

Research Article

Beneficial Shocks: The Place of Processing-Cost Analysis in Archival Administration

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Abstract: Although the importance of an accurate knowledge of processing (and other) financial and temporal costs have often been nominally stated in archival literature, serious discussions or case studies have been rare. Of those, most have advocated cost analysis for appraisal or management advantages. The development of an ongoing processing-cost analysis at the Billy Graham Center Archives suggests that the latter are particularly beneficial. The archival profession would benefit from greater comparison of costs between similar types of institutions and from the regular reporting of statistics.

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*The essential requirement of measuring is to see the world in a blinkered way. To cut out the irrelevant, one needs discipline.*¹

WHAT IS THE VALUE OF AN ARCHIVES? That question can be answered in a variety of ways, from the spiritual to the pragmatic to the romantic to the administrative. Ultimately, an archives' value depends on which needs it fulfills for users. Perhaps an easier question, and one that goes a step toward answering the first is: what is the cost of an archives? The literal answer of the question, the one that requires a deceptively simple answer in terms of coins of the realm and ticks of the clock, seems to be only occasionally asked in the profession, and most answers have been heavy with qualifiers. The purpose of this article is to examine cost analysis (in terms of dollars and time) as applied to one aspect of the archival enterprise—processing. After a survey of the literature on the subject, we will describe the ongoing effort at the Billy Graham Center to provide meaningful statistics for processing costs. We will conclude with some thoughts on standards for processing rates and the value of the regular compilation and publication of archival statistics for the profession. We will also suggest a model which could be used for cost analysis study within an institution or among several.

Theoretical Discussions

In 1944 G. Philip Bauer of the relatively new U.S. National Archives flatly stated the necessity of archivists knowing their bottom lines: "Values must be weighed against costs . . . there is no way of precisely balancing imponderable values against costs. But costs are at least calculable and can be accurately broken down

so that the appraiser may ask himself in every case whether the public benefit to be derived from saving certain records is sufficient to offset the necessary expenditure of public money." Bauer indicated that costs should be calculated to include overhead and labor expenses. He went on to say, "There is no purpose here to enter into the dark mysteries of cost accounting. Accountants are paid to understand these mysteries. The present aim is merely to call attention to the fact that a stern and true cost accounting is a prerequisite of all orderly appraisal."² For many years to come, statements abounded that it was essential for archivists to know the exact or reasonably exact cost of acquisition, processing and storage,³ but no one seemed any more inclined than Bauer was to actually enter into the dark mysteries and come out with figures on paper.

By the 1970s library science had a long tradition of cost analysis of the operations of a library and had generated a large database for enlightenment and befuddlement. In 1973 James Wilson could write, "A manager—of a library or of any other operation—who does not know and control his costs is not really a manager. . . . If there is one operation in the information field where there is sufficient cost and system analysis for any serious inquirer or would-be user, it is libraries. Cost accounting systems applicable to libraries

²G. Philip Bauer, *The Appraisal of Current and Recent Records*, National Archives Staff Information Circulars No. 13 (Washington, D.C.: June 1946), 2–3. Bauer's paper was originally given at a National Archives conference in 1944.

³See, for example, Joseph's Olenburg, "Appraisal of Manuscripts," in *Record Appraisal*, Michigan Historical Association Occasional Publication No. 1 (Ann Arbor, Mich.: 1976). Bauer starts his paper with statements about the need to balance potential use against costs when appraising possible acquisitions and defines costs in terms of space, staff time, money (spent for the purchase of manuscripts as well as staff salaries), and researcher time spent in sifting through mountains of documents.

¹Greg Denning, *Mr. Bligh's Bad Language/Passion, Power and Theatre on the Bounty* (Cambridge: Cambridge University Press, 1992), 295.

date back nearly 35 years."⁴ The situation for document repositories was very different. During this same time, Kenneth Duckett wrote, "Cost analysis is virtually unknown by curators and very few have studied their procedures to see if they can be streamlined; yet work analysis techniques could provide valuable administrative data in both areas [planning and development]."⁵ He admitted that "possibly one reason work analysis is difficult to administer in many manuscript repositories is that staff members rarely work long at any task without interruption."⁶ He believed the main objection that would be raised to cost analysis was that every collection was unique. While admitting some truth in this, he also thought enough grounds for comparison existed to make data gathering and comparison effective management activities.

Over the next twenty years, the literature in archival journals on cost analysis, although never voluminous, included both theoretical discussions and case studies. The theoretical discussions usually centered on the place of cost analysis in appraisal. The case studies and those articles that combined case studies with theoretical discussion considered cost analysis a management tool.

In 1977, Maynard Brichford returned to Bauer's concern with the importance of the connection between knowledge of costs and building collections. In the Society of American Archivists' manual on appraisal and accessioning, he briefly described processing, preservation, and storage costs archivists should weigh against other values when deciding whether to accept ma-

terials.⁷ Eight years later, Frank Boles, building on several years of work he had done with Julia Marks Young on the theory and actuality of archival appraisal,⁸ found that what archivists said, wrote, and thought they did in appraisal often differed from their actual practice. Boles and Young found that, despite formal statements about the importance of knowing costs, costs ranked a low third out of the three decision modules involved in appraisal, with value-of-information first and implications-of-the-selection-decision (donor relations, internal policies of the institution, and so on) second. As Boles wrote, "Implications matter to archivists, costs apparently do not."⁹ Perhaps this was partly because costs could be massaged in various ways. Processing costs in particular were very fluid, unlike the costs of library cataloging: "[A]rchivists have no professionally sanctioned minimum processing standard. Without a minimum processing standard that all records in their care must meet, there is no professionally imposed baseline from which to estimate minimum processing costs."¹⁰ Institutional standards may more often be honored in the breach than in the application. The level of proc-

⁷Maynard Brichford, *Archives & Manuscripts: Appraisal & Accessioning* (Chicago: Society of American Archivists, 1977). Brichford's paper on retrospective analysis at the 1976 SAA meeting was one of the sources that his colleague William Maher drew on for his work in cost analysis, as he mentions in "Measurement and Analysis of Processing Costs in Academic Libraries," *College and Research Libraries* 43 (January 1982): 60.

⁸See Boles and Young, "Exploring the Black Box: The Appraisal of University Administrative Records," *American Archivist* 48 (Spring 1985): 121-40 and Boles, "Mix Two Parts Interest to One Part Information and Appraise Until Done: Understanding Contemporary Record Selection Processes," *American Archivist* 50 (Summer 1987): 356-68.

⁹Boles, Frank, in association with Julia Marks Young *Archival Appraisal* (New York: Neal-Schuman, 1991): 73.

¹⁰Boles, Frank, in association with Julia Marks Young *Archival Appraisal* (New York: Neal-Schuman, 1991): 58.

⁴Quoted in Eleanor Frances Brown, *Cutting Library Costs/Increasing Productivity and Raising Revenues* (Metuchen, N.J.: Scarecrow Press, 1979), 4-5.

⁵Kenneth Duckett, *Modern Manuscripts* (Nashville, Tenn.: Association of State and Local History, 1975), 28.

⁶Duckett, *Modern Manuscripts*, 28.

essing and professional attention can vary widely from collection to collection and within different components of a single collection. And many archivists are able to tap into foundation and government agency funds to process certain collections. According to Bales, "because of this ability to adjust costs to suit their needs, archivists often ignore processing costs in making processing decisions."¹¹

In 1984 F. Gerald Ham wrote in *American Archivist*, "It is the application of analysis and planning to basic archival procedures which enable archivists to make better choices in the use of limited resources. . . . They need to measure what they do, especially the rates of processing and reference services; and they must assign a realistic cost to their activities. The information is essential not only for appraisal purposes, but also for planning and management of all archival functions. . . . The tools for better measurement are here, the next step is to apply them routinely to archival practice."¹² Nine years later as author of the volume on selection and appraisal in the SAA's *Archival Fundamentals* series, he once again outlined the factors involved in determining appraisal, preservation, and storage costs. He admitted, however, that "few archivists include the cost of record acquisition, processing, preservation and retention into their [appraisal] evaluation. Rather, they treat these costs as undefined expenses and assume they are the cost of doing business."¹³

Case Studies

Not all archivists had been uninterested in costs, however. There have been case studies of the resources expended in processing actual collections.¹⁴ The first (and second to last) study of comparative costs between archives was done in 1976.¹⁵ While chair of the Society of American Archivists' committee on Collecting Personal Papers and Manuscripts, Charles R. Schultz asked archivists from other institutions to fill out a form devised by the staff at Texas A & M's archives for measuring the time spent on the acquisition, arrangement, and description of collections. The study produced widely varying information on seven individual collections processed at six different institutions. Schultz concluded that a typical large, somewhat disorganized modern collection could be acquired and processed at a rate of forty hours a foot or less per cubic foot, and he called for more case studies to provide comparable data.¹⁶

Over the next eleven years, seven relevant articles appeared in *American archival*

¹⁴Archives have been performing one specialized form of cost analysis on a relatively frequent basis: a calculation of how much time went into preparing oral history transcripts. For example, see Willa K. Baum, *Transcribing and Editing Oral History* (Nashville, Tenn: American Association of State and Local History, 1977), 18–19. Baum estimated that sixty-three hours were needed from preparing for an interview to transcribing the final result (in about forty pages) for a ninety-minute interview. Cullom Davis, Kathryn Back, Kay MacLean, *Oral History/From Tape to Type* (Chicago: American Library Association, 1977), 114, gave a similar estimate of forty hours for a one hour interview, resulting in a 24 to 40 page transcript. Neither publication gave a basis for these estimates.

¹⁵The only other study of comparative costs (expressed in terms of time) that we found was Karen Temple Lynch and Thomas E. Lynch, "Rate of Processing Manuscripts and Archives," *Midwestern Archivist* 7 (Winter 1982): 25–34, discussed below.

¹⁶Charles Schultz, "Report on Case studies in Manuscript Administration—Costs of Acquiring, Processing, and Housing Collections." Unpublished report to the SAA's Committee on Personal Papers and Manuscripts, September 28, 1976.

¹¹Boles, Frank, in association with Julia Marks Young *Archival Appraisal* (New York: Neal-Schuman, 1991): 59.

¹²F. Gerald Ham "Archival Choices: Managing the Historical resources in an Age of Abundance," *American Archivist* 47 (Winter 1984): 21.

¹³F. Gerald Ham, *Selecting and Appraising Archives and Manuscripts* (Chicago: Society of American Archivists, 1993), 58.

literature and one in the Australian literature (describing findings in a New Zealand repository). Almost all were studies of processing at individual institutions, usually with the caveat that their data might not be broadly applicable.¹⁷ The most significant and thoughtful work was done by Thomas Wilsted and William Maher. Wilsted, then Manuscript Librarian of the Turnbull Library in Wellington, New Zealand, conducted a study of labor, supplies, and shelving costs at the library and found on the average a cost of N.Z.\$132 per meter,¹⁸ which William Maher later calculated to equal U.S.\$49 per cubic foot.¹⁹ Wilsted further estimated that the processed collections in the library represented an investment in processing of N.Z. \$200,000. As Wilsted later explained, "While this cost is invested over a period of years, the large cost should also indicate

the amount of savings which could be made by the evaluation of our methods and finding means of eliminating the amount of labor involved or substituting non-professional personnel whenever possible."²⁰ While stressing the potential value of cost analysis as a source of data for management decisions, Wilsted cautioned that cost analysis tended to measure quantity and not quality, and, as yet, there was not enough data for useful intra-institution comparisons. He suggested the development of a common method that would produce comparable results: "One of Schellenberg's constant concerns was for archivists to standardize their procedures. Here is one area where this would be helpful."²¹ In 1982, in his column for *The Mid-Atlantic Archivist* (later published as a MARAC booklet, from the Mid-Atlantic Regional Archive Conference), Wilsted suggested such a methodology, that formed the basis of the cost analysis we use at the Billy Graham Center Archives.

The first published case study in the United States was done by William Maher, who has provided the most thoughtful analysis of the benefits of cost studies. His 1988 unpublished paper, "The Use of Cost Studies in Managing Archival Programs," is an excellent summary and analysis of most of the work in the field. His 1978 article, "The Importance of Financial Analysis in Archival Programs,"²² contained examples of retrospective studies to produce information on processing costs. (In doing so he was elaborating on suggestions made in 1976 by his colleague Maynard Brichford at a Society of American Archivists meeting.²³) The average monetary cost for processing done at his own

¹⁷They are listed in this footnote in the order of their published appearance: Thomas Wilsted, "Scoring Archival Goals," in Andrew Lemon, ed., *Archives Conference Proceedings 1977* (Australian Society of Archivists): 19-23; William Maher, "The Importance of Financial Analysis in Archival Programs," *Midwestern Archivist* 3 (Spring 1978): 3-24; W. N. Davis, "Budgeting for Archival Processing," *American Archivist* 43 (Spring 1980): 209-11; William J. Maher, "Measurement and Analysis of Processing Costs in Academic Libraries," *College and Research Libraries* 43 (January 1982): 59-67; Lynch and Lynch, "Rate of Processing Manuscripts and Archives," *Midwestern Archivist* 7 (1982): 25-34; Terry Abraham, Stephen E. Balzarine, and Anne Frantilla, "What Is Backlog Is Prologue: A Measurement of Archival Processing," *American Archivist* 48 (Winter 1985): 31-44; Uli Haller, "Variations in the Processing Rates on the Magnuson and Jackson Senatorial Papers," *American Archivist* 50 (Winter 1987): 100-9; and Thomas Wilsted, *Computing the Total Cost of Archival Processing*, Mid-Atlantic Regional Archives Conference Technical Leaflet No. 2 1989. (The last mentioned booklet had appeared earlier in the "Dear Archivist" column in the Summer 1982 issue of *Mid-Atlantic Archivist*.)

¹⁸Wilsted, "Scoring Archival Goals," 22. Wilsted's article was on the importance of goal-oriented management in archives and his processing analysis was part of this larger study. He also described a study of Turnbull's users.

¹⁹Maher, "Measurement and Analysis of Processing Costs in Academic Libraries," 67, note 4.

²⁰Wilsted, "Scoring Archival Goals," 22.

²¹Wilsted, "Scoring Archival Goals," 22.

²²Maher, "The Importance of Financial Analysis in Archival Programs," 3-24.

²³Maher, "Measurement and Analysis of Processing Costs in Academic Libraries," 60.

institution, the Archives of the University of Illinois at Urbana-Champaign, came to \$18.79 per cubic foot in labor costs.²⁴ (A similar calculation showed that the average reference request cost \$2.05.)

In 1982 Maher greatly expanded these initial comments in his article, "Measurement and Analysis of Processing Costs in Academic Libraries." He described two ways of doing cost analysis: retrospective analysis (as he described in his 1978 article), and direct measurement, which gathers data specifically for the purpose at hand. Once again he gathered his data from his own archives, and a retrospective analysis of data from 1978–1980 resulted in a figure of processing costs of \$31.17 and 5.6 hours per cubic foot.²⁵ Direct measurement of the work done on individual collections produced quite different figures: \$17.87 and 4.2 hours per cubic foot if based on the actual volume of records when finally processed, or \$14.34 and 3.4 hours per cubic foot if based on the volume when processing began (thus including materials later weeded). He also, like Wilsted, considered quality versus quantity. To what depth of detail are the materials described? One crude indicator would be the size of finding aids. In studying the cost of finished, processed products in terms of processing product units (one box of processed records or two pages of a guide or two control cards), he arrived at a cost of \$10.21 and 2.4 hours per unit.²⁶ Further study of the processing on a sample of a thirty-two-record series showed costs of \$27.51 and 6.9 hours per processed cubic foot using post-weeded volume, \$22.09 and 5.5 hours per cubic foot using pre-weeded volume, and \$13.03 and 3.3 hours

per processing product unit.²⁷ The article's graphs indicated the considerable cost difference between processing administrative records and processing personal papers and between the speeds and monetary costs of professional archivists and other staff, such as graduate students.

Although suggesting that it would be desirable for other university archives to do studies of their own, Maher found the principle benefit of the studies he had done were in their uses as data for internal administrative decisions: "Knowledge of processing time and costs can guide the archivist in determining the length and types of finding aids to provide without overburdening the staff. Finally, the results of the study can lay the foundations for further research into methods for improving the productivity and quality of processing, such as dividing large collections between several processors or having some processors specialize in arrangement and others in description."²⁸

Other studies carried further some of the ideas laid out by Wilsted and Maher. W. N. Davis studied the labor costs of processing in the California States Archives in 1977 to 1978, and he found, "an Archivist-I performs his or her level of processing [arrangement, description, cross references] at the rate of 1 cubic foot per 6.25 hours or 288 cubic feet per year. The clerical [refoldering, typing] rate is 1 cubic foot per 1.04 hours or 1,730 feet per year."²⁹ Further study of Davis's figures show that 5,695 staff hours (archival and clerical) were required to process materials that ultimately occupied 1,050 cubic feet. Thus, the staff output was 5.42 hours per cubic foot. He saw the benefits of the study

²⁴Maher, "The Importance of Financial Analysis in Archival Programs," 10.

²⁵Maher, "Measurement and Analysis of Processing Costs in Academic Libraries," 60.

²⁶Maher, "Measurement and Analysis of Processing Costs in Academic Libraries," 63.

²⁷Maher, "Measurement and Analysis of Processing Costs in Academic Libraries," 64.

²⁸Maher, "Measurement and Analysis of Processing Costs in Academic Libraries," 66.

²⁹Davis, "Budgeting for Archival Processing," 211.

as budgetary, particularly in defending archival budgets to nonarchivists: "Reasonably exact operational statistics, which are far more persuasive than non-analytical general pleas, are definitely available to the archivist."³⁰

Karen Temple Lynch and Thomas Lynch considered the estimated processing rates included in grant proposals sent by archives to the National Endowment for the Humanities and the National Historical Publications and Records Commission. They examined the calendar time it would take to complete a project, rather than the actual hours spent in processing. The fifty-five arrangement and description grants varied widely but showed an estimated geometric mean of 2.01 linear feet per processor per week. Estimates for twentieth-century records indicated a faster rate than earlier records, with government and business records considerably faster than institutional records, personal papers, and mixed-type papers projects.³¹ They suggested the possibility of further study of the efficiency of having a mixed (professional and nonprofessional) processing staff and the effectiveness of less detailed finding aids in terms of users' actual needs.³² In this first intra-institutional study since Schultz, the Lynches were hopeful that, if the variables involved in processing were more closely studied, "it should be possible to devise a rough formula to indicate approximately how long processing the collection to a given level of control may require."³³

Terry Abraham, Stephen E. Balzarine, and Anne Frantilla examined the calendar time that elapsed at Washington State Uni-

versity between the time a collection was accepted to the time that it was ready for use. They gathered information from the logs and worksheets used in actually processing collections and included the time spent in acquisition, accessioning, processing and arrangement, and description of a variety of accessions, including photographs and oral history interviews. They found that time to be on the average 16.23 months, which translated into 25.2 hours per cubic foot.³⁴

Uli Haller at the University of Washington examined in great depth the processing of two large collections of senatorial papers. His data included information on the speed of processing of different types of series within each record group as well as an attempt to show depth of processing by discovering hours-per-inventory-lines and index terms. Overall results were 3.8 hours per cubic foot, 3 index terms per hour, and 4.3 inventory lines per hour.³⁵ Haller's review of several other processing studies emphasized that the recording of processing rates was not standardized and that differences in interpretation were a partial cause of the differences in reported rates. Thus, comparisons between repositories might not be very useful, but comparisons within institutions would be beneficial for analyzing work done.³⁶ As Haller wrote, "The value in detailed processing figures lies in spotting series that . . . are being processed too slowly or should be yielding more access points for the amount of time being invested. . . . Once the potential usefulness of a series has been established, the average processing rate figures can help

³⁰Davis, "Budgeting for Archival Processing," 211.

³¹Lynch and Lynch, "Rate of Processing Manuscripts and Archives," 31.

³²Lynch and Lynch, "Rate of Processing Manuscripts and Archives," 33.

³³Lynch and Lynch, "Rate of Processing Manuscripts and Archives," 33.

³⁴Abraham, Balzarine, and Frantilla, "What Is Backlog Is Prologue," 37-9.

³⁵Haller, "Variations in the Processing Rates on the Magnuson and Jackson Senatorial Papers," 102.

³⁶Haller, "Variations in the Processing Rates on the Magnuson and Jackson Senatorial Papers," 102-3.

determine how much staff time should be budgeted to process that series.”³⁷

Besides these studies, there have been occasional relevant comments.³⁸ One was a description of photograph cataloging at the Center for Archival Collections at Bowling Green State University that mentioned it took nine months for a part-time cataloger to catalog 1,100 photos according to *Anglo-American Cataloging Rules* (2nd Edition).³⁹ In 1981, the Society of American Archivists published a “Problems in Archives” kit on “Archival Processing Costs,” which consisted of a tape of a session at an SAA annual meeting, apparently in 1980. William Maher and Karen Temple Lynch gave early versions of the articles they later published in 1982. Lawrence Stark talked about the significance of cost analysis in archival planning. In 1983 Margaret Childs, of the National Endowment for the Humanities, could note, regretfully that “the profession is not very well prepared to apply the principles of cost accounting to archival operations. Indeed, archivists are just now coming to agree upon a single standard terminology to describe routine functions so that comparable data can begin to be collected from repositories about the cost of such functions.”⁴⁰ Among the statistics gathered in the SAA’s 1985 Census of Archival Institutions was a total monetary figure for staff costs, facility charges, supplies, equipment, etc., and the number of feet of holdings. Dividing the

latter into the former gave a very rough idea of the cost of holdings. The median for the 249 archives that responded was \$34 per foot, although medians varied widely according to types of institutions.⁴¹ The subject of processing rates is occasionally discussed on the latest archival forum, the ARCHIVES listserv, accessible through Internet.

External factors to some extent limited the usefulness of the studies considered here. Monetary costs from different years, of course, have to be indexed for inflation to make any truly meaningful comparison. In the 1970s and 1980s many archives at least partially automated their processing activities, especially description. Of the studies mentioned, only the one done at Washington State University touched, briefly, on the influence of the computer on processing, and none indicated what part the USMARC Archival and Manuscripts Control or AMC/MARC Format played in their description. Therefore it is very likely that a significant part of the processing methodology on which some or most of the studies were based is now obsolete. Thus the actual figures produced by the study are of declining value, although this does not affect the basic importance of the principle of measuring the time and cost of processing (and other archival operations).

The studies identified many of the relevant factors to be considered in doing cost analysis: the nature of the records (eighteenth century? nineteenth century? twentieth century? large or small collections? organizational records, personal papers or oral histories?), how should volume be measured (initial size of accession(s) versus final size of processed collection), and how should labor costs be assessed (staff salaries versus staff salaries plus benefits).

³⁷Haller, “Variations in the Processing Rates on the Magnuson and Jackson Senatorial Papers,” 109.

³⁸Boles and Maher both refer to Michael Cook’s discussion of cost analysis in *Archival Administration* (Folkstone, Kent: Wm. Dawson and Sons, 1977), although we have not been able to obtain a copy of this volume.

³⁹Marilyn I. Levinson and Martha Lause, “Cataloging of Historical Photographs in Small to Medium Size Archival Operations,” *Midwestern Archivist* 8 (May 1983): 25.

⁴⁰Margaret S. Childs, “Reflections on Cooperation Among Professions,” *American Archivist* 46 (Summer 1983): 288.

⁴¹Paul Conway, “Perspectives on Archival Resources: The 1985 Census on Archival Institutions,” *American Archivist* 50 (Spring 1987): 185–86.

The published case studies described above show a surprising variety in the quantitative results produced (see figure 1) and remarkable similarity in their conclusions. Cost analysis can provide helpful data for administrative decisions on staffing and acquisition and can be useful for defending archival budget request or grant proposals. Although several authors suggest the desirability of some cross-institution comparisons, they tend to doubt whether the data gathered at one institution (as opposed to the experience and methodology of gathering the data) can be meaningful to the work done at another (see figure 1).

If even those who have actually done cost studies are often doubtful about their wider usefulness, it is not surprising that many archivists seem viscerally opposed even to the theoretical consideration of the subject. No sooner had Bauer delivered his paper in 1944 than fellow National Archives staff member Herbert Kahn weighed in with strong objections, raising a straw man in the process: "It is, of course, obvious that the factor of cost in the maintaining of records is and always must be one of the most important factors in determining what records should be kept. The point I have tried to emphasize is that any attempt to make a dollars and cents evaluation of records the sole criterion of their worth is, because of the very nature of the selection process, impractical and unwise if not impossible."⁴²

Decades later, many archivists not only continue to ignore cost in appraisal practice, as Ham and Boles (among others) stated, but resent them in theory. Boles described the reaction of one colleague when in 1984, he and Young discussed with that colleague their plans to study appraisal theory and practice: "In his view, archives ex-

isted to preserve valuable records, and factors such as cost, not to mention politics and policies, were totally inappropriate in an appraisal decision. To consider them was to 'take the low road to appraisal.'"⁴³ Wilsted, Maher, and Duckett, also described the objections they had heard or anticipated to cost analysis as a management tool, particularly the objection that archival institutions were too different for comparisons to have much use.

Then, too, in some cases there is a fear of what information may come to light. In writing about the 1976 processing costs study to one of the authors of this article, Charles Schultz stated, "We felt that prior committees and other groups had purposely refrained from making such a study because they feared that the costs would prove to be so high that administrators would refrain from agreeing to begin collecting and processing collections. On the other hand, we felt that we had an obligation to be able to tell administrators contemplating beginning a collecting program how much the acquisition and processing did cost at some institutions. Of course, we also saw the dangers we felt others had seen."⁴⁴ If archivists are afraid that they will be shocked by what they will find through cost studies, they are probably right. Wilsted found the figures produced by his study at the Turnbull Library "startling in the extreme and brought home just how labor intensive our profession is."⁴⁵ While Maher and Haller found that some of the conclusions they could draw from the studies at their institutions were not

⁴²Bauer, *The Appraisal of Current and Recent Records*, 25.

⁴³Boles, "Mix Two Parts Interest to One Part Information and Appraise Until Done," 367, note 25. Boles's and Young's rejoinder was that it was neither a high road nor a low one, but a well-traveled one.

⁴⁴Charles Schultz, e-mail message to Robert Shuster, 2 May 1994.

⁴⁵Wilsted, "Scoring Archival Goals," 22.

Figure 1. Comparison of Processing Cost Studies. In most cases, the figures in this chart are the means or averages of varying results. In each case they represent only a small part of the findings of each study. They were chosen here for comparison purposes.

Study (Year)	Hours Per CF	Other Measurement
Schultz (1976)	8.7 to 40.7	\$57.35 to \$236.94 per cf
Wilsted (1977)	—	\$49 per cf
Maher (1978)	—	\$18.79 per cf
Davis (1980)	6.25 (Archivist I) 1.04 (clerical) 5.42 (average)	
Maher (1982)	5.6 (ret.) 4.2 (dm, post-processing vol.) 3.4 (dm, pre-processing vol.)	\$31.17 per cf (ret.), \$17.87 per cf (dm), \$10.21 and 2.4 hours per processing product unit
Lynch (1982)	19.9*	2.01 linear feet per week
Abraham (1985)	25.2	16.23 months from accessioning to available for users
Haller (1987)	3.8	3 index terms per hour, 4.3 guide lines per hour

*Extrapolated by the authors of this article, assuming a 40-hour workweek dedicated entirely to processing.
KEY: Cf: cubic foot; ret.: retrospective analysis; dm: direct measurement.

very surprising,⁴⁶ our own experience with cost analysis has provided us with more surprises or even shocks than validation and it is to that experience that we now turn.

Cost Analysis at the Billy Graham Center Archives

Our front-end collision with reality began when we at the Billy Graham Center

Archives⁴⁷ inaugurated our cost analysis in 1990. We included it in our program, not as a special limited project, but as an on-going management tool. The initial impetus for the analysis was our suspicion that we were devoting far too much time to processing our collections, particularly to transcribing oral history interviews. However, our inquiry was not devised as a whole but rather developed piecemeal as we became aware of new tasks to monitor.

Goals and Anticipated Benefits.

We ultimately developed three goals for our analysis:

⁴⁶Maher said, in “Measurement and Analysis of Processing Costs in Academic Libraries,” 66, “Most archivists will not be surprised by these conclusions and they might, therefore, question the value of doing such a detailed study of processing costs.” Haller similarly commented in “Variations in the Processing Rates on the Magnuson and Jackson Senatorial Papers,” 109, “The reported results merely give some quantitative support to well-established professional rules of thumb.” Compare this with Lynch and Lynch, “Rate of Processing Manuscripts and Archives,” 28. Of twelve completed NHPRC grants, five correctly estimated the processing time involved and the rest underestimated, sometimes by a large margin. None had overestimated the processing time needed.

⁴⁷The Graham Center Archives collects materials that document North American nondenominational missions and evangelism. We serve as a record center for some thirty existing organizations involved in spreading the Christian gospel, as well as preserving the papers of many private individuals. We also conduct oral history interviews and purchase relevant microfilm collections. At the present time we have 486 processed collections. Processed and unprocessed materials occupy 7,409 linear feet of shelving.

1. To improve our time management
2. To ensure that the most time was spent on projects with the highest priorities (process collections to a level corresponding with their appraised importance)
3. To determine the monetary cost of our processing

It seemed that we were allowing a collection to govern the archivist by imposing upon him or her the amount of time needed and level of detail to which it should be described. We instead wanted to determine how much time was available and how that time was allocated. Each year we planned for the next year by establishing annual goals. By expending our greatest effort on those things most important to our mission, we hoped to achieve our highest priorities, reinforce our focus, and develop a means to measure and evaluate our own staff abilities and progress. Since processing is one of our highest priorities, we wanted to master the art of estimating how long it would take to process a given collection, particularly because processing is only one of our archival priorities. In light of our other responsibilities, but particularly our processing backlog, we began to take steps to calculate the time and money invested in processing individual collections. We hoped over time to not only identify our processing rate and then reduce it, but to accomplish more processing over the same amount of time.

In the mid-1980s we had developed a simple three-level scheme to assign processing priority levels to all incoming accessions. In 1990 we expanded the scheme to five levels. We classified each accession based on the degree of intersection with our collecting policy and other already processed collections, extent of documentation, anticipated researcher and reference use, restrictions, and conservation needs. Priority level affected a collection in two ways. First, it placed a collection on the

processing calendar. We would process within seven years those collections with the highest priority levels, while those in the lower two categories would be processed only when time allowed. Second, the scheme guided the processor in knowing to what extent to process the collection. Priority-five collections would receive extensive attention in terms of description and conservation; priority-two collections would receive almost none.

That was the theory. Of the two anticipated benefits, we had only successfully determined what to process first and what to delay. We had yet to discipline ourselves to ration our attention to a collection based on its processing level. Our motive for collecting the data was, therefore, far from abstract. We wanted a concrete measure of how close to our goal we were.

We also expected another benefit from the cost analysis. For some time we had been charging new donors of organizational records a partial processing fee based on the delivered volume of their records. We could no longer provide the records retention service and processing for free and wanted the donors to share in the cost of preserving their records. Although we never envisioned the fee would cover all processing expenses, we could not answer our own question, "What percentage of the fee does the donor cover?" because we didn't know how much processing actually cost us. This stirred us not only to track processing time but to calculate monetary processing costs.

What to Measure? We decided to collect data to identify the following:

1. How much time did we really devote to processing?
2. How did that time correlate with the volume of processing (yielding a processing rate of cubic feet per hour)?
3. How did the processing rate for similar types of materials compare?

4. How did the processing rates for different staff members compare?
5. What was the average financial cost attached to a cubic foot of processed material?
6. How did actual time and cost results compare with our aims as articulated in our processing level scheme?

Just as our motivation for conducting the analysis developed gradually, our definitions also emerged over time. Before we could collect data, we determined what we meant by processing. We defined it in somewhat the same way as Abraham, Balzarine, and Frantilla had, as those actions performed on a collection after it had been logged in as an accession until it was ready for researcher use. This definition excluded appraisal and accessioning, but included arrangement and description (including indexing and transcription of oral history interviews, adding new material to collections, preparing worksheets of MARC records for entry on local and national databases, revising guides, and transferring guides in an older computer format to our current system), conservation, and administration. This work was, and still is, done by our professional staff, office manager, student helpers, and volunteers. (In our usual pattern, one professional staff member serves as the main processor and arranges the material, writes the guide and related finding aids, submits a finished draft of the guide for review, and then makes concluding refinements). He or she has help from students and volunteers along the way; all full-time staff participate in some phase of processing each collection. Afterward, the staff makes paper and computer copies for our reference room.

We also defined what to measure. Originally, we monitored only our indexing and transcription of oral history interviews. (This was actually a good starting point, because as smaller, more uniform, less complex projects, they were easier to quan-

tify.) We later added to this our processing of paper records, guide revisions, and writing MARC records. However, we did not just add each one of these types of processing to obtain one overall figure. We also agreed to collect information on the various types separately, in order to be able to compare similar processing tasks in different collections. Finally, we agreed that the volume we would consider in our calculations would be the final volume of a collection rather than the initial volume of the accessions to comprise the collection. The hours would measure the actual labor expended, and the cubic footage would correspond to the final physical product, the one used by researchers. Monetary and time costs of adding material to a collection after it was processed would be added to that collection's processing costs, giving us an up-to-date cost for each collection in hours and dollars.

The last element to be put in final form was the units of measure in which we would record our processing. As we initially tracked the description of oral history interviews and subsequent transcription, we recorded only our time. With those figures, we computed the time spent indexing per hour of interview tape, or transcribing per hour of tape. As this information accumulated over time, we compared the indexing of various interviews and the transcription rates on various projects. As we added other processing tasks to our cost analysis, we extended the measurement of time to these as well. We finally added the calculation of monetary cost, which then permitted us to compute dollars per recorded hour of interview or per cubic foot of processed papers. We benefited greatly from Wilsted's *Computing the Total Cost of Archival Processing* in developing our own formulae and parameters. Figure 2 details the sums we eventually computed for storage and supplies in 1993. (We developed labor costs by dividing salary plus benefits by the hours worked, totaling

Figure 2. Partial List of Supply and Storage Costs. Supply costs included a 15 percent shipping charge. Document cases were estimated to contain an average of 25 folders; record cartons held an average of 60.

Storage \$ per		Supply \$ (box \$ includes storage)	
linear foot	7.49	1 document case (dc)	19.16
document case	3.28	1 slim dc	11.54
slim document case	1.64	1 oversized photo dc	78.13
single-row audio tape	.30	1 oversized dc	25.88
double-row audiotape	.15	1 folder	.19
oversized audiotape	.54	1 PhotoArchive (slides)	32.14
PhotoArchive (slides)	.94	1 audiotape reel box	.21
		1 audiotape empty reel	.58
Photocopy and printer cost per page			
photocopied page	.045	half of copy cassette	.40
printed page	.03	full reel of blank tape	4.97
Sample formula for calculating processing papers cost:			
Processor time \$			
+ Student time \$			
+ Supply \$			
+ Storage \$			
+ Review time \$			
+ Coordinator time \$			
= Total			

roughly 1,800 hours per person, excluding sick days, holidays, and vacation time. Although the salary range varied, students' costs were more standard, in some cases a fifth of full-time staff costs.)

To track our indexing and transcribing time, we developed simple forms (see figure 3). Transcribing forms distinguished between time for producing the first draft and time for doing the final cleanup of the transcript work, and they specified the time spent by a student assistant and archivist. With this information we not only could compare the total time on one transcript with another, but we could analyze how much time the initial transcribing required, what proportion of the project required an archivist's (more expensive) time, and what percentage of the total time was devoted to final review. We generally measured the same elements for indexing.

What We Learned. By computing our monetary costs using these building blocks, we made a quantum leap in our analysis, a leap that resulted in a concrete awareness—and an accompanying shock of what we were spending in time and money.

Once we recorded the time spent on transcribing oral history interviews, we quickly saw it had become a black hole for our time. While transcribing is labor intensive and detail oriented, it does not demand some of the hard decisions archivists must make when processing paper records. Processors, therefore, if allowed, tended to drift into excessive transcribing and avoided working on large paper collections. It wasn't that we were slow transcribers, but that the time we allocated to transcribing much exceeded its priority in our overall goals. (We have found this also to be the case when alternating between

Figure 3. Transcribing and Indexing Work Forms

Transcript Report		Guide Index Report	
Collection no.	_____	Collection no.	_____
Tape no.	_____	Tapes/total minutes	_____/_____
Transcriber	_____	Processor	_____
Student	_____	Student	_____
Your hours	_____	Your hours	_____
Student hours	_____	Student hours	_____
Review hours	_____	Review hours	_____
Revision hours	_____	Revision hours	_____
Total hours	_____	Total hours	_____

large and small collections. At our institution, we flush the small collections out of the underbrush with relative ease. It is the large organizational woolly mammoths at which we wave our archival flints and sticks with limited effectiveness that inflict the greatest financial and psychic cost upon us.)

We both expected and were stunned by the results. We had decided to transcribe our oral history interviews more aggressively in 1990. However, in achieving that, we spent more than a quarter of our processing time for the year on transcription. (See figure 4.) When we evaluated that in light of other processing tasks, we agreed we wanted to allocate our time differently. We consequently cut back by almost a third (reducing our transcribing time to 296 hours) the amount of transcribing we would do each year. Other processing tasks had a higher priority, and we would leave transcribing undone in order to achieve those.

When we expanded our data collection in 1991 to monitor the processing of paper records and collection supplements, making guide revisions and writing automated MARC records, this also expanded the baseline of information from which we

could hope to begin to draw some conclusions. By the end of 1991, we knew how many hours we had devoted to processing and had hints of our rates in the various processing tasks.

As we compiled additional years of data, we refined the system for analysis. We realized after gathering time statistics for several years that the processing rate information was by itself helpful but inadequate. It did give us an internal point of reference, (as other archives had reported in earlier analysis), helping us to identify those types of collections that took more time to process, and to draw general conclusions about which archivists were processing at higher or lower rates. But the system lacked a point of intersection with the other aspects of our work. In 1993, therefore, we expanded our time analysis to include monetary cost analysis. This allowed us to determine how much we spent on processing, how many dollars it cost to process a cubic foot of papers, and what price we were paying to index or transcribe an average hour of oral history. These were figures our administrators and donors readily understood.

The figures we gathered for processing each collection reflected all of the work

Figure 4. 1990 Transcribing Data

Task	Time (in hours)
Total processing time (approximate)	1,600
Time transcribing 21 tapes (26.6 hours)	354
Time partially transcribing 6 tapes (5.9 hours)	78
Total transcribing time	432
Percentage of processing time devoted to transcribing	27%

performed on the collection. In this it differs from some of the studies previously cited. For example, the figures calculated for MARC records included not only writing the record, but worksheet review, authority list verification, loading records into local and national databases, and system administration. Those figures included the hours of full-time staff and student workers. The labor costs of various staff members were figured at their respective rates.

Once we expanded our analysis to include monetary figures, we further refined the process to include all costs: labor, supplies (mainly archival storage boxes and folders), and storage (based on the cost of the shelving itself). Although we do not usually have heavy conservation costs, we figured costs such as those for microfilming where appropriate. We closely followed Wilsted's methods, particularly in basing labor cost on dividing the actual hours worked into an employee's salary and benefits.

We added a separate form to record time we allocated to revising our guides. "Revision" was used to cover a multitude of activities. Some guides were created before the archives had computers; those guides, therefore, had to be typed into the database. Many guides were entered into the computer using now-obsolete software and hardware; those guides also had to be brought into our current computer system. There was also the correcting of errors discovered in guides. Revising guides still remains a high priority so that patrons and

the reference archivist can do keyword searches of the guides via the computer. While this has not been a major component of our processing, tracking time on these minor tasks made it possible to keep a more concise gauge of the ongoing monetary cost of a collection, develop a more accurate account of our total processing expenses, and plan for similar tasks in the coming years.

The staff's regular processing meeting, where staff members reported on the previous month's activities, stated goals for the upcoming month, and discussed problems, proved to be the most consistent means for planning, reporting, and collecting information. A monthly reporting and planning form provided an ongoing record of this information.

Computing fiscal costs may have been the next logical step after compiling time figures, or it may have reflected how our culture assesses value. In either case, the resulting figures provided another jolt. The cost summaries converted abstract intentions and hopes into concrete accomplishments (or lack of them). By viewing dollar figures, we saw the value we placed on processing within the framework of our total budget and time for a year. Although we had not yet correlated monetary costs, we saw what was coming when we initially tracked our transcribing in 1990.

Undoubtedly, part of the shock came when we examined processing for the first time in bottom-line figures, rather than as we had traditionally (and distantly) viewed

Figure 5. 1993 Processing Statistics for Completed Projects, Excluding 1993 Hours Spent on Yet-To-Be-Completed Projects.

Category	\$/Volume	\$/Hour	Hours/Volume
Papers	\$374.48/cubic foot	\$24.75/hour	15.1/cubic foot
O.H. indexing	133.84/hour of tape	18.94/hour	7.1/hour of tape
Transcribing	255.26/hour of tape	14.50/hour	17.6/hour of tape
MARC records	75.47/record	19.92/hour	3.8/record
Guide revisions	2.45/page	14.26/hour	.2/page
These figures are based on 2,487 hours of processing (including 62.0 hours of administration), calculated to equal a cost of \$50,679.15.			

it. As Boles said, we had preferred considering implications rather than cost. We instinctively avoided viewing processing in terms of a single bottom-line figure, perhaps out of fear that the figure would be greater than the imaginary figure we conceived, planned, acted on, and comforted ourselves with. The extent of our shock, in fact, confirmed that the resources we devoted to processing exceeded the value we placed on what we had accomplished.

The Shortcomings of our Methodology. Developing a consistent methodology used by all the staff proved to be more difficult than we anticipated. For example, some staff consistently recorded not only their own hours but also those of students working for them, whereas others had to estimate their assistant's hours long after the work was completed. Some staff used the figure of 1.1 cubic feet as the volume of a record carton, while others rounded the figure off at 1.0. Once we began computing monetary cost, we stumbled over our forgetfulness about recording *all* cost elements. We continually had to remind ourselves and staff members that everyone had to record data in the same way so that the final figures would be comparable.

Another fault that we discovered after years of collecting data was that we were isolating the writing of MARC records and guide revisions. Instead, these activities, all associated with individual collections,

more appropriately should have been added to the total time spent on each collection. For example, the hours spent writing the MARC record for collection 449 or revising the collection 81 guide should have been added to the total hours compiled for collection 449 or 81, rather than isolating those as separate categories of MARC records or guide revisions. Although segregating this data has been helpful, particularly in the case of writing MARC descriptions (because other archives are interested in comparing or planning for this descriptive process), we have now refined our methodology to incorporate the time devoted to these activities into the data for their corresponding collections. We can then extract those figures into other categories for special analysis.

What we have learned so far is that we're processing more intensively that we realized or intended (and consequently arranging and describing less for the amount of time available for processing). Figure 5 summarizes our 1993 processing:

As an illustration, staff members tallied 2,487 hours spent on processing in 1993.⁴⁸

⁴⁸Since we developed the analysis to monitor time and monetary costs for processing projects completed during a given year (rather than just totaling all processing time and monetary cost incurred between 1 January and 31 December), the figures illustrated above do not reflect all the processing hours for 1993. (2,323 hours, representing 27 percent of the staff's 8,450 total work hours). A collection might have been

Of those, 914 hours of work (37 percent of the processing total) produced 60.4 cubic feet of completely processed paper records. Factoring in labor, supplies, and storage costs, we spent \$22,618.58 on processing paper records alone. From these figures we determined we spent \$374.48 per cubic foot, allocated an average of 15.1 hours to each cubic foot, and spent an average of \$24.75 per hour. (This last figure is the best indicator of whether professional staff or student workers are doing the majority of the processing on a given project.) Unlike some archives, the Graham Center professional staff do the majority of the processing, rather than placing it in the hands of student workers. (This is partly because we cannot use the work-study program (financial aid from the state) students from Wheaton College due to the religious emphasis of our organization, and graduate students do not apply for our student job openings.) This immediately boosts the expense. However, our cost analysis has forced us to think about developing ways to transfer more work from full-time staff to part-time students. In addition, contrary to the assumptions of some earlier studies, we learned that the costs of supplies and storage can be considerable—in our case, a quarter of the total expense.

We also observed that conservation costs could considerably boost the monetary expense of processing. Microfilming costs for two collections were large and immediate, even though this task required very little of our time and produced very little volume,

the primary axes along which we evaluated our processing.

The cost-analysis figures produced an overall picture of how we spent our processing time. We devoted 37 percent of our time and 45 percent of our budget to processing collections primarily made up of papers. We used 9 percent of both our time and money on indexing oral history interviews, whereas our transcriptions cost 8 percent of our time and 12 percent of our processing expenses. We established our MARC records project as a high but short-term priority, and we were therefore satisfied to use slightly more than a quarter of our processing time and expenses on it. We revised guides using 12 percent of our time and 8 percent of our total expense. Administration and planning used 3 percent. Taken together, the 2,487 hours we tallied on processing completed in 1993 cost just over \$50,000.

The Graham Center Archives cost analysis was built on our own experience, rather than a consideration of previous studies (except for Wilsted). We were largely ignorant of what other archives were doing when we began. Nor did we design it as a formal study for a defined period of time. We instead intended it to be an ongoing process, not a temporary experiment. Our goal was to process our collections more effectively and to maximize the use of our limited time and resources. However, in comparing and contrasting our ongoing analysis with earlier studies, several distinct features of our methodology emerged. Some of these echo other work already done; others provide new pointers for other archives planning similar work.

First, we chose to measure each different processing task, rather than lumping them all together. We examined not only processing of paper records but also indexing oral history interviews, maintaining and revising guides, and writing MARC records. This allowed us to monitor more closely each type of processing in addition to de-

processed over several years, but the hours and costs are totaled only when the project is finished. Therefore, the 2,487 hours recorded for processing completed in 1993 included hours carried into 1993 from 1992. Likewise, while most of the hours of processing carried out during 1993 contributed to the projects completed in that year and are part of the 2,487 hours of work, some of those 2,323 hours were expended on projects that remained unfinished at the end of the year. They are therefore included in the 1994 tally, not in the 2,487 figure.

veloping a composite figure for an entire year. Given the varied aspects of our processing, cost analysis should take into account the different types of arrangement and description that the various types of collections require.

A second point is that we attempted to account for all our processing costs, ranging from labor to materials to storage to conservation to administration. To exclude any of these would hide the real cost of processing. We have learned that we need to refine further our computation of storage costs, since our computation assesses a one-time expense (essentially the purchase price of the shelving subdivided to the linear foot), rather than accounting for ongoing overhead.

Third, it became clear that we profited from recording ongoing costs that arise from adding more materials to a particular collection. If a cubic foot of material is added to a given collection, those figures are not only calculated for the given year, but they can be added to the total cost of that collection. This allows us to track the costs of individual collections over time and could help us with deaccessioning decisions when we are weighing costs against value.

Applying What We Learned. We have already begun to reap managerial benefits from monitoring processing data. As mentioned earlier, the first benefit we realized was that our actual practice was not in line with our stated priority regarding oral history interview transcription.

When we had compiled more information, we realized the second benefit, that of being able to compare processing of similar types of material within a year and over a period of years and to evaluate personnel characteristics. With increasingly more reliable averages compiled over several years, we can now evaluate the processing of a specific collection by identifying why the archivist either exceeded or worked below the average. Confronted with the pro-

cessing of one collection requiring 2.1 hours per cubic foot and another requiring 44.6 hours per cubic foot, we were forced to hunt for both the differences between the collections that explain the variation and to review those decisions that the archivist should have made differently in order to reduce that time. This gave us a tool by which to refine our processing and identify staff needs for training and improvement. At a broader level, we could evaluate our various processing tasks over several years to watch for trends to guide our evaluation and planning. It gave us a concrete means of estimating how much time would be required to process a particular collection. Taken within the context of the total number of hours we could allocate to processing, it helped us determine how much we could reasonably hope to process.

Third, it pushed us to decide whether we really were serious about the processing priority levels we assigned to collections. This postaccessioning appraisal is a key juncture in our processing sojourn, the impact of which reverberates until the collection is in the users' hands. To spend \$10,000 on a large priority-one collection would be acceptable, but duplicating that cost on a medium-size priority-three collection would be questionable and to do the same for a small priority-four collection would set off alarms that things were out of control. The analysis showed us that we overprocessed our collections, and, when uncontrolled, the amount of time and cost per unit had less to do with the priority we placed on the collection and more to do with the demands for attention the collection itself put on us. In short, like a mathematical equation that condenses pages and pages of narrative into a few lines, the processing cost analysis forced us (and still forces us) to face what we actually do instead of what we thought or hoped we were doing.

Finally, and perhaps most important, we benefited from being forced to deal with

real hour-and-dollar figures rather than with generalities such as, "Surely researchers will appreciate the extra work we put into this," or "we could have done better but. . . ." Many projects demanded our attention. When we added the costs and saw we had spent almost \$10,000 to process one collection, we had to ask, "Was that money well spent? Could we have achieved our goal by spending \$7,500 instead? How could we have trimmed the time poured into that collection? What would we have preferred to do with the \$2,500?" Answering these questions won't undo work already done, but it could improve our planning and processing skill for the next collection. This probably was the greatest reward of the cost analysis because it pushed our faces into the hard realities of our time and budget.

The Areas Not Addressed. Our analysis did not address several characteristics of processing. As others have mentioned, performing a convincing cost analysis of the quality of processing was difficult. Our figures measured the amount of time we spent on processing and the cost of that time and corresponding materials. But while the analysis allowed us to compare the times and costs of various collections, it assumed that all processing was of equal value and allowed no comparison of how well or poorly the job was done. Quality of processing, defined as how accessible the information in a collection is to users, is not as readily quantifiable, although Maher and Haller have struggled with the question. We felt it was a separate, though certainly related, topic, but we decided to concentrate first on the cost rather than the value.

The cost analysis also failed to break the descriptive aspects of processing into its components, such as the amount of time required to write the biographical sketch or the scope notes. Nor did it account for variables such as handwriting or preponderance of photographs or the degree of

preexisting organization of the files when received. All collections were treated equally, when in fact various factors always speed up or slow down processing.⁴⁹

The analysis system does not adequately account for the contributions of volunteers. We included their hours (without any attached cost), so the dollar total reflects what we spent in time and money. However, it hides the cost we would spend in another year without volunteer help.

The system of collecting information and analyzing our progress, still in its youth, requires minimal time. The danger is always present that the costs of the recordkeeping itself will exceed the benefit of analysis. However, our aim as we streamline the system is to make it both a part of our everyday work and make that work more effective and productive.

Conclusion

Our own experience confirmed to us the value of the "blinkered" or concentrated way of looking at things that Denning pointed out in the quote that began this article. It is probably obvious by now that cost analysis often involves pain—the pain of seeing the abstract brought into its right relationship with the concrete. Indeed, often while compiling the figures for our cost analysis, we felt as if we had hit the concrete. When we began the process we sometimes found ourselves in visceral accord with the opposition that some archivists have stated to cost analysis and that others have described in the profession's literature. But the contact also was invigorating and enormously helpful. Used properly, cost analysis can be a wonderful means of concentrating the archivist's attention in future planning. Of course, as Wilsted, Maher, and others have empha-

⁴⁹The Graham Center's collections are principally twentieth-century records and therefore easier to process.

sized, it is only a tool and only one among many. It is concerned with cost, not value; and it measures quantity, not quality. The process of analysis should not (and need not) lead to the paralysis of processing. But for postaccessioning appraisals and management decisions, it can be an invaluable addition to the internal tool kit of an archives.

We also believe cost analysis has value for the profession at large. It seems incredible that so little comparative work has been done between institutions. It is almost accepted as a given in the literature that processing methodologies and local conditions vary so widely from archives to archives that figures developed at one institution are meaningless at another. Rudyard Kipling wrote that there were nine and sixty ways of constructing tribal lays or legends, "and every single one of them is right!"⁵⁰ Archivists appear to have much the same attitude toward processing. This is unfortunate, because comparative studies of the processing costs of similar institutions applying similar methods to similar materials could help establish the parameters for valid comparisons and, through the process of beneficial shocks like those we experienced, could lead to greater uniformity in determining acceptable costs. The difference between having a general, intuitive feel for what your processing costs are and seeing what you are actually spending in time and money for individual collections is similar to the difference between having a feeling that you are overweight and seeing the actual numbers on the bathroom scale. In 1986, the SAA published its report on the profession's goals and priorities for the immediate future. One statement reads, "A lack of standards for the care and preservation of archives has re-

sulted in a proliferation of programs and inadequate facilities and staff. Archival repositories, like libraries and museums, should be accountable for meeting standards that will assure the preservation and use of records entrusted to their care."⁵¹ This surely applies to processing and the benefits a judicious use of cost analysis could bring.⁵²

If nothing else, archives that perform cost analyses of their processing on a regular basis should be encouraged to report their statistics regularly. Perhaps an agency such as the SAA or the Archives Library Information Center of the National Archives could publish summaries of such reports on an annual or at least a regular basis. (The 1986 SAA report also encouraged compilation of statistical summaries of archival activities and statistical analyses of effectiveness.)

In 1977, Wilsted delivered to a meeting of Australian archivists the paper which was later published as "Scoring Archival Goals." The response of Lindsay Cleland, the senior project archivist at the Australian Archives, seems valid today: "Statistical measures have a hardness about them—they demand attention, they just won't go away, especially when they are published; and I think they should shake us up and, as Tom says, make us look more closely at what we are doing."⁵³

⁵¹Society of American Archivists, *Planning for the Archival Profession/A Report of the SAA Task Force on Goals and Priorities, "Objective B"* (Chicago: Society of American Archivists; 1986): 16.

⁵²William Maher, "The Use of Cost Studies in Managing Archival Programs," unpublished paper prepared for a Library Science class, May 11, 1988. Maher stated that one conclusion rising from considering the seven case studies referred to, "is that a cross-institutional study utilizing the same methodology and units of measurement is necessary if any broader conclusions are to be achieved. Even if such a study involved only three archives for a period of no more than six months, it could clarify many of the discrepancies that have developed in these studies."

⁵³Wilsted, "Scoring Archival Goals," 24.

⁵⁰Rudyard Kipling, "In the Neolithic Age," from *Rudyard Kipling's Verse: The Definitive Edition*, (Garden City, NY: Doubleday, 1940), 338–39.

Appendix A

Proposed Model for Future Analyses

In order to provide a more substantial base from which to compare processing data, we propose the following standard model for anyone wanting to conduct a cost analysis study, whether at one institution or across several institutions.

1. Data should be collected over a time period of at least three to five years.
2. Data should be gathered according to agreed-upon definitions (particularly for "processing") in order to express results in meaningfully comparable terms.
3. Collections should be classified by several predominant characteristics that may affect processing rate in order to facilitate making meaningful comparisons with other similar collections. The following distinctions should be included:
 - a. Pre-1900 versus post-1900
 - b. Greater or equal to 50 cubic feet versus less than 50 cubic feet
 - c. Personal papers versus government records versus business records

The project should also be designed to monitor the creation of oral history interview indexes and transcripts and MARC records, since the distinct character of these documents makes them difficult to compare with each other.
4. Analysis should be conducted on collections whose predominant form is paper documents.
5. Volume should be consistently calculated in linear or cubic feet, but not both. Data on a collection's volume should be based on final cu-

bic or linear feet, rather than the volume of the unprocessed accessions, corresponding to the form in which the collection becomes available to researchers, rather than the total amount of material processed.

6. Results should be calculated in terms of hours and dollars. The primary formula on which to base the analyses should be the end volume divided by hours and by dollars.
7. Personnel costs should be calculated to include both salary and benefits.
8. Monetary computations should include the cost of supplies (storage boxes, folders, and so on) and storage (shelving, building, and operations costs for the space allocated for storage).
9. Despite economic fluctuations over time (inflation, salaries, and so on), which may diminish the reliability of comparing results in dollar figures, the project should be designed to gather monetary costs for comparison at a given time and for the internal benefit to each contributing institution.
10. The types of information to be recorded should be very simple and easy to gather in order to keep to a minimum the amount of time devoted to this foundational but preliminary aspect of the analysis.

If this model is used to compare processing between institutions, special efforts should be made to ensure that it is similar institutions and similar types of material that are being compared.