Collection Growth in Postwar America:
A Critique of Policy and Practice

DAVID E. JONES

ABSTRACT

The accumulation of large collections by members of the American Association of Research Libraries is seen by them as fundamental to their research support role. This article outlines collection development and management practice and policy of the association members between 1945 and 1979. The study is a critical history where narrative is accompanied by analysis and context. Collecting policy and practice is reviewed with a focus on the strategies adopted to cope with the consequences of growth which led to pressure on capacity. A critique of collections policy reviews three significant causal factors: institutional competition, the conception of the role of librarian as a "bookman" as opposed to manager, and the belief that collections would be of longer-term value to the university in that they transcended immediate needs. The advent of usage studies is examined, and the implications of the study for current policy concerning printed collections are discussed.

INTRODUCTION

This study focuses on the accumulative nature of university research library collections. Librarians and their users have tended to take it for granted that academic library collections should grow bigger and bigger, with no foreseeable ultimate limit to their size. Great size is seen as the essence of the research library. The utopian vision of the research library as a comprehensive and complete record of the universe of knowledge has a powerful and enduring appeal. But with great size comes considerable problems. Storage is costly, and the very large collection might be difficult to access and to use, especially when relocated to a remote closed-access store. This is particularly significant in the United States, where the wealth

of the country and its universities has enabled the accumulation of the world's largest library collections.

There is a substantial literature on collection development and management. Much of this is concerned with advancement of professional practice (Johnson, 2009) and the numerous specialist areas such as selection and relegation. Alongside this literature, there is a smaller, but significant, body of literature of a critical nature providing the personal opinions of practitioners, many of whom were professional leaders. It is the often conflicting views of these practitioners that form the core of the literature that is considered in this article. Where available, the views of academics and administrators on collection issues are reviewed. With the notable exception of Osburn (1979), there is a dearth of substantial studies of a critical or evaluative nature, especially those that examine the relationship between the collection and the academic work of the university. Histories of individual libraries tend to emphasis matters of record rather than policy.

This article is based on an unpublished doctoral dissertation (Jones, 2009), the research for which was conducted between 2003 and 2009. The study records and analyses the ways in which the management and development of accumulating collections were addressed in the United States by members of the Association of Research Libraries (ARL) between 1945 and 1979 (hereinafter referred to as the "study period"). The starting point is Freemont Rider's (1944) book on collection growth. Rider's assertion that research library collections doubled every sixteen years prompted intense discussion among American library leaders. The end point is the Pittsburgh usage study, which established that much material in research libraries received little or no use (Kent, 1979a). Early on in the period, there were concerns about accommodating growth. These continued during the rapid growth of the 1960s, which was followed by a downturn in the fortunes of libraries during the 1970s when the American economy was in recession.

The following section discusses the data sources and research methods used in the study and defines key concepts informing the analysis and interpretation of the data. The next two sections summarize key features of collecting policy and practice during the study period and strategies adopted for coping with growth. The main part of the article then provides a critique of collections policy through examination of three drivers of collection growth, followed by an assessment of the impact of usage studies. It concludes with an assessment of the implications of the study for current professional practice and policy.

Methodology

Data Sources and Research Method
Data for the study were derived from contemporaneous writings by librarians, faculty, and administrators between 1944 and 1979 and from other

publications from 1979 to date. Publications from 1876 through 1944 were also consulted to inform the historical background to the study period. These included studies on the nature and history of American universities. Statistical data were examined to determine trends in collection size. Finally, archival data from the annual reports of a member of the ARL formed the basis for a case study of that institution's development.

The study adopts a "critical history" methodology (Wiegand, 1999, p. 22). A descriptive and narrative account of the topic is accompanied by analysis and context. The key context was the distinctive nature of the American research university. Beyond this was the wider context of American society, culture, and history within which the universities operated. A study of the professional literature enables the key causal factors in collection growth to be identified, along with the arguments of those who resisted and criticized this development. This author sees the relationship between the university and the library's collection as crucial. A model of this relationship demonstrates the difficulty faced by the library of aligning the collection with academic needs. The concept of "errors of inclusion and exclusion" is applied to library collections. Material not relevant to the university's needs is viewed as an error of inclusion. Inevitably, users require material not held in the collection, which is an error of exclusion. This model is elaborated elsewhere in an earlier article by this author (Jones, 2007).

Cultural History

The historical narrative is concerned with recording and explaining the process of change and, in particular, cultural change. Culture, and the associated concept of collective mentalities, is of particular interest to this study. The definition of *culture* is much debated. It embraces customs, values, and a way of life and changes as it is handed down to successive generations (Burke, 2004). Social scientists have defined it as "shared knowledge" (Mellon, 1990, p. 7). Because the concept of culture in societies is so pervasive (e.g., high culture in the arts and organizational culture in business), its study offers a range of choices for the cultural historian. Here, we are concerned with how a profession thought about an issue and examine the actions it took to resolve it, so the study of mentalities, which is an important approach within cultural history, is of particular interest. The study aims to understand, as much as possible, the mindset of American librarians in the postwar period. Relevant and interesting definitions of this approach include the following: "What he [Lucien Febvre] meant by 'collective mentality' was the mental furniture that belongs to all, or most, members of society. Just because everybody has it, people are normally unaware of it; the collective mentality is just the way that everybody reasons and the beliefs that everybody holds . . . It is concerned with those parts of the cultural context which are largely assumed, unquestioned, uncriticised" (Stanford, 1994, p. 33). The notion of mentalities is "used

to characterise what is held to be distinctive about the thought processes or sets of beliefs of groups or whole societies, in general, or at particular periods of time, and again in describing the changes or transformations that such processes or sets of beliefs are considered to have undergone" (Lloyd, 1990, p. 1).

There will always be cultural subsets, defined by Mellon (1990, p. 13) as "cultural scenes." These cultural scenes occur in social situations where different groups come together. In the university, librarians interact with faculty who can be expected to have a different mindset when it comes to discussion on the library collection. Socialization into a profession can be seen as a process of inculcating a collective mentality that embraces a set of values. For academic librarians, such values will include, *inter alia,* a belief in the importance of scholarship, of education, and of public service. But this does not guarantee any homogeneity of thought on professional matters within the profession; rather some degree of conflict on policy and action is to be expected.

The notion of collective mentality is further complicated by the concept of "non-contemporaneity" developed by Bloch. "As the German Marxist Ernst Bloch suggested in the 1930s . . . Not all people exist in the same now. They do so only externally, through the fact that they can be seen today. In fact they may carry an earlier element with them; this interferes" (Burke, 2004, p. 24).

Past social and cultural structures continue to flourish in the present alongside contemporary ones. It may be that these past attitudes are held by older, more senior members of a profession, which may give rise to a form of intergenerational conflict. This is a perspective of some interest to this study that suggests that within university libraries the adherence to the primacy of collection building, as distinct from that of service to the university community, reflected professional priorities from earlier in the twentieth century and perhaps beyond.

Resistance to Change
The need to manage the process of change arises from the fact that some degree of resistance to change is commonly experienced. Resistance may be based on all or some of the following:

- Self-interest—threat to one's position or well-being
- Adherence to a value system that is seen to conflict with the proposed change
- Different perceptions of a situation/problem to which the change is directed
- Any, or inappropriate, new technology

The implementation of change in a service organization is complicated by the possibility of resistance coming from:

- within the organization, where colleagues may perceive their personal position to be under threat or may regard the change as being incompatible with their sense of professional identity or what it is to be a librarian;
- from the service users, who may prefer the continuation of the status quo.

Resistance may be especially significant where the change is a response to budget cuts, and may be perceived as a reduction in the quality of service. Wasserman (1972, p. 30) speaks of the commitment to earlier values as being "deeply engrained in the psyche of the practising community."

The Competing Values Framework (CVF) is a valuable diagnostic tool developed by Quinn and Rohrbaugh (1983) that has been applied to academic libraries: "The primary mission is to ensure that the needs of students and faculty are met. Therefore, explorations of new services and evolution of current services are limited by the library's responsibility to the community. Change happens slowly because of the academic environment and often meets with resistance from faculty who are set in their ways" (Kaarst-Brown, Nicholson, Stanton, & von Dran, 2004, p. 44).

Viewed from the CVF perspective, Kaarst-Brown et al. (2004, p. 44) observe that "the library of the past emphasised stability and control above all and internal focus and integration secondarily." In contrast, they regard the contemporary environment as requiring different organizational models and cultures. Cline and Sinnott (1981, p. 137) see libraries characterized by "a large element of traditionalism."

Following a brief account of the growth of collections and the causal factors that drove their growth, the article examines the strategic options available to, and adopted by, libraries to cope with consequences of collection growth. The subsequent critical analysis of the policies adopted over the study period is followed by an assessment of the implications of the study for contemporary professional practice.

Collecting Policy and Practice 1945 to 1979

The modern concept of the American university library as a storehouse of knowledge has its origin in the development of the universities around the turn of the century (Govan, 1969). The universities, and their libraries, grew substantially over the course of the twentieth century. There was a step change in the position of the universities after World War II. There was a surge in student numbers and a boost to research in the universities that had made significant contributions to the war effort. The driving force behind the growth of collections was what Battles (2004, p. 8) terms "the vast torrent of books" published in the twentieth century and increased demand from the university's growing numbers of faculty and students. But library-led initiatives were also important. The balance between these drivers of collection growth needs to be set within the context of institu-

tional growth, the availability of funds, and the pressures on libraries to respond to new academic developments. It is suggested that the growth of collections cannot be explained just by reference to academic need. Two additional causal factors were significant. First, there was the view that collection size was an indicator of library quality, which contributed to the overall standing of the university in nationwide rankings. Second, university research library collections across the United States were seen as a national resource of strategic value to scholarship and research, and to America's security in the postwar world. These drove the various cooperative collecting initiatives for foreign material, notably the Farmington Plan, in the immediate postwar period (Wagner, 2002). Over the study period, the numerous cooperative and nationally led schemes had little impact on the research libraries' collection policies.

The essential facts of the growth of the universities and their library collections are well established. Kerr (2001, p. 72) described growth in the 1960s as a "tidal wave of students." The increase in doctoral students was especially significant. The 1,989 doctorates awarded in 1946 had increased to 36,100 by 1975 (Snyder, 1993). Library growth was fueled by the large increase in the quantity of published material. Journal titles proliferated, and so did their subscription costs (Huff, 1970). While in retrospect the 1960s might be seen as a "golden age" for libraries, at the time the enormous growth was problematic. Writing at the beginning of the 1960s, Downs (1961, p. 7) used the word "crisis" to describe their situation and viewed the period ahead with "trepidation." Student numbers, the rate of publication, and their cost were all increasing. He estimated that library expenditure as a percentage of university expenditure had declined from 4.86 percent in 1945–1946, to 3.7 percent in 1958–1959. Libraries had to compete with other sectors of the university to keep pace with the supply of publications, inflation in their cost, and demand from faculty and students for both materials and services. Over the study period, the relatively modest growth in resources (in real terms) in the 1950s accelerated in the 1960s and then declined in the 1970s. By the end of the study period, the accumulated number of volumes in the nation's research libraries was very considerable. The largest, Harvard, had 9.9 million volumes. Pittsburgh, in 25th position in the ARL league table of collection size, had 2.3 million (University of Virginia Library, 2008).

Strategies for Coping with Growth

The problem of accommodating growing collections within a shelf capacity that was to a large extent finite, pending new capacity coming onstream from a new building, was a perennial preoccupation. There were four types of solution to the capacity problem:

- The new library providing additional space was the ideal solution. It provided open access to material adjacent to study space in an environ-

ment of, hopefully, high architectural quality that contributed to the attractiveness of the campus. Over the study period, expenditure on new buildings grew to a peak in 1967 and thereafter declined (Cummings, 1986).

- A steady-state collection could be achieved by removal of low-use material by discard or to a storage facility on or off the campus. This option might have been seen as improving efficiency, but users tended to regard it as reducing the library's effectiveness in meeting their needs (Muller, 1969).

- Technological solutions could substitute for print. Librarians were enthusiastic adopters of microforms. Users, at best, regarded them as a necessary evil. Microfilm offered two key opportunities: the realization of new capacity by converting bulky material to microform and improvement to the collection by purchasing new material in microform. The emerging research university saw microforms as a way of filling gaps in their print holdings (Smith, 1975).

- There was the opportunity to economize on capacity and purchase expenditures by relying on another library to supply needed material. This was difficult. Users regarded the interlibrary loan system as a poor substitute for local ownership. Libraries faced considerable problems in discovering the location of requested material and obtaining it speedily and at reasonable cost. The cooperative structures established to facilitate interlibrary loans were numerous and complex to operate. The search for a local copy before moving to a geographically broader level search led to delays in satisfying requests. This was a particular problem in the United States (Blackburn, 1971).

It is difficult to establish clear patterns in the use of the above strategies. All of them were used by ARL members, but the actual mix of solutions varied with local needs and opportunities. Guidance on costs of the various options was available, but it is questionable how influential these were. Those universities that were rapidly growing their collections often struggled to provide the space for them.

Some universities built new libraries with federal assistance in the 1960s (Cummings, 1986). These tended to be the ones that could demonstrate their acute shortage of space. In the interval between enhancements to shelf capacity from new buildings, libraries used weeding, discard, more economical storage methods, and conversion to microform to try to ensure that at least some spare capacity was always available.

CRITIQUE OF COLLECTIONS POLICY

Most of the collection development literature up to the end of the 1960s was concerned with achieving and managing growing collections, albeit with an acknowledgment that cooperation had a part to play. But this prevailing orthodoxy was challenged by a number of writers. Over the course

of the study period, and thereafter, there were criticisms of the policy of building ever-larger collections. This section reviews these minority views and examines critically the rationale for larger collections.

Whatever the validity of these views, they had little impact on policy in practice. Conscious of their position in the ARL rankings by size of collection, directors of libraries pursued growth determinedly. "Everybody wanted every library resource on every campus—and yesterday. No compromises! I had looked on librarians as quiet meek individuals. I learned, instead, that they are rapacious and belligerent and devious, beyond even the deans of medical schools" (Kerr, 2001, pp. 362–363). No library was able to stand aside from the rush to growth, especially in the 1960s. Danton (1963, p. 119) was the leading advocate of the comprehensive collection, selected mainly by librarians, which he asserted was essential for the research university. He dismissed objections based on cost, stating that: "They have neither intellectual nor educational nor philosophical validity."

Here, three drivers of collection growth are critically examined. First, there was the belief that the larger collection contributed to the reputation and ranking of the university. Second, collection growth was prioritized by some influential library directors who saw themselves as bookmen rather than managers. Third, there was a belief that collecting for the future outweighed the concern over nonuse of much material.

Institutional Prestige and Competition
The conventional wisdom was that a large library collection, in addition to being essential to excellence in research, contributed to the prestige of the university and was a factor in attracting high-quality researchers (Buck, 1964).

American universities were, and remain, competitive institutions. The significance of this for libraries is demonstrated by Clark Kerr's (2001, p. 345) memoir of his time at the University of California: "UCLA has made excellent use of the UC policy of 'equal opportunities' of July 1958 and the library plan of April 1961 to raise the rankings of its library to number two among all university libraries in the United States. Since library rankings affect future rankings so directly, this implies an opportunity to rise further in academic rankings: a distinguished library is a major source of a distinguished academic ranking. A library ranked number two implies a future academic ranking at least among the top six in the long run future."

He regarded investment in the library as money well spent: "The library plan of 1960 and the higher priority given to libraries had a quick and substantial payoff" (Kerr, 2001, p. 367). This payoff was not so much an enhancement of the quality of research, although it will have contributed to it. Rather, it was an increase in the library's size. Kerr exemplifies the view of the senior university administrator who saw increasing library size as contributing to the status of its parent institution.

It is the view of this author that the importance of rankings for the university has been reflected by their libraries and that this has been a factor in collection growth. The methods and weightings to be given to the various institutional factors continued to be controversial (Clarke, 2002). Rankings of programs have also been contentious, and Cutright (2002, p. 509) comments on the "underlying U.S. fascination with competition." He sees financial survival as being dependent on student enrollment, on funding from a variety of sources, and on institutional prestige. One of the factors in attracting students and boosting prestige is the provision of superior services and amenities, such as libraries (Mills, 2002). Brock (1956, p. 488) drew an analogy with athletics (itself a significant cost to the universities): "The spirit of the gridiron seems to have permeated the entire campus and vigorous competition is carried on among universities and their libraries. School enrolments and library holdings have sometimes been rung up on an imaginary scoreboard to attract students, scholars and researchers in a manner often very similar to athletic recruiting." Looking back at the affluent 1960s, Forth (1980, p. 146) commented on the "ego-building boasting about book dollars we indulged in."

The view of American universities as essentially competitive institutions is however balanced by discussion about the extent to which they are cooperative in nature (Stauffer, 1983). Grupe's (1983) review of this book suggests that competition remained crucial. Buck's (1964, p. 51) comment remains valid: "Harvard's continuing academic pre-eminence has always been matched by its having the largest collection of any American university."

The question of whether the large research library makes a crucial difference to the university's research work is difficult to answer. It is impossible to conceive of a university without a library, but establishing exactly what the library contributes has proved to be problematic in terms of relating library inputs to the teaching and research output of the university. There is a danger in trying to prove a relationship between two variables (Pickard, 2007). Assertions of the importance of library collections to faculty are largely based on anecdotal evidence. Hart (1958, p. 366), a literary scholar at Berkeley, said: "Such a scholar must have an enormous accumulation of books, journals and all the auxiliary materials of a great library . . . The scholar, particularly if his field of research is one of those not dependent upon laboratories, judges a university by its library, as much if not more than, by any other criterion."

It was very likely that scientists were more concerned with laboratory and equipment facilities, or would be away from the universities, carrying out field work across the world. Even the humanities researcher would expect to travel to other libraries pursuing unique archival and special collections material. The very status of the highest ranking universities, and particular departments, would be an attraction, as well as the higher

salaries they were able to afford. The conventional view was summarized by Opello and Murdock (1976, p. 452): "It is true that during the last two decades of affluence and growth, libraries have been awarded prestige and recognition for quantity, but only because . . . there are no established measures of quality for libraries." Pitternick's (1963) study acknowledged that a correlation between data on research and library holdings does not establish cause and effect, a conclusion also reached by Jordan (1963). Liu's (2003, p. 9) correlation analysis claims that an increase in holdings can "boost prestige of universities," but he does not appear to have established a clear cause and effect to justify this statement.

Not all administrators shared the view of Kerr. Early in the study period, the Millett (1952, p. 123) report on the financing of higher education was taking a skeptical view of libraries' efficiency, in particular the rating of libraries by holdings size and librarians' disregard for "economy." Writing much later and in more affluent times, Munn (1968, p. 51) saw the library's infinite need for materials as a "bottomless pit." He opposed the conventional wisdom outlined here earlier: "Even the fact that prestige universities tend to have the largest libraries leaves them [the administrators] unmoved. They point out that this is simply a result of wealth and that the prestige universities also have the best psychiatric services" (p. 53).

Munn (1968, p. 54) went on to say that universities need a "much more rigorous analysis of the return on investment than has ever been applied to libraries." The notion that library resources are a factor in decisions by faculty to take up a post at another university was widely held (e.g., Danton, 1963). But this is challenged by later work (Cluff & Murrah, 1987). Their survey of the largest state universities in Texas found that library resources were not a significant factor in faculty members' decisions to accept or reject job offers.

A direct linkage between collection size and quality of research was never established. What was important was the belief that the larger the library collection, the greater was the benefit to the university's research work. It is reasonable to conclude that this belief contributed to the growth of collections but impossible to measure its effect.

Managers versus Bookmen
Over the course of the study period, the management of libraries became much more complex. Some saw the emphasis on management, as distinct from a more scholarly role, as a threat to the role of the director in taking a lead in collection development issues. There was a conflict between these two conceptions of the leadership role (Haas, 1973).

The scientific approach to management was established early in the twentieth century and adopted by Melvil Dewey (Casey, 1981). Literature from the 1930s onward shows that it was becoming established in librar-

ies. The penurious circumstances of America in the 1930s depression, and again in wartime in the 1940s, emphasized efficiency and cost control. The 1950s saw survey methodology introduced by Fussler and Simon (1969) at Chicago. The possibilities of microform as a storage medium and the economics of converting print to microform were analyzed and discussed (e.g., Pritsker & Sadler, 1957). Wasserman's (1958, p. 285) assessment of the development of the administration of academic libraries up to 1958 dismissed much of it as consisting of "folk lore" and "how we do it articles," but this seems a harsh judgment.

By the 1960s, much of the management literature was more technical and therefore inaccessible to many practitioners. For librarians with humanities academic backgrounds, much of this new literature proved to be challenging, and their innumeracy was an additional hindrance (Heinritz, 1970). At a conference of librarians, it was noticed that "the audience invariably became uncomfortable and restless whenever graphs or equations were presented" (Bergman & Fenton, 1975, p. 337).

The management of the library was naturally an inescapable part of the job of directors of libraries. But there were varying degrees of interest in management techniques and innovation. Directors of libraries had different professional backgrounds. Some saw themselves as professional managers. Others focused on technological innovation or on collections. In theory, it was possible for directors to delegate management responsibilities to allow themselves time to focus on specific professional interests. Lawrence Clark Powell (1954, p. 327) was an extreme example of this. For him, the "bookstack was an alluring sanctuary from administrative trouble." Powell's (1968) autobiography is candid about his administrative shortcomings and how he sought to recruit staff who would provide the necessary skills at UCLA. For him, administration was an art, not a science (Wiegand, 1982). Wiegand's (1982, p. 287) assessment of Powell, whom he regards as an important figure in American librarianship, was that his "vision of the library's potential" was limited by his focus on the book, which led him to underestimate the potential of technology.

Alongside writings that emphasized the need for effectiveness and economy to be achieved by the application of management techniques, there was a distinctive strand opposed to it. This emphasized collections and the need for librarians to be familiar with them. Bookmen, like Powell, held to the humanistic tradition of librarianship in opposition to the managerial and technocratic approach exemplified by Morse (1968) and Heinritz (1970). The bookman can be seen as an example of the concept of "mentalities," in that an established conception of the professional role came into conflict with "modern" ideas.

The conception of the librarian as someone who was knowledgeable about books, as both physical products and their contents, was deeply embedded in American library culture before World War II. Its origins lay in

the nineteenth-century role of the universities as educators of gentlemen, when the humanities dominated the library collection. Collecting was the librarian's major responsibility, and its scope was both newly published and second-hand/antiquarian books. The concept of the bookman proved hard to define. It was an activity located in antiquarian books, in historical bibliography, in the act of reading, and, above all, in collecting books. Metcalf (1958), who would not have regarded himself as bookman, commented, "It has been said with considerable justification that the first qualification for a librarian is interest in collecting" (p. 263), and "the chief duty of the librarian is to make his library grow . . . as rapidly as possible . . . Most of our greatest libraries are monuments to the collecting genius of individuals who were determined to build them up even though limited funds may have made it necessary to leave them poorly housed, poorly serviced and, poorly catalogued. At least they acquired the material when it was available and preserved it for posterity" (p. 265).

Sensing threats to its continuation, numerous writers sought to defend the concept of the bookman in the postwar period. Reichman, at Cornell, wrote of the "daily and intimate contact with books" (1953, p. 22) but was unable to define clearly the concept of a bookman. Tauber (1954, p. 326), whose differences of opinion with Powell have already been noted, took a more balanced view and advocated a "blending" of the bookman and administrator roles, a view echoed by Campbell (1954). In contrast, Paylore (1954, p. 313) took a rather unbalanced view. The bookman liked the "feel and the sight and the smell of a book beyond all other sensory experiences." Such attitudes were out of kilter with the increasing dominance of science and technology in the postwar university. Kaser (1967, p. 281) described service to the sciences in the past as "almost uniformly bad." He contrasted this with the greater appreciation of library resources from the humanities and social sciences that encouraged librarians to focus on their needs.

Alongside the adherence to humanistic values, there was a competitive element to collecting. Yale aimed to maintain its English literature collections, even if it meant neglecting other fields, because they wished to be "at the top" (Babb, 1966, p. 212). For Dix (1960, p. 375), the collector had to be proactive because the "competition has become too keen. He must come out of the cloister and do battle with the leaders of other libraries or his own institution will lose ground in the race." Dix (1960, p. 375) saw the prestige of a collection both as an end in itself and as a means to increasing gifts in kind and cash from further benefactors: "The former pedestrian acquisition policies are being replaced by an unremitting and aggressive campaign for material of worth and publicity value. Where formerly fund raising was left to the president . . . the librarian today has his own show . . . his selected list of devoted alumni or other benefactors good for occasional or regular gifts of large amounts. The sky is the limit and

the new wing or whole new library building not too much to hope for." For Dix (1964, p. 88), the bookman had a "marvellous flair" for skimming through a series of volumes and finding exactly what was needed from a large open-access research collection.

Robert Vosper succeeded Powell as director of UCLA Libraries in 1961. He continued his predecessor's collecting activities. He was a strong advocate of collection growth and saw it as a continuation of librarianship as practiced in the ancient world through the mediaeval period into the twentieth century (Milum, 1983). For Vosper (1959, p. 376), library collecting was about vision, ambition, and humanistic values. Concern about growth was "a sad comment indeed on our sense of values in higher education." Such collecting activity remained an important strategy for postwar America. The qualities that go into building a research library were "an omnivorous, diligent, and ingenious delight in ferreting out material; the foresight and a willingness to go beyond the boundaries of scholarship; a flair for opportunistic attack rather than a blind dependence on a preconceived plan; the courage to spurn selectivity in favor of the mass approach; and basic to all of this, imagination of a high order and a free hand to put it to use" (Vosper, 1959, p. 380).

While it is true that some of the material purchased in this way was for special collections, the distinction between material of genuine antiquarian value (or potential value) and the more mundane material that would be of possible interest to scholars was not made clear by Vosper and other writers. In fact, the development of special collections and rare book rooms was a relatively recent development in many American university libraries (Lehman-Haupt, 1961, p. 395). Moody echoed Vosper's attitude. Scholarship mattered more than technical knowledge. Following the Powell and Tauber disagreement over the merits of bookmen and managers, he contrasted the "efficiency expert" with the "librarian pack rat" (Moody, 1960, p. 363).

Over the study period, the role model gradually shifted to one emphasizing "a more narrow managerial and technical orientation" (Young, 1983, p. 90). The debate about managers versus bookmen would appear to have largely disappeared from the literature by the end of the 1960s. The bookmen tended to find their way into the burgeoning special collections departments of the research libraries. By 1972, Dix (1972, p. 15) was taking a rather different view of the priorities for research libraries, seeing the need for resources for services rather than for collections. The "scholarly bibliographer" might fall victim to future budget cuts. His 1974 article on the financing of research libraries showed his change of focus from scholarship to management of resources under the pressure of budget reductions (Dix, 1974). There was a greater interest in calculating the costs of research libraries, such as the study of use and costs at Columbia (Mount & Fasana, 1972).

However, the notion of the bookman was not yet dead. Toward the end of the study period, it reappeared in an article by Perdue (1978, p. 124). In considering the importance of selectivity and quality in collection development, he expressed concern about "a generation of administrators for whom administration . . . is an all-engrossing task. The exigencies of management allow little opportunity for what had once been thought the soul and heart of librarianship: namely a concern for books and learning . . . for which some administrators have no time and others no taste." The result was the "triumph of the managerial revolution inspired by entrepreneurial attitudes" (Perdue, 1978, p. 125).

It is arguable that the collecting or bookman mentality persisted a good deal longer and probably well beyond the end of the study period. While there was an increasing awareness of issues of efficiency and economy in the 1970s, effective action across the profession to control collection growth, via cooperative initiatives, failed. White's (2003, p. 4) view is that "the greatest game was and still is the numbers game." The impossibility of self-sufficiency in collections was universally acknowledged. The problem was how to define the limits of local collecting. In reality, the only limit to local collecting was each library's budget.

The attachment to past beliefs and practice in the face of modern ideas was neatly expressed by Francis, a leading British librarian. He was uneasy about the direction that librarianship was taking. It was "taking us away from libraries as collections of books and demanding that we serve as vehicles for the transmission of information. It is a commonplace to express the hope that we should not allow our modern concepts to override completely the basis on which all our work has depended and which I hope and trust will continue to depend" (Francis, 1975, p. 98).

Collecting for the Future

The bookman regarded the library collection as an investment for the future. The established view was put by Saunders (1969, p. 201): "Unlike most university expenditure, money spent on books and journals is, indeed, an investment. Most scholarly books and journals do not, like scientific equipment, become obsolete; rather they are likely to increase in value, as anyone who buys on the second-hand and reprint market will know to his cost." Buck (1964, pp. 9–10), head of the Harvard library, said: "An investment in a library is a permanent investment guaranteeing returns for centuries to come. This is why it is not enough to collect only what is needed by the professors who happen to be on your faculty today."

American research libraries saw their collection as having a value independent of use or relevance to university needs, which is why, in at least some cases, they maintained acquisitions in subject areas no longer of interest to the university. They feared that the value to researchers of an existing part of a collection on a specific subject would decline unless it

was kept up to date. "A wise policy must be based on present collections. It is a serious matter to discontinue or minimize acquisition in one of the library's strong fields, for that will cause a rapid deterioration in value of present holdings" (Metcalf, 1952, p. 15). "At Indiana we have a very good Defoe collection. The faculty man who helped us build this collection is now retired and has not been replaced by another Defoe scholar. Yet we shall continue to add to our Defoe holdings as best we can because we have adopted the policy of building strength to strength" (Miller, 1968, p. 46). The policy of library collection building, which resembled the practice of private collectors in the nineteenth century, is strongly criticized by Urquhart (1981, p. 11): "Nevertheless the motives which inspired the private collectors of old now inspire some librarians who are collecting at somebody else's expense and storing what they have collected in buildings others have provided. This collecting zeal has undoubtedly resulted in some items, which would otherwise have completely disappeared, being preserved for future use. As a result some librarians consider collecting as being the primary objective of a library. This helps to perpetuate the image of a librarian which exists in some influential quarters as a sort of magpie. This image is not helpful to libraries when they are seeking additional funds. So modern librarianship must reject collecting as an end in itself. Collecting therefore must be for some purpose, and the simplest purpose which can be imagined is for use." Of course, the American proponents of large collections would, and did, say that their purpose is to collect for future users and that no one can predict what their needs will be. Urquhart's (1981) view is that a more scientific approach to collection building yields a greater probability of usage for the collection.

While all might agree that the future is "essentially unknowable" (Rayward, 1985, p. 101), the implications of this for future use of collections have not been sufficiently and realistically explored. For the library, future demand for material is uncertain because

- the future of knowledge cannot be foreseen—the unexpected will be developed and the expected may not materialize, and some material will become obsolescent;
- the university's span of interests will change;
- the individual user's interests may change;
- the turnover of individual staff and students will change the interests and needs of the library's clientele.

Robert Downs, one of the leading proponents of the large research collection, acknowledged the uncertainty of the future but nevertheless reiterated it as an objective for collection development: "The building of a large research collection is as much or more for the future than for the present. A high proportion of books and related materials is acquired by Illinois [his own institution] and other research libraries for the sake of completeness

and to strengthen existing resources with potential usefulness rather than immediate demands in mind. A certain amount of clairvoyance is therefore required to determine what is actually significant from a long range viewpoint" (1966, p. 264).

The use of the term "clairvoyance" here is an extreme example of how some proponents failed to think clearly about the implications of future uncertainty for the large library. Librarians "needed the sixth sense of a sailor steering a craft through . . . a fog" (Hamlin, 1981, p. 99); they must "hark to the twittering of birds and observe the pattern of tea leaves . . . so that a reasonable amount of anticipatory collecting can be done" (Coney, 1958, p. 182); they are obliged to "anticipate the material needs of new or future programs" (Miller, 1968, p. 45); and they should "aim at long-range symmetry" (Perdue, 1978, p. 124). Buck (1964, p. 9), however, provided a more rational justification for Harvard's collecting policies. He saw its collection as "a permanent investment, guaranteeing returns for centuries to come." Colwell (1949, p. 196), president of the University of Chicago, was more skeptical about collecting for the future: "The library's future is obscure because all the future is obscure."

It is unlikely that Downs and his colleagues were quite so naïve about the future, so what other explanation might there be for their collecting policies? The obvious one is that users wanted as much material as possible to be acquired so as to maximize the probability that they would have immediate access to required material. It is unlikely that they would have given too much thought to the longer-term costs of storing books. However, the large amount of money available to librarians in the 1960s had to be spent, and librarians were willing and able to take the initiative by buying bulk collections in the expectation or hope that they would be of value to users.

Usage Studies
The economic difficulties of the 1970s, alongside the development of user and usage studies, led to renewed interest in the value of large collections, at a time when their affordability was increasingly in doubt. The significance of usage studies lies in the dichotomy between advocates of the view that the collection has a value independent of its users and those who see use of the collection as the only justification for a library to own and retain material. Was the collection to be built on the basis of what had been published, or on the basis of use? (Atkinson, 1989).

The principle of libraries being for use was articulated by Colwell (1949, p. 198), who thought that libraries should not retain the "vestigial remains of . . . bygone days." Within the study period, the first one of importance was the Chicago study carried out in the 1950s and first published in 1961 (Fussler & Simon, 1969). It established that older material was less used and that each successive year in which a book was not consulted increased the

probability that it never would be again. Though Fussler was a major figure in the postwar period, his study would appear to have had little impact.

Trueswell, who was an industrial engineer, produced numerous usage studies on circulation data (1964), defining a core collection (1966), user satisfaction (1969), journal article usage (1970), and growth control (1979), establishing that a small percentage of a library's stock accounted for the large majority of its circulation. The conclusion to Trueswell's (1964, p. 291) first article "leads one to suspect that a university library can effectively and with virtually no loss to the user restrict its stack holdings to an analytically determined collection that reflects actual user needs rather than continue the trend toward larger libraries and larger holdings which all too frequently contain an increasingly large percentage of rarely used volumes."

Gore, who was not an ARL director, was the major critic of the emphasis on size. His advocacy of the no-growth library was based in part on Trueswell's research (Gore, 1976). He suggested that Trueswell's research had been overlooked in the 1960s because the focus then was on making libraries bigger. He "excited no more interest than a mountain climber who scales a sand dune" (Gore, 1978, p. 57). In the 1970s, there was breast-beating about size and growth, but Trueswell's research was almost forgotten (Bruer, 1976).

Gore (1978) drew attention to the opportunity cost of libraries holding a large range of titles. Money spent on these could be better directed to the provision of multiple copies of in-demand material. He saw errors in selection as inevitable and made the important observation that eventually most acquisitions become errors of inclusion as interest in them declines. "Sizable errors of judgment seem inevitable at the outset, and where library acquisitions are concerned it bothers me very little. Over a period of decades, the majority of our acquisitions turn out to be 'errors' anyhow, since the level of reader interest in them approaches zero, whatever it may have been at the outset. The cost of buying some books that will never be read is negligible in relation to the cost of housing all the books that have ceased to be read" (Gore, 1978, pp. 61–62).

For him, the focus was on user satisfaction rather than on the collection. Availability here and now was what mattered. Deficiencies in holdings could be met by interlibrary loan and a system of national storage centers, and there could have been a significant saving in the construction costs of new libraries. The size of a library could be determined by the targeted availability performance rate, rather than an arbitrary number of volumes (Gore, 1976).

Allen Kent's (1979a) study of the usage of the Pittsburgh library was the most substantial one since that of Fussler and Simon (1969). There had been some unease within the university about the study. Before submitting the proposal to the National Science Foundation for funding, it was discussed

with members of Pittsburgh's Executive Committee for Libraries. They were against the study being carried out, for fear that the study might "fall into the wrong hands," such as the state legislature, and be used as a basis for cutting library acquisitions budgets (Kent, 1979a, p. 88).

The study used a complex quantitative methodology. It examined circulation and in-house use, use of journals, the economics of use, cost-benefit modeling, and alternatives to local storage. It implications were summarized: "The intent of this study has been to develop measures for determining the extent to which library materials are used, and the full cost of such use. It was our expectation that much of the material purchased for research libraries was little or never used, and that when costs are assigned to users, the cost of book use will be unexpectedly high. These expectations have been substantially supported by the study" (Kent, 1979a, p. 199).

The Pittsburgh study was reviewed by a number of authors in the May 1979 issue of the *Journal of Academic Librarianship*. Those who were critical of the report raised a wide range of issues. In general, they disliked what they considered to be the negative effects it would have on university libraries' budgets and then tried to undermine its findings on methodological and statistical grounds. Schad (1979, p. 60) was highly critical of its "incorrect assumptions and incomplete data that lead to meaningless conclusions." He criticized the methodology and adequacy of the data gathered and concluded that it "does not demonstrate comprehension of the purpose of an academic research or university library" (p. 62). He repeated the views of other writers cited in the present study in stating that "expenditures for research materials must be considered an investment in that funds are spent in the hope of realizing a return in the future and the knowledge to be obtained cannot be specified. The alternative to this approach would be to acquire volumes only on demand. That course might well prove to be more costly in the long run. Certainly it would seriously disrupt the research process" (p. 62).

Schad's (1979) position was supported by Massman (1979), who suggested that low use might reflect a weakness in academic departments. Like the Pittsburgh Executive Committee, he believed that the study would make justifying library expenditure more difficult to academic administrators and legislators, who "never understood what libraries are about" (p. 67). He repeated the defense against weeding, which was that subjects may come into fashion again at which time, say ten years along, one would regret having discarded relevant books. He concluded by repeating the conventional wisdom: "The fact that scholarly productivity always has been closely associated with major research collections is telling evidence about which circulation figures say absolutely nothing . . . Those who have built our great research libraries have every right to be proud of their achievement . . . great libraries will have to look far beyond current circulation figures" (p. 68).

Two Pittsburgh faculty members joined in the criticism, describing the report as "remarkably superficial and unidimensional" and "a highly subjective and political document" despite the "sheen of objectivity furnished by its tables and graphs" (Borkowski & MacLeod, 1979, p. 64). The only positive view was that of Trueswell (1979), who saw the usage data as confirming his own numerous studies. He made the important point that there were a very large number of libraries that were, in terms of collection size, somewhere between the great research libraries, on one hand, and undergraduate libraries, on the other. It was for these "in-between" libraries to consider the implications of the Pittsburgh study. Kent's (1979b, p. 70) rebuttal of the critical viewpoints provided a brief defense of the statistical methods of the study. He refrained from discussion of the "subjective comments of Mr. Schad."

Subsequent articles took a more balanced view. Peat (1981) advocated the analysis of citations in publications rather than usage data. Axford (1981) examined the issue at a deeper level and saw the debate over the Pittsburgh study as reflecting a change in attitude toward the universities. Public confidence in them had diminished. There was "a growing skepticism on the part of elected and public officials regarding the validity of the academy's demands on material resources of the larger community . . . research into collection use poses a serious challenge to the traditional wisdom regarding collection management which takes as *a priori* the proposition that there is a divine harmony between the collection needs articulated by the faculty and patterns of faculty behavior with respect to collection use" (Axford, 1981, p. 325). For Axford, collection usage studies were here to stay, and libraries would need to make use of storage libraries to resolve their capacity problem. He cited further usage studies and concluded that "all of the serious collection use studies over the past two decades have produced solid evidence showing that a substantial part of a collection serving an academic community is infrequently used or dormant" (p. 326).

The implications were profoundly important: "What Kent and his associates did was document and give wide publicity outside the profession to some discomforting facts regarding the use of library collections at a point in history when the prevailing zeitgeist, unlike 10 or 15 years ago, guarantees that the result will be a serious questioning of the fundamental assumptions that have governed the management of research collections on American campuses for the past 100 years" (Axford, 1981, p. 327).

In taking this stance, Axford (1981, p. 327) was aware of how strongly held were established views. He cites a usage study at Case Western Reserve that concluded that zero use of a journal was not a reason for cancelling it. Rather, what mattered was the "intellectual integrity of the collection." Underlying this debate was the concept of "use-equals-value." It was rejected by those who opposed the implications of the Pittsburgh study but

was seen by Axford (p. 328) as moving from the status of heresy to one of legitimacy.

Axford's (1981) article marks a watershed in attitudes to collections. It confirmed, if such a thing were needed, the importance of the Pittsburgh study for the future of collection development and management and established that it was users and the use they made of collections that mattered, and not the supposed integrity of the collection itself. This view was echoed by Dudley (1981) in the same issue of the journal. He went on to consider the implications of usage studies and suggested that errors of inclusion in collections were inevitable because of the impossibility of predicting user needs and interests. Inevitably, the pursuit of knowledge is "expensive and often inefficient" (Dudley, 1981, p. 332). Related to this was the need to serve "two masters, the present and the future (p. 332)." Somewhere there should be a collection of material that did not depend for its existence on library shelves on usage today but was being kept just in case for tomorrow's user.

THE RELEVANCE OF THE STUDY FOR CONTEMPORARY POLICY AND PRACTICE

It is generally accepted that the past informs and, to some extent, explains the present. All research depends to some extent on what has been done before but of necessity tends to be limited in how far back into the past it is possible or appropriate to delve. Understandably, the thrust of the large majority of the professional literature is on the improvement of library services to our users and the adoption of new technologies to facilitate new services. The advent of the Internet has created a step change in service delivery, but, arguably, we are still in the midst of realizing the full implications of that technology. The management of print-on-paper resources remains a significant professional concern.

The essential focus of this study is on the way in which leaders of universities and their libraries thought about collections. Understanding the culture of libraries and librarians, past and present, is essential to the management of change. Resistance to change is to be expected. The research libraries have a responsibility for a significant proportion of the nation's cultural heritage. It is to be expected that they will be cautious about a change of technology that threatens print-on-paper via adoption and substitution of digital technologies. For the time being, the hybrid library will continue.

History reveals the transient nature of culture and beliefs. Paradoxically, all we can know about the future is that it will be different and in ways that we have not foreseen, but we are obliged to plan for it, keeping in mind the military adage that "no plan survives contact with the enemy." We have no choice but to select materials and develop services in the hope that they will be of use in the future.

Bearing in mind the gap of over thirty years from the end of the study period to the present, some issues raised by this study remain important.

The extent to which the large collection, and the library more generally, contributes to the effectiveness of the library's support for research and learning remains an active issue for the universities (Oakleaf, 2010). The implications of usage studies have yet to be fully digested in professional practice.

The continuing economic crisis, which started in 2008, resembles that of the 1970s, which led to a downturn in the fortunes of the universities and their libraries and prompted critical comment on the collecting practices of the affluent 1960s (De Gennaro, 1975).

The advent of the digital age has not deterred the ARL libraries from retaining older material in depositories (e.g., Princeton, 2007). They are demonstrating a continuing commitment to the preservation of their print collections, largely independent of any nationally coordinated system. A search of OCLC's WorldCat reveals enormous numbers of superseded works far in excess of any likely demand for them. There remain opportunities for the rationalization of collection overlap across the nation—the more so given our enhanced tools for resource discovery in the digital age. The reluctance of the ARL libraries to cede ownership of their material, even when it is no longer on-campus, accessible, and browsable, confirms that their collections are not just for use by their users but are seen as having an intrinsic value that also confers reputation and status.

Ideas for collaborative storage voiced at the start of the study period continue to be discussed in the twenty-first century across the world (O'Connor & Jilovsky, 2008). From an efficiency perspective, the overwhelming weight of the argument is in favor of smaller collections developed within the context of a national plan. But whatever the force of such an argument, it had little impact on practice over the study period, and arguably this remains an underdeveloped strategy for the research libraries. Notions such as Carlson's (1946) proposal for storehouses distributed across the country remain an option for the preservation of printed materials in the digital age.

Perhaps the new concept of "patron driven acquisitions" at Iowa (Fisher, Wright, Klatanoff, Barton, & Shreeves, 2012) will have a wider impact in libraries where financial resources do not allow acquisition by librarians who select a title for purchase on the basis that it is a worthy acquisition for their collection, regardless of whether there is any immediate need for it. Their review of current acquisitions practices suggests that "expert selection" by collection development librarians continues to result in underuse of material. Related to this is Lewis's (2010) proposal for the "User-Driven Purchase Give Away Library."

New tools for deselection (Lugg, 2011) enable a more efficient collection that focuses on user needs as expressed by their requests and actual

use of materials. While the terminology of such initiatives may be new, advocates of maintaining a collection that is aligned to user needs, thereby increasing efficiency but not at the cost of reduced effectiveness, are well represented in the professional literature since 1945. A number of them have been cited in this article.

The locus of decision making was, and still is, within the university, where policy is made not just by librarians but also by faculty and the administration. National schemes for periodical interlibrary lending (Cole, 1980) and preservation (Williams, 1970), proposed during the study period, have not been implemented. They were seen as constraining institutional autonomy.

The impact of the professional debate on policy and principles that has been reviewed in this study was rather limited, although it identifies a substantial gap between theory (in the sense of research and critiques on collections) and professional practice at the institutional level. Such a gap is not uncommon in librarianship and other professions that aspire to knowledge-based and evidence-based practice.

Conclusion

The management of large collections of printed materials remains an important topic for American librarianship, and one that can only be understood by reference to its history. Their development was not just a response to the university's research needs; there were additional significant causal factors. There was a vision of a distributed national collection that was international in scope and of strategic value, although it was never realized. It was believed by many that materials purchased today would have a continuing value into the future for the university's researchers. The collection had an intrinsic value independent of the use made of it. Collection size was seen as a key indicator of its quality, which enhanced the reputation of the library and the university. ARL members competed against each other to build bigger collections. Usage studies that showed how little use was made of much of the collection were ignored. The collection continued to be seen as an asset of long-term value to the university.

The collecting "mentality" was long established and continued over the course of the study period and beyond. The ambition to be self-sufficient persisted despite the opportunities for cooperation and resource sharing. The potential of cooperative and nationally coordinated initiatives lies outside the scope of this article, but numerous cogent arguments for selectivity in acquisitions and for more effective coordination of collection development were made by librarians during the study period. Whatever the strength of such arguments, the ARL members continued to build and retain large collections.

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David E. Jones held a range of professional posts at the libraries of the University of Aberystwyth and the University of Sheffield. At Sheffield, he was assistant director of library services with responsibilities for electronic services and collection development and management. He retired from the library in 2005 to undertake a doctoral research project at the University of Sheffield's iSchool. The doctorate was completed in 2009.