AND INDIVIDUAL CHARACTERISTICS**

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Statement 1</th>
<th>Dependent Variables</th>
<th>Statement 2</th>
<th>Statement 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Faculty Status</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>With (N = 220)</td>
<td>50.0</td>
<td>67.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Without (N = 47)</td>
<td>67.6</td>
<td>86.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No answer (N = 0)</td>
<td></td>
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<td>3. Thesis</td>
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<td>21+ (N = 85)</td>
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<td>5. Position</td>
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<tr>
<td>Director (N = 31)</td>
<td>37.9</td>
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<td>57.5</td>
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<td>1+ Supv. to dir. (N = 144)</td>
<td>52.2</td>
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<td>6. Rank</td>
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<td>Instructor (N = 73)</td>
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<td>52.1</td>
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<td>Assoc. prof. (N = 31)</td>
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<td></td>
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<td>Professor (N = 11)</td>
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<td>Chi-square = 26.53;</td>
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<td>df = 4</td>
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<td></td>
</tr>
<tr>
<td>Gamma = -0.32</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Some Publication</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No publication (N = 182)</td>
<td>59.3</td>
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<tr>
<td>1+ publications (N = 58)</td>
<td>30.0</td>
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<tr>
<td>Chi-square = 14.65;</td>
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<tr>
<td>df = 1</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Gamma = -0.54</td>
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<td></td>
</tr>
<tr>
<td>Chi-square = 5.6;</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>df = 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gamma = -0.36</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

*Only the percent responding yes to each of the responses is tabulated.*
TABLE 7

PERCENT AFFIRMATIVE RESPONSES FOR THE SIGNIFICANT DEMOGRAPHIC
CHARACTERISTICS AFFECTING ATTITUDE INDEX (A1)*
BY FACULTY STATUS (TRIVARIATE ANALYSIS)

<table>
<thead>
<tr>
<th>Demographic Characteristics</th>
<th>With Fac. Status</th>
<th>Without Fac. Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Student Body</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Under 5,000</td>
<td>32.9 (N = 70)</td>
<td>32.4 (N = 17)</td>
</tr>
<tr>
<td>Over 5,000</td>
<td>48.1 (N = 131)</td>
<td>47.4 (N = 19)</td>
</tr>
<tr>
<td>Chi-square = -3.72; df = 1</td>
<td>Gamma = -0.31; Sig. = 0.05</td>
<td>Gamma = -0.67; Sig. = 0.06</td>
</tr>
<tr>
<td>2. Type of Institution</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public</td>
<td>45.8 (N = 177)</td>
<td>55.2 (N = 29)</td>
</tr>
<tr>
<td>Private</td>
<td>22.2 (N = 27)</td>
<td>100.0 (N = 7)</td>
</tr>
<tr>
<td>Chi-square = 4.39; df = 1</td>
<td>Gamma = -0.49; Sig. = 0.04</td>
<td>Chi-square = 3.16; df = 1</td>
</tr>
<tr>
<td>3. Number of Librarians</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 to 5</td>
<td>18.5 (N = 27)</td>
<td>100.0 (N = 8)</td>
</tr>
<tr>
<td>5 to 10</td>
<td>42.3 (N = 52)</td>
<td>54.5 (N = 11)</td>
</tr>
<tr>
<td>11 to 20</td>
<td>45.0 (N = 60)</td>
<td>50.0 (N = 4)</td>
</tr>
<tr>
<td>21+</td>
<td>50.8 (N = 63)</td>
<td>53.8 (N = 13)</td>
</tr>
<tr>
<td>Chi-square = 8.27; df = 3</td>
<td>Gamma = -0.38; Sig. = 0.03</td>
<td>Chi-square = 5.84; df = 3</td>
</tr>
<tr>
<td>4. Position</td>
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<td></td>
</tr>
<tr>
<td>Director</td>
<td>34.6 (N = 26)</td>
<td>100.0 (N = 2)</td>
</tr>
<tr>
<td>Report to director</td>
<td>38.8 (N = 67)</td>
<td>81.3 (N = 16)</td>
</tr>
<tr>
<td>1 Supv. to director</td>
<td>46.8 (N = 111)</td>
<td>44.4 (N = 18)</td>
</tr>
<tr>
<td>Chi-square = 1.89; df = 2</td>
<td>Gamma = -0.17; Sig. = 0.08</td>
<td>Chi-square = 6.17; df = 2</td>
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<tr>
<td>5. Some Publication</td>
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<td></td>
</tr>
<tr>
<td>No publication</td>
<td>47.1 (N = 155)</td>
<td>74.1 (N = 27)</td>
</tr>
<tr>
<td>1 publication</td>
<td>28.6 (N = 49)</td>
<td>33.3 (N = 9)</td>
</tr>
<tr>
<td>Chi-square = 4.5; df = 1</td>
<td>Gamma = -0.38; Sig. = 0.03</td>
<td>Chi-square = 3.25; df = 1</td>
</tr>
</tbody>
</table>

*Agreement with A1 was computed by pooling agree responses to both statements (2 and 3, table 5). Disagreement was computed by pooling agree responses with one or neither of the statements.

†Significant relationships (sig. at 0.05 level) are underlined.

REFERENCES

12. Approximately the same proportions were reported in the Schiller study: three-fifths belong to state and regional associations; 50 percent to A.L.A. (p.53).
13. Dow reported 3.6 percent of surveyed librarians had nine-month contracts. (p.219).
Acceptability of Non-Library/Information Science Publications in the Promotion and Tenure of Academic Librarians

If library/information science is a true academic discipline, then academic librarians must reevaluate the acceptability of publications in other fields if they are to be considered academic faculty members in the field of library/information science. This was perceived to be the issue by the Purdue University Library faculty when they altered the tenure and promotions document to require that consideration for promotion and tenure be based on publications in library/information science. The issue has been raised by the growing number of librarians with non-library/information science Ph.D.s who prefer to publish in the area of their Ph.D. A survey of ARL libraries indicates, however, that only a relative handful of academic libraries presently supports requirements similar to those adopted by the Purdue library faculty.

During a recent survey of a university library faculty, a respondent stated, “The librarian is a true Renaissance Man.” Herb White encountered a distinguished scholar-librarian who described libraries as being “self evidently good.” Is it realistic to continue to view our profession as a bibliographic Camelot in the light of the realities of the times? We have striven for acceptance by our academic colleagues by seeking faculty status for librarians. We have worked for several decades to define our area of activity as professional. How has our success enhanced or detracted from the old concept of the librarian as a self-directed, cross-disciplinary scholar?

The Issue Defined

The library faculty of Purdue University adopted in 1978 a clarification of its promotion and tenure policy stating that publications in library/information science would be given more weight in promotion and tenure decisions than those in other scholarly fields. This issue arose when, in interviewing a candidate for a position on the library faculty, she stated that she would only publish in English literature, which was the area of her Ph.D. At that time the Purdue Libraries had no explicit policy covering this issue since it had never been raised before in hiring or promotion and tenure considerations. It was apparent, however, that the issue at stake was one of definition. What is the subject expertise of library/information science?
The issue having been raised, the director of libraries appointed a committee to study and make recommendations on a policy. The committee searched the literature and surveyed the opinion of the library faculty. The literature search revealed that there was no single article addressing this issue directly. At the next faculty meeting the committee reported and presented a resolution favoring stronger support to library and information science publications than to those in other fields. Enough discussion was generated that the report was tabled to permit further consideration by the faculty. It was clear that the library faculty was divided on the topic.

Those faculty members who supported the resolution based their argument on the proposition that library and information science is a discipline in its own right. Consequently the librarian and information scientist ought to do research and publish in this field if he/she is to advance the state of the discipline and comply to general norms for the faculty of an academic discipline. This argument was supported by references to other academic disciplines where publication outside the area of one’s academic appointment would be inappropriate. For example, a chemist would never gain tenure or promotion if he were to devote his research to Arthurian legend.

Faculty members who opposed the resolution based their objections on two similar but distinct arguments. In a philosophical vein, it was argued that the trend in modern research is toward an increase in interdisciplinary studies and that librarianship by its very nature is an interdisciplinary subject. Therefore, to impose restrictions on the scope of research done by librarians and information scientists would not only curtail academic freedom but would also be counter to the current direction in other disciplines. Echoing a similar sentiment at a more practical level, several library faculty members expressed the opinion that the everyday professional activities of librarians bring them into contact with the entire realm of knowledge and that, unlike other disciplines, a broad working knowledge of many subject fields is essential for successful job performance. The same criteria of the relation of subject knowledge to job performance could be applied by the subject specialist to his/her own peculiar role as the liaison between the library and the teaching faculty of a specific discipline. Given that subject knowledge is essential for many professional library positions, research in these subject areas, it was argued, should not be inappropriate to the tasks of librarianship. The opposition supported its argument with the example of a leading literary scholar who had published several critical bibliographies, implying that librarians should be rewarded for publishing literary history.

Although the director of libraries made the point that he would find it difficult to justify the university-wide promotion and tenure committee promotion and tenure for someone who was publishing in something other than library and information science, this practical problem was never considered to be the real issue by either party in the debate. No pressure was being exerted by the university administration to make the librarians follow a particular course in research and publication. Rather, the arguments centered on the more philosophical issue of library and information science as a unique discipline versus library and information science as a loose confederation of many other areas of knowledge.

In the course of the debate it became apparent that a compromise opinion had formed among the library faculty. They agreed that library and information science was the library faculty’s proper field of investigation, but at the same time they wished to see the subject defined in the broadest possible terms. Many suggestions were made to amend the original resolution in order to reach a compromise between the two opposed philosophical views. Such suggestions usually amounted to examples of acceptable research, but it was soon realized that without a core definition of library and information science the examples could be strung out ad infinitum, and the library faculty was unwilling to commit itself to a core definition.

In a spirit of compromise, a resolution was adopted that gave preponderate value to publications in the field of library and information science, but left the interpretation of what properly belonged to this field to the tenure and promotions committee. In practical terms this meant that someone might publish in a subject other than library science so long as he/she was careful to show its rele-
vance to the concerns and issues of librarian-

ship.

The adopted resolution read:
Since the field of library/information science/
audio-visual constitutes a discipline, most publica-
tions should be related to the discipline in some
way. The discipline should be interpreted broadly.
Faculty members should strengthen their case by
having as many good refereed publications in the
discipline as possible.
All publications in the discipline may be included
in consideration for promotion and tenure.
Publications in scholarly fields not directly related
to library/information science/audio-visual are ac-
ceptable but may not be given primary consider-
atation.
No specific requirements should be established for
the number and types of publications which are
acceptable.

The adopted resolution read:
Since the field of library/information science/
audio-visual constitutes a discipline, most publica-
tions should be related to the discipline in some
way. The discipline should be interpreted broadly.
Faculty members should strengthen their case by
having as many good refereed publications in the
discipline as possible.
All publications in the discipline may be included
in consideration for promotion and tenure.
Publications in scholarly fields not directly related
to library/information science/audio-visual are ac-
ceptable but may not be given primary consider-
atation.
No specific requirements should be established for
the number and types of publications which are
acceptable.

**Review of the Literature**

The issue of whether publications in li-
brary and information science should be
given more weight than publications in other
subject fields is complex, and one that has not
been fully clarified in the resolution adopted
by Purdue's library faculty. Some indication
that such an issue might be important in the
field can be gained by considering the growing
emphasis placed upon subject degrees as
part of the qualifications of academic librarians. Miller's 1976 study of Ph.D.s in librari-
anship found that of the 207 Ph.D.s holding
professional positions in seventy-two large
university libraries, 175 (84.5 percent) are
subject Ph.D.s. His study likewise shows that
the number of students who entered schools
of library science with Ph.D.s in hand ap-
proximately doubled between 1972 and
1974, and that there is a preference in the
current job market for librarians with subject
expertise at the Ph.D. level. Given the cur-
rent emphasis upon the possession of subject
matter expertise in librarianship, it may well
be that a greater proportion of academic li-
brarians are publishing, and desire to pub-
lish, in their subject specialty. This is indi-
cated in a recent study of publication patterns by librarians in ten university li-
braries. Of the journal articles published in a
five-year period by this group, 41 percent
were published in nonlibrary journals.

How do other academic libraries deal with
this issue? In a recently conducted search of
the literature, many studies were found that
dealt with the topic of faculty status and pub-
lications for librarians in general, but only a
few addressed this topic specifically. The
findings of Kellam and Barker's 1968 study
indicated that 97 percent of the seventy-two
respondents, mostly ARL library directors,
did agree that librarians should be encour-
aged to do research and that about 60 percent
of this group answered that the research need
not be related to library operations or prob-
lems. Also, 92 percent of the respondents in
this study did favor librarians' participation
in nonlibrary professional association work.
However, the study also noted that adminis-
trators supported such activity to a lesser de-
gree than participation in professional li-
brary association work. More relevant to the
focus of this article is the recent survey of
sixty-eight ARL libraries by Rayman and
Goudy. Of the ten libraries in this survey that
required publication for promotion and ten-
ure, only two required that the publications
be in library or information science.

**The Issue Surveyed**

In order to obtain a more accurate assess-
ment of the importance of discipline focus as
an issue for promotion and tenure, the au-
thors conducted a survey of ARL member li-
braries. A short questionnaire was printed on
a stamped, addressed postcard and sent with
a letter of explanation to
all ARL library
directors. These questions together with the
results from eighty-two responding univer-
sity libraries are listed in table 1.

Two important conclusions emerged from
the raw data of the questionnaire. (1) Most
academic libraries give equal weight to pub-
lications in subject fields and library/infor-
mation science. As shown in table 1, ques-
tion 4, fifty-four ARL academic libraries
(65.9 percent) allowed equal weight for both
types of publications. If the seventeen li-
braries that did not answer the question are
removed from the sample, then this percent-
age rises to 83 percent. Nine libraries indi-
cated that subject-field publications had ei-
ther less weight or no weight when compared
to publications in the field of library/infor-
mation science. Looking, however, at the subset of thirteen libraries requiring pub-
lication for promotion and tenure, only two
of these gave less weight to subject-field pub-
TABLE 1

RESULTS OF A QUESTIONNAIRE RECEIVED FROM EIGHTY-TWO ARL UNIVERSITY LIBRARIES

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Relative Frequency</th>
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<tbody>
<tr>
<td>1. Size of professional staff:</td>
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<tr>
<td>Less than 50</td>
<td>27</td>
</tr>
<tr>
<td>50 to 100</td>
<td>39</td>
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<td>101 to 150</td>
<td>10</td>
</tr>
<tr>
<td>Larger than 150</td>
<td>6</td>
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<tr>
<td>Total</td>
<td>82</td>
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</table>

2. Do your librarians have faculty status?

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<tr>
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<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>82</td>
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</tbody>
</table>

3. Is publication essential for promotion and/or tenure?

<table>
<thead>
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<th>Frequency</th>
<th>Relative Frequency</th>
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</thead>
<tbody>
<tr>
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<td>No</td>
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</tr>
<tr>
<td>No answer</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>82</td>
</tr>
</tbody>
</table>

4. What weight do subject publications carry compared to library/information science publications?

<table>
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<th>Relative Frequency</th>
</tr>
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<td>No answer</td>
<td>17</td>
</tr>
<tr>
<td>Total</td>
<td>82</td>
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</tbody>
</table>

5. Has the question of the weight of subject publications ever been an issue at your institution?

<table>
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<tr>
<th>Frequency</th>
<th>Relative Frequency</th>
</tr>
</thead>
<tbody>
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<td>9</td>
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<tr>
<td>No</td>
<td>69</td>
</tr>
<tr>
<td>No answer</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>82</td>
</tr>
</tbody>
</table>

The size of the library staff correlates very highly with the answer to these two questions (questions 4 and 5, table 1). All nine libraries that said that publications in subject fields carried less or no value when compared to library/information science publications had professional staffs below 100 while none of the libraries with staffs larger than 100 gave less value to subject-field publications (see table 2). Likewise, all nine libraries that indicated that the subject matter of publications had been an issue for their library policy had professional staffs of less than 100 (see table 3). The probable explanation of this phenomenon is to be found in the long tradition of employing subject specialists in the larger academic libraries. Subject specialists would be prone to publish in the area of their specialty and would have done so for many years, long before faculty status ever became an issue in libraries. Thus publication in subject areas...
TABLE 3

<table>
<thead>
<tr>
<th>Staff Size</th>
<th>Libraries in Which a Policy Issue Regarding the Suitability of Subject-Field Publications Has Been Raised</th>
</tr>
</thead>
<tbody>
<tr>
<td>100 or less</td>
<td>Yes: 9, No: 53, Total: 62</td>
</tr>
<tr>
<td>Larger than 100</td>
<td>Yes: 0, No: 16, Total: 16</td>
</tr>
<tr>
<td>Column total</td>
<td>Yes: 9, No: 60, Total: 78</td>
</tr>
</tbody>
</table>

*Missing cases represent libraries which did not answer question 5.

would have come to be accepted as a traditional and legitimate scholarly activity for these librarians. On the other hand only recently, in an era when faculty status has become a point at issue and when more and more library school graduates also hold subject Ph.D.s, have the smaller academic libraries begun to hire subject specialists. The larger libraries settled the issue in an earlier context; only now, under new circumstances, are smaller academic libraries grappling with the problem.

CONCLUSION

The requirement that academic librarians confine their research and publications to the issues of library/information science if they wish to receive serious consideration for promotion and tenure is obviously not a national trend at this time. This is perhaps due to the existing state of library/information science. Library/information science is the science of the organization of knowledge for purposes of storage and retrieval, and this very fact is the source of the confusion. In the past the principles by which knowledge was organized derived from the bodies of knowledge being organized and not from any general principles of organization. Witness the Library of Congress classification schedules; they were created by subject specialists. Any general principles of organization on which a core definition of library/information science should rest are, as of now, only partially formulated, seldom taught at any level of sophistication, and in the final analysis may lie in the synthesis of various branches of probability theory and semantics. Two opposing developments within the profession may, however, change this state of affairs.

On the one hand an increasing number of subject specialists with Ph.D.s are entering librarianship. They are trained to do research in their particular subjects and thus have a vested interest in utilizing that prior training to publish in these subject areas. Librarians with only an MLS generally lack these research skills and find it difficult to compete on an equal footing. On the other hand the very logic of defining library/information science as a profession and an academic discipline requires that librarians circumscribe and lay claim to a specialized body of knowledge that must be advanced by research. Otherwise library/information science may come to be regarded as nothing more than an eclectic jumble of the arts and sciences and, like nursing, be subordinated to another group of professionals who claim to understand and advance a truly unique and scientific body of knowledge.

REFERENCES

5. Ibid., p.197.
6. Ibid., p.198.
Bibliographic Access for Microform Collections

Bibliographic access to individual titles in microform collections is a problem. Neither the Library of Congress nor most micropublishers fully analyze these collections. Individual libraries cannot afford to do so either. But without author and title access, these collections are not very useful. Full analytics for microform collections have been called for but no effort yet has been successful. The author suggests that libraries abandon full cataloging in favor of indexing, using the information provided by micropublishers. While a national index to the contents of microform collections would be best, an alternative for local libraries would be to create their own COM index.

Providing bibliographic access for microforms is a growing problem. As long as microforms reproduce monographs, serials, or government documents, they can be cataloged like the original. But because micropublishers are producing collections on microform containing hundreds or thousands of individual titles, bibliographic control has become almost impossible. The problem is that “all the items are effectively hidden from discovery by users unless a separate card, or analytic, is filed for each one.” Yet most libraries have been unable to provide such control. E. Dale Cluff found that “most libraries are handling major microform sets on an ad hoc basis.” They are not fully cataloging individual items in a microform collection, but rather are treating the collection as a single work.

Libraries are not fully analyzing their microform collections partly because the Library of Congress does not. Gloria Hsia, chief of the Cataloging Publications Division at LC, says that “the Library simply does not have the staff resources to prepare the analytics that are so desirable for such sets.” No individual library has sufficient staff either to fully catalog microform collections. June Thompson, in her study of eighteen Canadian university libraries, found that “the number of titles in a single collection can be almost as large as the yearly book intake of some of the reporting libraries.”

Sometimes micropublishers provide catalog cards, but libraries often do not use them because of filing costs and limited catalog space. Another reason libraries are reluctant to use these cards is that they require “extensive revision and it is indeed questionable if a library should provide either the card catalog space or the personnel needed to revise and file such cards.” Probably because libraries are not buying their cards and because of the expense of producing them, most micropublishers are not providing catalog cards for their collections. Of the eighty-one microform projects reviewed by Microform Review in 1978, only six had cards.

Without access to individual items, important material contained in these large microform collections will not be read “simply because [users] will never know what is in them.” What C. Edward Carroll found for research materials is that “in those libraries where control is more complete, that is, where microforms are cataloged in the same manner as are other library materials—the use is equal to the use of other materials.”

Since most libraries are not fully cataloging their microform collections, reference librarians have improvised. In the absence of traditional bibliographical control, “the burden of informing library users of the avail-

---

Ann Niles is assistant college librarian, Carleton College, Northfield, Minnesota.
ability of microform collections has fallen on reference librarians.11 At the University of North Carolina—Chapel Hill (UNC) the reference librarians have compiled two notebooks to assist them in providing information on the library's holdings in microform. One notebook, "Microform Series: A Guide to Collections and Series in Microforms," lists the general title of the collections, the source, entry in the card catalog, if author/title analytics are filed, bibliographical tools of assistance, and call number. The second, "Microforms: Listings of Titles in Series," contains titles of individual items for some of the collections from packing lists, catalogs, brochures, or typed lists. The problem with this approach is that the information is not complete for every collection and each collection has to be consulted to locate an individual title. This is a time-consuming way to determine if a title wanted is held in a microform collection.

Fully analyzing microform collections has been proposed for the past seventeen years. In 1962 Wesley Simonton, following his study of bibliographic control of microforms, recommended that "every effort be made to develop cooperative or centralized analytic cataloging for multiple-title micropublishing projects."18 Felix Reichmann and Josephine Tharpe echoed his conclusion in 1972. "The descriptive cataloging of microforms . . . should be practically identical with the cataloging of the original except for notes identifying the item as microimage."19 Reichmann and Tharpe recommended that the Library of Congress should include analytics for microforms in the MARC project and that "a detailed cost and feasibility study of a machine-readable index for analytics of series in microforms should be made."14 Their analytics are essentially full cataloging. "The basic bibliographic record for each title in the microsets contains . . . author headings . . . subjects . . . short title, editor or translator . . . edition, imprint date, publisher, set number and item number within the set and unique number within the set."19

Sharing of analytic cataloging for microform collections has also been proposed. In 1974 E. Dale Cluff suggested that libraries that had fully cataloged their microform collections be identified so their cataloging could be made available to other libraries. A more successful attempt to provide information about completed cataloging for microform collections is the METRO Survey.

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they are aware that their indexing is "an important sales tool" from which "the end user may . . . benefit." 19

Librarians are also encouraging micropublishers to provide bibliographical information by refusing to purchase collections without it. 20 Robert Grey Cole advises that "if essential internal and external bibliographical controls are not provided for specific micropublications, then libraries should not buy them." 21 Librarians agree that it is the responsibility of micropublishers to supply indexing. Robert Blackburn believes that "the company or the institution responsible for the reproduction of the collection should issue with the reproduction as part of the cost, a bibliography or list of the items represented in sufficient fullness to be adaptable to the individual needs of each purchaser." 22 It seems likely, then, that micropublishers will continue to provide indexing to their collections because librarians expect it.

But the problem with the indexing supplied by the micropublishers is that it needs to be put into some order. There is no comprehensive author or title index to the individual items for all collections. Consequently, in trying to locate a particular item in a collection, reference librarians may have to look through several publishers' catalogs, guides, or brochures. Without an author-and-title index, acquisitions staff cannot easily determine if an out-of-print book they are trying to obtain is already held in the collection in a microform edition. The same problem exists for interlibrary loan staff. Some of the material being borrowed from other libraries may be held in a microform collection in the library, but it is too time-consuming to try to verify this. Collection development staff, too, in trying to determine whether certain materials should be purchased, would find it useful to know what is already held in microform. Both librarians and users need an index to items in microform collections, and this would be little more than an organization of the bibliographical information supplied by the micropublishers.

The most comprehensive index would be one that included all of the microform collections that have been published. The model for such an index could be Baer's Titles in Series. Some collections could be excluded from the index. Collections based on standard bibliographies could be listed with a note to consult the bibliography for information on the contents. Collections of government documents, ERIC documents, and similar collections that are already indexed could also be excluded. This index could have three parts: an author index, a title index, and an index under the general title of the collection where the contents of each collection would be listed. An entry could include author, title, original date of publication, title of the collection, and reel or microfiche number. The index could be annotated by reference staff to give call numbers for those collections held in the local library.

An index to the contents of microform collections would have the greatest value if it could be produced nationally and updated regularly. A logical publisher of such a tool is Microform Review, Inc., already producing Microform Review, Guide to Microforms in Print, and Microform Publishers Trade List Annual. The first edition of the index might include only those collections, according to some definition, contained in Microform Publishers Trade List Annual. Subsequent editions could be expanded to include older collections, and libraries could be encouraged to supply Microform Review, Inc., with their lists and guides prepared for those collections.

The production of such an index could be aided if micropublishers adopt standards for the information they provide in their guides and bibliographies. In 1977, the Subcommittee on Bibliographical Control of Microforms of the Micropublishing Committee of ALA proposed that "a strategy for bringing microforms into the national system for bibliographic control of library materials . . . include . . . establishing standards for the format of bibliographic information to be included in commercial listings of microforms." 23 The ARL Task Force on National Library Network Development has also proposed that "the bibliographic control of microforms provided by publishers" 24 be improved. If microform publishers could be encouraged to produce their guides according to standards and in machine-readable format, then the production of an index would be much easier. Such an index may itself encourage more micropublishers to provide guides so that their collections will be
indexed. Whether or not a collection is included in the index might be a considerable factor affecting the sales of microform collections.

Like all national solutions to bibliographical control of microforms, the production of such an index will take a long time to implement or may never occur. In the meantime, libraries have to turn to local solutions. By using information already available in the library, it should be possible for many libraries to create a local index to the contents of their microform collections similar to that for serial holdings. At the University of North Carolina-Chapel Hill, information for such an index is contained in notebooks in humanities reference listing contents of many microform collections; on analytic cards in the shelflist for several microform collections; and in bibliographies and guides provided by microform publishers. Excluding those collections based on a standard bibliography that provides contents information, ERIC and government documents that have their own indexing, and periodicals and newspapers that are included in the serials list, about forty-two already-cataloged microform collections at UNC could be included in such an index. Of the nineteen collections at UNC not yet cataloged, fourteen have guides or bibliographies giving contents information. One of the collections without a guide is a bibliography, and a contents listing may not be needed. The remaining four collections are on microfiche and the contents are available from the eye-legible headers.

A COM catalog would be an easy and efficient way to make the contents of microform collections known to library users and staff. The idea of a COM catalog listing the individual items in microform collections is not a new one, though earlier proposals called for full analytic cataloging. In 1972 Reichmann and Tharpe proposed that a study "of a machine-readable index for analytics of series in microforms should be made."25 In 1978 Carroll reaffirmed this: "I suggest that we consider going to a COM catalog while we wait further developments in on-line systems."26

To produce a COM catalog of the contents of microform collections for a library like UNC, it would be necessary to obtain a terminal, to arrange for the use of programmer time, computer time, and COM equipment at the campus computer center and to provide student or clerical time at the library to input the records at the terminal. Records for the contents could initially include only six pieces of information: author, title, general title of the collection, original date of publication, call number, and microfiche or reel number. However, they should be input in a MARC-compatible format so that if full analytic cataloging records became available, the contents records could be more easily upgraded and integrated with an online database.

Staff time devoted to bibliographic control of microforms for the library as a whole may not increase with the production of a COM catalog. Inputting the contents records that basically would be transcribed from information provided by publishers' guides, bibliographies, and catalogs could be done by student or clerical staff. Perhaps this could be a joint project between reference and cataloging departments. Some professional time may be needed for analyzing a few collections and for editing the COM catalog. But time spent by reference librarians in trying to locate materials on microform for users, and time spent by acquisitions, interlibrary loan, and collection development staff in trying to determine if the library holds particular items on microform, should be substantially reduced with an author-and-title index to microform collections.

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10. Ibid., p.32.

11. Ibid., p.42.


20. Reichmann and Tharpe, Bibliographic Control of Microforms, p.32.

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**BOOK REVIEWS**


This guide outlines a search strategy for a term paper, through the use of a sample search topic, and introduces basic reference sources in chapters on topic selection, the card catalog, evaluating books, indexes to current information, government documents, and guides to historical literature. The text is supplemented by a classified list of six hundred basic reference sources for history, a summary of three methods of searching for materials for a paper, and an index to the text (which does not include the bibliography). Written primarily for college juniors and seniors, the book is also of interest to graduate students, history professors, and reference librarians. Its chatty, informal style holds the reader’s attention and each chapter concludes with a clear, concise summary. Use of a specific search topic some-
what skews the presentation of reference tools, but it is a far more effective teaching method than mere discussion of each tool one by one. Furthermore, concentration on American history as a sample topic keeps the book to a manageable size for the student.

Occasionally the author does not generalize from the tools examined for the specific search topic to a search strategy useful for other topics. For example, on pages 6–7, specialized book bibliographies are introduced, but the relationship between the three cited bibliographies and a search strategy for any other topic is not drawn. Presentation of such general and peripheral tools as PAIS Bulletin and Social Science Citation Index before specific history tools appears to be in reverse order. Neither does Frick's work solve the problem, exhibited by other guides to reference sources, of isolating abstracting services as a distinct form, and thereby inadequately emphasizing their function as current bibliographies. Here the most comprehensive current bibliography in American history, America: History and Life (AHL), is relegated to the end of the list of tools considered, a weakness made more noticeable by the absence of the AHL Index to Book Reviews from the discussion of book review indexes and the omission of the AHL American History Bibliography from the earlier section on history indexes.

The text is generally well designed, clear, and amply illustrated (37 figures). There are, however, several instances of references in the text that are not clear in the illustrations; one of the illustrations on page 28 is in reverse order of the text’s discussion, for no useful reason; and several captions need more complete information for accurate identification. The list of basic reference sources inexplicably begins, following its initial outline, without even a heading or generous space division, in the last two inches of the inside column of a verso page.

This useful, attractive guide to history research may be used effectively by bibliographic instruction librarians and history professors, and it is priced for student purchase.—Joyce Duncan Falk, American Bibliographical Center, Santa Barbara, California.


This reviewer likes books, and in particular he likes books about books. How-ever, as someone once said, he does not like this book.

The book contains a number of excellent biographical sketches of printers and publishers who were active in the Town of Boston, Massachusetts—particularly those by Mary Ann Yodelis Smith, J. P. O'Donnell, R. E. Burkholder, John B. Hench, Charles E. Clark, and a few others who did some original research. Madeline Stern contributed a tour de force that overwhelms sketches of persons in the trade who were much more important to it than was Joseph Nancrede. The primary yardstick for determining the length of the entry allotted to a person appears to be his significance, but nowhere is “significance” defined, except in an indirect way, such as the number of imprints in which the subject’s name appears. Thus, “less important individuals” are defined as “generally those appearing in fewer than twenty-five imprints.” The emphasis on imprints and the editor’s device of attaching to each sketch lists of “Major Authors” and “Publishers Served” has caused authors of the sketches to emphasize highlights and milestones in their subject’s lives which sometimes obscures a balanced view of the whole. The narrative style decreed for all sketches makes the briefest ones appear ludicrous. A telegraphic “Who’s Who” style of entry might have been more appropriate for those. The majority of the sketches are based on common secondary sources (or no sources) and add little to the sum of our knowledge. The best that can be said about this compilation is that it lists in one convenient place the known members of the Cambridge-Boston book trade in the seventeenth and eighteenth centuries.

This reviewer dislikes saying such critical things about a book put together by someone carrying as distinguished a name as Benjamin Franklin V. But! . . . It begins with an illustration of a “Ramage Press as used by James and Benjamin Franklin.” Ramage made his first press about the year 1795. The sketch of Isaiah Thomas contains the amusing, but apocryphal, story of Thomas's printing of Fanny Hill. The manufacture of this book about printers is all but a disaster, although
one could say that the typewriter typeface is "nice" and "open." The reviewer's copy of the book is coming apart at the front inner hinge.

Condolences to the editor, contributors, and publisher! This is not a very good book and is not recommended to any but the most basic reference collection—Marcus A. McCorison, American Antiquarian Society, Worcester, Massachusetts.


Although the title is a misnomer, University Library History is an interesting book and well worth reading by the academic librarian. It is not, strictly speaking, a history, nor is it an "international review." Among the fifteen essays, three might be regarded as history but the majority can only be regarded as perceptive observations of the growth of academic libraries in the United States and Great Britain from the twenties to the present, with great emphasis upon the emergence of the academic library as a large complex organization of relatively recent origin.

Anyone like the reviewer, who has only modest knowledge of the growth of British academic libraries, will be struck by the parallel growths in collection development, processing, staffing, buildings, and financial support in the two countries. The British university libraries grew as collections of collections (there is a very interesting first chapter on the University of Manchester by F. W. Ratcliffe), they were often starved for adequate support for materials and staff salaries, and they did not secure funds for buildings until theirs were crowded and inefficient. These problems are similar to those of this country, but with a time lag of perhaps twenty-five years. After the American universities "flight to LC" in post–World War II, some librarians may be surprised to learn that over 50 percent of the British university libraries use the LC classification scheme (p.4, 153). Indeed Alan Jeffreys asserts that "British university libraries are almost totally reliant on American schemes of classification and show almost no signs of being directly influenced by any other school of thought." (p.154). There are good comparative tables on a variety of topics: collections, p. 12–17, 49; staffing, p.112, 121–24, and facilities, p. 248–49. Moreover, the battle within the Library Association among university librarians and public librarians which ultimately resulted in the formation of the Standing Conference of National and University Libraries (SCONUL) bears striking resemblance to the love/hate relationship of ALA and its siblings, ARL and ACRL.

The essays were written by thoughtful British and American academic librarians, including such well-known persons as David Kaser, Jerrold Orne, and John Y. Cole from the U.S., and R. O. MacKenna and Norman Roberts from the U.K.

In addition to the Ratcliffe essay, this reviewer found the following essays of particular interest: J. M. Smethurst on library staffing in the United Kingdom since World War II, MacKenna on library organization, Norman Roberts on library financing, and T. H. Bowyer on SCONUL.

Two other essays warrant careful reading by the American academic librarian: Geoffrey Briggs on university library development in Canada and a superb essay by Harrison Bryan on university library development in Australia and New Zealand with accompanying statistical tables, (p.306–14). Aside from these two essays, the only other essay dealing with non-U.S. and non-U.K. university libraries is a dull essay on Italian university libraries in the past century. Thus my comment that this is not truly "an international review."

There are useful references to various reports, e.g., the University Grants Committee, and the Robbins (1963), Parry (1967), and Atkinson (1976) Reports, etc., which may provide thoughtful comparisons as one sorts out the future of American academic libraries as they relate to the U.S. government. The essayists show familiarity with the monographic and journal literature as well as the report literature. There are a few typographical errors, e.g., citing Wilson beginning at GLS in 1938, and a few inaccuracies, but the work as a whole is free of such impediments.

In comparing U.S. and U.K. university libraries one notes a real difference in the edu-

In his introduction to *Classroom and Field: The Internship in American Library Education*, Dr. Louis Coburn, a professor of library science at Queens College, states that his purpose in writing the volume was to provide impetus to a reappraisal of the internship process in library education. Since so many schools have introduced or reintroduced the internship into their programs and increasing numbers of educators and librarians are involved, the material presented should be of interest to a larger audience than library school faculty.

The first chapter of this slim volume gives an overview of internships and field experience from the time of Dewey (who, as is well known, advocated a system of apprenticeships) to survey studies of the mid-seventies. It is a succinct, well-documented account of the research, literature, and personal opinions of librarians and educators on where field experience belongs in the curriculum, and would make a good starting point for learning or refreshing one's memory on the topic.

The main part of the work is devoted to a study of the present status of the internship in the accredited library schools. The data are based primarily on the results of a questionnaire which Coburn sent to the schools in December 1977. Additional information was found in the official bulletins of the schools. Of the sixty-three schools queried, thirteen indicated that no formal internships were offered. Five of the thirteen, however, were Canadian schools with two-year programs which generally expect students to acquire experience on their own sometime before graduation. In addition to the text, tables and charts show details on various aspects of the internship programs such as amount of credit offered, hours of service required, whether remuneration is expected or allowed, grading practices, and the evaluation process. Since Coburn's major interest was in the evaluation, all of chapter III is devoted to this topic. Rating scales and other types of evaluation forms both for supervisors and for students are discussed. Also considered is the thorny question of students' rights with regard to the disposition of such records.

In the fourth chapter the author presents a case study of the internship program at Queens College from its inception in 1973 to the time of writing. Details are given on where the students interned, the types of evaluations used, how the students were rated, the term paper requirement, and the students' evaluation of their experience. The final chapter, followed by an extensive bibliography, summarizes the findings and makes some specific recommendations based on them.

The work is well written in a straightforward style and should be helpful both to faculty and library supervisors. The many references both in the notes and the bibliography will direct the reader to other studies for further information. Its main drawback, however, is that it is based on data gathered in
1977-78 and schools have undoubtedly made changes since then. Also, the study seems to be based on some assumptions that may not be valid: that all interns are working in libraries (many are in other types of information agencies); that interns generally follow a pattern of varied experiences such as rotation among departments (a fair number now intern only in government documents, special collections, or some other specialized area), and finally that information gleaned from questionnaires and bulletins reflects an accurate picture (bulletins are often out-of-date as soon as they are published because of the vagaries of the printing process in many institutions, and questionnaires are sometimes answered by harried library school administrators who answer the questions the way they believe things to be without checking with the people involved). For these reasons and because of the many variables inherent in any internship program, a series of case studies such as the one presented on the Queens College program might be more helpful than an overview of all the programs.

Nonetheless, the present study is worth reading, especially for those newly involved in internship programs.—Lucille Whalen, State University of New York at Albany.


Why don't librarians write well? How can they improve their writing skills? These questions intrigued University of Connecticut librarian Norman D. Stevens. Stevens, himself a writer with numerous publications to his credit, reasoned that a setting promoting professional growth and interchange would prove ideal for a writing seminar. He had known such an environment while serving on the executive committee of the New England library cooperative (NELINET), and he felt that in a similar setting a small group of librarians could work together to improve their writing.

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sources made Stevens' idea a reality, and he gathered a group of ten other librarians who met twenty-three times over a two-and-a-half-year period, 1977 to 1979. This volume includes eleven short essays and eight longer articles written by the participants of the seminar.

The first section presents the eleven short essays (average length 1,500 words) prepared for and subsequently published in the "On Our Minds" section of the Journal of Academic Librarianship. The essays sound the academic librarian's traditional litany—ranging from the poor methods used in selecting a library director to the need for academic librarians to "become active and visible members of the community in which they work" (p.52). One refreshing piece is Elisabeth S. Burns' article on how a nondepository library can still build an adequate and useful collection of government documents.

The second section includes eight longer articles (4,000 to 10,000 words) on a variety of subjects: management information systems in academic libraries, the bibliographic instruction course given for academic credit, computerized legal search services, information resources (other than the library) in an academic institution, development of an automated acquisitions system, participation of corporate libraries in cooperative programs, peer evaluation for academic librarians, and sharing of staff among libraries. Although the articles are of uneven quality, one hopes indexing and abstracting services will include these individuals' articles so that they are not lost in this composite volume.

The volume ends with a bibliography of writings from the seminar (principally those in this volume), brief biographies of the participants, and, finally, the proposal to the Council on Library Resources and the six progress reports. Although the reports may seem just so much padding, they add a critical note of self-evaluation to the project.

If, as Stevens hopes, this seminar can serve as a model for future endeavors, he could have strengthened the present volume with more details on the actual workings of the seminar: What bibliographies on writing did the participants receive? What were the major weaknesses in writing encountered? What were the strengths? How did seminar members change and improve the writing of one another? What techniques did they employ in their discussions?

If the seminar were to fulfill its mission, one might also suggest that there should have been no guaranteed publication of the resulting essays and articles either in a journal or in this volume. Rather the authors should have submitted their contributions to a variety of journals and permitted them to benefit from regular editorial procedures.—Richard D. Johnson, State University of New York, College at Oneonta.


Predilections should be disposed of posthaste. The reviewer served for several years in the 1970s as an officer of the New York Public Library with responsibilities for labor relations. In the jargon of labor relations, he could be described as management. Looking forward to reading and reviewing a scholarly survey of labor relations in American libraries, or in the words of the authors' "a combination of economics, politics, history, and the current scene of labor relations for librarians" (p.xi), he also wished to round out his practical experience with some theory and acquire the benefit of someone's reflection and study. Perhaps this was too much to expect.

Upon reading the preface, the note he had written in the margin was "One of the worst prefaces I ever remember reading." After chapter 1: "One of the worst first chapters I ever tried to read." In the first twenty-three pages, this reviewer had an urge to write "What does this mean?" next to numerous paragraphs. Reading on, chapter 2 was the point where three letter words (e.g., "bad") were written in the margin. By page forty-one and the completion of two chapters entitle "A Survey of Labor Unions and Librarians" and "Library Services, Revenue, and Politics," there was a brief moment when the reviewer thought that the main problem was the authors' inability to present the big picture, the overview. After all, that's asking a
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lot. It also kept occurring to the reviewer that he might be in a foul mood or suffering from some inability to read and understand. Chapter 3 on "Public Librarians" might have been the detail that the authors were good at recording. And what fortune! They announced their intention to concentrate on the Chicago Public Library as an early example (mid-1950s) and the New York Public Library as an extended example and a contrast to the older Chicago unit. Since the reviewer had no first-hand experience with CPL, he took what was written as gospel. But then, the NYPL example, instead of showing the authors' adeptness at case studies, confirmed his worst fears of ineptitude. Sentences with no basis in fact leaped out from the page. Example: "At the end of 1974, the administration announced the closing of several branch libraries, and in only a few months over sixty professionals from the Research Libraries were terminated" (p.49). Briefly, the truth of the matter is that NYPL threatened to close several very busy branches and this "Statue of Liberty closing" bluff was called. Those branches were not closed. "Over sixty professionals from the Research Libraries" were not terminated "in only a few months." In fact, they were never terminated.

Such gross inaccuracies, in addition to too many typographical errors, a piddling two and one half page index, and the already cited murkiness of meaning are not worth twenty-five dollars even in these inflationary times. Here's one that all libraries can ignore.—Billy R. Wilkinson, University of Maryland Baltimore County.


The title of this book may lead one to think that it is a guide to the latest techniques for library supervisors and middle managers. Nothing could be further from the truth. This is a research-oriented monograph that reviews the literature on middle managers in libraries through the late seventies. It also includes the results of questionnaires and interviews conducted by the author. Some of Bailey's research on academic library administrators was done under a Council on Library Resources Fellowship and the report on this work has already been available for some time.

After some introductory material that includes descriptions of the organization of academic, public, and corporation libraries, Bailey has a short chapter on personnel management that briefly reviews some of the areas of concern to library managers: job descriptions, evaluation, staff development, collective bargaining, etc. This is followed by a longer chapter which summarizes the responsibilities of supervisory managers at all levels of the library organization, discusses librarians' attitudes toward supervision, and reviews the last thirty years of literature on the topic. Bailey then attempts to profile middle managers in general and follows this with three separate chapters (one each on middle managers in academic, public, and company libraries.) The chapter on public libraries is considerably shorter than those on academic and company libraries and few comparisons are drawn about the similarities or differences among middle managers in the three types of libraries. It is also unfortunate that the author does not compare library
management with management in other areas. Although Bailey notes in her introduction that library activities are often difficult to compare with others, she offers little justification for this view: her work draws almost exclusively on library literature. The book’s final chapter discusses the characteristics of “good” management and offers a few suggestions for those wishing to move into middle-management positions.

In summarizing the information on middle managers in academic libraries, Bailey reports that there is little consensus on the various levels of middle management. The average manager has a master’s degree from an ALA-accredited library/information school, and most have worked at least five years before obtaining their first middle-managerial positions. There is also general agreement, both by middle managers and top administrators, that library schools are doing a poor job in teaching management and administration. For those working in academic libraries, Bailey offers no surprises or new information, although this study may offer scholarly confirmation of what might otherwise be only personal or institutional perceptions.

The book contains chapter summaries, and notes and bibliographies follow most chapters. Brief lists of “selected journals” and “selected references” are included as appendices, and there is an index. It is evident that the author has devoted a good deal of time to her research and the result is a descriptive study which offers no startling conclusions and few suggestions for change. Those engaged in research on this topic may find that this book provides good background material, but this work is not likely to appeal to a wide audience. —Elizabeth M. Salzer, Stanford University Libraries, Stanford, California.


Readers are librarianship’s way of rendering centrifugal what would otherwise be a highly centrifugal literature. They are our black holes, our way of concentrating at a single point those journal articles, book chapters, and report excerpts which are scattered across the landscape of the discipline. In the Anglo-American community of librarians, the production of readers is an addiction. The utility of the genre goes, perhaps wrongly, without question. Thus, the reviewer of a reader is reduced to making two inquiries: how well is it organized and has the editor chosen wisely? With regard to The Professional Development of the Librarian and Information Worker, the answers to these questions are, respectively, very well indeed and fair to middling.

The editor, Patricia Layzell Ward of the Centre for Library and Information Management at Loughborough University, sees this book as a contribution to the professional (i.e., organic) development of individual librarians and information workers. It is to her everlasting credit that she regards professional development as extending well beyond those technical aspects of librarianship (e.g., the application of computers and telecommunications to library operations and management) which are the current obsession of continuing education in the United States. Professional development, in her view, embraces “the formation of a personal philosophy concerning the role of information, books and knowledge, and their free transmission in society, and this may well involve the development of a personal set of ethics.” This outlook is reflected in a set of readings which consistently emphasize the human, philosophical, and ethical dimensions of the library enterprise.

The sections of the reader constitute a deductive progression from the general to the particular concerns of librarianship. They are (1) library and/or information science, (2) research, (3) philosophy and ethics, (4) the planning of services, and (5) management (including the human side and the technical aspects thereof). This organization renders the book open to either reading seriatim or to more random consultation. It is much easier, on the other hand, to quarrel with the choice of readings, some of which evoked a distinct sense of deja vu, others an unhappy pedestrianism. At least six of the contributions were excellent, however, and merit further comment.
In his now classic "Of Librarianship, Documentation and Information Science," Jesse Shera contends that both library science and information science seek to "maximize the social utility of graphic records for the benefit of mankind." In this view, the librarian or information scientist is merely adjunctive to those who would define what is socially useful or beneficial to mankind. One must forever ask of this world view what a practitioner might appropriately do in the Soviet Union, Nazi Germany, and Uganda where social utility has in the past been defined by Stalin, Hitler, and Idi Amin.

Nicholas Belkin and Stephen Robertson, the English authors of "Information Science and the Phenomena of Information," make a very different, but no less deductive, point. They say that information is something which changes the structure of those images of the world that we carry about in our minds. For them, information science has three related subject matters: the structure of the text or the information, the image structure of the sender, and the image structure of the receiver. They assert that information science has concentrated on the structure of information, that education and psychology have explored the image structure of the recipient of information, and that the image structure of the sender of information "remains virtually virgin territory." This last contention is wrong, and sadly so since it emanates from authors with a structuralist bias. While structuralism is now somewhat winded intellectually, the image structure of the sender has been a preoccupation of Noam Chomsky in linguistics, Claude Levi-Strauss in anthropology, Roman Jakobson in literary criticism, and Gunther Stent in neurobiology, among many others. Like Belkin and Robertson, these scholars have long recognized that an understanding of information transfer is to be found in the holism of structure rather than in the atomism of content.

"An Alternative Model of a Profession for Librarians" by Gardner Hands and C. James Schmidt is a valuable exercise in demystification. In its quest of professionalism, librarianship has mimicked, uncritically, a model derived from law and medicine. From its exclusion of nonscientific knowledge to its fixed judgment of the client as inferior to the professional in competence, this model empha-

sizes stasis. Librarians, according to the authors, would do well to choose an open-systems model of professionalism that more easily accommodates change. To read Maurice Line's "On the Design of Information Systems for Human Beings" is a humbling experience. His essay consists of a series of seemingly everyday questions (e.g., What are the psychological and sociological factors which attract people to libraries? What elements in their physical design invite people to use reference tools? Can we satisfactorily locate information in a computer where the familiar spatial and visual frames of reference provided by books and libraries are missing?) for which, apparently, we have no very good or complete answers.

Other interesting entries are "Quasi Unions and Organizational Hegemony within the Library Field" by Gail Schlachter and Jeffrey Raffel's "From Economic to Political Analysis of Library Decision Making." The former describes the conversion of professional organizations into quasi unions, groups with a concern for both professional norms and employee welfare. Schlachter suggests that the American Library Association must become a quasi union if it is to maintain the allegiance of librarians. This may yet occur, but one remains haunted by the fact that the ALA, with its nonlibrarian contingent, is not a professional society and, therefore, fits only loosely the evolutionary model erected here. In the latter, Raffel argues that political analysis becomes more helpful than economic analysis in library decision making as the decision to be made becomes more critical. The reason is that while costs can often be assessed, benefits, especially where innovative solutions are involved (e.g., the distribution, free of charge, of books by libraries as opposed to the circulation of books that remain the property of the library), cannot be easily measured. "It is impossible," suggests the author, "to compare or weigh the value of individual dignity against the loss of rare books."

Ward's reader, the third in an Aslib series, is certainly worth reading selectively. It is relatively free of errors, though, almost unforgivably, after including "The Management Review and Analysis Program: A Symposium," she identifies the MRAP with the Association of College and Research Li-
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braries rather than with the Association of Research Libraries. One can envision the use of this reader in library school courses on the foundations of librarianship as well as in programs of continuing education for librarians and information workers.—Dan Bergen, University of Rhode Island, Kingston.


From a scholarly point of view these two studies have so little in common that their common subject, women in librarianship, seems hardly to connect them. Doris Dale has conducted and here reports upon a questionnaire survey of 300 living women librarians with earned doctorates of whom just over 50 percent responded. In a clear narrative style she explains how the women were identified, the techniques used in conducting the study, and the numerical details of all responses to the thirty-eight-question, four-page survey instrument.

I wish the questionnaire itself had been reproduced as part of this report, but Dale's table-by-table summary makes that an academic rather than substantive issue. Of slightly more importance is a tone which creeps into the descriptions, especially in the latter pages when discrimination is the topic, a tone of complaint that does not seem to be justified by the data.

I think we must all be aware by now that women have been discriminated against in our profession (a so-called women's profession) as in other professional, business, and work areas. There is some evidence that the situation is improving, but discrimination by sex exists. Therefore, it is a surprise to discover that of more than 150 women respondents only about one third indicated they had been discriminated against either overtly or covertly. In reporting this Dale slips a little into "over-selling" the reported discrimination.

Where Dale is scientific, Lundy is humanitarian. Having interviewed, in 1978, nine female leaders of the profession, she sent each a transcript and accepted their corrections. The resulting question/answer texts are presented verbatim with brief introductions outlining the careers of the women.

These are great librarians: Page Ackerman, Patricia Battin, Martha Boaz, Connie Dunlap, Margaret Goggin, Virginia Lacy Jones, Annette Phinazee, Sarah Rebecca Reed, and Helen Tuttle. It is satisfying to read their considered responses to questions ranging from ideas about administration and personal career choices to developing library school curricula and advice to beginning professionals. What is not satisfying is the lack of spontaneity which should be a strength of the interview format. It was edited out, one suspects, when the interviewers saw their less than carefully planned verbal expressions in the cold, black light of print.

Still, this is more enjoyable reading than most of our professional literature, and

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should give young librarians a few interesting insights into their futures. Both these booklets should be in all library science collections.—David Laird, University of Arizona, Tucson.


As library budgets decline in real dollars and as both faculty interests and the range of potentially useful material continue to broaden, the art of collection development has come into its own. Any assiduous fool can add, in other words, but it takes real ability to prune skillfully and to realign—and reduce—collecting responsibilities. This collection of twenty-four essays is an attempt to instruct the unwashed (i.e., library school students and apprentice librarians) and to provide the experienced collection development officer with some new perspectives. Whether it deserves to be called a treatise or, indeed, reduces an art to a science is another matter.

The essays group into five categories: (1) collection management, which includes organization, personnel, budgetary allocation, and other matters; (2) the selection processes themselves, including blanket orders, Latin American and European acquisitions, out-of-print buying, and preservation; (3) the use of quantitative methods such as citation and circulation analysis to guide development; (4) special problems arising from format (microforms, media) or sources (government documents); and (5) “new directions,” which includes such diverse subjects as “education for collection development” (Charles B. Osburn) and “creativity, collection management, and development.” Each essay—one wishes they had been numbered as chapters—contains a useful bibliography.

There are two principal difficulties in producing scientific collection policies. The first
is that no one understands very well what happens from the time someone thinks of acting to when the results of these labors merge as books, lectures, or papers. The second problem is a more obvious one: even after a scheme for development (a “policy”) is concocted, the items available for selection must be matched up with it. This is not intended as a justification for ignorance, but simply as a reminder that the most successful results are likely to be obtained by those whose claims to methodological sophistication are modest.

What then are the strengths and weaknesses of the present collection of essays? Those entering collection development who have the background judgment to make an eventual success of it will find the descriptive of this essays collection a helpful orientation to present practice. Experienced collection development officers, on the other hand, will probably get more out of articles on methodology. The articles on citation analysis in the social and natural sciences and technology by Shirley A. Fitzgibbons and Kris Subranayan represent, for example, one approach to dealing with the troublesome problem of journal selection, and William E. McGrath’s interesting article (following from his earlier work) has sensible things to say about using circulation analysis in collection development. Paul H. Mosher provides two excellent essays on the problems with evaluating large collections and identifying candidates for discard, storage, and preservation. The strength of the foregoing articles is that they offer practical ways of determining what is used in and the strengths and weaknesses of the collections.

The weaknesses of the collection lie in the descriptive (as opposed to the methodological or analytic) articles. In the matter of money allocation, for example, one essay notes: “There are four basic approaches: the historical/political, the planned, the flexible response, and the organizational.” The elaboration of these categories, unfortunately, provides little more in the way of specific guidance than the titles of the categories themselves. Too many of the papers share this lack of concreteness, which could perhaps have been remedied with illustrative examples. In contrast, the useful essays by Carl W. Deal and Erwin Welsch (the latter is always worth reading) set out the problems of Latin American and European acquisitions and offer specific advice (with names, titles, and the rest) on how to solve them.

The collection as a whole, then, is a mixed bag, as such things usually are, and reflects many of the ambiguities within collection development itself. It is hardly exciting stuff, but it has enough merit to repay its perusal.—John G. Williamson, St. Mary’s College of Maryland Library, St. Mary’s City, Maryland.


These two books from the same publisher address entirely different readers. Computers for Libraries is intended as a survey course on library computer systems for “non-computer literate” librarians. Systems Thinking in Libraries and Information Management is an attempt to bring the body of knowledge called “systems theory” to bear on library problems. The author claims that this book is not for experts yet it is clearly far from a beginning text for anyone interested in library automation or library management.

Computers for Libraries spends a few chapters trying to acquaint the reader with some of the vocabulary of computers and computing. This is an extremely important foundation-laying activity but it falls somewhat short of its objective. Partly due to the author’s style and organization of the presentation and partly to aspects of typography (poorly laid out diagrams, no use of boldface or italics, etc.) it will not always be clear to the novice reader what terms or concepts are being defined and how important they are. Some of the recognized standard texts on libraries and computing that the author refers to do a better job of laying a solid base of understanding.

The second half of the book presents a good survey of the ways that computers and
computer-based services are being used in libraries. The author mixes generic explanation of activities such as database searching with practical examples to give the reader an up-to-date picture of library computing. In this respect, the text is a good companion to some of the earlier works on the same subject. The author occasionally creates an impression that the possibilities for automation in a particular area are completely defined by his examples and his description of current practice. As hardware changes and software improves, many library automated systems will certainly change character dramatically.

*Systems Thinking* attempts to help library managers by delving into the systems theory and systems-modeling world and searching out means of using the methodologies of these disciplines. The author attempts to build a foundation of concepts and then proceeds to relate them to library problems. Unfortunately the book is an extremely difficult text to read. The author's style obscures what he is trying to achieve. There is room within librarianship for a certain amount of "purely theoretical" discussion as long as the objective is the eventual enhancement of practical activity. I think that the author understands this and intended to add to our ability to view library decision making within a theoretical context. However, this reader found that the writing style, the use of jargon, and the organization of the text combined to create an almost impenetrable treatise.—Peter G. Lipman, Brown University, Providence, Rhode Island.


This is a clear, factual description of current services offered in the United States and Canada by commercial and free-lance firms that gather data and organize or analyze them for a fee, using the methods of traditional librarianship supplemented with techniques such as online literature searching and telephone interviewing. Maranjian, at the time the book was written, was a research assistant with Information Systems Consultants, Inc., of Bethesda, Maryland, and Boston; she is now administrative assistant with Creative Strategies International of London, England. Boss is senior consultant with ISCI and is well known as a writer and speaker on library automation and kindred subjects.

The study is based mainly on the answers received on questionnaires filled out by 105 proprietors of information services. The authors have reported on answers from seven types of services: (1) large firms (with more than twenty-five employees), (2) medium-sized companies, (3) small companies (fewer than five employees, according to a statement on p.3; fewer than six, according to another on p.20, (4) free-lancers, (5) services in not-for-profit organizations such as libraries and professional societies, (6) Canadian services (the reason for the separate treatment of this group is not given), and (7) services mainly intended to serve units of the firms of which they are parts.

The forty-two-item questionnaire asked for a wide variety of information about each organization surveyed. Topics included kinds of services offered, kinds of resources used (databases, collections of nearby libraries, etc.), size and background of staff, marketing practices, pricing policy, amount of business, and capitalization. Respondents were also asked to predict the future of their firms and of information brokering in general.

Several descriptions or "profiles" of individual firms of various types help the reader to understand how this industry operates. The first firm treated in this way, FIND/SVP, which is fascinating but not at all typical, has revenues exceeding three million dollars a year. It is affiliated with an even larger Parisian firm, SVP (Sil Vous Plait), and an entire family of firms throughout the world. In other sections, the authors speculate on the future of this branch of the information industry, discuss relations with libraries, and briefly describe the state of the industry in the United Kingdom.

In sections, the authors speculate on the future of this branch of the information industry, discuss relations with libraries, and briefly describe the state of the industry in the United Kingdom.

Special features include a brief list of sources of help for small businesses and a group of reproductions of advertisements used by some firms. One feature is surely not very helpful to adult readers: several chapters are followed by brief, simple questions and answers about the text which are reminiscent of those in junior high school books.

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ularly useful to anyone who operates or plans to operate a fee-based information service. It should also be read by public, academic, and special librarians, however, as it explains exactly why people are willing to pay for some kinds of information even though others are available without charge. Furthermore, the book is delightfully calm in tone: unlike some of the literature in this field, it predicts the demise of no institution of any kind.—Haynes McMullen, University of North Carolina at Chapel Hill.


This report, prepared to satisfy contractual requirements of the funder, the National Science Foundation, should not have been published in its present form. In terms of meaningful content there is only enough material for a journal article. For eighty-nine pages printed only on one side, with large type, wide margins, and amateurishly drawn graphs, a price tag of $9.50 seems excessive.

Oberlin College used “the occasion of the introduction of an automated circulation system in 1978 to study certain measures of library performance.” These measures include availability, building use, visits to the library, number of checkouts, required time to charge a book, and patron attitudes. These are not new measures, nor are the methods new. Paul Kantor, who served as a consultant to the study, has already published much of this material.

Treatment of the findings from the study is uneven. For example, chapter five includes a twenty-five-item questionnaire given to Oberlin students. The following chapter contains a very technical discussion of modeling variables including those from the questionnaire. Yet the responses from the questionnaire are not discussed until chapter eight, and then, only four of the questions are analyzed.

Basically the study found that availability and accessibility improved as a result of automation. Student’s favorable attitudes toward the library declined with the introduction of the system but improved as checkout time decreased.—Ellen Altman, University of Arizona, Tucson.


This is a pioneer treatment of the subject and as such is an important reference work for those concerned with the early history of technology and industrial development in the United States. The 6,065 titles and editions are grouped chronologically within seventy-five subheadings. The subheadings are in turn gathered under twelve main headings: general works, technology, agriculture, crafts and trade, medical technology, military technology, civil engineering, mechanical engineering, manufacturing, mining and mineral production, sea transportation and inland transportation. The scope is restricted to books published in this country prior to 1831, both original works and reprints of British or translations of continental writers. It is a record of the literature of technology produced by American publishers for the use of Americans. The largest portion (85 percent) are nineteenth-century publications. The largest main heading is “Inland Transportation,” which occupies one third of the work. “Agriculture” is the next largest with 14 percent.

The author explicitly states that this is not a bibliographical study of individual items, but an effort to make the publications listed “available to the users”. Descriptions are therefore “limited to essential features sufficiently complete for their identification.” They consist of a main entry, the title shortened where appropriate, and an imprint in a standardized form which gives place, publisher, or date, and edition. The collation is in a library format. In some cases there is an additional note when the title information is not complete. Although thirty-four bibliographies are listed as references, each entry has only one bibliographical citation, preferably to an imprint bibliography such as Evans,
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The location of copies reflects the author’s dependence on existing bibliographies and catalogs, particularly the National Union Catalogue of Pre 1956 Imprints. There is a single index in which names, titles of anonymous works, and subjects are arranged in one alphabet. The latter are in italics and upper case, respectively, the reference is to the item number. Unfortunately this sometimes results in a long string of numbers which must be laboriously checked.

A work of this kind presents the author with the difficult task of defining the scope of the work. Technical publications suggest a concept with blurred boundaries. Rink says, “The term ‘technology’ has been interpreted rather broadly, and the check list contains not only known works on various technologies, but also those which indicate the advo-
cacy and extent of the application of technological improvements, as well as the availability of products created by such applications.” He then lists eleven “types of publications, frequently containing technological information,” which he omits. Among them are: almanacs, city directories, and cookbooks, noting that bibliographies devoted to those subjects exist.

It is inescapable in an endeavor such as this that the author’s perception of the subject will be the determining factor in setting its limits, just as it is inescapable that not everyone will be satisfied with his decisions. Bearing this in mind, Rink has made an excellent beginning with a subject which presents a number of interesting anomalies. “Literature promoting industrial development and manufactures, unless such publications contain specific information on the state of the industry or manufacture” is specifically omitted. Yet when it comes to “Agriculture” apparently no such limitation is imposed. Mathew Carey’s A View of the Ruinous Consequences of a Dependence on Foreign Markets for the Sale of the Great Staples of this Nation, 1820,

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distribution center.
is a work which could be classified as economics. A particularly unsatisfactory section, to this reviewer, is "Description and Travel." One would like to have known more about the basis on which the selection was made. It would appear that their promotional character was a determining factor as in the case of John Drayton's A View of South Carolina as Respects Her Natural and Civil Concerns, 1802. One wonders, then, at the omission of John Filson's The Discovery Settlement and Present State of Kentucke, 1784. The subject clearly needs further definition. One of the functions of the collector and the bibliographer is to help define a field through assembling and organizing the literature of a subject. In this respect, Rink has made a notable contribution. His extensive treatment of both federal and state laws bearing on technological matters is one of the most valuable parts of the work. The large number of subheadings, seventy-five, may at first glance seem excessive, particularly when one notes that "General Works on Civil Engineering" has 3 items while "Canals" has 816. What this reveals is the difficulty of combining an ancient concept, canals, with a comparatively modern one, civil engineering. By dividing the subject into so many different parts we are shown what a difficult one it is to manage. Drugs as they apply to medicine are omitted, yet fertilizer as it applies to agriculture is included. What we have in Rink's work is an important step forward in the definition and organization of a body of literature that has not been tackled on this scale before. That it has weaknesses is to be expected, but it provides a point of departure which eventually determined their ownership and direction. Emphasis is given to the best-selling titles, if not the significant ones. The coverage is uneven, with little discrimination in choice of facts presented, but these histories often made diverting reading with their personal slant on the academic pedigree and idiosyncrasies of the principals and even the names of restaurants and clubs where significant publishing deals were consummated over lunch.

While virtually all of the information presented in the book is of interest to librarian and general reader alike, The Great Change is less a history than a collection of raw materials toward a history of book publishing in mid-twentieth-century America, with a natural emphasis on New York City.

Tebbel has relied too heavily upon the vertical files of Bowker and the pages of Publishers Weekly for this period to provide an adequate synthesis or to relate the course of publishing to the political, aesthetic, intellectual, or social trends of the period. The net has not been cast widely enough, many leads have not been pursued, and much should have been culled. In truth, the limited sources used could hardly have produced a synthesis—writing a history of book publishing from Publishers Weekly is rather like...
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The best selections of the book are the initial chapters on publishing during the war years and the brief but compelling summary of censorship activities since the war with a gloomy prediction for the 1980s that "the censor was marching on . . . and . . . it was impossible to forecast the ultimate results" (p.717). As a reference work the book is useful for finding out who owned what publishing company in 1980 after the many convoluted mergers of the period. The eighty-page index is very good on titles and proper names (except for all those restaurants) but weaker in conceptual matters. The CIA is unindexed despite its appearance on p.331 in an elusive and truncated account of its alleged involvement with various publishers. Unfortunately, Tebbel gives the reader no leads with which to find out more of the story. Somehow these omissions are symptomatic of the problems of the book.

The work lacks many features which the reader of such a history might reasonably expect, despite the inclusion of much peripheral information. The most glaring omission is the lack of a statistical summary of book production and financial data for the period covered. In summary, the book is a once-over lightly in 800 pages. We can be glad to have it, but there is still a gap to be filled.—David H. Starn, The Research Libraries, New York Public Library.


This collection of original essays is concerned with research in library and information science and the utilization of effective investigative methods. It was designed to fill an information gap in relation to the literature of library science research and will be of interest to library school students, faculty, and other concerned scholars. A few of the editor's goals were to: 1) stimulate more interest in pursuit of systematic inquiry; 2) help potential research workers gain a clearer understanding of selected strategies for the conduct of completed research projects; 3) . . . acquaint readers with some important considerations for planning studies and obtaining funds . . .; and 4) . . . provide useful lists of additional sources of published information about research in librarianship and its methods."

Busha's introductory essay covers the development of library science research. It is balanced, informative, and, for library science students, a good introduction to the subject. Notable among his concluding remarks is this statement: "Any major private industry that devoted so few resources, so little time, and such meager effort to research and development would surely collapse or experience a lingering depression."

Grotzinger's essay on methodology, past and present, looks at research methodologies used in librarianship and states that while traditional descriptive and historical methods predominate, the more sophisticated techniques of modeling, bibliometrics, and content analysis are now used. Unfortunately, experimental and longitudinal types of studies are not yet in much evidence. One of the profession's problems is the widespread ignorance of statistical procedures, and the author makes another case for including this discipline as a requirement in library school curricula.

Katzer's contribution will be interesting to students who are looking for a concise analysis of error in the evaluation of information, but the essay contains nothing new to experienced researchers.

Busha and McComb's essay on historical research is profitable reading, particularly the section on oral history, which contains many ideas worth considering. The essay becomes a little unfocused when it discusses new developments in historical research, an area in itself worth a paper.

The essay on organizational theory and research is the weakest of the six contributions. It is a rehash of the classical school of thought with short shrift given to the many other schools. Walters' chief contribution is his inclusion of several organization charts illustrating various means of grouping print and nonprint services in Learning Resource Centers.

Carolyn Teal did an outstanding job in describing how to write a grant proposal and where to seek funding. This is recommended reading for any prospective proposal writer.
Each essay is well written and concludes with several pages of carefully selected citations. It is unfortunate that no annotations were included, for they would have made the bibliographies much more useful. A *Library Science Research and Bibliographic Guide* is highly recommended for inclusion in the collections of all library schools. Students will profit from Busha's, Grotzinger's, and Teal's contributions; Ph.D. students in particular will find them well worth reading.—John N. DePew, *School of Library Science, Florida State University, Tallahassee*.

**ABSTRACTS**

The following abstracts are based on those prepared by the ERIC Clearinghouse of Information Resources, School of Education, Syracuse University.

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**A Planning Process for Automated Shared Circulation Systems.** By Anthony G. Yankus. Ohio State Library, Columbus, 1980. 8p. ED 200 233. MF—$0.83; PC—$1.82.

An outline for librarians who want to cooperatively plan to implement a shared circulation system, this guide employs a method of planning based on policy analysis. The stages of problem formulation, identification of objectives, perceptual activity, system design, information gathering, and evaluation are outlined. Although this guide contains some examples of the types of information decision makers should consider, it does not provide detailed information about every aspect of the planning process.

**Planning and Development of a Conservation Facility.** By Betty A. Coley. 1980. 31p. Photographs removed prior to filming. ED 200 239. MF—$0.83; PC—$3.32.

This paper reviews the current literature on the preservation of library materials and develops an overview of the state of the art for conservation programs. The thirteen references provided are concerned with the preservation of book materials, the design of processes and facilities to prevent or retard deterioration, development of disaster planning, salvaging of damaged materials, and preparation of conservation policy statements. A pamphlet and two leaflets from the Library of Congress are attached.


This feasibility study was conducted to collect financial, operational, and other data concerning the alternatives of continuing with the University of Toronto Library Automation System (UTLAS), the present supplier of catalog support to the British Columbia Union Catalogue (BCUC) participating libraries, or of replicating the Washington Library Network (WLN) system. Specifically, the study examined the economic feasibility of replicating the WLN system; produced a comparative feature analysis of WLN and UTLAS; produced cost projections for both systems; provided comprehensive data on the best systems for meeting anticipated needs for support of other functions including acquisitions, serials, circulation, and public access; provided recommendations on the alternatives; and provided recommendations on the next steps to be considered. Tables display the data gathered. An additional paper, "BCUC Governance and Management: A Background Paper for the BCUC Replication Study," by Paul E. Baldwin, is included.


This study compares the three versions of DOBIS (Dortmunder Bibliotheks System) that are currently running in Canada and the Washington Library Network (WLN) systems in order to determine which one is the most appropriate to replicate in support of the British Columbia Library Network (BCLN). Comparisons of systems cost and operating features, the availability of desired cataloging information, time required to use the systems, and the relative impact of the two systems upon cataloging operations are presented. Figures display the data in detail. An additional report, "A Summary Analysis of the Impact on Cataloguing of


Designed to provide background for the planning of collection preservation programs in the libraries of the University of California, this paper presents an overview of the preservation problem, makes specific recommendations for further programs within the University of California library system, and accesses the needs of the system with regard to: (1) environmental control within buildings housing collections, (2) training of conservation administrators and preservation specialists, (3) restoration of deteriorating conditions, and (4) research into the causes and cures of paper deterioration. Estimated costs of a program addressing these four areas are given. A bibliography lists thirty-seven references.

Environmental Control for Regional Library Facilities. By Richard G. King, Jr. Systemwide Administration, Library Studies and Research Division, Univ. of California at Berkeley. 1980. 14p. ED 200 222. MF—$0.83; PC—$1.82.

This report presents an overview of the damage to library materials caused by uncontrollable environmental variables. The control of atmospheric pollutants, temperature, and humidity are discussed with regard to damage, standards, and the costs of deterioration due to these factors. Twelve references are listed.


This paper presents some definitions and makes distinctions among the forms of field experience drawn from the literature, and surveys the goals of librarianship and library education in using field experience as an element in the library school curriculum at the master's level. Further, it explores learning theory for insights on the contributions
field experience can make to professional education, identifies typical weaknesses and administrative problems in its implementation, and examines alternatives to a full-fledged field experience program. A bibliography listing more than sixty sources is provided.


This review of recent and anticipated advances in library automation technology and methodology includes a review of the effects of OCLC, MARC formatting, AACR2, and increasing costs, as well as predictions of the impact of library technical processing of networking, expansion of automation, minicomputers, specialized reference services, and inflationary trends. Forecasts include an increase in technical qualifications for and a decrease in the number of technical processing librarians. Three references are listed.

**Introducing the College-Bound Student to the Academic Library: A Case Study.** By Lor­raine A. Jean. Northern Illinois Univ. De Kalb Libraries. 1981. 31p. ED 200 226. MF—$0.83; PC—$3.32.

The academic library orientation workshops described are conducted by the University of Vermont to acquaint college-bound high school seniors with the resources available in an academic library. Sessions consist of a location exercise in which students use the card catalog to locate specific materials, a guided tour of the library, and a written exercise using periodical indexes, the computer listing of periodicals, and the card catalog. Participating students and their teachers complete written evaluations which the library reference staff then uses to monitor the program's effectiveness. This study examines the evaluations from six sessions and offers suggestions for improvement. A sample reference exercise, sample titles for the location exercise, a reference exercise worksheet and evaluation forms are appended.

**CSUC Standard for the CLSI Expanded Title Record.** By Barbara Case and others. Library Systems Project, California State University and Colleges, Los Angeles. 1981. 14p. ED 200 248. MF—$0.83; PC—$1.82.

The system specifications described have been adopted by the nineteen California state university and colleges libraries for use with the CL Systems "Expanded Title Record" format. It is anticipated that these specifications will be tested at California State University, Chico, beginning midyear 1981. Should this pilot demonstration prove successful, it is further expected that implementation of the CLSI public access system at all nineteen CSUC campus libraries will follow. The specifications, which assume machine-readable bibliographic input through OCLC archival tapes and/or any other machine-readable bibliographic captured in OCLC or LC-MARC compatible format are designed to accept and process all OCLC formats and their revisions, including those necessary for compatibility with the second edition of the Anglo-American Cataloguing Rules.


This study, conducted to provide background data for the systematic development of the library bibliographic component of a national network, analyzes the procedures used in producing the National Union Catalog (NUC), the nationwide union catalog in card form maintained at the Li­brary of Congress (LC), and examines the variations found in records as they are integrated into the file. The report discusses NUC operations and work-flow, characteristics of reporting libraries, differences in headings between outside reports to the NUC and LC records, and differences in bibliographic description between outside reports to the NUC and LC records. Conclusions for a nationwide database derived from the analysis of processes in the catalog publication division are presented along with recommendations for future investigation. Table and figures are provided.


This directory of library instruction programs in 102 libraries adds information on in-house developed library instruction materials to the basic information on programs, program content, and instructional personnel listed in the previous edition. Survey information gathered for the directory provides statistical data on the form of library instruction, the use of print and nonprint materials, subject areas specifically addressed at each institution, and responses to questions regarding the administration and organization of library instruction. The responses are summarized in an alphabetical listing of institutions. Following the alphabetical listing is an index by questionnaire topics.
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One of seven studies prepared by the Advisory Commission on Intergovernmental Relations (ACIR) in its examination of the federal fiscal system, this study examines the allocation and coordination of federal resources among the various levels of government for the development of libraries and library services. Topics addressed include the federal, state, and local roles within their current and historical contexts; the Library Services Act in that year; the heyday of federal aid in the 1960s; conflicts between the president and Congress concerning library aid; the organizational struggle for a federal presence; an analysis of the political dynamics of federal involvement; and a brief discussion of the future of the federal role in libraries. Figures list major federal library legislation and the changing purposes in the public library system, and seven tables provide budgetary, appropriations, and expenditures information.

An Analysis of the Learning Resources Programs Provided by the Fifteen Colleges of the Massachusetts Community College Sys-


This brief overview of new manuscript preparation methods which allow authors and editors to set their own type discusses the advantages and disadvantages of optical character recognition (OCR), microcomputers and personal computers, and word processors for editing and database entry. Potential library applications are also indicated, including such special problems as converting back files, and available commercial services are mentioned.

The Government and Information: Costs, Choices and Challenges. By Laura E. Challman. 1980. 21p. ED 200 251. MF—$0.83; PC—$1.82.

This paper examines the involvement of the federal government in information activities and services, and raises questions about the legitimacy and consistency of this involvement. Three major areas of government policy in the information sector are discussed: research and development, the National Technical Information Service (NTIS), and public libraries. State and local policies in these areas are also described. It is argued that the research and development subsidy is consistent with the government's mission to support the public good, but that government support for the NTIS and public libraries is inappropriate because these services do not qualify as public goods. Twenty-two references are listed.
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